

Carbon Zero: the professional institutions' climate action plan



CIBSE Implementation

Rev1

15th November 2021



CIBSE Climate Action Plan



2019, annual updates

Practicing what we preach

Our role as an institution

Education

Events & dissemination

Policy

Training

Guidance

Research

<https://www.cibse.org/News-and-Policy/Policy/Technical-Themes/Net-Zero>

Carbon Zero: the professional institutions' climate action plan



CIC Climate Action Plan



WS1: Education & Qualification



WS2: Standards and regulations



WS3: Operational energy and whole-life carbon



WS4: Resource use and embodied carbon



WS5: Land use, transport & infrastructure



WS6: Finance & risk



WS7: In-use performance

Coordinated by CIBSE



WS8: Adaptation & resilience



WS9: Emergency response



WS10: Competence/Ethics/Advocacy

CIC Climate Action Plan

CIBSE Implementation: Key items

Higher Education accreditation requirements

Updated guidelines for more emphasis on climate change & Climate Framework
Once approved, will be introduced along with AHEP4
AHEP4 implementation January 2022 - September 2024

Mandatory CPD on climate change and safety

Commitment
Working with our CPD panel on details and timing of implementation

Entrance requirements

Commitment to review corporate grade entry criteria for climate change competence
2022 working group on details and timing of implementation

Training materials

Review by end 2021 incl. training & free access webinars (<https://www.cibse.org/growyourknowledge>)
High / med / low priorities

Guidance

Continuous, on-going



Co-ordinated by UCEM

The plan focuses on professional and cross-disciplinary education at undergraduate and postgraduate levels and the development of a wide-ranging collective CPD programme for the industry.

It is anticipated that tertiary education and professional qualification requirements will need to be substantially revised to focus on environmental performance and that the existing professional sector will have to take part in comprehensive training programme for net-zero delivery alongside new building safety requirements.

WS1 Education and Qualification

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	Each PI will determine their respective member roles, scope and responsibilities for carbon reduction	short-term: commence immediately complete - scope is operational carbon (whole buildings) and embodied carbon of building services; expert area is in-use performance; related responsibilities include thermal comfort in a changing climate (overheating risk); some limited involvement in other areas e.g. green infrastructure and SUDS which contribute to mitigation and adaptation
b	Each PI will review learning outcomes and the accreditation requirements of relevant degree and training courses	short-term: commence immediately We have been updating our guidelines for CIBSE accreditation of engineering courses, to reflect more emphasis on climate change and the Climate Framework. <u>Timescale:</u> 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.
c	Individual PIs to adopt and update discipline- appropriate CPD requirements for net zero skills and competences for their members	short-term: commence immediately CIBSE has committed to introduce mandatory CPD on climate change and safety; we will work with our CPD panel on details and timing of implementation
d	The PIs will work together (and with other relevant bodies) to share and implement their educational proposals	short-term: commence immediately as per (b) and subject to others
e	The PIs will work towards making ongoing CPD on climate issues obligatory for all chartered PI members alongside the introduction of statutory mandatory CPD under the new Building Safety Regime	Medium term – achieved within the next 2 to 3 years as per (C)
f	PI entrance requirements and professional membership assessments will be reviewed and revised, if required, to include a threshold carbon literacy/competence test	Medium term – achieved within the next 2 to 3 years CIBSE has committed to review our corporate grade entry criteria, and how they could better incorporate climate change competence. <u>Timescale:</u> in 2022 we will create a working group on details and timing of implementation.



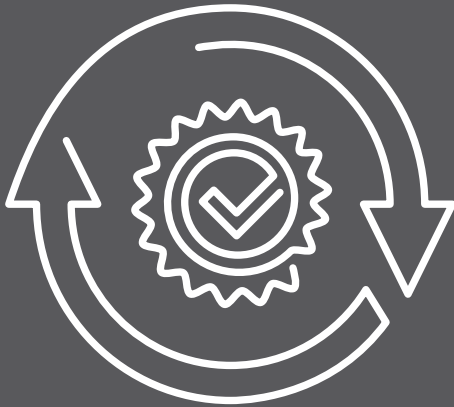
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It is anticipated that tertiary education and professional qualification requirements will need to be substantially revised to focus on environmental performance and that the existing professional sector will have to take part in comprehensive training programme for net-zero delivery alongside new building safety requirements.

WS1 Education and Qualification

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
g	A cross-industry climate framework curriculum to be agreed and adopted	short-term: commence immediately complete - CIBSE support the climate framework curriculum, and we input into its creation by CIBSE. The framework informed our updated sustainability guidelines (item b), and our CPD mapping (item c) will be against the framework.
h	A shared CPD curriculum, based on the framework and including specialist sub-modules, to be established	short-term: commence immediately Our CPD mapping and subsequent filling of the gaps (item j) will be against that framework
i	All institute and registration body agreement to be brokered for professional education to ensure climate change & biodiversity competence is achieved as a default requirement	Medium term – achieved within the next 2 to 3 years Timescale: the implementation timescale is beyond CIBSE, but we strongly recommend working with the RAEng on this, and we are part of the RAEng Sustainability in Higher Education working group.
j	Training materials to be developed and shared, supported by the PIs	Medium term – achieved within the next 2 to 3 years CIBSE have started a strategy review of existing material (free and pay-for) offered by CIBSE, to identify existing materials and gaps against the climate framework curriculum. Timescale: We have committed to complete this review by end 2021. Formal training material: Timescale: - Following that review, we will work with others to agree high/medium/low priorities, and those under CIBSE responsibility to address - Q2 2022 - We currently aim to address high-priority gaps by end 2022 (those under CIBSE responsibility) - We currently aim to address medium & low priority gaps by end 2023 (those under CIBSE responsibility). - Training needs will then be subject to on-going review and development Free-to-access material, webinars etc: In addition to formal training, CIBSE hold regular webinars freely accessible to all, many of them relevant to Net Zero ("Grow your Knowledge" webinars). We are considering how to signpost easily to the most relevant material, against the climate framework curriculum. On-going: We will continue to provide this, with regular content created on a regular basis.

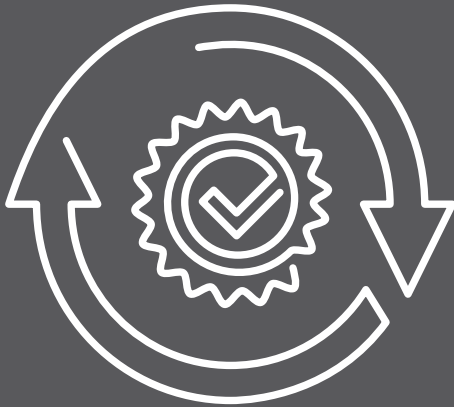


Co-ordinated by CABE

The sector is already working on upgrading practice standards and developing common procedures and protocols to tackle climate change. Voluntary codes and methodologies have been proposed or are being developed, which once successfully trialled are likely to become mandatory within a relatively short time frame. It is anticipated that lessons learned from the development of standards will translate into the institutions' input and advice on regulatory change.

WS2 Standards and Regulations

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a PIs to establish and recognise an advanced cross-disciplinary practitioner + research group	short-term: commence immediately	<u>Timescale:</u> tbc by WS coordinator in discussion with the group; in the first instance, we recommend discussing what this group would be tasked to do / what gap it would fill / whether existing groups already fulfil that function but may need more support etc
b Stretch and voluntary standards/regulations to be developed for willing practitioners and their clients to adopt, trial and provide feedback on (for 2025/2030/2035 etc.)	Medium term – achieved within the next 2 to 3 years	CIBSE are very active in various standards and the development of policy and regulations. <u>Timescale:</u> this will vary depending on the standards and regulations. In the first instance we suggest a first step would be to identify high & medium priorities for standards and regulations that need updating - this should be done with input from the other WS. Timescales and implementation steps for each could then be established more specifically. There will also remain an element of continuous development, even when these high and medium priorities have been met.



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WS2 Standards and Regulations

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
c	PIs to convene a cross-industry working group to provide input to Building Regulations, the Building Safety Regulator and other relevant bodies on future standards and regulations	short-term: commence immediately PIs to discuss where this would add value, whether this could be started from the CIC CC panel with invites outside of CIC membership, and where more informal and ad-hoc collaboration on policy (e.g. consultation responses etc) is sufficient. <u>Timescale:</u> as per a): tbc by WS coordinator in discussion with the group.
d	The working group to publish recommendations for upgrading standards and regulations on a minimum annual basis	Medium term – achieved within the next 2 to 3 years as per d)
e	Digital building passports, dealing with build quality standards and embodied and operational carbon, to be agreed with financial institutions with the intention that they become mandatory across the industry and set a series of progressive expected performance requirements	Longer term – established and consolidated within the next 5 years Implementation actions and steps tbc by WS coordinator in discussion with the WS group. CIBSE have been advocating the use of building passports and their integration into regulations where relevant, but without referring to a set format / content, and there is no consensus on this yet. To start with, a joint position on the content and steps to adoption of these passports would be useful, led by WS coordinator. This should also align with the current proposals for information management mandates in the Transforming infrastructure Programme and also aligns with the Golden Thread and Building Safety legislation. <u>Timescale:</u> tbc by WS coordinator in discussion with the WS group.



Co-ordinated by RIBA

Operational energy performance and embodied carbon targets (collectively whole life carbon standards) have been proposed for new build in the RIBA 2030 Challenge and retrofit standards are to follow. Subsequent work will be required on avoiding unwelcome and unintended consequences. Parallel work will need to take place on building services and energy flows within and around buildings. Proposals are also to be developed for the use of decarbonised energy where imported energy is still required.

Inputs on embodied carbon (Workstream 4) will combine with the work on operational performance (Workstream 7) to provide overall metrics and targets for achieving net-zero whole life carbon.

WS3 Operational Energy and Whole Life Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	The PIs to lead on an agreement for operational performance targets and a net-zero whole life pathway	<p>short-term: commence immediately</p> <p>Timescale: tbc by WS coordinator in discussion with the group.</p> <p>There are already first steps with operational energy targets and associated decarbonisation paths under the RIBA 2030 Challenge, which CIBSE have fed into, including the summer 2021 revision, but not fully endorsed; this also needs to be expanded to other sectors (currently schools, offices, resi) and address existing buildings as well as new/extensive refurb.</p> <p>For whole life carbon, LETI have started a workstream which CIBSE are part of; ideally this would lead to recommendations which the PIs can adopt, or at least build on.</p> <p>The UKGBC recently started discussions on Net Zero certification/verification; CIBSE strongly believe this should be a collaborative exercise. This should be discussed with the WS group.</p> <p>Over Q3&4 2021, CIBSE have been working with LETI to produce FAQs on the LETI-WLCN Net Zero definitions, and are carrying out extensive member engagement on this. We anticipate this will lead to comprehensive FAQs on the consistent implementation of the Net Zero definitions in practice. Over end 2021 / early 2022, CIBSE will also consider whether to endorse the definitions (it is hoped this will be the case, subject to technical details and members engagement).</p>
b	The RIBA 2030 Challenge to be reviewed and expanded for consideration and potential adoption across the industry	as per a)



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WS3 Operational Energy and Whole Life Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
c	PIs to publish distilled guidance on design strategies, specifications, standards and methods for achieving net-zero whole life carbon, with simple to use formats to encourage use by all professionals	<p>short-term: commence immediately</p> <p>CIBSE actions: CIBSE are constantly reviewing our guidance to align it with NZ objectives, with updates in our action plan (e.g. latest guidance includes new publications on embodied carbon and heat pumps). We aim to have progressed in high priority areas in the next 2 years, with new publications on modelling and electrical engineering by end 2021 and progress on heat networks and retrofit by end 2022, but do not anticipate an end date, rather on-going development. To facilitate access and give members a whole picture of what guidance is available, expected developments, and how it all fits together, in 2020 we created a Net Zero Guidance webpage which signposts to guidance, working groups and position statements: https://cibse.org/News-and-Policy/Policy/Technical-Themes/Net-Zero/CIBSE-guidance-to-deliver-net-zero-carbon-new-buil. The page is regularly updated. Some CIBSE material is for members only, but in some cases CIBSE make some publications available to all. In any case, overview webinars at the launch of new guidance are available for free to all, in a 1-hr CPD format ("Grow your Knowledge" webinars). CIBSE also contribute to material from other PIs and other organisations (e.g. LETI), where relevant. Timescale: on-going</p> <p>WS actions: The WS could discuss whether to create an overall plan of high/med/low priorities, and which PI is best placed to lead on each. Timescale: tbc by WS coordinator in discussion with the group.</p>
d	PIs to identify and support the development of central construction industry databases for whole life carbon and other environmental impacts (e.g. RICS Buildings Database and CIBSE operational energy benchmarking)	<p>short-term: commence immediately</p> <p>Energy use: As noted, CIBSE already have an operational energy database, which is open to all and which is continuously developed e.g. there were a number of updates in 2021 including, for the first time, domestic benchmarks). see also WS7. WLC: We have been on the steering group for the RICS Built Environment Carbon Database and are considering the terms of a more formal arrangement, so long as it does not prevent us from carrying out our own activities on operational energy benchmarks. Embodied carbon: see WS4-c Timescale: on-going</p>



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WS3 Operational Energy and Whole Life Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
<p>e PIs to identify and provide guidance on use of low/zero carbon energy supplies and decarbonised heat sources</p>	<p>short-term: commence immediately</p>	<p>We anticipate this is an area for CIBSE to lead.</p> <p>We have made significant progress on this over 2020-21, and are actively working on further progress:</p> <ul style="list-style-type: none"> - Signposting to Net Zero guidance: our Net Zero guidance webpage summarises where to find the most relevant guidance, organised around the recommended energy and carbon hierarchy and around the LETI one-pager: https://cibse.org/News-and-Policy/Policy/Technical-Themes/Net-Zero/CIBSE-guidance-to-deliver-net-zero-carbon-new-build - Heat pumps: at the small domestic scale with updated DBSP guide, the new AM16 guidance for multi-resi schemes (November 2021), and an upcoming update to its guidance on on heat pumps for larger non-domestic buildings. CIBSE also convene a cross-industry group on heat pumps, which includes broader membership than the PIs (e.g. trade bodies) and works on guidance as well as training and competence. - Electrification of buildings and the wider system: covered in new strategic guidance TM67 Electrification of Buildings for Net Zero, published November 2021. We have a working group on this topic, including representatives from multiple stakeholders, and anticipate that the new TM will be followed by a series of more specialised publications in 2022 and onwards - Heat networks: updated design guide and CP1; reviewing plans for further guidance e.g. 5th gen, network retrofit. <p><u>Timescale: on-going</u></p>
<p>f PIs to encourage the professional service firms they recognise or accredit and those firms employing their members to publish annual energy and whole life carbon performance data for their operations</p>	<p>short-term: commence immediately</p>	<p>CIBSE have already been encouraging organisations employing CIBSE members to do this e.g. encouraging them to use voluntary DEC's in their offices and encouraging them to sign-up to the BPN Joint Statement - see WS7.</p> <p>We have also introduced an encouragement to disclosure in our 2022 awards for consultancy firms, and will review whether this could be reinforced in future years, as part of our annual reviews of awards criteria.</p> <p><u>Timescale: on-going, annual reviews</u></p>



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WS3 Operational Energy and Whole Life Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
g	PIs to encourage and, if possible, place an obligation on their members to ensure that all design teams offer, regardless of whether clients have requested the service, proposals for progressing projects towards net-zero whole life carbon design	Medium term – achieved within the next 2 to 3 years CIBSE have introduced a question on this in our 2022 awards for consultancy firms, and will review whether this could be reinforced in future years, as part of our annual reviews of award criteria. <u>Timescale:</u> annual reviews Turning this into a requirement would be much more meaningful coming from several PIs, and we would like to discuss it with the WS group. It would also rely on progress in developing supporting material and competence. <u>Timescale:</u> we expect this would need a longer timeframe than 2-3 years to introduce as formal requirement.
h	PIs to support the routine use of Building Passports (see WS2) for operational energy and whole life carbon	Longer term – established and consolidated within the next 5 years see WS2 - e



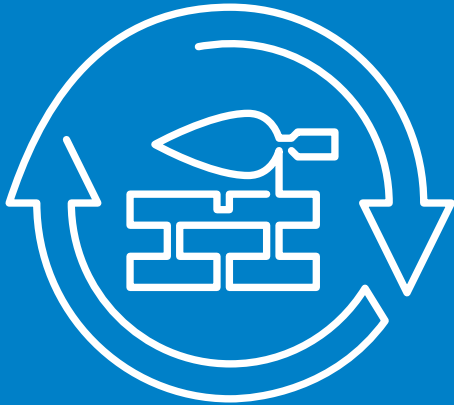
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WS3 Operational Energy and Whole Life Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
i	Cross industry expert group/s to be formed to advise practitioners and policy makers: <ul style="list-style-type: none"> • On achieving energy efficiency standards • On achieving a consistent whole life carbon approach • And to monitor and produce advice and guidance on social impacts and behaviour change in relation to energy reduction 	short-term: commence immediately <u>Timescale:</u> this may not need a specific timescale, as long as groups are formed where needed in the right timeframe. There are already several such groups, which CIBSE, the RIBA and others are members of, sometimes coordinated by LETI or forming on an ad-hoc basis on specific topics. Wider participation within CIC members could be useful.
j	Definitions to be agreed across industry to ensure common purpose and consistency	short-term: commence immediately <u>Timescale:</u> for CIBSE, end of 2021/early 2022, see item (a).
k	The relationship between existing environmental performance metrics and whole life carbon to be clearly and authoritatively set out	short-term: commence immediately WS coordinator to advise on timescale, steps, and possible contribution from CIBSE
i	Cross industry expert group/s to be formed to advise practitioners and policy makers: <ul style="list-style-type: none"> • On achieving energy efficiency standards • On achieving a consistent whole life carbon approach • And to monitor and produce advice and guidance on social impacts and behaviour change in relation to energy reduction 	short-term: commence immediately <u>Timescale:</u> this may not need a specific timescale, as long as groups are formed where needed in the right timeframe. There are already several such groups, which CIBSE and the RIBA are members of, often coordinated by LETI or forming on an ad-hoc basis on specific topics. Wider participation within CIC members could be useful.



Co-ordinated by IStructE

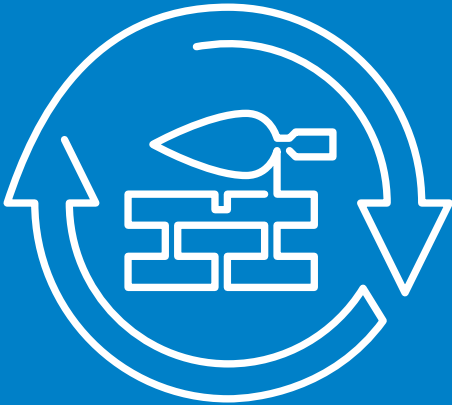
Calculations for and reporting on embodied carbon to become industry standard. Methodologies and databases for this are already in development. Protocols for minimising waste and for re-use of materials to be established, implemented and monitored.

The initial focus is carbon and the climate emergency. In time this should expand to cover all resources and respond to wider issues.

WS4 Resource Use and Embodied Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	PIs to support use of embodied carbon (upfront and lifetime) and other environmental impacts as design criteria and facilitate use of databases to drive design decisions	<p>short-term: commence immediately</p> <p>Guidance and tools: CIBSE already support the use of embodied carbon assessments. CIBSE have been invited on the steering group for the revision of the RICS Professional Statement on whole life carbon calculation. With regards to building services specifically CIBSE already encourage the use of EPDs where available, and have otherwise created the TM65 methodology to estimate impacts. This is being followed-up with more guidance on systems (rather than products), and CIBSE hope to create freely accessible resources using the data gathered from TM65 calculations e.g. database or benchmarks. Timescale: Guidance is being continuously produced, with guidance on residential heating systems expected in 2021 followed by office HVAC in 2022, and further workstreams afterwards. The data resources (e.g. benchmarks) may become available from 2022 in initial form, depending on the data received from members and the wider industry, and developed continuously from that point. Awards: Embodied carbon and environmental impact of materials were already a consideration in the CIBSE awards, and in 2021 we introduced a dedicated Embodied Carbon award. Timescale: Further developments of the CIBSE awards criteria will be informed by a review of this year's submissions.</p>
b	PIs to support and enable effective decision-making on the specification of responsibly sourced materials and processing methods	<p>short-term: commence immediately</p> <p>as per b - CIBSE already support this. Beyond carbon, resources such as Guide L and TM56 cover wider environmental impacts in the selection of materials. We do not currently have specific plans for further activity, but this may evolve with members feedback and discussions in this workstream.</p>
c	PIs to identify and support the development of databases to provide whole life environmental impacts across all Environmental Product Declaration (EPD) indicators – with a focus on carbon emissions – for: i. materials and resources ii. Projects	<p>short-term: commence immediately</p> <p>as per a) + CIBSE are on steering group of RICS BECD database - see WS3-d</p>

WS4



Co-ordinated by IStructE

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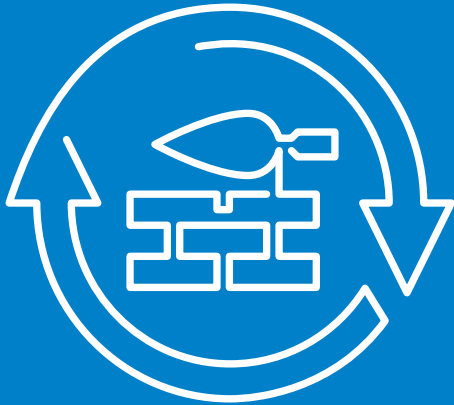
The initial focus is carbon and the climate emergency. In time this should expand to cover all resources and respond to wider issues.

WS4 Resource Use and Embodied Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
d	PIs to support innovation and development of new solutions in response to embodied carbon and environmental impact design criteria	Medium term – achieved within the next 2 to 3 years
e	PIs to support the routine use of Building Passports (see WS2) for resource usage, waste and embodied carbon	Longer term – established and consolidated within the next 5 years

CIBSE already support this; Net Zero and the Circular Economy are 2 of our priority research themes; this has led in recent years to publications (e.g; Research Insights on the circular economy) as well as practical guidance (e.g. TM65 methodology).
Timescale: no specific timescale; other projects are on-going, and research proposals are reviewed regularly.

see WS2-e



Co-ordinated by IStructE

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The initial focus is carbon and the climate emergency. In time this should expand to cover all resources and respond to wider issues.

WS4 Resource Use and Embodied Carbon

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
f	Work to establish databases providing relevant and accessible information on environmental impacts across all Environmental Product Declaration (EPD) indicators starting with carbon emissions	short-term: commence immediately see a) and c)
g	Adopt and promulgate standard metrics for monitoring and reporting embodied carbon, e.g. BS EN15804	short-term: commence immediately CIBSE promote the use of EPDs compliant with BS EN 15804, and as such we believe this action is already covered
h	Support research on development of effective means for, and advice on, resource substitution	short-term: commence immediately as per d; CIBSE already do this
i	Establish methods and a requirement for responsible sourcing of building materials	short-term: commence immediately see a-c: CIBSE already promote this in their guidance and awards; we could review how to strengthen this in future awards, as part of annual review of award criteria. The next step i.e. introducing requirements, requires discussions with the workstream.
j	Establish a requirement for use of EPD databases in the design process	Medium term – achieved within the next 2 to 3 years CIBSE believe requiring the use of EPDs is premature given the very limited availability of EPDs for building services products. We anticipate this would require at least 5 years, subject to real engagement and progress from industry . However, requiring that EPD databases "where available and sufficiently developed" are used could be introduced sooner - to be discussed with the group.
f	Work to establish databases providing relevant and accessible information on environmental impacts across all Environmental Product Declaration (EPD) indicators starting with carbon emissions	short-term: commence immediately see a) and c)

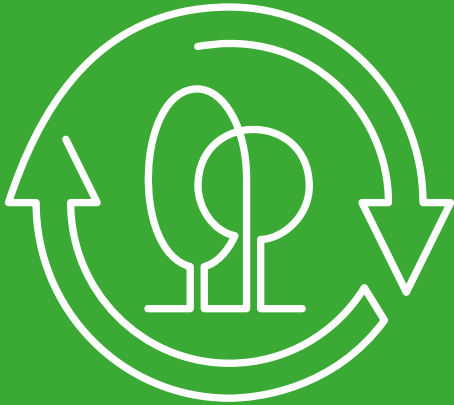


Co-ordinated by RTPI / CIHT

The 6th Carbon Budget highlights that important changes are needed to how development and transportation is located, planned, designed, delivered, maintained and operated. This transition needs to be people centric. Implementation needs to unlock the potential of climate change mitigation and adaptation to generate wide economic and social benefits. It must also ensure that those benefits and any impacts are distributed fairly.

WS5 Land Use, Transport and Infrastructure

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	PIs to update guidance on the role of planning, land use and design in reducing carbon emissions from transport	short-term: commence immediately This is not a core area of expertise for CIBSE members. CIBSE Guide L already covers these principles. No specific action expected at this stage, but we would be happy to contribute to further guidance on the topic but expect it to be led by the WS coordinator or other experts in this area
b	PIs to publish guidance on how design codes and standards can align with net zero	Medium term – achieved within the next 2 to 3 years CIBSE have a position statement ("Towards a better planning framework to address climate change"). We have been part of the recent steering group for the revision of the RTPI/TCPA guidance on planning and climate change. We would be happy to contribute to further guidance on the topic but expect it to be led by the WS coordinator or other experts in this area
c	PIs to identify and introduce new professional responsibilities and support to ensure decision making in relation to land-use, transport and infrastructure is consistent with Net Zero obligations	Medium term – achieved within the next 2 to 3 years as per a and b. We already provide guidance on this. It is not a core area of expertise for our members, so we have no plans to introduce specific professional responsibilities other than those already covered by our guidance and Code of Conduct
d	Identify, prioritise and shape professional and industry practices in planning, transport and land-use needed to deliver a just transition to net zero	Medium term – achieved within the next 2 to 3 years as per a, b and c.



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WS5 Land Use, Transport and Infrastructure

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
e Identify weaknesses in the policy framework that prevent the planning system aligning with the UK's Net Zero Obligations and the changes that are required to remedy this	Medium term – achieved within the next 2 to 3 years	See a). CIBSE would be happy to contribute to activities led by others, as and where needed



A system of project procurement to be developed and put into place, including a golden thread approach to responsibility for quality and outcomes building on the recommendations of the Hackitt Report. A standardised valuation method that deals with future value and project risk to be established and implemented. Funding and grant awarding criteria to be overhauled.

WS6 Finance & Risk

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	Establish a lead on pan-industry statement that lays out, and keeps up to date, climate related risks to physical, regulatory, reputational and future value and methods for taking these risks into account in valuation and professional advice	short-term: commence immediately
b	PIs to develop and promulgate a common standard on providing professional advice on projects that is transparent, properly evidenced and able to be widely shared	Medium term – achieved within the next 2 to 3 years

This is not a core area of expertise for CIBSE members. CIBSE would be happy to contribute to this, but we expect this should be led by the WS coordinator.

This is not a core area of expertise for CIBSE members. Actions from CIBSE to be advised by WS coordinator; a key area where we would like to see more alignment is on the use of EPCs in valuation, as currently this does not align with the advice of CIBSE and others that we need more focus on in-use performance. We have supported RICS workshops on this issue in 2020-1 and would be happy to further contribute to this work if needed, but expect it to be led by the WS coordinator or other experts in this area



A system of project procurement to be developed and put into place, including a golden thread approach to responsibility for quality and outcomes building on the recommendations of the Hackitt Report. A standardised valuation method that deals with future value and project risk to be established and implemented. Funding and grant awarding criteria to be overhauled.

WS6 Finance & Risk

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
c	Develop a common industry approach to valuation that takes into account whole life carbon, energy performance, building safety, wider social value and anticipated changes to market/regulatory/ environmental systems and potential for stranded assets	Medium term – achieved within the next 2 to 3 years
d	Identify or develop tools to provide industry- wide assistance to practitioners on categorising, quantifying, avoiding and mitigating climate risk	Medium term – achieved within the next 2 to 3 years



Co-ordinated by CIBSE

The current systems for monitoring and reporting in-use performance will be widened to include all projects over a certain size, with that threshold reducing at regular, predetermined intervals. Effective feedback loops will be developed and professional responsibility will extend further into the lifetime of projects. Social impact & behaviour are likely to become essential project considerations.

WS7 In-use Performance

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
As workstream coordinator, CIBSE provided an update on this workstream at the CIC Conference, October 2021. The slides are available on request.		
a	PIs to work to agree a coherent approach on actual in-use performance, supported by monitoring and evidence, from the professions, their clients and the wider industry. This will be supported by training and accreditation schemes where required (in liaison with WS1)	<p>short-term: commence immediately</p> <p>This has already started, including:</p> <ul style="list-style-type: none"> - The RIBA Challenge, which proposes targets relating to in-use performance. CIBSE fed into this, including the 2021 revision; more development is needed for full support by CIBSE and others. <p><u>Timescale:</u> to be discussed with RIBA.</p> <ul style="list-style-type: none"> - Promotion of in-use performance through awards; the RIBA are introducing requirements for in-use data in their awards; CIBSE have commented on awards criteria and RIBA have agreed in principle that their data will feed into CIBSE database. This needs to be formalised. It should also be extended to others, the aim being that all PIs whose members are responsible for in-use performance would require in-use data for their awards, to a compatible format. In 2021 CIBSE introduced a new data collection form, trialled in their awards. <p><u>Timescale:</u> the CIBSE data collection form will be revised in 2022 according to feedback and if possible to incorporate the new BS; its adoption (or similar) could then be promoted to other PIs and organisations.</p> <ul style="list-style-type: none"> - Policy: see c). - Standards for in-use evaluation and reporting: a new BS is being drafted. CIBSE are on drafting steering group. This could be supported by training in the future; BPN are already planning such training, focused on housing. <p><u>Timescale:</u> expected BS publication late 2021 / Q1 2022</p> <ul style="list-style-type: none"> - Modelling and design, with associated training: see i).
b	PIs to work together (and with organisations outside of CIC) to remove barriers to evaluating and reporting on performance	<p>short-term: commence immediately</p> <p>A key barrier for is architects, insurance. Work on this is being led by BPN. Another barrier is standardisation of evaluation and reporting; this should be addressed by the new BS - see a).</p> <p><u>Timescale:</u> on-going, see item a)</p>
c	PIs to work together and with organisations outside of CIC to provide a coherent advocacy voice for policy on operational performance	<p>Medium term – achieved within the next 2 to 3 years</p> <p>In 2019 CIBSE worked closely with the BPN to create a joint position statement advocating for regulation on operational performance. This has been signed by the RIBA and some non-CIC members. We encourage others signatories to the CIC plan to sign up to it; we would welcome working with the WS2 coordinator to gather further support and reflect it in all our policy messages.</p> <p>We regularly work with others on policy messages regarding operational performance, for example the recent response to the Future Building Standard and joint letter of key messages.</p> <p><u>No specific timescale, on-going.</u></p>



Co-ordinated by CIBSE

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WS7 In-use Performance

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
d	PIs to introduce incentives for their members to carry out in-use monitoring, evaluation and reporting as well as reviewing further options, including professional requirements for organisations or projects over a certain size and collective requirements set out in the Plan of Work and Plan for Use	Medium term – achieved within the next 2 to 3 years CIBSE have required in-use performance in their awards for many years, and have worked with others to encourage them to do the same - see a). For our 2022 awards we introduced a new question on this for our consultancy awards, trying to encourage in-use evaluation beyond the Project awards and into regular practice. <u>Timescale:</u> We will review how to further encourage this in future years, as part of annual reviews of our awards criteria.
e	PIs to collectively review the possibility of introducing formal professional obligations for monitoring and disclosure of in-use performance	Medium term – achieved within the next 2 to 3 years The introduction of formal requirements first relies on the other items in this WS having progressed, including standardisation and upskilling. As a first step towards this, we will also consider whether to encourage it through mandatory CPD requirements and entry requirements, depending on how these requirements are implemented (see WS1). <u>Timescale:</u> CIBSE to start discussions on this by Q1 2022 with WS members.



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WS7 In-use Performance

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
f	Develop and adopt agreed metrics for monitoring and reporting in-use performance, starting with energy and carbon and gradually encompassing other aspects of in-use performance	short-term: commence immediately see a): to be covered by RIBA Challenge and BS, and encouraged for example through joint / aligned awards & project data collection forms
g	Develop and adopt agreed approaches and methods for in-use performance evaluation	short-term: commence immediately see a): to be covered by BS
h	From the collected data, develop benchmarks and case studies to support the development of guidance and targets under Workstream 3	short-term: commence immediately <u>On-going</u> work by CIBSE, and with others (e.g. LETI) incl. On-going development of benchmarking platform with future options including identifying and showcasing best practice. Group to discuss template case studies / central resource?
i	Review and continuously improve performance modelling tools through testing against real life data, in turn improving their usefulness for in-use performance evaluation	short-term: commence immediately <u>End 2021/early 2022:</u> CIBSE are revising TM54 Energy Performance Modelling. <u>On-going:</u> CIBSE are supporting NABERS through the industry steering group and the provision of training on building simulation. <u>On-going:</u> CIBSE are always looking for feedback on TM54 vs real case studies, which we can incorporate in guidance and promote in webinars, the Journal etc.
j	Real-world modelling validation techniques to be continuously improved in relation to in-use performance evaluation approaches and methods	short-term: commence immediately CIBSE recently produced TM61-64, which covers in-use evaluation and validation of modelling
k	Build the evidence base to inform other workstreams and to track progress	short-term: commence immediately <u>On-going:</u> CIBSE have fed into WS3, including the RIBA Challenge, using benchmarks and other sources of in-use feedback (e.g. award projects). In 2021 we published a summary in the Journal of how CIBSE award projects compare with LETI and RIBA targets (offices, schools, resi); we intend to update this review annually, with the latest awards submissions.

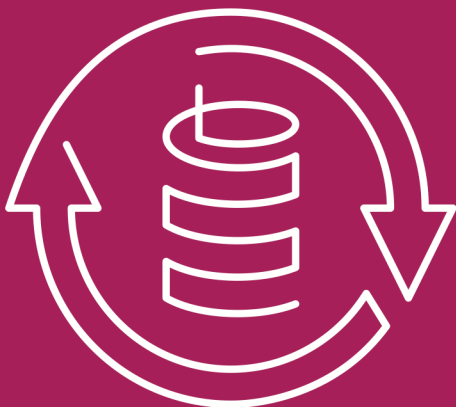


Co-ordinated by CIBSE

The current systems for monitoring and reporting in-use performance will be widened to include all projects over a certain size, with that threshold reducing at regular, predetermined intervals. Effective feedback loops will be developed and professional responsibility will extend further into the lifetime of projects. Social impact & behaviour are likely to become essential project considerations.

WS7 In-use Performance

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION) (continued)		
l	Develop a performance and disclosure culture across professional service firms, their clients and supply chains for monitoring and reporting against the agreed metrics, using agreed processes	short-term: commence immediately
m	Develop and adopt shared agreements, processes, tools and formats for data collection, reporting, and access, with open source, interoperability and transparency as core principles	see a) and c) on BPN joint position statement, which is supported by some consultancies, and the CIBSE awards
	Medium term – achieved within the next 2 to 3 years	see a): this should build from the upcoming BS and CIBSE's new data collection form, which we are trialling through the 2022 awards



Co-ordinated by LI

In liaison with existing forward planning groups proposals to be developed to guide professionals in increasing building and environmental resilience and biodiversity in the face of higher temperatures, more extreme weather conditions, flooding, pollution, infestation, future pandemics etc. Recommendations will be developed in relation to nature-based solutions, development of tighter regulations and other measures.

WS8 Adaptation and Resilience

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a PIs to develop forward plans for dealing with global heating, pandemics, rising flood levels, desertification and other global trends in order to advise policy makers and enhance preparedness	Medium term – achieved within the next 2 to 3 years	<u>On-going</u> : CIBSE have provided guidance and will continue to do so, in areas of its expertise e.g. overheating, public health engineering supporting SUDS / flood prevention, and most recently, ventilation and infection control, independently and with others coordinated by the RAEng. CIBSE are happy to contribute to wider plans as relevant, but expect this to be led by the WS coordinator or others more expert in this area.
b PIs to develop and publish advice for issued to practitioners for dealing with longer-term climate-related risks and trends including those noted above	Medium term – achieved within the next 2 to 3 years	as per a)



Co-ordinated by LI

In liaison with existing forward planning groups proposals to be developed to guide professionals in increasing building and environmental resilience and biodiversity in the face of higher temperatures, more extreme weather conditions, flooding, pollution, infestation, future pandemics etc. Recommendations will be developed in relation to nature-based solutions, development of tighter regulations and other measures.

WS8 Adaptation and Resilience

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
c	Form a standing cross-industry group to recommend measures for increasing resilience in building and infrastructure projects	short-term: commence immediately We would be happy to support such a group, in areas of CIBSE expertise. Scope and implementation timescale tbc by WS coordinator in discussion with the group
d	Identify or develop resilience metrics for standard use on all major projects	Medium term – achieved within the next 2 to 3 years We would be happy to support such work, in areas of CIBSE expertise, but expect this to be led by the WS coordinator or others more expert in this area



Advance planning and training for dealing with short-term environmental crises and emergencies. Liaison with emergency services, civil and defence groups.

WS9 Emergency Response

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a	PIs to identify agencies to work with at a macro level, but also at sector and project level	short-term: commence immediately This is not a core area of expertise for CIBSE members. We expect this to be led by the WS coordinator or others more expert in this area.
b	Work with those agencies (including major utility and infrastructure companies) to ensure plans are in place for developing preparedness and providing rapid recovery response and advice on the impact of extreme climate events	Medium term – achieved within the next 2 to 3 years As per WS8. CIBSE already provide advice and work with relevant agencies in areas of our expertise, e.g. on overheating, with Public Health England; on ventilation and infection control, with SAGE. We would be happy to support such work, in areas of CIBSE expertise, but expect this to be led by the WS coordinator or others more expert in this area
c	Develop a programme to mitigate, so far as is possible, the worst aspects of extreme events and prepare for them	Medium term – achieved within the next 2 to 3 years As per WS8. CIBSE have provided guidance and will continue to do so, in areas of its expertise e.g. critical systems, overheating, public health engineering supporting SUDS / flood prevention, and most recently, ventilation and infection control, independently and with others coordinated by the RAEng. We are happy to contribute to wider plans as relevant, but expect this to be led by the WS coordinator or others more expert in this area

WS9



Advance planning and training for dealing with short-term environmental crises and emergencies. Liaison with emergency services, civil and defence groups.

WS9 Emergency Response

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
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Co-ordinated by CIOB

Levels of professional expertise and competence will become central to institutions' activities with the core objective of enabling and delivering safe buildings, net-zero emissions & bio-diverse environments. Codes of ethics, practice and conduct will follow suite as will professional disciplinary systems and monitoring of skills. Professional institutions will focus their advocacy, reward and award systems on achieving positive environmental and social change and will coordinate their message to government and others on both mitigation and adaptation³.

WS10 Competence, Ethics and Advocacy

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs		
a PIs to remain aware of and responsive to their wider and international obligations to the environment, society and users and to pass these obligations on, where appropriate, to their members	short-term: commence immediately	<u>On-going</u> : no specific action or timescale, this will be acted on as and when relevant. CIBSE expect the WS coordinator and other organisations (e.g. Raeng) to alert others when new obligations need acting on
b PIs to argue collectively and individually for the importance of delivering bio-diverse and net zero carbon projects and to establish an information and knowledge base able to support and engage with research and provide effective and evidence-informed advice	short-term: commence immediately	<u>On-going</u> : CIBSE already advocate for this with members and government. See also WS1, WS2, WS3, and WS4. Other activities tbc by WS coordinator in discussion with the group
c PIs to communicate to their members the importance of biodiversity and moving rapidly towards net zero design and provide them with adequate tools and training obligations for achieving and monitoring it	short-term: commence immediately	<u>On-going</u> : This is already the case, with CIBSE Guide L (2020) and our continuously developing training and guidance on Net Zero - see WS1, WS3, 4 and 7. Our members have only limited influence on biodiversity but our guidance covers this where relevant e.g. green roof, contribution to the work of others
d PIs to continue to make the case for policy levers and resources to deliver change	short-term: commence immediately	<u>On-going</u> : see WS2. Other specific actions to be advised by WS coordinator, in discussion with the group
e PIs to continue to create impact through campaigns where planning and design can have direct influence; transport, energy, housing and patterns of development	short-term: commence immediately	<u>On-going</u> : see WS5. Other specific actions to be advised by WS coordinator, in discussion with the group
f PIs to support, train and monitor their members with regard to their net zero obligations	short-term: commence immediately	see WS1, WS3, WS4 and WS7 .



Co-ordinated by CIOB

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WS10 Competence, Ethics and Advocacy

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR PIs (continued)		
g PIs to make planning and design for net zero carbon emissions more relevant and attractive to a broader group of potential members and recognise emerging specialisms related to climate change, proactively promoting future opportunities in the industry for climate action	short-term: commence immediately	<u>On-going:</u> CIBSE promote engineering as wide as possible and regularly engage with others to promote the contribution of engineering to Net Zero e.g. with the EngC and RAEng. Other specific actions to be advised by WS coordinator, in discussion with the group
h All PIs to take increased (and co-ordinated) measures to ensure competence in low-energy design and management amongst their membership, both on entry and at regular intervals throughout their careers	Medium term – achieved within the next 2 to 3 years	see WS1
i PIs to provide ethical training and support, including whistleblowing services, to their members and others	Medium term – achieved within the next 2 to 3 years	CIBSE have no specific plans at this stage and as such would like to discuss this with others in the group and with other organisations (e.g. RAEng, EngC) as we believe it would best be offered as cross-organisation training and support. <u>Timescale:</u> A timescale of 3 years may be challenging, and this also needs to be discussed with the WS group.
j PIs to update codes of professional conduct, as necessary, to ensure that enhancing biodiversity, maintaining low energy design ability and making deliverable proposals for achieving, as far as possible, net zero carbon emissions are matters of professional ethics and obligation	Medium term – achieved within the next 2 to 3 years	CIBSE have tried to increase promotion of the Code of Conduct, including through the 2020 revision of Guide L. We will consider other ways to give it more prominence e.g. at membership renewal, at chartership interviews. We would welcome cross-PI discussions on how to give the Codes more prominence, and how to make them more helpful to members (e.g. when faced with a client decision which may conflict with the Code). This would be a good topic for the PIs to discuss with the Edge.
k PIs to ensure that award and other promotional schemes appropriately consider biodiversity and net-zero requirements and that relevant and consistent data is collected and published on such schemes	Medium term – achieved within the next 2 to 3 years	see WS3, 4 and 7 on promotion of in-use performance, operational and embodied carbon in CIBSE awards.



Co-ordinated by CIOB

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WS10 Competence, Ethics and Advocacy

Workstream	Recommended timeframe in CIC plan	CIBSE implementation plan
ACTIONS FOR WIDER INDUSTRY (WITH PI CONTRIBUTION)		
l PIs to collectively endorse the UN Sustainable Development Goals and provide support to relevant implementation programmes	short-term: commence immediately	<u>On-going</u> : CIBSE guidance (e.g. 2020 Guide L) already promotes the UN SDGs and highlights areas where members can contribute to their application; we promote them where relevant in our events and promote the activities from our members in this area e.g. Build2Perform. We would be happy to support implementation of specific programmes where relevant, to be examined on a case-by-case basis.
m PIs to lobby government, collectively and individually, for more effective investment, regulations and standards for the built environment for achieving net zero emissions and to develop a coordinated response at and engagement with major policy deliberations	short-term: commence immediately	see WS2.
n PIs to maintain continual knowledge exchange between themselves and with outside individuals and organisations on both a national and international level	short-term: commence immediately	<u>On-going</u> : CIBSE are members of a number of formal and informal networks and working groups to continuously develop and share knowledge.

For more information

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CIBSE Climate Action Plan & Net Zero activities:

<https://www.cibse.org/News-and-Policy/Policy/Technical-Themes/Net-Zero>