

Written evidence submitted by Architects Declare UK

Current steering group members include:

Andrew Waugh - Waugh Thistleton

Jacqueline Wheeler - Haworth Tompkins

Julia Barfield - Marks Barfield

Kat Scott - dRMM/ACAN/LETI

Lauren Shevills - Mae Architects/ACAN

Michael Pawlyn - Exploration Architecture

Peter Clegg - Feilden Clegg Bradley Studios

Steve Tompkins - Haworth Tompkins

Tara Gbolade - Gbolade Design Studio

UK Architects Declare - overview

UK Architects Declare represents over 1000 UK Architecture practices who have declared a climate and biodiversity emergency. This includes most of the largest UK architecture companies, as listed in the AJ100.

This initiative was founded in May 2019, and is continuing to increase in scale and relevance in the Architecture profession and construction industry at large. Our signatory companies are collectively working to mitigate the impacts of our profession on planetary systems, and all of these signatories have committed to doing so in line with 11 commitments. You can find a full list of signatories and the declaration commitments here: www.architectsdeclare.com.

Architects Declare has grown organically from this UK based initiative since Spring 2019 to become a global, multi-disciplinary movement with over 5000 signatory companies worldwide. This is vital, as globally the construction sector and the built environment accounts for 40% of carbon emissions, and so the construction sector needs urgent shift towards regenerative practices. You can find out more about Construction Declares here: www.constructiondeclares.com.

Architects Declare is about encouragement, with every signatory organisation expected to self-govern its progress toward achieving the commitments it has made. On the basis that no single architect is currently meeting every part of the radical commitment to change, a firm 'no public blame and shame' policy is in place.

The twin crises of climate breakdown and biodiversity loss are the most serious issue of our time. Buildings and construction play a major part, accounting for nearly 40% of energy-related carbon dioxide (CO₂) emissions whilst also having a significant impact on our natural habitats.

For everyone working in the construction industry, meeting the needs of our society without breaching the earth's ecological boundaries will demand a paradigm shift in our behaviour. Our ambition is to transform the built environment by 2030 so that it is planned, constructed and operated within planetary boundaries, delivering positive social impacts for all. We know that it is physically possible to achieve this but currently the construction industry is a major contributor to the twin crises of climate breakdown and biodiversity loss.

1098 Architects Declare UK company signatories currently seek to do the following under our declaration:

- Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients and supply chains.

- Advocate for faster change in our industry towards regenerative design practices and a higher Governmental funding priority to support this.
- Establish climate and biodiversity mitigation principles as the key measure of our industry's success: demonstrated through awards, prizes and listings.
- Share knowledge and research to that end on an open source basis.
- Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.
- Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.
- Include life cycle costing, whole life carbon modelling and post occupancy evaluation as part of our basic scope of work, to reduce both embodied and operational resource use.
- Adopt more regenerative design principles in our studios, with the aim of designing architecture and urbanism that goes beyond the standard of net zero carbon in use.
- Collaborate with engineers, contractors and clients to further reduce construction waste.
- Accelerate the shift to low embodied carbon materials in all our work.
- Minimise wasteful use of resources in architecture and urban planning, both in quantum and in detail.

This demonstrates the readiness of our industry to adopt the above. We now need government to help us in meeting these good intentions and to help motivate the rest of the industry to move in the same direction, and ideally to push us all even further than the above declaration points.

Architects Declare UK's response (2629 words)

1. Foreword - rather than respond to your questions specifically, we felt it would be more helpful for us to outline what we see to be the primary issues, and in so doing suggest barriers and obstacles to progress in our industry, alongside highlighting the state of play at present.
2. **Carbon & global warming in general**
 - a. The IPCC's Special Report on 1.5 degrees warming gives a remaining emissions budget (beginning on 1 January 2018) of 320 billion tonnes (Gt) of CO₂. Based on current emissions trends, this budget will be exhausted in early 2025¹ and it is likely that we will reach levels of warming of more like 2-4°C by the end of this century. Heating of 2°C is predicted to result in 56cm of sea level rise by 2100 which is enough to inundate many island nations, much of Bangladesh and huge areas currently relied on for agriculture such as the Nile delta². The same level of global heating is predicted to expose 388 million people to water scarcity by 2050³. The World Bank has concluded that 3°C of global heating could result in over 140 million climate migrants across sub-Saharan Africa, South Asia and Latin America by 2050⁴. The United Nations' figures are higher at 200 million⁵. These figures are more than a hundred times as large as the Syrian crisis. It is hard to see how this level of displacement could occur without widespread conflict, the collapse of nations most affected and the rise of political unwelcomeness in the destination countries for refugees. Of this global temperature, increase, the UK is itself responsible for a large portion owing to our historic role in global emissions through industrialisation. It is therefore important to consider construction industry trajectories within this context.
 - b. It is also important to acknowledge that climate change is already having a serious impact, resulting in an estimated 300,000 deaths a year and annual losses of \$125 billion⁶. Most of these deaths occur in the poorest parts of the world, even though the 50 least developed nations contribute less than 1% of global greenhouse gas emissions⁷. Even here in the UK, however, we are seeing a changing climate. Our built environment is not designed to

be at the temperatures we are seeing in summertime, and with rainfall levels more intense and less evenly distributed leading to flooding events.

- c. Of the building stock we will have in 2050, already 80% exist in our existing built environment. We should be working to renew, refurbish and retain our existing building stock as much as is possible, because these buildings are in a sense a carbon sink, with their embodied carbon already having been emitted in their construction. Unfortunately, current VAT rules give a fiscal advantage to demolition and new build over renewal and refurbishment - with new build construction zero rated, while retrofit/refurbishment sitting at full VAT. This is entirely the wrong way around, and this significant differential is often the deciding factor in whether a developer decides to retain or demolish existing buildings. This must be rectified as soon as possible.
- d. While we must retain as much of our existing building stock as possible, most of our existing buildings are not designed to be low energy, nor for a changing climate, and they have huge potential to be improved to lighten the burden on the National Grid as boilers and systems electrify and competition for our limited renewable electrical energy supply increases - see LETI's upcoming Retrofit guidance for more information regarding best practice for net zero carbon trajectory retrofits. Across built environment professionals there is widespread acceptance that upgrading the UK's draughty, inefficient homes is the best approach to building our way out of a recession while also addressing climate change and reducing fuel poverty. The sums currently allocated by the government to this challenge are derisory, particularly bearing in mind the benefits that would be delivered economically, environmentally and socially. It is shameful that the Green Homes grant was delivered so poorly and discontinued already, as this is exactly the kind of investment we need in the UK to be decarbonising our built environment - helping ordinary people to improve their homes to be greener and supporting a transition to a green economy for workers.
- e. In terms of new construction, the primary concern in the short term is the embodied carbon arising from construction materials. Decarbonising structural fabric of new homes is being led by voluntary organisations in the construction industry, and is not yet legislated for, however the construction industry has reached by and large consensus on the need for embodied carbon targets and what these should be independently of any legislation. This now needs to be mandated, to ensure that all construction is delivered to be in line with best practice carbon targets, as defined by LETI and the RIBA (who are in the coming month to announce an agreed set of metrics following their separate Embodied Carbon Primer (LETI, 2020) and 2030 Climate Challenge (RIBA, 2020). There is a campaign seeking regulation of Embodied Carbon currently being run by ACAN, with a growing number of signatories to an online petition. It has been highlighted through our industry's response to the Future Homes Consultation to MHCLG that embodied carbon needs regulation.
- f. We already know how to reduce embodied carbon in construction, and LETI's Embodied Carbon Primer and Climate Emergency Design guide are being referred to widely in our industry as an agreed best practice guidance. The CCC's recommendation to grow the use of wood in construction has been repeated in many reports, but as yet there is no national policy which incentivises the use of low carbon structural fabric materials. In particular, there is emerging legislation regarding combustible materials post-Grenfell that is hampering the development of a growing structural timber industry in the UK - meanwhile countries like France and those in Scandinavia are identifying the potential of structural timber as a low carbon and renewable construction methodology.
- g. Overall however, there is no apparent overarching carbon budget in place for the construction industry. The government's targets of constructing 300,000 homes are not means tested against our carbon budget, nor are infrastructure investment plans fully carbon costed. This means that while the construction industry has of its own accord developed bottom-up carbon targets, there is not yet a top-down assessment of how much construction we can afford to build. This is hugely concerning. Without assessing this, it is impossible to say whether the 300,000 new homes is feasible based on the current feasible carbon benchmarks for construction and/or if this level of construction would mean a reduction in other areas of the economy. This seen in parallel with the fiscal advantage given to new-build over renewal and refurbishment of existing buildings, is a primary concern to Architects Declare. One would hope that if retrofit and refurbishment of existing buildings was prioritised, perhaps much of the new homes quota could be made

up from existing buildings. With this said, there needs to be best practice planning policy in place to ensure the quality of refurbishment works - with the existing permitted development policy widely discredited, and identified as leading to substandard living accommodation of poor construction quality.

3. Nature and wildlife

- a. In October 2010, the UK signed up to the Convention on Biological Diversity which included 20 targets for 2020. The public body (the JNCC) which monitors progress against these targets concluded in their 2019 report that the UK will fail to meet 15 out of 20 of the targets and noted that “There is an overall picture of ongoing species decline”⁸. Some UK species have declined by over 90% since 1970. The complex, interconnectedness of ecosystems means that the loss of keystone species can result in ecosystem collapse.
- b. In 2019 a petition titled ‘Restore nature on a massive scale to help stop climate breakdown’ on the government’s ‘Petition Parliament’ website attracted over 100,000 signatories⁹. The government’s response stated a long-term aspiration to increase woodland cover from 10% to 12% by 2060. This is surprisingly unambitious given that many of our European neighbours have over 30% forest cover (the UK is in 36th place in Europe by percentage – well behind the following: Austria = 47%, France = 37%, Germany = 32%, Italy = 35%, Spain = 37%, Switzerland = 31%¹⁰)
- c. To meaningfully address the decline in the rest of the living world - the life support systems on which humans depend - is going to require a fundamental change of mindset. This is highlighted prominently in Professor Dasgupta’s recent review - highlighting that our weddedness to GDP is in itself a leading cause of biodiversity loss and a decoupling from nature, we urge the inquiry to refer to this extensive and powerful report. We need to stop seeing the rest of the living world as something to be plundered for resources while protecting small areas, and to start seeing it as a web of living systems into which we need to fully integrate human activities. If we are to shape a positive future, this change of mindset needs to inform everything we do.
- d. The built environment itself can foster a connectedness with nature and support biodiversity, however this is not presently embedded in planning policy nor national regulations. Nature is an externality to the built environment professionals that currently very few hold responsibility for negative impacts upon, while we have the skills and knowledge to transform the way we work for the better if the right incentives were in place. The skills and expertise of ecologists, landscape architects, horticulturists, soil scientists and so on are needed to be embedded in regulatory and planning policy making teams, to ensure that nature is centred in all policy making decisions.

4. Growth

- a. In the government’s response to our letter in June, they referred to creation of a 75% growth in our economy while cutting emissions by 43% over the past three decades, which was surprising to read, because this has been widely discredited, and is disproved by figures from the Office for National Statistics¹². This is precisely the kind of creative accounting that has done so much to undermine faith in governments amongst young people such as Greta Thunberg. The emission cuts the government alleged, do not include aviation, shipping or the goods that we import, so it is positive that these will be included in future carbon budgets. When these are factored in the emissions reductions the government has cited are estimated to be in reality around only 10%. Shocking when we know how much carbon we need to cut in the next 9 years alone. Nearly all of this has been achieved through the relatively easy step of reducing reliance on coal; meanwhile there has been very little progress on decarbonising other parts of our economy (in spite of there being an abundance of solutions).
- b. At present in government’s rhetoric around green growth and growth in general, there appears to be a lack of distinction between types of growth and an implicit belief that endless growth possible on a finite planet. As an illustration of the problem, a 3% year-on-year global rate of growth (considered by many conventional economists as a ‘healthy’ level) would result, in just 23.5 years, in a doubling of our impact on the rest of the living world. Given that we are already breaching a wide range of planetary limits it is clear that this approach spells disaster. There seems to be an unwillingness to address this even though new models (such as Kate Raworth’s Doughnut Economics) exist in well-developed form. It is important to distinguish between ‘sustainable’ and ‘regenerative’ practices. The former, in nearly all cases, means an approach for which the negative impacts are partly mitigated and is therefore still part of a degenerative cycle. To describe this as ‘clean growth’ is a dangerous delusion. The urgent

need is for regenerative practices that deliver net positive impacts. The solutions exist but we feel that the government's current policies are doing very little to encourage them.

- c. In the built environment, we need to move towards regenerative design practices - designing buildings that are not simply less bad or maintaining the present status quo, but that are genuinely creating positive impacts on the planet, on nature and on human society and wellbeing. At present, the construction industry is motivated almost solely by profit, and this is disastrous for our natural systems until profit is tied to the health of our planet somehow. We need to find a way to embed growth of biodiversity, of human health, of improved air quality, of tree canopy cover into the system, to ensure that this is not the case.

5. **A human crisis**

- a. As has been elaborated, with a changing climate, the impacts upon humanity will be profound. Addressing these issues is paramount to the wellbeing of people living here in the UK and worldwide. We see the potential for the built environment and construction to address and help to rectify human issues arising out of the climate and biodiversity twin crises. Issues that can be addressed in tackling all the aforementioned issues include but are not limited to:
 - i. Fuel poverty - more energy efficient buildings are cheaper to run
 - ii. Air pollution - both externally and arising from internal air quality
 - iii. Obesity & activity levels in general
 - iv. Wellbeing & mental health
 - v. Fertility & physical health

6. **Conclusion**

- a. It is clear from current trends that we are heading for near-term collapse of ecosystems and medium term collapse of societies, of which the built environment is a significant contributor. At present, the government's policies are woefully short of what is required to prevent this, and there are many barriers in place to the construction industry affecting change on its own. The good news is that it doesn't have to be this way. Britain led the world into the industrial age and we have all the right skills to lead the world out of it. This is without doubt the greatest, and most urgent, innovation opportunity of a lifetime. The industry is ready to take action and we urgently need Government to play its part.
- b. As a general note, there have been a number of consultations over the last 24 months to which Architects Declare have responded. Increasingly we have found these to be frustrating, given that they demonstrate a lack of joint-up thinking for meeting our climate targets between government departments. For instance, the insurance industry reaction to combustibles legislation makes it near impossible to build in structural timber in most large scale developments, however DEFRA's England Tree Strategy identified that increasing timber construction in the UK was an important part of the route to net zero carbon and an opportunity to increase UK forestry & timber construction industry. This lack of joint-up thinking needs addressing at the highest of levels, especially ahead of the upcoming COP26. All legislation and new policy needs to be read against our climate targets and measurably demonstrable that they help us to meet these commitments.
- c. We feel strongly that change is needed, and it is needed quickly, we would like to support your inquiry and understand what support you need to make the changes required. Hence, we would like to arrange a meeting with you to talk about how to move forward. Please do let us know how to arrange this. We would also like to encourage you to support the Climate and Ecological Emergency (CEE) Bill. We would be happy to attend any inquiry proceedings you feel we can bring value to, and it would be one of our Steering Group who would be attending.

May 2021

1. In Summer 2020, the steering group of Architects Declare sent a letter to government outlining changes we need government's support in making. We were disappointed with the response to both of these letters and our meeting with the BEIS, see appendix A for our original letter.
2. LETI has published a number of resources including collaborative pan-industry definitions for net zero, and for designing in a Climate Emergency. We encourage the inquiry to refer to this guidance and call upon LETI to give evidence, as they are the industry's leaders in defining what 'good' looks like for sustainability.
3. The construction industry is heading towards a consensus on carbon targets for building, alongside other metrics including water efficiency. These are being developed between LETI, RIBA, UKGBC, InstructE and other institutions and organisations. Many clients, local authorities and bodies are establishing these as a baseline for their pipeline of construction projects. However we need these to be mandated by regulation as soon as possible, to ensure this is the norm. The role of the architect does not have protected function and so there is a significant portion of building construction delivered without any architect's involvement at all. Large housebuilders and developers must be obliged to comply to stretching embodied carbon and operational carbon targets to ensure we do not unwittingly use up our carbon budget before we have completed our necessary retrofit of UK building stock.
4. The UKGBC is developing a roadmap to net zero carbon presently, and we understand that there are omissions in government data sets for carbon trajectories. How can we know how much carbon we have left to emit if we aren't counting our emissions today?
5. Architects Declare is hosting a Built Environment Summit in the lead up to COP26. We hope that this inquiry will take note of the outcomes of this summit, including our report that will be produced at the end of the event, incorporating the architecture and construction industry's leading lights and exemplars for best practice.
6. Architects Declare is due to publish its guidance for its signatory practices in the next couple of months and we hope the inquiry will take note of this information, as this will be the new benchmark for architecture practices in the UK.

Resources referred to

1. See Knorr, Wolfgang 'The Climate Crisis Demands New Ways of Thinking from Climate Scientist' <https://www.resilience.org/stories/2020-08-04/the-climate-crisis-demands-new-ways-of-thinking-from-climate-scientists/>
- The article refers to emission figures from the Global Carbon Project until 2017 for energy and cement production plus land use change, 2018 using preliminary estimate by LeQuéré et al., Earth System Science Data, 10, 1-54, 2018, DOI: 10.5194/essd-10-2141-2018. 2018 land use emissions assumed unchanged against previous year.
2. <https://interactive.carbonbrief.org/impacts-climate-change-one-point-five-degrees-two-degrees/>
 3. Ibid
 4. <https://www.worldbank.org/en/news/infographic/2018/03/19/groundswell---preparing-for-internal-climate-migration>
 5. Baher Kamal, "Climate Migrants Might Reach One Billion by 2050," ReliefWeb, August 21, 2017, <https://reliefweb.int/report/world/climate-migrants-might-reach-one-billion-2050>
 6. 'The Anatomy of a Silent Crisis', Global Humanitarian Forum report, p1 <http://www.ghf-ge.org/human-impact-report.pdf>
 7. Ibid, p3.
 8. <https://jncc.gov.uk/our-work/united-kingdom-s-6th-national-report-to-the-convention-on-biological-diversity/>
 9. <https://petition.parliament.uk/archived/petitions/254607>
 10. https://en.wikipedia.org/wiki/European_countries_by_forest_area
 11. <https://www.forbes.com/sites/carltonreid/2020/04/03/motoring-boss-questions-whether-uks-27-billion-road-plans-can-survive-virus-crisis/#581b97101585>
 12. See table 3 and the background data in 'Net zero and the different official measures of the UK's greenhouse gas emissions' which shows that the UK's carbon footprint (calculated on a consumption basis) reduced from 861 Mt CO₂e in 1997 to 784 in 2016 which represents a reduction of 9%
 13. <https://www.ons.gov.uk/economy/environmentalaccounts/articles/>

[netzeroandthedifferentofficialmeasuresoftheuksgreenhousegasemissions/2019-07-24](https://www.ukarchitects.com/news/net-zero-and-the-different-official-measures-of-the-uk-greenhouse-gas-emissions/2019-07-24)

Additional literature referenced:

LETI – Climate emergency design guide <https://www.leti.london/cedg>

LETI – Embodied Carbon Primer <https://www.leti.london/ecp>

RIBA - 2030 Climate Challenge <https://www.architecture.com/about/policy/climate-action/2030-climate-challenge>

[The Dasgupta Review, HM Treasury 2021 https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review](https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review)

Appendix

A - letter sent to Prime Minister Boris Johnson in June 2020

<https://docs.google.com/document/d/1J96UB7n1jDaZjraGVsXqP81T2gQwrwln5Mk3q4pAp2w/edit>

Dear Prime Minister,

We write to offer practical ideas and expertise to support an economic recovery that protects public health and addresses climate targets.

Transforming the built environment, which accounts for 40% of our greenhouse gas emissions, will be a crucial part of that process. As leading construction professionals from across the UK, we have the capability to:

- initiate a mass retrofit of energy-wasteful and unhealthy buildings;
- design all new buildings to stringent and measurable environmental standards that deliver a positive impact in terms of carbon, biodiversity, health and wellbeing;
- use only materials that benefit public health and the environment;
- create new, long term skilled jobs within a sustainable industry.

To encourage delivery of those benefits, we urgently need your government to establish a supportive framework to enable immediate action.

The construction sector action should include:

- VAT reforms to promote refurbishment over new-build
- Currently VAT is applied at 20% to refurbishment. Reduce this to zero, to encourage creative reuse of existing buildings, and kick start efficiency benefits, without the carbon costs of new-build projects.
- An emergency plan for decarbonising our electricity supply
- Combine renewables with a step-change in energy efficient buildings to allow industries to deliver this at optimum cost and speed.
- Reinstatement and updating of the Zero Carbon Buildings Programme Require all new buildings to be built to a stringent and measurable standard that delivers positive impacts in terms of carbon, biodiversity, water, and wellbeing.
- Fiscal measures to discourage the use of harmful materials
- Many resources are artificially cheap because the harm caused to people and the environment are not recognised. Factor in these costs through progressive taxation to boost emerging industries that produce zero carbon and non-toxic materials.
- Reform of the construction sector is only part of the wider action that is needed across the whole of our society in the coming decade to reduce the impact of climate and ecological breakdown. For any of these measures to be effective within the short time available, more stringent environmental legislation is now necessary.
- This wider action should include:
- Mandated 80% carbon emission reductions by 2030 and absolute zero carbon by 2040 consistent with the emerging data on decarbonisation
- A Future Generations Act which requires all parliamentary decisions to be scrutinised for their impact on young people and future generations
- A reformed Companies Act with responsibility to all stakeholders and environmental life support systems

Restoration of nature on a massive scale to address biodiversity loss, lock up carbon in plants and soils, supply building timber and save money by reducing flood damage • A Law of Ecocide to more effectively protect environmental life support systems from destruction

We are ready to help you accomplish this urgent transformation. Only then can we meet our collective responsibility to the future generations from whom we are now borrowing.