



 @CIBSE

CLIMATE CHANGE

Action Plan

2022 Annual Update - Rev 1, 8th August 2022



CLIMATE CHANGE

Action Plan



Many events and reports make it clear that we collectively need to do more to reduce carbon emissions and prepare for the impacts of climate change. In the UK, this means taking actions that will contribute to the legal target of achieving net zero status by 2050.

CIBSE's activities are driven by its charitable mission. CIBSE has been active for many years in promoting policies and measures to mitigate climate change, to adapt our buildings to the changing climate and to establish the critical link between how buildings perform in operation and their carbon impact.

In June 2019 we signed the cross-industry pledge “to collaborate on an urgent and concerted response to achieving the 2050 target; to continue to work together to establish shared standards and practice; and to continue to develop professional resources, capacity and competencies within the sector capable of meeting that aim both domestically and internationally” and “accepted the invitation of the Climate Change Committee to co-operate on meeting the UK net zero carbon objectives”: <https://edgedebate.com/edge-events/the-edge-climate-action-roundtable> .

To increase our efforts and turn this pledge into practice, in July 2019 CIBSE produced its first Climate Action Plan, mapping our current and planned activities in the areas where we have a duty and the ability to act:

- Our role as professional institution: setting codes of professional conduct and collaborating with other professional institutions and organisations
- Practicing what we preach
- Education: working with education bodies, and through the courses we accredit
- Awards, events and dissemination
- Training and professional development
- Research: supporting the continuing development of knowledge and understanding, and helping the dissemination of that research
- Policy: providing advice and advocacy for better building performance outcomes and a transition to net zero carbon
- Guidance: supporting our members from the strategic level and setting of targets through to detailed delivery, monitoring and evaluation.

On its first issue, we committed to review our plan regularly. This is the third annual update.

This plan has been informed by input from members, other professional institutions and the wider industry. Please send us your comments on how we could help you and where you could support our activities by contacting Julie Godefroy, Head of Sustainability JGodefroy@cibse.org

You can also view a [webinar](#) on our action plan.

2022 update at a glance

- Continued our work in collaboration with the wider industry, including through the CIC; produced our implementation proposals for the CIC climate action plan
- Started a review of our training material against the Climate Framework
- Started work with our CPD panel on the implementation of mandatory CPD on climate change
- Continued upgrades to our awards, with new data collection requirements and two embodied carbon awards
- Continued work on policy, including the Future Homes Standard, operational ratings for non-domestic buildings, SAP, and various heat decarbonisation workstreams
- Produced a large range of new and updated guidance on topics including heat pumps, embodied carbon, electrification of buildings and building performance modelling
- Part of the new cross-industry Net Zero Carbon Buildings Standard initiative, a significant cross-industry initiative to advance the deliver of Net Zero buildings, with consistent and robust outcomes.

CLIMATE CHANGE

Action Plan



KEY

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Updates from last year

Possible further activity, to be explored – members feedback welcome

AS A PROFESSIONAL INSTITUTION

- Our Code of Professional Conduct includes the requirement that: “Members shall promote the principles of sustainability and seek to prevent avoidable adverse impacts on the environment and Society”. *We are always seeking to increase awareness of the CIBSE Code of Conduct. We promoted it in the 2020 revision of Guide L; further suggestions from members are welcome e.g. one-pager on benefits for clients?*
- We publish an annual report on our activities
- We seek collaboration with others for more effective action on climate change. We are members of the CIC Climate Change Committee and are signatories to the 2019 cross-industry climate action pledge coordinated by the Edge and the CIC cross-industry climate action plan. We coordinate workstream 7 of that plan, on in-use performance. **In November 2021, for COP26, we produced an implementation plan, and are now working on implementation as detailed in the plan.**
- We have carried out a gap analysis and are working towards the Edge reporting standard for professional institutions.
- *Introduce obligations or strong recommendations for members to offer a Net Zero option on all their projects?*

PRACTICING WHAT WE PREACH - OUR BALHAM OFFICE AND ACTIVITIES

- For years we have applied energy efficiency measures and monitored the energy performance of our office. We have had a fuel cell since 2015, with public reporting on its operation and performance
- Our sustainability policy covers our activities, events, premises, staff, procurement and transport. In 2021 we introduced a new, easier reporting of transport data on our expense forms, allowing us to analyse our carbon footprint beyond our office building. Over the next year we will develop our understanding and engage with our suppliers on their climate action, with a view to establish a commitment and target date for our supply chains to be Net Zero Carbon.
- In July 2021 we moved our investment portfolio to an Ethical Investment Fund. This applies a number of exclusion and restriction criteria to investments in companies deriving their revenues from fossil fuels and electricity generation.
- **After a period of hold during the pandemic, we are considering our options for our office and ways of working. Considerations of energy and carbon performance, comfort, and the health and wellbeing of staff will be central to our decision.** We will seek to make the best use of the opportunities that our office offers to test and demonstrate improvements in the performance of existing buildings.
- In December 2019 we voluntarily produced and displayed a Display Energy Certificate (DEC) in the reception of our office. We have not updated our DEC since due to unusual occupancy patterns during the pandemic, but we plan to produce an updated DEC over 2022-23; this will provide a comparison with pre-pandemic patterns and a benchmark for future plans for our premises. To maximise learning for our members we will also consider in the future whether to produce an Operational Rating under the Government’s new scheme for commercial offices, once that scheme is available.

CLIMATE CHANGE

Action Plan



KEY

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EVENTS, DISSEMINATION AND AWARDS

- There is regular reporting on the zero carbon agenda and climate adaptation in the CIBSE Journal, blog, newsletter and website, and at CIBSE events and our regular free-to-access Grow Your Knowledge webinars .
- We also contribute to dissemination through other media and organisations. **For example, in late 2021, we contributed to the UKGBC and CIC representations at COP26.**
- Since their creation in 2012, the CIBSE awards have required in-use performance data, a truly leading requirement across industry. In 2021, we published in the CIBSE Journal our initial analysis of performance data from past awards, and how they relate to best practice industry targets. This led to the introduction of new data entry forms to facilitate entry by applicants and improve the quality and consistency of data collected; in the future this may also offer opportunities for showcasing projects in CIBSE benchmark database. **We have since analysed the award submissions received in 2021, and reported on this in the CIBSE Journal. Data quality and consistency has improved, so we have made further modifications to the project entry forms to reflect growing industry readiness for more extensive performance disclosure.**
- We continue working with the RIBA to align the sustainability criteria in our awards and to enable RIBA awards in-use data to feed into CIBSE benchmarks database. We seek to collaborate with others to better align requirements from sustainability awards across institutions e.g. with the IStructE on embodied carbon.
- In 2021 we introduced an Embodied Carbon Award. **In 2022, due to growing industry activities and skills on this topic, we are turning this into 2 Embodied Carbon Awards, one for consultants / project teams, and one for manufacturers & suppliers. We are also increasing the level of information we request on embodied carbon in our project data form.**

POLICY

www.cibse.org/news-and-policy/policy

- We regularly respond to policy consultations (e.g. Building Regulations / Future Homes & Future Buildings Standard, retrofit, energy efficiency, low-carbon heat, operational ratings). We contributed to and signed the 2021 joint industry letter to Secretary of State in response to Future Buildings Standard consultation .
- In 2021 we were part of project team on SAP/RdSP11 scoping project for BEIS – report available here. **We are now on the SAP11 steering group.**
- We are signatory to the joint BPN statement on regulations for operational performance, and continue to advocate more attention to in-use performance in policy and regulations
- We support the call for regulating embodied carbon, and are active in the Part Z working group
- We regularly publish position statements and briefings on policy related to net zero and climate adaptation, including net zero carbon buildings, planning, overheating, and the green recovery. **In 2022 we published a briefing to assist local authorities wishing to incorporate energy use targets and in-use monitoring in local policy**. *Possible future position statements: retrofit & demolition? update the position statement on system capacity?*
- We are a member of several government working groups on policy issues related to climate mitigation and adaptation e.g. **Future Buildings Standard**, Part F and Part O, operational ratings; we support the work of the Climate Change Committee where possible and relevant, **and we are on the oversight group of the Future Homes Hub.**
- We collaborate with others to align our policy recommendations where possible, including BPN, LETI, UKGBC, RIBA, and RTPI. We are part of the RAEng National Energy Policy Centre. **Since 2021 we have been working as RAEng representative with CAETS, the worldwide network of engineering academies, on a recommendations report for policy makers on decarbonisation.**

CLIMATE CHANGE

Action Plan



KEY

Our climate action plan: Activities and commitments

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RESEARCH

<http://www.cibse.org/knowledge-research>

- Research areas are aligned with strategic CIBSE priorities, including the net zero carbon agenda and climate adaptation. Topics include embodied carbon in building services, circular economy, low-carbon buildings, retrofit, and climate impacts
- We publish Research Insights including retrofit to NZEB standards, and circular economy principles in building services
- We are a member of the advisory board for the Centre for Research into Energy Demand Solutions (CREDS), and Chairing the advisory board of the Centre for Doctoral Training (CDT) in Energy Resilience and the Built Environment (ERBE) and chairing the Advisory Board for the Low Temperature Networks research programme (LoT-NET).
- In 2021 we were successful in applying for a Knowledge Transfer Partnership to update the CIBSE weather files based on the latest UKCP18 climate projections. **This project has now started and we are aiming to release the new files end of 2024 / beginning of 2025. In the interim we will be working with industry, academia and policy makers to establish the specification of the new files and to test them.**
- BSERT is CIBSE's journal containing refereed research papers on all aspects of building services engineering. **In 2021 a Special Issue was produced on the “Decarbonisation of Buildings”. Special Issues are in preparation on the circular economy, and on “future fit performance of homes”. Future BSERT Special Issue on retrofit?**

EDUCATION

- We contributed to the joint industry Climate Framework curriculum
- We have been updating our guidelines for CIBSE accreditation of engineering courses, to reflect more emphasis on climate change and the Climate Framework. The guidelines, once approved, will be introduced along with AHEP4. AHEP4 will be implemented through a transition period starting January 2022 and ending September 2024.

COMPETENCE AND TRAINING

- We offer regular training on low-carbon buildings, overheating, and building performance. **We have started a strategic review of our training offer against the net zero agenda, Climate Framework curriculum and latest guidance**
- We offer the Low-carbon consultant and Low Carbon Energy Assessor certification schemes
- We collaborate with others on training courses e.g. with ASBP on embodied carbon in building services, with the UK Centre for Moisture on moisture and retrofit. We continue to seek opportunities where this offers benefits to industry and our members. **We also support the work of others on training, competence and skills for Net Zero, for example that of the City of London Skills for a Sustainable Skyline Taskforce.**
- We have committed to introduce mandatory CPD on climate change and safety. **We are working with our CPD panel on details of implementation, aiming for implementation by end 2023.**
- We have committed to review our corporate grade entry criteria, and how they could better incorporate climate change competence; in 2022 we will create a working group on details and timing of implementation.

CLIMATE CHANGE

Action Plan



KEY

Our climate action plan: Activities and commitments

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GUIDANCE

- We provide extensive guidance on low-energy and low-carbon buildings, and climate adaptation (including weather files). To find it, see [our dedicated webpage on net zero guidance, which takes you to key pieces of guidance and is organised around the LETI one-pager](#). We keep our guidance under review and aim to represent best practice on low and zero carbon environments.
- We collaborate with others and are part of several industry working groups e.g. we contributed to the RIBA 2030 Sustainability Challenge and to the 2021 RTPI / TCPA Planning and Climate Change guide; **we contributed to the UKGBC Zero Carbon Roadmap, which was presented at COP26 in October 2021**. We are part of several BSI groups.
- We engage with the work of international organisations where relevant e.g. **we contributed as reviewers to the 2022 Federation of European Heating and Ventilating Associations (REHVA) Guidebook on Energy Efficient Renovation of Existing Buildings**.

STRATEGIC GUIDANCE ON NET ZERO

- We have been working towards a shared and detailed understanding cross industry of what “net zero buildings” mean. We inputted into and support the 2019 [LETI “one-pager” on new operational net zero carbon buildings](#). **In the second half of 2021 we carried out industry engagement, including a survey, and early 2022 we produced the CIBSE-LETI Net Zero FAQs, which provide guidance on what net zero buildings mean in practice. We also adopted the Whole Life Carbon Definitions. These are significant steps towards cross-industry understanding of what is required from net zero buildings.**
- **In April 2022, together with a number of key organisations in the industry including the RIBA, RICS, LETI, IStructE, BRE, BBP, UKGBC, and Carbon Trust, we launched the [Net Zero Carbon Buildings Standard](#) initiative. We see this as essential to deliver outcomes which are technically robust, trusted, and have cross-industry backing.**
- In 2020 we revised [Guide L - Sustainability](#), with updates including more emphasis on the climate and biodiversity emergency and the net zero agenda

DELIVERING PERFORMANCE

Building performance

- In 2021 we produced TM61-64, a set of guidance on operational performance.
- **In 2022 we produced a revised TM54 on energy performance modelling, with more emphasis on achieving high performance and net zero buildings. This is referenced in building regulations.**
- **In 2022 we produced a revised TM23 on air leakage testing of buildings. This is referenced in building regulations.**
- Several years ago, as part of our attention to climate adaptation, we published TM59 on assessing overheating risk in homes. **In 2022 it became referenced in the new building regulations Part O, as one possible compliance route.**
- **We were part of the BSI working group on the new BS 40101 on in-use building performance evaluation.**
- **In July 2022 we will publish an [update of Commissioning Code M](#) to ensure commissioning is correctly executed and building performance delivers the intended operational outcomes.**
- We continuously work to update and grow our online [energy benchmarking tool](#); 2021 updates included updated benchmarks for higher education and prisons, and new domestic benchmarks. We seek collaboration with others to share data and are considering options for future development of the database and tool e.g. new categories; highlighting exemplar projects. We are part of the steering group for the Build Environment Carbon Database.
- As part of our regular updates to guidance, we seek to incorporate the latest best practice on energy efficiency and decarbonisation. For example, the CIBSE Guide D 2020 Vertical Transportation has specific sections on energy efficiency (Sections 8.8, 10.5 & Chapter 13).

Heat decarbonisation

- In 2021 we revised the domestic heating design guide (DBSP), with more emphasis on low-carbon systems.
- In 2021 we published a revised Code of Practice for Heat Networks (CP1) and heat networks design guide. **We are currently exploring the next steps to provide more guidance on efficiency and decarbonisation of new and existing networks. In 2021 we produced a guidance note on hot water temperatures from instantaneous systems, aiming to deliver energy savings while still ensuring safety.**
- We convene and chair the Heat Pump Liaison Group, bringing together interested parties in the sector to co-ordinate action in support of the wider delivery of heat pumps. **In 2021 we published AM16 on heat pumps in large residential schemes. In 2022 we published AM17**

CLIMATE CHANGE

Action Plan



on heat pumps for large non-domestic buildings. We have commenced work on an update of TM51 – Ground source heat pumps, to further support best practice and the decarbonisation of new and refurbished buildings.

Electrification

- In 2020 we set up a working group on electrical engineering for net zero. **Late 2021 the group produced TM67, on the electrification of buildings for net zero. Further work is being planned e.g. on performance metrics, demand reduction and management, plant sizing, and interaction with the network and with electric vehicles, etc**

Retrofit

- We contributed to the 2021 LETI Climate Emergency Retrofit Guide - Homes, and support it. We are now starting to work, with LETI, on the non-domestic workstream. We may revise TM51 or review its status, depending on guidance produced by LETI, CIBSE and others.**
- We have recently set up a new committee dedicated to retrofit and interventions in heritage buildings.**

Embodied carbon

- In 2021 we produced TM65 on assessing embodied carbon of building services products. **This was followed by TM65.1, on the embodied carbon impact of residential heating systems. We are currently working on TM65.2 on office HVAC systems, on a regional addendum, and an Australia & New Zealand addendum.**
- We provided input to the LETI Embodied Carbon Primer.

AHEP	Accreditation of Higher Education Programmes
AM	Application Manual
ASBP	Alliance for Sustainable Building Products
BEIS	Department for Business, Energy and Industrial Strategy
BPN	Building Performance Network
BRE	Building Research Establishment
BSERT	Building Services Engineering Research & Technology journal
CCC	Climate Change Committee
CIC	Construction Industry Council
COP	Conference of Parties (UN Climate Change Conference)
CP	Code of Practice
CPD	Continuing Professional Development
DEC	Display Energy Certificate
ICE	Institution of Civil Engineers
IStructE	Institution of Structural Engineers
LETI	London Energy Transformation Initiative
NZEB	Nearly Zero Energy Buildings
RAEng	Royal Academy of Engineering
RdSAP	Reduced SAP
RIBA	Royal Institute of British Architects
RICS	Royal Institution of Chartered Surveyors
RTPI	Royal Town Planning Institute
SAP	Standard Assessment Procedure
TCPA	Town and Country Planning Association
TM	Technical Memorandum
UKCP18	UK Climate Projections 2018
UKGBC	UK Green Building Council