@CIBSE

CLIMATE CHANGE
Action Plan

2024 Annual Update
Rev1 – 20th Dec 2024

CLIMATE CHANGE
Action Plan

Events and studies 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
- Practising 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.

You can view a webinar on our action plan (2020).

On its first issue, we committed to review our plan regularly. This is the fourth 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 Net Zero JGodefroy@cibse.org.

2024 update at a glance

- ✓ Publication of the UK Net Zero Carbon Buildings Standard Pilot
- ✓ New Lifecycle Carbon Assessment (LCA) Foundation Training
- ✓ Further addenda to TM65, to cover more systems and more regions of the world
- ✓ Continued work with industry on heat pumps, heat demand and system sizing
- ✓ New awards recognising Leadership and Clients driving building performance and climate action

Mirror Climate Action Plan - For individuals and organisations

- ✓ Offer operational energy modelling, embodied carbon, and post-occupancy evaluation services on all projects.
- ✓ Offer a Net Zero option to clients on all projects.
- ✓ Take CPD or ensure staff do, on climate action (Net Zero and climate adaptation), at least once a year.
- ✓ Monitor and disclose the energy use of your offices; set out a plan with objectives for energy use and moving away from fossil fuels e.g. this could be informed by the UK Net Zero Carbon Buildings Standard trajectory and, in other countries, other science-based 1.5°C-aligned trajectories.
- ✓ Contribute to industry efforts and knowledge e.g. staff having the opportunity to contribute to volunteer networks on climate action; disseminating lessons learnt via industry events / publications / public channels; contributing energy and carbon data to CIBSE and the BECD.

Please let CIBSE know where guidance or examples of these actions would be useful, and if you would like to support us in producing these.

KEY

Our climate action plan: Activities and commitments

Updates from last year

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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 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.

PRACTISING WHAT WE PREACH - OUR BALHAM OFFICE AND ACTIVITIES

- For years we have applied energy efficiency measures and monitored the energy performance of our office. Our office in Balham 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. We further expanded on this reporting system over 2022-3. **In 2024 we created a Sustainability Special Interest Group, to coordinate activities across various groups and including two new sub-committees on embodied carbon and the circular economy.**
- 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.
- **In December 2024 we moved to Farringdon. Considerations of energy and carbon performance, comfort, and the health and wellbeing of staff were central to our decision. In our previous office, we carried out a BUS survey with staff as pre-move point of reference, reported in the Journal. Our move will be reported in a series of blogs and/or Journal articles.** In our new office we will seek to make the best use of the opportunities to test and demonstrate improvements in the performance of existing buildings, and we will test the Net Zero Carbon Buildings Standard. **We will start with a year of monitoring and evaluation, to understand our needs, the performance of the existing building, and the best way to improve it.**
- In December 2019 we voluntarily produced and displayed Display Energy Certificates (DEC) for our office and training centre. In 2023 we updated the DEC for our office building in Balham; this will provide a comparison with pre-pandemic patterns and a benchmark for our new premises. **We plan to use NABERS UK Energy for Office ratings to assess our new offices, and to use this to drive future building performance improvements.** To maximise learnings, we will consider rating our offices against the Government’s Operational Rating scheme for commercial offices, should such a scheme become available.

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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, at CIBSE events including Build2Perform and the Technical Symposium, and in our regular free-to-access Grow Your Knowledge webinars .
- We contribute to dissemination through other media and organisations. For example, in **2024 we contributed to COP29: our Technical Director Anastasia Mylona presented at the DESNZ hosted 'sustainable cooling in a warming world' event and participated in ministerial roundtable on delivering the Global Cooling Pledge; our Head of Net Zero Julie Godefroy presented remotely at the session "'Accelerating the Decarbonisation in the Built Environment' event during the 'Urbanisation, Transport and Tourism Day'.**
- Since their creation in 2012, the CIBSE Building Performance 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. Since 2022, we have annually analysed the award submissions and reported on this. This informs regular updates to the entry forms, and shows that data quality and consistency keep improving over time. Reviews are available in the Journal for the entries received in 2021, 2022, **and the latest i.e. those received in 2023, reported in May 2024.**
- In 2021 we introduced an Embodied Carbon Award. In 2022, due to growing industry activities and skills on this topic, we turned this into 2 Embodied Carbon Awards, one for consultants / project teams, and one for manufacturers & suppliers, and increased the level of information we request on embodied carbon in our project data form. **In 2024, for the 2025 awards, we introduced two new award categories, Leadership and Client of the Year, to recognise further ways in which all parties across industry can drive climate action and building performance.**
- We seek to collaborate with others to better align requirements from sustainability awards across institutions e.g. the RIBA sustainability criteria, and the IStructE on embodied carbon**, and invite representatives from other institutions on our judging panel to bring their perspectives**.

POLICY

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

- We regularly respond to policy consultations. Our consultation page includes our responses to past consultations, and current opportunities to contribute to live consultations. **Our responses in the past year have included the Future Homes & Buildings Standard, Heat Zoning, and introduction of a "Passivhaus equivalent" standard in Scotland.**
- We collaborate with others to align our policy recommendations where possible, including BPN, LETI, UKGBC, RIBA, and RTPI. 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 are part of the RAEng National Energy Policy Centre. In 2021-22 we worked as RAEng representative with CAETS, the worldwide network of engineering academies**,** which led to the publication of the 2022 CAETS Energy Report, a recommendations report for policy makers on decarbonisation. We contributed to and signed the 2021 joint industry letter to Secretary of State in response to Future Buildings Standard consultation . We support the call for regulating embodied carbon, and have been active in the Part Z working group since its creation.
- 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. In 2023 we contributed to the "Mission Retrofit" report by the Mission Zero Coalition, led by Chris Skidmore. We published a response to the autumn 2023 government announcements that cancel or postpone a number of net zero policies: "*Net zero retreat 'risks undermining business and homeowner confidence - CIBSE President Adrian Catchpole calls for stable and consistent government policy on net zero following Rishi Sunak's green policies retreat"* (CIBSE Journal, September 2023).
- 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 were on the original oversight group of the Future Homes Hub. In 2021 we were part of project team on SAP/RdSP11 scoping project for BEIS – report available here, and were subsequently invited on the SAP11 steering group.

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EDUCATION

- We contributed to the joint industry Climate Framework curriculum.
- We are part of the RAEng Sustainability in Higher Education group.
- In 2023, we updated our guidelines for CIBSE accreditation of engineering courses: we have added a section on the climate emergency and the role emerging engineers must play, including guidance that: Students should be exposed to the engineering challenges of addressing climate change in the built environment, the associated systems, and the holistic impact of engineered environments on resources and the environment. Accredited programmes must prepare students to be future climate leaders by ensuring that they have the knowledge, skills, and mindset necessary to address the climate emergency effectively. It is essential to integrate the principles of sustainability, energy efficiency, and climate resilience into our undergraduate building services engineering curriculum. We have given some examples of what they can include in their curriculum to address the climate emergency. For any new request for accreditation, the education provider has to provide a statement of what actions they have taken, and it will be assessed in the accreditation visit. **The guidelines were introduced along with AHEP4, which was implemented through a transition period ending September 2024.**

COMPETENCE AND TRAINING

TRAINING

- We offer regular face-to-face and online training on low-carbon buildings (both operations and design), overheating, building performance, and Low and Zero Carbon Energy Technologies. We have started a strategic review of our training offer against the net zero agenda, Climate Framework curriculum and latest guidance. On our website, our training courses will outline what the course content is and how it relates to these important topics.
- We are developing a course specifically on how to implement Net Zero Carbon in your organisation. We are also developing a TM54 training course.
- We offer the Low-Carbon Consultant Building Design, and Operations Exams, and the ISO 50001:2018 Energy Management System / Low Carbon Consultant Exam. These are designed for those wishing to take the steps to becoming Low Carbon Consultants and also those who want to gain certification as Low Carbon Energy Assessors. This process is administered by CIBSE Certification. **In 2024, CIBSE Certification became the new administrator of NABERS UK**.
- 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 are a key partner in the UK Lifecycle Carbon Assessment (LCA) Foundation Training, delivered in partnership with the Supply Chain Sustainability School in 2024**. This programme has been developed by leading industry professionals and is supported by the Laudes Foundation.

COMPETENCE

- Membership entry: We committed to review our corporate grade entry criteria, and how they could better incorporate climate change competence. **As CIBSE competence criteria are directly aligned with the Engineering Council requirements, our corporate grade entry criteria will be reviewed alongside the next EngC update of UK- SPEC, expected during 2026.**
- **We introduced mandatory CPD on sustainability and net zero on 1st January 2024. All corporate members of CIBSE are required to complete at least one semi-structured CPD activity on each topic and provide reflection on each.**

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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, 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 2021 we carried out industry engagement and early 2022 we produced the CIBSE-LETI Net Zero FAQs, which provide simple guidance on net zero carbon buildings. We also adopted the Whole Life Carbon Definitions. These are significant steps towards cross-industry understanding of 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. **Over the past year we have continued extensive involvement with the Standard, through representatives on the Governance Board and Technical Steering Group. The Standard was published in Pilot version in September 2024. We will continue to be involved in 2025 through its pilot phase and development of v1.**
- 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 2025 we are planning to produce complementary guidance on early stage modelling, and on TM54 modelling for whole life carbon calculations, including consideration of future weather over the assessment period.**
- In 2022 we produced a revised TM23 on air leakage testing of buildings. This is referenced in building regulations. **In 2025 we will start working on guidance on the testing of heat transfer coefficients, another important factor in evaluating the real-life performance of buildings.**
- 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. **A revision is expected to be published early 2025, including updated criteria for bedrooms.**
- We were part of the BSI working group on the new BS 40101 on in-use building performance evaluation**, and expect to be involved in its revision over 2025.**
- 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 Built Environment Carbon Database. **This year, we collaborated with UCL, Energy Systems Catapult and the NHS, to investigate and benchmark the energy use of NHS buildings; this will feed into the update of the CIBSE energy benchmarks**.
- 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. In July 2022 we published an update of Commissioning Code M to ensure commissioning is correctly executed and building performance delivers the intended operational outcomes. In 2023 we published a revised Guide M for the better operation, engineering management and maintenance of buildings.
- **Early 2025, our new Head of Building Services will lead the update to TM39, to provide updated guidance on metering and reflect the latest developments in standards and practice.**

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Heat decarbonisation

- In 2021 the CIBSE Domestic Building Services Panel (DBSP) released a new edition of the *Domestic heating design guide*, 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. In 2021 we produced a guidance note on hot water temperatures from instantaneous systems, aiming to deliver energy savings while still ensuring safety. We were on the early advisory group for the Heat Networks Technical Assurance Scheme.
- **We are currently considering the next steps in our guidance on efficient and low carbon heat networks, with work expected to start in 2025. Please contact us for suggestions and to get involved.**
- We continue to 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, and in 2022 we published AM17 on heat pumps for large non-domestic buildings. We are progressing the update of TM51 – Ground source heat pumps; this project is in close liaison with the Ground Source Heat Pump Association (GSHPA), and has engaged a wider stakeholder group. **In 2024 we endorsed the Passivhaus Trust guide on air-to-water heat pumps.**

Electrification

- In 2020 we set up a working group on electrical engineering for net zero, leading in 2021 to the production of TM67 Electrification of buildings for net zero.
- Members can contact us on further guidance they would like us to provide e.g. on demand reduction and management, plant sizing, and interaction with the network and with electric vehicles, etc. **In 2025 and future years, we intend to use feedback and data collated through the UK NZCBS to inform guidance on metrics and performance for demand management.**

Retrofit

- We contributed to the 2021 LETI Climate Emergency Retrofit Guide - Homes, and support it. In 2022 we started a joint workstream, with LETI, on the non-domestic sector. **This is expected to be published in 2025.**
- In 2022 set up a new committee dedicated to retrofit and interventions in heritage buildings.
- **In 2024, with 10 Design as project co-lead, and with a large steering group and project team, we published Retrofit Revisit, with support from Innovate UK and Historic England. The project includes the building performance evaluation of 10 homes which were subject to deep retrofit over the past 10 years, using a range of techniques such as airtightness testing, heat transfer coefficient assessments, and fabric moisture tests. It received a Building Innovation Award.**
- We contribute to the work of the RAEng to improve infection resilience of buildings, working with NEPC and IMechE. **In 2024 this led to the RAEng report "Healthy, safe and sustainable buildings: Maximising benefits in building retrofit".**

Embodied carbon

- We provided input to the LETI Embodied Carbon Primer.
- In 2021 we produced TM65 on assessing embodied carbon of building services products. This was followed by: TM65.1 on the impact of residential heating systems; TM65.2 on lighting systems; TM65LA, on how to use TM65 outside the UK; TM65NAZ, an Australia & New Zealand addendum**. In 2024, we published TM65.3 on logistics centres, and regional addenda for North America and UAE/MENA. TM65.x on office HVAC is expected to be published in 2025. Other addenda for systems and regions are being planned.** Details of TM65 activities and resources are available here: https://www.cibse.org/tm65.
- **In 2024 we set up a verification scheme to certify manufacturers' TM65 calculations.**
- **In 2024 we set up an Embodied Carbon sub-committee, as part of the Sustainability Special Interest Group.**
- **Over 2025, we are planning to work on analysing the data from TM65 calculations and disseminating findings, and the next stages of our calculation tool.**

RESEARCH

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

- CIBSE Core Themes are aligned for both Knowledge and Research, and include net zero carbon, climate adaptation, retrofit and refurbishment, and the circular economy .
- 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 Doctoral Training (CDT) in Energy Resilience and the Built Environment (ERBE).
- 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. We have been working with industry, academia and policy makers to

establish the specification of the new files and to test them. **We provided an overview of the update at Build2Perform 2024, and the new files are expected to be published early 2025**.

- BSERT is CIBSE's research journal containing peer-reviewed papers on all aspects of building services engineering. In 2021 a Special Issue was produced on the "Decarbonisation of Buildings". **A Special Issue on 'Sustainable technologies and systems for net zero carbon buildings and communities' was published late 2024, and one on 'Heat Pumps' is expected in 2025.**

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