

Annual Report 2021

CIBSE Annual report &
financial statements



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Consultancy of the Year (over 300 employees), Buro Happold

Our vision

Better performing buildings for society and the environment.

Our mission

To advance and promote the art, science and practice of building services engineering, to invest in education and research, and to support our community of built environment professionals in their pursuit of excellence.

Our values

We lead

We are a trusted authority on the present and future challenges facing the built environment; we use our collective expertise and influence to champion the best and most innovative solutions with rigour and integrity.

We empower

We provide people with knowledge, training and networking and a pathway to professional registration, so that their work will have a meaningful impact.

We champion

We are vocal and visible in our drive to improve the safety, performance, health and sustainability of the built environment and we support and celebrate the talented people who make it happen.

We inspire

We are passionate about the quality of the built environment and we encourage committed people, from every background, to join our community.



CIBSE President Kevin Kelly

President's message

2021 saw CIBSE play an essential role in ensuring the world stays safe from Coronavirus and protects lives. Our work and the work of our members was pivotal in providing guidance to help reduce the risks of contamination across the globe, and saw in excess of 50,000 downloads in 2021.

The central role that we and our community played in the pandemic highlights the essential work undertaken to ensure our buildings are safe, comfortable, healthy and fit for purpose, whilst also being sustainable. The commitment seen from our members and volunteers is only matched by their passion, resilience and drive to improve the built environment and make our buildings safe and improve their performance.

We work in a dynamic, fast evolving and forward-looking industry that relies on the talent, knowledge and expertise of its people. As CIBSE looks ahead, its focus is on ensuring that it engages with and attracts talent into our industry from all sections of society, so that the challenges facing our built environment can be addressed by the brightest and best. We must be inclusive in our outlook, recognising and addressing the needs of minority groups, so that we can ensure we attract a diverse pool of talent to our industry to help address the ever-increasing challenges ahead. CIBSE is already helping to foster talent through the enthusiastic and dedicated Young Engineers Network (YEN), as well as its many Special Interest Groups, Regions, Societies and Divisions.

CIBSE welcomed Ruth Carter as our new Chief Executive Officer in 2021, taking over from Stephen Matthews, who retired after 15 successful years in the role. Bringing with her extensive experience in managing complex organisations, together with a passion and enthusiasm for driving CIBSE forward, Ruth is intent on ensuring CIBSE is a modern, exemplar, inclusive, professional engineering institution that can lead the response of the building services community to the challenges of building safety and climate change and react to a changing environment. She

recognises the strength of the Institution and value in honouring the past while looking to the future.

During 2021, CIBSE delivered a range of activities to advance and disseminate knowledge in the key areas of building safety, building performance, and net zero.

Building safety

Building safety remains a critical challenge for the industry in the wake of the Grenfell Tower fire. The Building Safety Bill, updates to Part L (Conservation of fuel and power), Part F (Ventilation) of the Building Regulations and the new Regulations covering Overheating and Electric Vehicle Charging are an ongoing focus for CIBSE's work. The adoption of Part O is the culmination of over a decade of work by CIBSE to advance the public safety case for the building regulations to address overheating risk in new homes. CIBSE has continued to submit formal responses to consultations and to support reform through the draft Building Regulations, the Building Safety Programme and energy policy, working with government and industry and drawing on the views and expertise of its members.

Throughout the pandemic, CIBSE has also supported Government and industry efforts to promote a safer built environment by publishing guidance on ventilation. It has updated both its ventilation guidance and its air cleaning products guidance to reflect latest thinking.

Ensuring that buildings are safe, healthy places for people to live and work is central to the purpose of all of us as engineers. It is imperative that we all prepare for the new Building Safety regime and in particular with the building safety competence and dutyholder requirements.

Building performance

CIBSE's Building Performance Awards took place online in February, showcasing the breadth of industry achievement and demonstrating innovative approaches to improving building performance. Award winners such as Cundall's productivity mapping tool for workplace design, which won Product or Innovation of the Year – Wellbeing, showed the value building services engineers can potentially deliver. Arup, Max Fordham, and Buro Happold all set the bar high in terms of what could be achieved with exceptional engineering with their wins in the Project of the Year categories. In an unprecedented year, Buro Happold particularly stood out, winning awards for Learning and Development, Consultancy of the Year, Project of the Year – Public Use, as well as taking the overall Building Performance Champion Award and being recognised with a special COVID-19 Achievement Award. Truly inspirational engineering from everyone involved at all these companies.

The CIBSE Young Engineers Awards play a central role in promoting new talent in our industry and continue to go from strength to strength. The Apprentice of the Year Award, in its second year, was extended from a single award to two categories – for Technician and for Degree apprentices – allowing even greater recognition for this key route into our industry and its rising stars. These awards are helping to ensure we have the talented, qualified engineers to drive building performance in the future.

Industry understanding of building performance is being promoted through CIBSE's guidance and the research published in its technical journals: *Building Services Engineering Research & Technology (BSER&T)* and *Lighting Research and Technology Journal (LR&T)*. Volunteer authors and reviewers deserve our thanks for sharing their knowledge and expertise for the benefit of all within these cutting edge research publications.

Another important forum for information exchange is the CIBSE Technical Symposium, which brought together more than 60 speakers in its two-day online event in July. Here, speakers shared high-quality technical research on numerous aspects of building performance, including indoor air quality and smart technology.

Net zero

Building services engineers are working to overcome challenges in delivering on net-zero carbon ambitions for the built environment as demonstrated by the CIBSE Building Performance Project of the Year – Commercial/Industrial award winner, the Amorepacific HQ in Seoul, South Korea.

The client asked Arup to create an exemplar for low energy and sustainability. The design solution achieved this while also enhancing occupant comfort and wellbeing, demonstrating how energy efficient and net zero buildings can be created without compromising the environment for building users.

The awards also featured a retrofit category, won by the Abu Dhabi Department of Energy (DOE) Energy Retrofit Pilot Project – GRFN. This category is one of a number of ways CIBSE is working to promote an increased focus on retrofitting existing buildings, as is its support for the development of policies to improve their performance and reduce their emissions.

The transition to net zero requires us all to take action and over the year CIBSE updated its Climate Action Plan, setting out its own commitments as a professional body to address climate change. CIBSE also played an instrumental role in the development of the Construction Industry Council's (CIC) Carbon Zero climate action plan for all the professional institutions working in the built environment.

For the broader industry, the new CIBSE guidance in TM65: *Embodied carbon in building services, a calculation methodology*, which was published in January, provides an important tool for reducing the embodied carbon in buildings.

Over the year CIBSE delivered an extensive programme spanning events, training, network activities and new guidance, as well as consultation responses and engagements with government and industry. In all these endeavours, CIBSE relied on the efforts of its volunteers, members and colleagues, and I thank everyone for their contribution. CIBSE staff also deserve recognition for their outstanding performance in a very challenging year. Most of all I would like to thank the members at large for their incredible contribution to the industry and CIBSE in what has been historically challenging circumstances.

2022 will be a milestone year for CIBSE as it celebrates its 125th anniversary. The celebration gives an opportunity to both applaud the Institution's progress and shine a spotlight on the valuable work done by building services engineers to help shape a safer and more sustainable built environment. CIBSE will continue to innovate and improve in the delivery of activities in an inclusive way. As it continues this vital work, the guiding principle will remain to deliver public benefit and to support the members, communities and wider industry so that we can all deliver a built environment that is fit for the future.



More than **20,000**
members in more than 96 countries



CIBSE formally responded to **20** consultations



24
new membership interviewers trained




15,000
registrants to CIBSE Region organised events



45,300
combined membership of CIBSE Special Interest Groups




1200
registrants to Build2Perform Live online event



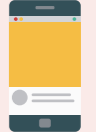
104
apprentices completed their End-Point Assessment through CIBSE



112,000
downloads CIBSE COVID-19 guidance



Press coverage achieved reach of **10 million** readers




85,748
followers across social media channels



CIBSE Training hosted over **1,500** learners



CIBSE Training launched **5** new courses – all sold out




85,000
views of CIBSE Blog



CIBSE website gained visits from **192** countries



28,000
average monthly users to CIBSE Journal website



#GrowYourKnowledge fortnightly webinar series received over **30,000** views



14
new CPD panel members recruited and trained



More than **200** CIBSE member volunteers on CIBSE regional committees
THANK YOU!



3.5 million
page views to CIBSE website



7
medals awarded for service to CIBSE



Project of the Year – Public Use, The House at Cornell Tech, Buro Happold

Our values

Our vision, mission and values continued to underpin all areas of CIBSE's work in 2021.

We lead

CIBSE is at the forefront of re-engineering the built environment for a changing climate.

Building services are key to keeping building users as safe and comfortable as possible, promoting occupant health and wellbeing, minimising the impact of buildings on the environment during construction and use, and driving improved performance and productivity

CIBSE leads the way in promoting improvement in the performance of buildings to the benefit of users, developers and owners and as a natural consequence of what we do day-to-day.

Our involvement in government level discussions and consultations makes us a strong champion for better standards and enforcement, driving buildings that are safe and fit for purpose.

We empower

CIBSE empowers both our members and those who own, operate and occupy buildings through the sharing and dissemination of knowledge and training. We enable people to access the skills and knowledge they require to fulfil their potential, demonstrate their competence and serve society.

Knowledge sharing is one of CIBSE's primary roles in the built environment. Working with the industry and its clients, CIBSE serves wider society by developing and publishing internationally recognised guidance and codes.

This knowledge provides authoritative guidance for the design, installation, operation and maintenance of engineering services in buildings. It enables engineers to keep up to date with best practice in technology and standards and supports the implementation of policies to improve safety, comfort and productivity of buildings and reduce their carbon emissions.

In an industry that is seeing increasingly complex and changing technology, CIBSE enables building services engineers to keep abreast of the changes and empowers them to deliver the best outcomes for clients and end users. By improving their skills and knowledge and demonstrating their competence, building services engineers can help everyone live and work in safer, healthier and more comfortable spaces.

We champion

CIBSE supports and champions the diversity, breadth and strength of its membership. Membership is a mark of professional development and, through its corporate grades of membership and route to registration, CIBSE accredits competence, which can be widely and reliably recognised.

CIBSE champions the skills and experience of our members, raising their profile and giving prominence to the best engineers who value good building performance and building safety and are committed to net zero.

CIBSE relies on its members to help generate standards and knowledge in a variety of building services specialisms for the benefit of industry and the public, both in the UK and internationally. Diversity of CIBSE's membership is central to achieving these goals. CIBSE delivers the greatest benefit to society when its knowledge is drawn from the full spectrum of people and disciplines which form its membership.



We need all hands on deck to make our industry great. We talk about skills shortages in the engineering sector; why wouldn't you welcome everybody you can?



Ruth Carter, CIBSE Chief Executive,
CIBSE Journal July 21

We inspire

We inspire our community and wider society to strive for better and safer building performance.

Our monthly *CIBSE Journal*, the annual Building Performance Awards, Technical Symposium and Build2Perform Live, all serve to raise wider public awareness of what we do and the importance of building services engineering to society. In addition, our Groups and Societies run hundreds of smaller events during the year, and together these many and varied activities maximise the impact of the work CIBSE does and demonstrate the breadth, scope and impact of building services engineering in its broadest sense, to a highly diverse and worldwide audience.

Raising awareness helps people appreciate the benefits of supporting building services engineers in their careers and work to improve building performance.

Demonstrating the importance of building safety, good building performance and the link with good building services engineering, reinforces the message that the effective operation of the built environment is crucial to many areas of public life.

Our Building Performance Awards and Young Engineers Awards exemplify what can be achieved by the expertise and talent across the industry, inspire others and encourage innovation.

Inspiring others to join our community and choose engineering as a career is essential if we are to meet our environmental targets and net zero goals and successfully respond to climate change. We encourage committed people from every background. Through the work of our Inclusivity Panel and our commitment to diversity, we aim to attract as broad a range of new engineers as possible.



Consultancy of the Year (up to 50 employees),
Lawler Consulting



Learning and Development Award, UCL Post Project Review Guidelines, University College London and Buro Happold

We lead

A primary purpose for CIBSE is to be a leading provider of authoritative guidance on the principles of building safety and performance, enabling engineers to keep up to date with the very latest guidance in meeting their clients' requirements and complying with regulations relating to engineering competence.

Under our Royal Charter we support 'the Science, Art and Practice of building services engineering by providing the public and our members with first class information and education services.'

The demands of the pandemic created a very fast-changing environment, requiring digital delivery and creation of knowledge and guidance, as well as a move online for all our training and knowledge-based events.

The growing pace of technical and regulatory change in response to climate change is driving rapid development and the updating of CIBSE guidance to support the decarbonisation of the built environment.

With the regulatory changes under way in response to the Grenfell Tower tragedy, we are also closely involved in the development of the new regime, particularly relating to the competence of engineers and the adoption of better information management processes in the industry.

We continue to seek to improve our online activities and the user experience across all facets of CIBSE membership, professional networking, training and knowledge generation activity, as well as our publishing and knowledge delivery.

COVID-19

CIBSE's ongoing response to the COVID-19 crisis was highlighted in our work with the Royal Academy of Engineering for the Chief Scientific Adviser on delivering infection resilient environments. We have continued to update our guidance on ventilation in buildings and on the wider considerations required to reopen buildings after a period of closure.

The ventilation guidance is now in its fifth edition and we have added guidance on the considerations applicable to the use of air cleaners.

We have continued to contribute to government advisory groups and give evidence to government and devolved administrations on the role of ventilation and the importance of competent building management in keeping buildings operating in a safe and healthy manner.

Building safety

The Building Safety Bill is now progressing through parliament. It sets the stage for the most fundamental reform of the legislation relating to the construction and operation of buildings in England for at least two generations and will undoubtedly lead to changes in the rest of the UK as the devolved administrations also seek to improve building safety in their own jurisdictions.

CIBSE is actively communicating the scale of the changes that Government is looking to drive through this legislation. We continue to work closely with other engineering institutions and with the Engineering Council in relation to engineering competence requirements.

The Bill is supported by a range of further legislation and a number of sets of draft regulations have been published. In particular, the new requirements for dutyholders will apply to all building work that requires notification in any way to a building control body and will place a duty to demonstrate competence on all those appointed to work on building projects

CIBSE is closely involved in the development of this new competency regime, as well as contributing to the more detailed discussions around the stricter regime that will apply to higher risk buildings.

CIBSE is also closely involved in the development of the 'Golden Thread', which is the mechanism for managing the information required to give the right people the right information at the right time to keep buildings safe.

We are also actively contributing to the development of information management standards that will support the Golden Thread and enable better working practices across the wider industry.

We continue to cover the industry change agenda through *CIBSE Journal*, on our website and through regular events.

The Building Safety Bill will create a new national Building Safety Regulator (BSR), who will oversee all aspects of building regulation and also regulate the building control profession. The Bill amends significant elements of the Building Act 1984. The Bill also creates a new regime for the statutory management and regulation of the safety of all occupied high rise residential buildings*, covering the design, construction and operation of all new and existing buildings in scope.

We are actively engaged with government in the development of the new regime and the measures that will enable it to operate. We contribute to the work of the Construction Leadership Council on Building Safety, which seeks to co-ordinate the industry response to the Bill.

Professional competence

The Bill brings radical change for the building control profession, with statutory registration to protect the public interest and drive further improvements in building control competence. All those who work on high rise residential buildings, in whatever capacity, will be required to demonstrate and maintain competence, with new statutory roles and responsibilities and statutory safety cases to support regular safety case reports.

A statutory function of the new BSR is to 'facilitate improvement in the competence of industry and of building inspectors' and there is a duty for the BSR to give appropriate 'assistance and encouragement' to those in

the industry or members of a profession to improve their competence.

The Bill establishes new statutory roles for individuals or organisations who design, construct and operate buildings. The BSR will set competence requirements for the designer and contractor, with duties on those appointing them to ensure that those appointed really are competent.

These requirements have been published in draft in the Draft Building (Appointment of Persons, Industry Competence and Dutyholders) Regulations. These create a new competence framework for the whole construction sector, and not just for higher risk buildings. They will introduce a requirement that everyone working on buildings must be competent to do what they do and be able to evidence their competence.

There will be an onus on people and employers to assess competence and demonstrate it to clients and regulators. There is also a duty not to accept an appointment for work for which a person or organisation is not competent.

To support these new requirements the British Standards Institution (BSI) has developed an 'overarching framework' for industry competence and is now developing more detailed specifications for the three new dutyholder roles of Principal Designer, Principal Contractor and Building Safety Manager.

CIBSE is closely involved in this work, both directly and in collaboration with the Engineering Council. We have contributed extensively to the drafts for public comment and continue to provide active support.

Fire safety engineering

Fire safety remains a priority in the aftermath of the Grenfell Tower tragedy. Following the introduction in November 2018 of the ban on combustible materials in the external walls of residential buildings over 18m in height, there has been considerable debate about details of the application of the ban and of the permitted exemptions.

Whilst the overall intent is for designers and constructors to avoid the use of combustible materials wherever that is realistically feasible, the ban created a need for further guidance.

*The Bill currently applies the new regime to residential buildings with seven or more storeys or over 18m in height with more than one residence.



Trends around agile working, healthy buildings and operational efficiency have accelerated during the pandemic, and we must build on this momentum as we face the global challenges of economic recession and climate emergency.



Tom Hopton, CIBSE Engineer of the Year 2020 speaking in *CIBSE Journal* January 21

The Society of Façade Engineering, a division of CIBSE, worked with the Centre for Window and Cladding Technology (CWCT) to develop further guidance on the current regulations, which is now available from the CWCT website.

The guidance is based on the best knowledge available at the time of writing and is kept under review. A number of further questions have arisen, which have been considered as part of the ongoing review.

Net-zero carbon building

With the 2021 United Nations Climate Change Conference (COP26) taking place in Glasgow in November, there has been significant activity through the year to develop the net-zero carbon agenda. During the year CIBSE produced guidance on several aspects of decarbonisation of buildings, looking at heat pumps and electrification of buildings, as well as heat networks. CIBSE's knowledge is a key tool, providing building designers, constructors and operators with the guidance they need to design, build, manage and operate low carbon buildings.

Our expertise is vital to setting appropriate standards for future homes and other buildings to provide safe, healthy, low carbon places to live, work, study and spend leisure time.

Following publication of the latest changes to Parts F and L of the Building Regulations and the introduction of the new Part O for overheating and Part S for electric vehicle charging, CIBSE continues to work with Government and industry to develop knowledge and guidance to enable the UK to meet the net zero challenge safely, and to support these changes to regulations to deliver net-zero carbon building approaches. We will also support the developments needed to create meaningful Future Homes and Future Building Standards.

We continue to work with the Department of Business, Energy and Industrial Strategy (BEIS) on the development of policy relating to low carbon heating and the operational use of energy in buildings.

Supporting climate change policy

CIBSE has an established record of engagement on climate change mitigation and adaptation and the link to building performance. Our work on the impact of climate change on buildings, in particular overheating, continues to inform our guidance and supports the work of the Climate Change Committee, including the sixth carbon budget published at the end of 2020.

CIBSE collaborates with a number of organisations on climate change guidance and policy, including the Royal

Academy of Engineering, London Energy Transformation Initiative (LETI) and RIBA. As a full member of the Construction Industry Council (CIC), CIBSE participates actively in CIC policy related work, including the Climate Change Panel, where our Head of Sustainability, Dr Julie Godefroy, is an active participant on CIBSE's behalf.

In 2021 CIBSE contributed to the development of the CIC climate action plan (www.cic.org.uk/news/article.php?s=2021-06-17-cic-launches-a-carbon-zero-climate-action-plan-for-professional-institutions), which CIBSE, along with nearly 40 organisations, signed up to in June 2021 and which was presented at COP26. It contains significant commitments for all institutions. We have since published our implementation proposals for the plan.

In 2021 CIBSE published the second annual update to its own climate change action plan, first published in 2019, which informed the CIC's framework action plan and set out CIBSE's own actions to adapt CIBSE activities to climate change.

In late 2021, CIBSE was appointed by the BRE as sub-consultant in a project for the Department for Business, Energy & Industrial Strategy (BEIS), relating to the development of SAP/RdSAP 11, the calculation methodology which will accompany the 2025 Future Homes Standard. We are also represented on the oversight panel for the Future Homes Hub, which has been established to support implementation of environmental legislation in housebuilding. Together, these are two important opportunities to shape future low and zero carbon housing – both new and existing.

In 2021 we also continued our support to various UK and devolved administration working groups, including the development by BEIS of operational ratings for non-domestic buildings and various heat decarbonisation policies. This again shows the direct relevance of CIBSE's work to improving the performance of new and existing homes and non-domestic buildings in the UK and demonstrates the value and influence of CIBSE guidance in the development of wider policy and regulation in relation to climate change.

Digital standards and tools

CIBSE contributes to various industry initiatives and committees on digital standards. In 2021 we were involved in work around the Building Safety Act, including Golden Thread definitions with the Building Regulations Advisory Committee (BRAC). We are also contributing to the Golden Thread Initiative (GTI), which is a large group of professionals looking at what the Golden Thread will mean to our industry in practice.

We are also helping with the writing of BS 8644-1 (*Digital management of fire safety information. Part 1: Design, construction, handover, asset management and emergency response – Code of practice*), which details methods by which fire safety related information can be created, captured, stored and exchanged.

CIBSE continues to contribute significantly to the series of international standards ISO 19650, *Organization of information about construction works*. Two further parts are currently being worked on, ISO 19650-4 (*Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 4: Information exchange*) and ISO 19650-6 (*Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 6: Health and safety*).

We have been working on new digital tools for CIBSE. These include an embodied carbon calculator for building services products, based on the methodology detailed in TM65: *Embodied carbon in building services: A calculation methodology*, which has been peer reviewed and beta-tested. We have also developed a circular economy tool for lighting products with the Society of Light and Lighting, based on TM66: *Creating a circular economy in the lighting industry* and the circular economy assessment methods, CEAM-Make and CEAM-Design.

CIBSE Technical Symposium

The annual CIBSE Technical Symposium is an established and invaluable opportunity for professionals of all ages to hear about the latest building services innovations and research. All presentations must go through a peer-review process to be selected for the event programme. The event aims to create a unique forum in which to share experiences and develop networks.

After the success of the first virtual CIBSE Technical Symposium in 2020, and due to a continued lockdown in the UK, CIBSE made the decision to organise the 2021 event online.

For the 2021 Symposium, 250 people registered and attended online sessions under the theme of 'Engineering the built environment for a 'new normal''.

The 2022 event is planned to be held in person in April and we expect over 50 full papers to be presented.

The Symposium papers are available at www.cibse.org/symposium

Consultations

CIBSE is committed to leading the industry on technical, policy and regulatory changes. Responding to relevant consultations is an important activity and our Technology Committee oversees our responses to Government and devolved administration consultations and to calls for evidence from Select Committees. We invite members to contribute their views to the development of CIBSE responses via the consultations page on our website (www.cibse.org/currentconsultations) and our responses are also posted there.

A major focus of our efforts has been the ongoing response to the UK Government's Building Safety Programme, set up to implement changes in the regulatory regime in the aftermath of the Grenfell Tower fire.

CIBSE is committed to supporting the reform programme and works closely with Government and the wider industry through the CIC Building Safety Committee and the Construction Leadership Council Building Safety workstream.

CIBSE staff and members continue to contribute to consultations on energy use in buildings and on the draft legislation being introduced in support of the Building Safety Bill.

In 2021, formal responses were submitted to the following consultations:

- Heat network zoning
- Competition law and co-operation for sustainability and zero carbon
- UK Hydrogen Strategy
- Impact of UK-EU Trade Agreement on Services & Investment
- Energy Savings Opportunity Scheme (ESOS)
- Role of biomass in achieving net zero
- A performance-based policy framework in large commercial and industrial buildings
- Sustainability of the built environment
- Heat in Buildings Strategy for Scotland
- Future Buildings Standards: Building Regulations Part L & F, and overheating
- Safer buildings in Wales
- Draft Code for Construction Product Information
- National Planning Policy Framework and National Model Design Code
- Transforming public procurement
- National retrofit strategy
- Review of Welsh Building Regulations Part L and F
- Improving home energy performance through lenders
- Green Heat Network Fund
- Proposals to extend the Domestic Smoke and Carbon Monoxide Alarm Regulations
- Improving the energy performance of privately rented homes.

A full record of CIBSE responses to consultations is available on the closed consultations section of the CIBSE website: www.cibse.org/consultations

Leading in collaboration – National Engineering Policy Centre (NEPC)

CIBSE is part of the National Engineering Policy Centre (NEPC), led by the Royal Academy of Engineering, which comprises 43 UK engineering organisations and represents 450,000 engineers.

The Centre connects policymakers with critical engineering expertise to inform and respond to policy issues of national importance, giving policymakers a route to advice from across the whole profession, and the profession a unified voice on shared challenges. It gives policymakers access to excellent engineering expertise for social and economic benefit.

Early in 2021, the Academy was asked by the Government Chief Scientific Adviser to undertake a rapid review of actions to make infrastructure more resilient to infection. CIBSE worked closely with the Academy to deliver a rapid response, giving an initial overview of the strategic challenges we, as a society, face, along with providing advice on immediate measures to make a significant difference ahead of winter 2021/2.

The study showed that the COVID-19 crisis has exposed flaws in the way we design, manage and operate buildings that, if left unchecked, will disrupt management of this and other pandemics, impose high financial and health costs on society, and constrain our ability to address other challenges, such as climate change. The report has had significant impact on policy and is available on the Cabinet Office website: RAEng: www.gov.uk/government/publications/raeng-infection-resilient-environments-buildings-that-keep-us-healthy-and-safe-19-july-2021

In 2021 CIBSE was closely associated with the NEPC's submission to the UK Government Spending Review, www.raeng.org.uk/publications/briefings-statements-letters/six-engineering-ambitions-for-the-uk-spending-revi. This recommends six areas for investment that the engineering profession believes the government should prioritise if it is to meet the goals it has set itself and the country.

CIBSE is contributing to the Academy workstream on net zero, which seeks to explore some of the hardest cross-cutting challenges of decarbonisation and inform and advise policymakers on the opportunities that need to be addressed. CIBSE contributed to the report on urgent, 'low regrets' decisions that can be made now to have a significant impact on decarbonisation www.raeng.org.uk/publications/reports/rapid-low-regrets-decision-making-for-net-zero-pol

“““

There's nowhere left to hide – every sector in society has to decarbonise and rise to the challenge.



Simon Wyatt, Partner Cundall, at Build2Perform Live 2021



Project of the Year – Residential, Max Fordham House, Max Fordham



We empower

In 2021 CIBSE Knowledge focused on several of its defined themes for knowledge and research.

Net zero carbon

Embodied carbon is at the forefront of our knowledge offerings, with the publication in January and December of *Embodied carbon: a calculation methodology* (TM65) and *Embodied carbon: residential heating* (TM65.1). The first methodology of its kind for building services, TM65 has made its mark, with higher sales and downloads than any other CIBSE guidance over the last 12 months. Research on this topic is ongoing, and further guidance planned for release in 2022.

Also eagerly awaited was the publication of *Electrification of buildings for net zero* (TM67), addressing the decarbonisation challenge that lays ahead of us and providing strategies and performance metrics to help get the job done.

The circular economy

Creating a circular economy in the lighting industry (TM66) is an example of the right publication at the right time, providing not only much-needed guidance on circular economy principles but also a template for addressing the circular economy throughout building services.

Health, wellbeing and safety

A new addition to our suite of COVID-19 guidance documents informs the assessment of the efficacy of air cleaning devices to supplement natural ventilation strategies: *COVID-19: Air cleaning technologies*. We have also made substantial updates to two of our existing COVID publications: *COVID-19: Ventilation* and *COVID-19: Recommissioning of lifts and escalators*.

Digital engineering

2021 saw the release of three new CIBSE Digital Tools.

The Relative exposure index calculator is a sister to *COVID-19: Air cleaning technologies*. It provides a clear method for assessing the efficacy of various air cleaning devices, and better ventilation, in improving the health outcomes expected in a given space.

Two tools sit alongside *Creating a circular economy in the lighting industry* (TM66).

The Circular economy assessment method – Make is a comprehensive tool allowing manufacturers to fully engage with the depth of detail required to assess the circular economy-characteristics of a product. *The Circular economy assessment method – Specify* is a triage tool for designers, specifiers and engineers, allowing a quick comparison of the circular economy credentials of two or more products.

Technical journals

CIBSE publishes two peer-reviewed technical journals: *Building Services Engineering Research and Technology (BSER&T)*; and *Lighting, Research and Technology (LR&T)* in partnership with publisher Sage. They continue to go from strength to strength, with *BSER&T* published six times a year and *LR&T* eight times a year to meet demand.

They enable the Institution to disseminate peer-reviewed research to a wide international audience and contribute to the development of CIBSE knowledge and guidance for the future.

BSER&T featured three special issues in 2021. In May a special issue was published that explored the challenges and solutions associated with decarbonising buildings. The diverse set of papers submitted were of a high quality and relevance as the world grapples with the challenges of decarbonising buildings and seeks to maintain a stable climate.

The September and November issues in 2021 featured a selection of papers developed and subsequently peer-reviewed from those delivered at the tenth annual – and first virtual – CIBSE ASHRAE Technical Symposium in 2020. The event ‘Engineering buildings, systems and environments for effective operation,’ was held online in September 2020 and included a rich variety of research and application delivered by a diverse and enthusiastic group of presenters from both sides of the Atlantic.

The first set of selected papers considered aspects of evaluation and simulation that can overcome some of the uncertainties in the prediction of systems performance by applying more intelligence and knowledge. The second set of papers explored methods of improving the operational performance of buildings through inspection and monitoring, carefully considered engineering modifications to building fabric and systems operation, and improved user education and feedback.

BSER&T once again improved its impact factor, which has been steadily rising for several years and reflects the quality of papers it publishes.

LR&T continues to enjoy a high impact factor and attracts excellent submissions from around the lighting world. It continues to publish a wide range of papers highlighting the research that is currently being undertaken into light and its application in the built environment.

LR&T reaches a global audience with a readership drawn from a range of professional and academic backgrounds, further enhancing CIBSE’s role as the premier publisher of lighting guidance in the UK.

Both journals are available online to CIBSE members as a membership benefit, with a worldwide subscriber base supported by our publishing partner Sage.

www.cibse.org/technicaljournals

Training

In 2021 CIBSE’s training team continued to develop our online training, offering more courses remotely and ensuring people were still able to access courses despite the ongoing uncertainty of the pandemic and company restrictions around travel. In all, CIBSE Training hosted over 1,500 learners across both the online learning platform and remote face-to-face courses.

CIBSE Training launched five new courses in 2021, all of which sold out. They were:

- Heat networks Code of Practice
- Design of ductwork
- Fire sprinkler residential
- Embodied carbon in MEP design: How to use CIBSE TM65
- Advanced simulation modelling for design for performance.

www.cibse.org/training

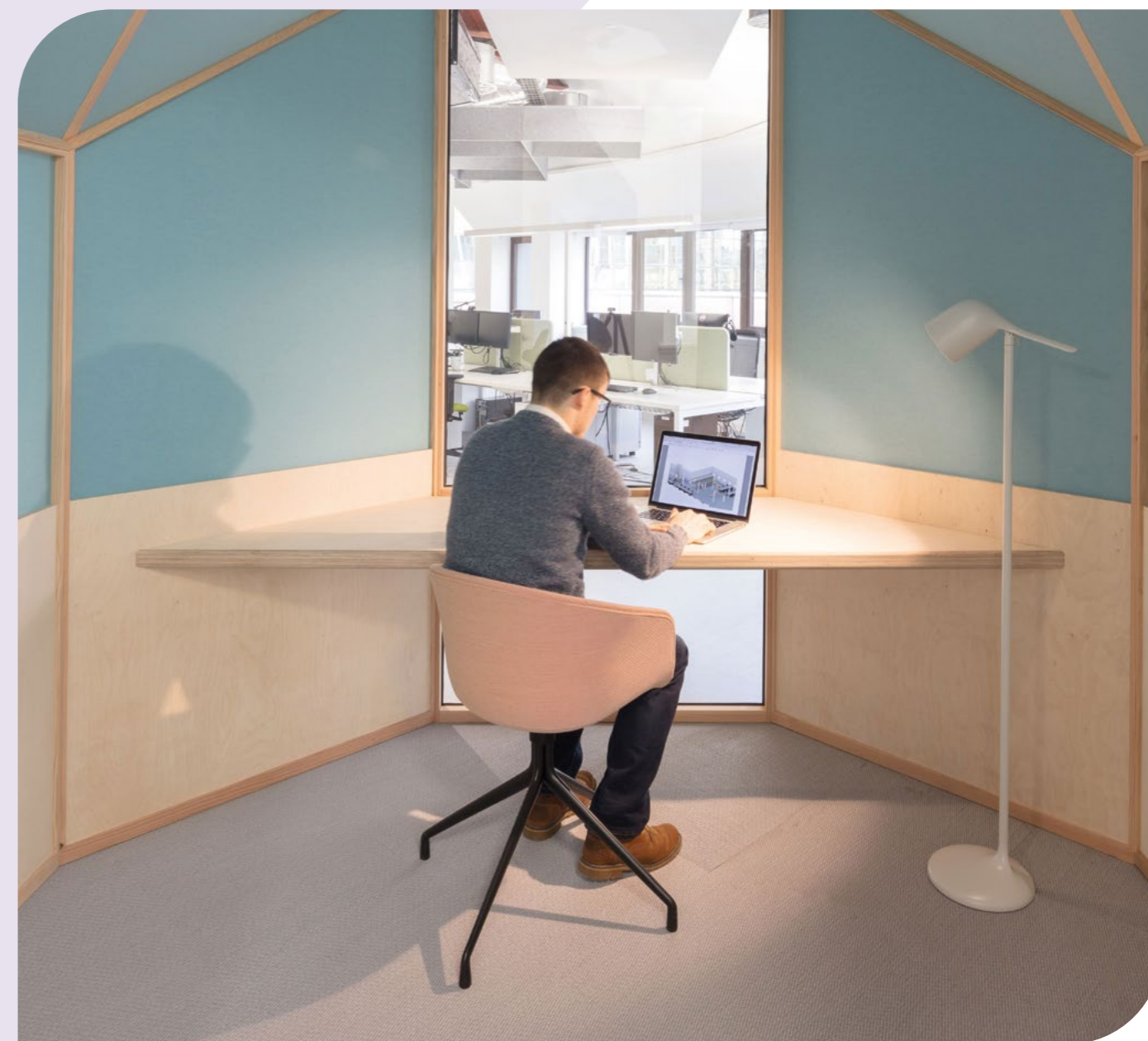
#GrowYourKnowledge webinars

The #GrowYourKnowledge webinar series continued to run every fortnight in 2021 and celebrated over 30,000 views since its launch in April 2020. Each session highlighted a new CIBSE knowledge output. The most popular topics were:

- Embodied carbon in building services
- Electrification of buildings for net zero
- Heat pump installations for multi-unit residential buildings.

Due to the success of #GrowYourKnowledge, CIBSE now hosts a new series – #WeChampion – which profiles individuals who are making a difference in the industry and those companies who champion and encourage them to do so.

www.cibse.org/growyourknowledge



Project of the Year – Wellbeing, Productivity Mapping; Making the business case for wellbeing, Cundall



Employer of the Year (small company), Fairheat

We champion

CIBSE is the leading professional body for the building services profession, with more than 20,000 members in more than 96 countries serving the global construction engineering sector.

CIBSE members are part of a network that offers professional support and expertise across the globe. They work in partnership with other professional bodies, and construction and engineering firms worldwide to deliver engineering excellence in the built environment.

Supporting engineers into CIBSE membership and professional registration remains at the centre of the department's mission. We continue to develop initiatives to increase professional competence and, in order to demonstrate the breadth of our work, have recently changed the name of the department to Membership, Standards and Networks.

CIBSE provides members with:

- Unlimited access to the Knowledge Portal, with digital access to all CIBSE guidance across a vast range of sub-specialisms
- Subscription to the *CIBSE Journal*, CIBSE email newsletter, *BSER&T* and *LR&T Journals*
- Preferential rates on printed copies of guidance from CIBSE and other publishers
- Extensive opportunities for professional development and networking through discounted CIBSE training, our endorsed company training and our diverse network of Groups, Regions and Societies offering continuing professional development (CPD) online and face-to-face.

Our 2021 highlights include:

- CIBSE members and staff have significantly contributed to the building safety agenda through the Engineering Council, BSI, Government and chairing and representation across several of the 12 working groups set up under the industry Competence Steering Group.
- Member recruitment continued to expand in 2021, with a slight increase in applicants to corporate grades in both our UK February and August closing dates. Corporate membership was up almost 2% in 2021. This highlights and underlines our members' commitment to demonstrating their competence.
- Our application guidance documents for our corporate grades have been updated to reflect the Engineering Council's changes in their competence framework, with their new Standard for Professional Engineering Competence (UK Spec 4). CIBSE's guidance was simplified with the aim of enhancing clarity and to highlight the support that CIBSE offers to applicants. Our current interviewers across the UK, Ireland, Hong Kong and the UAE were provided with best practice training on this new standard.
- We have worked with our Societies to provide discipline-specific competence examples for our applicants, in order that our Society members can progress through CIBSE membership and to registration with the Engineering Council. To this end, we have continued to recruit new interviewers, training 24 new interviewers in November 2021. These were recruited from specialist areas, including digital, façade, public health and lighting, to ensure our interviewers cover all the disciplines that CIBSE welcomes into membership.

- We have also implemented a review of university accreditation guidelines in line with the Engineering Council's updated Accreditation of Higher Education Programmes framework (AHEP 4), to be implemented from 2022. We have completed 10 accreditation visits and recruited and trained 11 new moderators, with three of these joining the main panel.
- We have made a successful application to become Ofqual recognised for our End-Point Assessments for apprenticeships, demonstrating CIBSE's commitment to inclusivity and diversity of routes to professionalism in the sector. In 2021 104 apprentices completed their End-Point Assessment through CIBSE, an increase of 63% on the previous year. We have recruited and trained new assessors and reviewed all our materials.
- We increased CPD audit to 10% of corporate members in line with CIBSE's commitment to standards. We also reviewed and strengthened CIBSE's CPD requirements, with an increased focus on reflective practice to be implemented in 2022 and implemented a new CPD recording tool, the Engineering Council's 'mycareerpath'. To support this, we have recruited and trained 14 new CPD panel members.

Regions

The Institution is organised on a regional basis. There are 16 Regions in the UK and four overseas – in Ireland, Australia and New Zealand (ANZ), Hong Kong and the United Arab Emirates (UAE). There are also Chapters currently operating in Canada and Singapore.

The Regions engage with members and aim to improve the understanding of building services engineering among other professions and society in general. They do this by arranging activities to promote building services engineering, organising events for CPD, providing networking opportunities for local members and supporting those looking to become professionally registered. This would not happen without the effort and enthusiasm of more than 200 CIBSE members, who sit across the Regional Committees and volunteer their time and effort.

In 2021, the Regions organised over 170 events, both online and in-person, with a combined total of over 15,000 registrants. Key highlights included the return of

in-person regional awards ceremonies and annual dinners in Yorkshire, the West Midlands, Merseyside and North Wales, Hong Kong, ANZ and Northern Ireland. CIBSE UAE launched new design guides for Abu Dhabi and the Kingdom of Saudi Arabia. The Regions have continued to support their members throughout the COVID-19 pandemic, transitioning online and delivering initiatives such as the Yorkshire Region's 'Project Brew' – a mug designed to foster a support network among the local membership.

The 20 Regions are:

- Australia & New Zealand
- East Anglia
- East Midlands
- Home Counties North East
- Home Counties North West
- Home Counties South East
- Home Counties South West
- Hong Kong
- Merseyside & North Wales
- North East
- North West
- Northern Ireland
- Republic of Ireland
- Scotland
- South Wales
- South West
- Southern
- United Arab Emirates
- West Midlands
- Yorkshire





Left to right: YEN volunteers, Jake Lenahan, Laura Whatmough, Matthew Lowe and Will Harrop at the YEN National Ball

Young Engineers Network (YEN)

The CIBSE Young Engineers Network is a global network of regional centres offering a forum for engineers at the beginning of their careers to learn new skills, expand their knowledge and give or receive peer support. YEN is open to both CIBSE members and non-members.

YEN exists to:

- Promote a positive and welcoming image for building services, especially for those who did not study the discipline at university
- Enable young engineers to engage more closely with the Institution at an early stage in their careers
- Encourage more women to join and remain involved in the building services profession
- Establish a formal link with CIBSE Council and Board
- Help younger engineers promote building services engineering to school and university students
- Guide young engineers towards a long-term career in building services.

A highlight of 2021 was the collaboration between the YEN, Jones Engineering and Arup to produce ‘Engineers making the impossible possible: New children’s hospital’, a virtual technical tour featuring Ireland’s new children’s hospital. A fantastic resource to promote the field, the video details the involvement of engineers in the project and the enthusiasm of those involved is unmistakable. The video is hosted on the CIBSE YouTube channel (www.youtube.com/c/CIBSEUK).

The YEN also collaborated with their ASHRAE counterparts to hold a joint Leadership Weekend, where YEN members had an opportunity to better understand their leadership skills and work within a team. Notably, after two years of being postponed, the YEN National Ball, hosted by the YEN North West Committee, took place in Manchester on 15 October 2021.

Societies and Divisions

Key sectors are represented within CIBSE by professional bodies that offer professional recognition to their members and support the science, art and practice within their field. These are all Divisions of the Institution but are often referred to as Societies, listed in size order according to number of members:

The Society of Light and Lighting (SLL)

The Society welcomes all who are interested in the art, science and engineering of light, lighting and its applications. Lighting designers, consulting engineers, researchers, students, academics, manufacturers, and sales staff all contribute to its membership. It offers authoritative guidance, professional recognition, and a range of technical events. SLL is recognised worldwide as an authority on lighting and its applications.

The Society published the rewrite of LG8: *Lighting for museums and art galleries*, as well as new guides, LG20: *Lighting for facilities management*, LG21: *Protecting the night-time environment* (authored by the late SLL past president Liz Peck), and with CIBSE published TM66: *Creating a circular economy in the lighting industry*. TM66 was recognised in the Build Back Better Awards, receiving the highest accolade, platinum, along with a Build Back Better green rating.

After awarding the SLL Jean Heap Research Bursary to Manuel Spitschan Ph.D in 2020, the Society was pleased to publish Manuel’s final report, *lux.app: Development, validation and refinement of a free, open-access tool for calculations related to light and lighting*. The 2021 bursary was awarded to Jeevan Grewal for his research proposal on non-visual responses to light, and specifically wellbeing and sleep/wake cycles.

The SLL LightBytes series was presented online in April 2021 in partnership with sponsors Fagerhult, Trilux and Whitecroft. The series, titled ‘You can have it all’, focused on lighting with minimum energy, minimum resource and maximum comfort, with presentations split into four sessions. The final session included a circular economy roundtable with guest speakers Emilio Hernandez, Chair of the Green Alliance, and Mark Ridler, Head of lighting at BDP.

At the Society’s AGM in May, Ruth Kelly Waskett, the new SLL President, acknowledged that the Society is recognised for embracing light in all its forms and that it must also represent the diversity of the society that it serves.

Over the course of the year, the Society offered over 30 webinars with over 6000 people registering from around the world and over 3200 live attendees. Included in this programme of CPD events was an online panel discussion with members of the Second International Workshop on

Circadian and Neurophysical Photometry, who provided an update on practical recommendations for melanopic lighting design in an extremely well attended event.

The Society's webinar on managing daylight and sunlight in buildings had over 500 registrants. CPD webinars enabled the Society to continue to share knowledge and education in light and lighting to a worldwide audience, with topics including the circular economy, lighting for healthcare environments, lighting controls, BIM for lighting, and lighting and the WELL Building Standard. Recordings of all the webinars are available to on the website www.cibse.org/sll

The Society took part in the Illuminating Engineering Society of North America online event Light for life in May, and exhibited at the [d]arc room exhibition and conference in September. Ready Steady Light, with Rose Bruford College, was held in October, with 15 teams taking part.

In October, the Society launched a new series of interviews, called 'In conversation with..', with leading figures from the lighting community. The series was developed in association with Signify.

The Young Lighter 2021 final was held online in December.

The Society has also taken part in a number of collaborative events in support of the Women in Lighting initiative.

Society of Façade Engineering (SFE)

The Society of Façade Engineering brings professionals together in a forum where they can work together to advance knowledge and practice in façade engineering, promote good practice and ensure that today's increasingly complex building façades meet the many and varied performance criteria.

The Society focuses on the many disciplines involved in the interdisciplinary process of design, supply, installation, testing and operation of building façades. The Society is built on the belief that for buildings to achieve a high energy efficiency, and create a safe and comfortable environment for occupants, there must be appropriate dialogue between architects, façade engineers, building services engineers, structural engineers, and contractors.

In 2021, the Society was heavily involved in consultations and guidance within the façade industry, delivering a response to the RICS External Wall System 1 (EWS1)

consultation. The Society also consulted their membership on a public draft of the publicly available specification, PAS 670, *Magnesium oxide-based boards for use in buildings – Specification*. The Society made extensive comments on the draft PAS 9980: *Fire risk appraisal and assessment of external wall construction and cladding of existing blocks of flats – code of practice*, which provides a clear assessment methodology for façades. They also supported the University of Cambridge PhD research project on laminated glass separation experimental work.

Throughout the year, the SFE held numerous events, both virtually and in person. The Society welcomed industry experts, including Anusha Badrinarayanan, who gave a presentation titled *The benefits of identifying carbon baseline for façades* and Antony Smith who presented on *Design and development of a truly bespoke feature glass ceiling*. Members were also able to participate in in-person events, including a regional façade walk in Birmingham, and were represented at the Zak World of Façades event in Dubai. The Society is planning to continue webinars and in-person events throughout 2022.

In 2021, across four application deadlines, the SFE welcomed over 30 new graded members through their application process. Prospective members are asked to provide evidence of their experience and expertise, which is then submitted to the SFE Grading Panel. If the applicant is successful, they are awarded Society membership, within which they will either be an Associate (ASFE) Member (MSFE) or Fellow (FSFE). The Society is working to align its membership more fully with the UK SPEC and CIBSE Membership requirements.

In 2021, the Society also took the initial steps towards creating an SFE Young Engineers Network Group. This Group will be taking shape in 2022 and will be a positive step in engaging with young façade engineers.

Society of Public Health Engineers (SoPHE) and SoPHE Industrial Associates

SoPHE aims to provide a higher profile and focus for public health engineers within CIBSE.

Throughout 2021, SoPHE ensured that its members had access to high quality CPD. The Society hosted 11 online CPD events, with over 1400 registrations in all.

The Society was also able to get back to in-person events. On 21 July, in collaboration with the SoPHE Industrial Associates Industry Working Group, the Society hosted the SoPHE Plumbing Centre of Excellence Young Engineers Training Day at New City College Construction and Engineering Centre. The day covered practical skills associated with the installation of domestic water piped systems, aimed at providing young engineers with the valuable practical knowledge of pipework installation to complement their theoretical knowledge. Attendees were also involved in a number of practical CPD sessions with various pipework materials, pipework fittings and valve manufacturers, followed by a team exercise in the afternoon to put newly learnt skills into practice.

After a two-year hiatus the Society was able to host its Annual London Dinner on 4 November at the Royal Lancaster Hotel, London. The dinner brought together over 300 people, including SoPHE Members, SoPHE Industrial Associates, and individuals and organisations from across the public health industry.

In the coming year, the Society will continue to host in-person events and online CPD and is looking towards publishing the *SoPHE Journal*, alongside the SoPHE Industry Working Group.



Collaboration Award, Streatham and Clapham High School, OR Consulting Engineers

The Institute of Local Exhaust Ventilation Engineers (ILEVE)

ILEVE has been established to promote air quality in the workplace and to reduce ill health and death due to airborne contamination and hazardous substances in the working environment. The Institute exists to recognise competence in the practical application of local exhaust ventilation and to raise awareness of the importance of good air quality and ventilation in workplaces.

In June, ILEVE successfully launched its Partnership Scheme. The Partnership Scheme is an organisational membership for companies within the LEV Industry. The scheme allows its members to show commitment to raising standards within the LEV sector, demonstrate that their company meets industry requirements, increase the training and skills of employees, and be better connected and involved with the professional institution.

Throughout 2021, ILEVE welcomed new individual members through the application grading process. Applicants are required to show their competency across five subject modules: principles of occupational hygiene, system design, installation management, commissioning and thorough examination and test. Successful applicants are awarded a membership grade and given a competency card, which demonstrates their accredited fields of expertise. ILEVE offers a path to full professional registration for engineers in LEV and a means to maintain and enhance professional standing.

The Society has also continued the work of their Sub Committees which focus and work on specific aspects within LEV, this includes TC01 – TExT Reports, TC02 – Partnership Scheme, TC03 – Recirculating filters, TC04 – On-torch extraction and TC05 – BOHS – BESA qualification. In 2021, ILEVE also began work on two new Sub Committees: TC06 – Direct reading instruments and TC07 – Stack design.

ILEVE has also used online platforms to host high quality webinars for its members. It has given presentations on CIBSE Guide TR40 – *A guide to good practice for LEV*, LEV Technical Competency matrix and A career as an LEV engineer. The latter looked at the best way to start your career as an LEV engineer through gaining an understanding of the importance of practical and theoretical study in this exciting and growing field. In December, ILEVE was also able to host a hybrid membership development afternoon, which allowed members and prospective

members to attend in-person or online. The afternoon was an opportunity to learn more about the Society, and the processes and benefits of becoming a graded ILEVE Member. ILEVE will be continuing its active events programme in 2022, including a stand at MACH 2022 and the AGM, which will be hosted at the HSE's Science and Research Centre.

Society of Digital Engineering (SDE)

The Society of Digital Engineering provides a forum for those involved in digitalising the built environment, whether as designers, contractors, manufacturers, clients, facilities managers or software vendors. Membership is open to all involved in digital engineering, building information modelling (BIM), information management, software for design and analysis of buildings, computer aided facilities management and other related activity. It provides professional recognition to digital engineers and a route to CIBSE membership and registration with the Engineering Council.

The SDE continues to work closely with the CIBSE Digital Steering Group, which works to create the products and services used by members.

The SDE successfully held its online 2021 AGM virtually, which featured interactive responses from attendees. A total of 138 members registered for the AGM and the proceedings were followed by a presentation titled, Structured data/The BIMHawk Toolkit & PDTs/LEXICON which looked at why structured product data is so important, the role the BIMHawk Toolkit and product data templates (PDTs) play and the benefits the LEXICON project will bring.

The Society's Working Groups are continuing to make progress in their respective activities, with PDTs being created and published on our BIMHawk platform (www.bimhawk.co.uk) and we are also working with BRE, Construction Products Association (CPA) and the Centre for Digital Built Britain (CDBB) on their collaborative PDT platform, LEXICON, which will be synchronising with BIMHawk. A proof of concept information exchange has already been tested and found to work well.

The symbols project continues at pace, with a new symbol set for fire safety engineering being released earlier this year

and public health symbols now being created. This adds to our existing symbol sets for systems and abbreviations, heating and cooling, ventilation, small power, lighting and lighting switches, fire alarms and pipework accessories.

The Digital Innovations Working Group is working on new digital design, construction and management related digital tools, which may in turn become CIBSE digital tools.

The Society works closely with the UK BIM Alliance, of which CIBSE is an affiliate member.

CIBSE Patrons

CIBSE Patrons is a network of businesses that collaborate to give financial, technical, and moral backing to a wide range of initiatives led by CIBSE.

The Society has a depth of experience in training and in technical, commercial, and site-based knowledge which are of a great practical benefit to the Institution.

Its primary focus is on improving recruitment and retention of engineers on behalf of the industry at large. It sponsors bursaries, awards, and a range of materials, as well as events to support the Institution's work in this area and works directly with young engineers.

The Society has also created a forum where members can discuss and learn about matters as diverse as social media, contracting law and how to gain access to export markets.

In 2021, CIBSE Patrons welcomed a new Steering Committee, including Chair, Scott Mason. The AGM featured a presentation by Hywel Davies, CIBSE Technical Director, on the Building Safety Bill.

As well as welcoming a diverse range of new members, the Patrons have begun holding their Steering Committee Meetings in person and are looking forward to an active 2022, including hosting events such as the House of Lords Dinner.

Special Interest Groups

The 18 Special Interest Groups cover topics ranging from daylighting and lifts to controls and electrical services. The total membership of the Groups is currently 45,300 people, with participation in activities open to anyone, CIBSE members and non-members alike.

The Groups are:

1. ASHRAE
2. Building Simulation
3. Chimneys and Flues
4. CHP and District Heating
5. Daylight
6. Electrical Services
7. Energy Performance (including the Young Energy Performance Group)
8. Facilities Management
9. Healthcare
10. Heritage
11. Homes for the Future
12. HVAC Systems
13. Information Technology and Controls
14. Intelligent Buildings
15. Lifts
16. Natural Ventilation
17. Resilient Cities
18. School Design.

2021 has been a productive year for the Groups with a mixture of newsletters, blogs, podcasts, and webinars. This year has seen an increase in joint events between the Groups, with the first ever webinar hosted by three Special Interest Groups. The Groups have held a series of very successful online webinars – some of the most popular of these were:

- CIBSE HVAC Systems Group: Ongoing management of COVID: The operation of HVAC – Attendees registered 816
- CIBSE HVAC/FM/YEPG: Innovation in building services – Registered 212
- CIBSE EPG/HVAC Group: The future in the UK – The good, the bad and the ugly – Registered 684
- CIBSE/EPG/YEPG/LETI Power hour: What does zero mean – Registered 456
- CIBSE EPG Power Hour: Retrofitting properties: Where is the road map to net zero – Registered 368
- CIBSE Healthcare Group: HTM 03-01 – Registered 400
- CIBSE Daylight Group: Daylight spectra indoors: Its measurement and analysis – Registered 245
- CIBSE Building Simulation Group/IBPSA: Estimating airborne infection through simulation and analysis – Registered 322.

Chris Iddon, Chair of the Natural Ventilation Group, worked alongside, Edwin Wealend (Cundall, CIBSE Air Quality Group) and Dzhordzhio Naldzhiev (UCL Institute for Environmental Design and Engineering) to produce the *COVID-19: Air cleaning technologies guidance* publication and the *COVID-19: Relative exposure index calculator* digital tool. A team from the Facilities Management Group is working on updating Guide M – *Maintenance engineering and management*.

CIBSE Building Simulation Group will be going live with Vision 2050. This is looking ahead at how the industry needs to change to meet commitments up to 2050 in response to the pressing climate change challenges.

A proposal has also been put forward for a new Group named Dilapidation and Inspections Group. This was presented to all Chairs at the quarterly Groups and Societies meeting and has been supported.



Engineer of the Year, Aleksandra Sasha Krstanovic


We inspire

CIBSE worked to raise the public profile of the importance of the contribution made by our members' and the Institution throughout 2021, maximising reach through diverse communication routes, including events, digital media, press coverage, and wide-ranging and impactful social media channels.

The year also brought an opportunity to make all our communications more inclusive and easily accessible digitally. This effort supports the increased use of the Institution's knowledge and expertise to deliver better, safer buildings and shape the debate around key issues in the building services sector.

“““

We're the engineers, and we're meant to be suggesting what's better for the building, the owner and the world. It's a waste of talent if we don't.

 Sasha Krstanovic, CIBSE Engineer of the Year 2021, *CIBSE Journal* Sept 21

CIBSE Build2Perform Live

30 November – 2 December 2021

CIBSE Build2Perform Live, a free-to-attend event, facilitates the sharing of CIBSE and industry knowledge to deliver a safer, more inclusive and lower carbon built environment.

The 2021 event was virtual and took place over two days. In this more accessible format, over 1200 people registered to attend. The technical programme highlighted four areas of currency and importance:

1. Competency and compliance
2. Heat pumps
3. Delivering clean air
4. CIBSE response to COP26.

The technical programme was complemented by a range of exhibitor and supporter content to update attendees on the latest technical product information.

www.cibse.org/b2plive

CIBSE Journal

In 2021 the *CIBSE Journal* was rated good or excellent by 90% of the respondents in its reader research survey, with 86% rating the technical coverage as good or excellent. Case studies, technical articles and CPD rated highest when asked to rate the different sections. The website also rated highly with 78% rating is as good or excellent.

2021 proved to be another exceptional year in which the Journal was acutely aware of the importance of bringing up-to-date news and guidance during the ongoing pandemic.

The Journal continued to bring extensive coverage of updates to CIBSE COVID-19 guidance, including coverage of the new CIBSE air cleaning technology guidance, coverage of the winning paper from the CIBSE Technical Symposium by Tom Lipinski on ventilating buildings to minimise COVID-19 risk, and produced a podcast featuring the authors of CIBSE's COVID-19 ventilation guidance, discussing best practice for minimising the risk of the virus as we emerge from lockdown.

Building safety was another key theme for the Journal throughout the year, which was added to with regular columns from CIBSE Technical Director Dr Hywel Davies and Dr Julie Godefroy, CIBSE Head of Sustainability.

The Journal continued to showcase the outstanding projects, companies and people who won the CIBSE Building Performance Awards and Young Engineers Awards. As well as interviews with new CIBSE Chief Executive Ruth Carter and CIBSE Engineer of the Year, Sasha Krstanovic.

There were international features from the CIBSE Building Simulation Award winner, Atelier Ten's Singapore Changi Airport, and a retrofit project of 25 historic buildings in Myanmar by the local consultancy Doh Eain.

A further two podcasts were produced – one focused on heat pumps, the other on offsite construction, adding to the growing Journal podcast library.

More broadly, the Journal continued to support CIBSE's priorities, guidance, consultations, and events.

A number of special sections were produced in 2021, these covered: commercial heating, hotel and leisure, lighting, health and wellbeing, and education facilities.

The Journal hosted seven sponsored webinars covering a broad range of subjects, including water source heat pumps, digital technologies, the impact of wastewater noise on building design, smart lighting, pressure control valves, standby generator sets, and power protection systems. All are available on demand through the *CIBSE Journal* website.

In terms of production, the Journal worked with suppliers to move to the use of paper wrap for the mailing of the magazine, providing a more easily recyclable mailing service, which was well received by members.

The *CIBSE Journal* website continued to attract high numbers of visitors, with average monthly users now more than 28,000. The website is supported by regular social media activity highlighting the main features and news stories and a monthly Journal e-newsletter, sent to members, which includes a direct link to the digital edition.

www.cibsejournal.com

jobs.cibsejournal.com

Media relations

In 2021 CIBSE's media relations played a vital role in communicating the COVID-19 guidance. This unique set of guidance, created by collaborative groups of members and other industry experts, includes ventilation, safely re-occupying buildings, recommissioning of lifts and escalators, and lift use and occupancy. In 2021 new guidance was added to the set, on air cleaning technologies and was supported by the relative exposure index calculator.

There were 50,000 downloads of the guidance in 2021, bringing the total downloads to 112,000 since 2020. The guidance is freely available and is referenced by SAGE papers and linked to by the HSE and UK Government websites.

We made a significant contribution to two reports published by the Royal Academy of Engineering: *Decarbonising construction: Building a new net zero industry* (www.raeng.org.uk/publications/reports/decarbonising-construction-building-a-new-net-zero)

And *Infection Resilient Environments* (www.raeng.org.uk/publications/reports/infection-resilient-environments). We were represented at the journalist briefings by the Science Media Centre, the independent press office for science, which generated significant coverage across a range of outlets.

CIBSE press coverage appeared in 50 outlets, having a reach of 10 million readers and a value of £200,000.





Social media

We continued to grow our social media following throughout 2021 and used our platforms to engage with the wider building services community.

The marketing team focused on creating quality content to post on social media, including increased use of videos, blogs, polls, and articles. We also concentrated on commenting on and responding to mentions of CIBSE across social media to encourage conversation and interaction with our followers.

Alongside the main CIBSE social media accounts, there are numerous communities of interest accounts representing our Special Interest Groups, Regions, Societies and Networks.

CIBSE now has 85,748 followers across social media, an overall growth of 10% with LinkedIn continuing to be our strongest channel. Growth on individual platforms is outlined below.

Channel	Followers				
	2021	2020	2019	2018	2017
 Facebook	1,426	1,245	930	600	224
 Twitter	25,400	25,228	24,300	22,900	21,210
 LinkedIn group & company page	57,386	50,023	39,935	33,445	25,613
 Instagram	1,536	1,116	466	-	-

CIBSE Blog

In 2021, we published 17 blogs, which covered a range of topics and were primarily written by CIBSE members.

Our 'A career in building services' series for students, produced by the CIBSE Young Energy Performance Group and designed to highlight a diverse set of role models from the building services sector, was our most popular series.

Our training and knowledge teams produced a series of blogs about our new publications and training courses, which provided additional insight.

Our blog attracted over 85,000 views in 2021, an increase of 15%, with the most popular being those in the career series, which recorded 3200 views in 2021 and 6850 views for the entire series. The best read blogs were:

- A career as an electrical engineer
- A career as a public health engineer
- A career as a project engineer in solar photovoltaics
- A career as a mechanical engineer.

Knowledge-based blogs recorded 6200 views in 2021, with the most popular being:

- E-learning opportunities – What should you choose?
- CIBSE Knowledge – Behind the scenes: an interview with the authors of *Heat pump installations for multi-unit residential buildings* (AM16)
- Three simple tips to help you focus on your online learning.

cibseblog.co.uk

YouTube

The CIBSE YouTube channel has developed significantly since March 2020 when the first UK COVID-19 lockdown required CIBSE networks, Regions, Special Interest Groups and Societies to move their content online. Watch hours on the channel are up 53% to 3133 hours in 2021, impressions up 57% to 520,000 and individual views up 27% to 32,800. Providing more content and better use of channels have helped us support our community with quality video content.

The most popular channels in 2021 were:

- Lighting
- Membership
- CIBSE South West
- CIBSE Daylight Group.

Our three most popular videos in 2021 were:

- A day in the life of a building services engineer - 2389 views and 28 hours of viewing
- How building services engineers can save civilisation - CIBSE Annual Lecture 2016 by Fiona Cousins - 1093 views and 120 hours of watch time
- Top tips on preparing for your CIBSE interview - 1058 views and 16 hours of watch time.

There is significant opportunity to further develop the CIBSE YouTube channel and to include more content from across the CIBSE community.

www.youtube.com/c/CIBSEUK



Project of the Year – Commercial/Industrial, Amorepacific HQ, Arup

CIBSE website

The website continues to be the focus of our interaction with members and the wider industry. Based on feedback from members, we have continued to update the website content and functionality. In 2021 CIBSE began a project to replace the current website. The project will improve and personalise members', volunteers' and customers' experience when interacting with CIBSE, and the experience on mobile devices will improve substantially. The new website will be live in the first half of 2022.

CIBSE's influence can be seen across the world – the website continues to provide global reach, gaining visits from 192 countries in 2021. The website attracted 3.5 million page views and 1.1 million user sessions. Our voice, influence and impact are being heard, felt and listened to around the world.

www.cibse.org



There is a joy in sharing the years of experience and knowledge. Being a member of CIBSE Council gives opportunities to mentor younger members and widen their technical and management skills.



Colin Ashford, CIBSE Council member



Building services awards

Our portfolio of awards shines a spotlight on the vast expertise and talent within the building services industry. The outstanding achievements by all those shortlisted – individuals, teams and companies – illustrate the diverse skills and experience of our community. Each and every person involved should be proud of their achievements.

Building Performance Awards 2021

The 2021 CIBSE Building Performance Awards were held virtually for the first time in February.

The awards showcase the highest achievements in building performance across the construction and property industry, providing recognition of outstanding building services engineering practice.

In this, their fourteenth year, the 16 awards recognised the individuals, teams and companies who demonstrate an exceptional commitment to ensuring buildings deliver safe, healthy, comfortable, efficient and sustainable environments for people to live, work and occupy, and essentially that they are fit for purpose for their lifespan.

The 2021 awards included new COVID-19 Achievement Awards to recognise those who have responded to the challenge of making people and buildings safer during the pandemic. Four teams involved in the delivery of the Nightingale hospitals were recognised for the remarkable work that building services professionals have undertaken to contribute to the nation's effort to combat the effects of COVID-19.

Buro Happold was named Building Performance Champion 2021, claiming four accolades in total. Judges praised them for their 'holistic view of building performance that draws back into wider sustainability views,' and for going 'beyond the standard engineering offer'.

Judges felt that Buro Happold's willingness to champion sustainability, work with others and learn from projects made it a worthy overall winner. Chair of judges Hywel Davies said they had: 'shown clear leadership and demonstrated how to deliver low carbon buildings at scale and reduce the impact of existing buildings, which remains a huge challenge across the building stock'.

The winners of the five project categories span the globe, with four out of the five project categories being awarded to international projects, based in America, South Korea, Japan and Abu Dhabi.

Aleksandra (Sasha) Krstanovic was crowned CIBSE Engineer of the Year 2021 after impressing the judges with her enthusiasm for inspiring the next generation of engineers to take an active role in building performance. The judges felt her passion for the role of engineers in mitigating climate change makes her a great ambassador for CIBSE.

CIBSE Young Engineers Awards

The Apprentice of the Year Award, launched in 2020, was extended in 2021 to reflect the increased interest in apprenticeships as a route to a career in building services engineering, and to acknowledge more talent within our early years engineers.

The Apprentice of the Year Award was split into two categories for: Technical Level 3-4 and Degree Level 5-7. These awards recognise the invaluable contribution played by apprentices.

The Young Engineers Awards, encompassing the Apprentice of the Year, Graduate of the Year and Employer of the Year, collectively shine a spotlight on the pool of new talent and future leaders who are vital to the future of our industry, while also celebrating those who champion and mentor them.

CIBSE President Kevin Kelly said: 'The winners of these awards show the impressive and diverse engineering talent that is flourishing and contributing to the building services industry.'



CIBSE Apprentice of the Year Winner Technician Level 3-4:

Harry Playfair

Harry Playfair is a building services project engineer apprentice at NG Bailey. He started his apprenticeship

in 2019 and is currently studying for an HNC in building services engineering.

Runners up were Megan Ganderson, from Couch Perry Wilkes, and Amanullah Amirmohammadi, from Cooper Homewood.



Winner Degree Level 5-7:

Josie Cheeseman

Josie Cheeseman is working as an apprentice building services design engineer at WSP. Her role allows her to combine work and study. She is in

her third year at London South Bank University and started her apprenticeship in 2019.

Runners up were Katie Baker from Tetra Tech, and Lewis Ward from Couch Perry Wilkes.

The Apprentice of the Year finalists recorded a film that was judged by an expert panel. CIBSE Board member and judge Vince Arnold said: 'It was warming for us, as judges to find the passion and excitement – and the fact that all the apprentices said how grateful they were to their employers and colleagues for giving them the practical experience that comes with an apprenticeship'.



CIBSE ASHRAE Graduate of the Year 2021

Winner: Lucy Sherburn

The Graduate of the Year Award recognises excellence in the early stages of an engineer's career.

Lucy Sherburn, who works for FairHeat, was among eight graduate engineers who presented live at the virtual awards event, on the challenges faced by engineers today. She said that inertia was the greatest challenge engineers would have to overcome to deliver sustainable and safe environments.

Lucy has a passion for making the construction industry more attractive to women and young engineers and said of winning: 'Hopefully, I can use this position to influence change in my industry – in the area in which I work, decarbonising heat, and in making the industry inclusive for all types of people.'

Runners up were Matthew Dickenson, of AECOM, and Yara Machnouk of Elementa.

CIBSE Employer of the Year 2021

Winner: chapmanbdsp

The Employer of the Year Awards recognise the commitment and achievements of employers in supporting young people entering the industry, encouraging their growth through training, mentoring and initiatives that place them at the centre of their business.

Chapmanbdsp took the overall award, also winning in the medium-sized category. The judges said chapmanbdsp's commitment to being an active and engaging sponsor for young and early career employees was clear, and commended them on their diversity and inclusion approach, saying it was 'exceptional'. Its impressive support for its engineering employees includes mentoring, training,

a CIBSE-approved training and development programme, regular CPD, and technical sessions.

Fairheat won in the small company category, and ATAL Engineering Group won the large company category.



As a young female engineer who entered the industry two years ago, it was important to have female role models who had won this award and were achieving great things.



Lucy Sherburn, CIBSE Graduate of the Year 2021 winner, *CIBSE Journal* Nov 21



President's Prize – The Undergraduate Award (sponsored by Hays Building Services)

Winner: Khushbu Mankani, Heriot Watt University, Dubai

Khushbu Mankani, studying for a BEng Architectural Engineering degree at Heriot Watt University in Dubai, won the CIBSE Undergraduate Award 2021. She won for her final year project, *Optimization of an air-cooled heat sink for passive cooling of a photovoltaic panel: A computational study*. Judges were impressed by her idea in recognising an issue with photovoltaics in UAE. They liked how she explained the process and her use of images and were impressed with how she evidenced a detailed, relevant application of theory.

The award, sponsored by Hays Building Services, is designed to encourage students to develop their potential and aim for excellence. It is awarded to those in their final year of a building services course accredited by CIBSE and recognises their academic achievements.



Society of Light and Lighting (SLL) Young Lighter of the Year Award

Winner: Maria Englezou

The 2021 award marks the 27th annual SLL Young Lighter competition and the second year

that the awards were held online. The competition, which is open to anyone with an interest in light and lighting, is designed to test not only finalists' ability to develop a lighting project, but also their presentation skills.

Maria Englezou, a Ph.D. candidate in the Department of Architecture at University of Cyprus, was named Young Lighter of the Year 2021 for her presentation *Do we need to change the design of healthcare facilities rooms?* Her entry explores the optimum patient room configuration to support visual comfort, health and wellbeing, while minimising the need for compromise.

Maria was one of four finalists in this year's competition. All finalists received a cash prize and a years free membership to SLL.



Building Simulation Award

Winner: Patricia Pino
Young Modeller winner: Nishesh Jain



The annual awards, set up by the CIBSE Building Simulation Group, aim to encourage innovation in building simulation techniques. This was the second year of the Young Modeller Award, which was launched in 2020 to recognise the outstanding contribution of young engineers, apprentices and sustainability consultants working with building simulation.

Nishesh Jain, a knowledge transfer partnership associate at University College London, Institute for Environmental Design and Engineering, won the Young Modeller Award. He is working on a project on closing the performance gap using calibrated building simulation models.

Patricia Pino, from Wirth Research, won the main prize for her presentation: *COVID-19 and the environment – a multi-tool modelling approach to estimate infection risk within office spaces*.

Full list of awards

CIBSE Gold medals

- George Adams
- Bryan Franklin
- David Hughes
- Phil Jones
- Stephen Lisk
- Mike Simpson
- David Wood

CIBSE Silver Medals

- Isaac Kweku Coker
- Roger Edwards
- Phil Forrest
- Antonio Lamberti
- Andrew Rowe

Bronze medals for services to the Institution

- Caroline Cattini Dow
- Paul Naish
- Neil Panton

Bronze medals for services to the Regions

- Olu Babalola – Home Counties North West
- Dr Jerry Edge – North East
- David Guzzetta – East Midlands

Honorary Fellow

- Catherine Noakes
- Geoff Prudence

Barker Silver Medal

- Nishesh Jain, Esfand Burman, Craig Robertson, Samuel Stamp, Clive Shrubsole, Francesco Aletta, Edward Barrett, Tin Oberman, Jian Kang, Peter Raynham, D Mumovic and Mike Davies

Dufton Silver Medal

- Eleanora Brembilla, Christina J Hopfe, John Mardaljevic, Anastasia Mylona and Eirini Mantesi

Carter Bronze Medal

- George Bennett and Cliff Elwell

Napier Shaw Bronze Medal

- Roy Candra Sigalingging, David Chow and Steve Sharples

Ken Dale Travel Bursary

- This was not awarded in 2021 as two winners were awarded the prize in 2020 giving them time to travel once COVID-19 restrictions were lifted

President's Prize: CIBSE Undergraduate Award

- Khushbu Mankani

Society of Light and Lighting Young Lighter of the Year Award

- Maria Englezou

Leon Gaster Award

- Timur Dogan and Daniel Park

Jean Heap Research Bursary

- Jeevun Grewal

Walsh Weston Award

- Adrie de Vries, Jan Souman and Professor Yvonne de Kort

SLL Regional Award

- Katerina Konsta

SLL Lighting Award

- John Aston

SLL Honorary Fellowship

- Professor Geoff Cook

SLL President's Medal

- Florence Lam

CIBSE Building Simulation Awards

- Young Modeller Nishesh Jain
- Building Simulation Award: Patricia Pino

SoPHE Young Engineers Award

- Annabella Conmee
- George Fall

Young Engineers Awards

- CIBSE Apprentice of the Year – Technician Level 3-4: Harry Playfair
- CIBSE Apprentice of the Year – Degree Level 5-7: Josie Cheeseman
- CIBSE ASHRAE Graduate of the Year: Lucy Sherburn
- CIBSE Employer of the Year overall winner and medium company winner: chapmanbdsp
- Employer of the Year, small company: FairHeat
- Employer of the Year, large company: ATAL Engineering Group



CIBSE Building Performance Awards

- Building Performance Champion: Buro Happold
- Building Performance Consultancy (up to 50 employees): Lawler Consulting
- Building Performance Consultancy (51-300 employees): Carbon Intelligence
- Building Performance Consultancy (over 300 employees): Buro Happold
- Collaboration: Streatham and Clapham High School – OR Consulting Engineers
- Learning and Development: UCL Post Project Review Guidelines – University College London and Buro Happold
- Facilities Management: London South Bank University Campus – London South Bank University
- Product of Innovation – Thermal Comfort: VirtuPVT – Naked Energy
- Product or Innovation – Wellbeing: Productivity Mapping; Making the business case for wellbeing – Cundall
- Project of the Year – Commercial/Industrial: Amorepacific HQ – Arup
- Project of the Year – International: DaiyaGate Ikebukuro _ Nikken Sekkei
- Project of the Year – Public Use: The House at Cornell Tech – Buro Happold
- Project of the Year -Retrofit: Abu Dhabi Department of Energy Energy Retrofit Pilot Project – grfn
- Project of the Year – Residential: Max Fordham House – Max Fordham

- Building Performance Engineer of the Year: Aleksandra Sasha Krstanovic, Founder – mstep
- CIBSE COVID-19 Achievement Award:
 - Bristol Nightingale – Ridge and Partners
 - Devon and Cornwall Nightingale Hybrid Facility, Exeter – Services Design Solution
 - Hoare Lea Healthcare team for Rapid-COVID-Response Hospitals, nationwide – Hoare Lea
 - NHS Nightingale Hospital, London – BDP and RSP
 - Buro Happold Analytics team – Buro Happold



We all benefit from having contributions from more diverse viewpoints, both in terms of professional expertise and personal background. Everyone has something unique to bring and contribute.



Kevin Kelly, CIBSE President, *CIBSE Journal* Aug 21



Future plans

We lead

Evidence of the gap in performance between building design and what is built in practice continues to emerge. The response to COVID-19 has exposed the widespread failings of ventilation provision to meet the current requirements and comes alongside continuing revelations about a lack of compliance with the fire safety requirements in the wake of the Grenfell Tower tragedy.

CIBSE has for many years been articulating concerns about the energy performance gap, which first emerged almost 20 years ago.

If we are serious about the recent commitments to delivering net-zero emission buildings that are safe, properly ventilated and comfortable places to occupy then this deficit between design ambition and realised outcomes must be addressed. There is an urgent need to redouble efforts to deliver improved performance of our built environment, not just in design and construction, but throughout the life cycle of operation and maintenance.

CIBSE will continue to deliver guidance that supports this improvement, and to work with others to do so.

CIBSE will continue to support the response to the inquiry into the Grenfell Tower tragedy and the Building Safety Programme in every appropriate way, seeking as far as possible to eliminate the risk of such an event happening again.

We will continue to support the ongoing reforms to industry regulations, competence, practice, procurement, enforcement and guidance. In particular, we will continue to develop our membership and professional standards systems to support the new competence and dutyholder regulations and to provide guidance, training and professional support to the sector on these matters.

We empower

CIBSE will continue to work with our members and the wider industry to deliver best practice knowledge, guidance and learning through all appropriate media and at point-of-use to support further improvement of the safety, comfort and performance of buildings, occupants and wider community.

We will continue to review our delivery of engineering knowledge and continuing professional development activity to maintain and enhance the competence of our members and the industry.

We will maintain a wide-ranging programme of knowledge development to continue to provide guidance that meets the needs of a safe and net-zero carbon built environment for all.

We will continue to review and develop the guidance that is needed to support the transition to net zero buildings, addressing both the provision of new buildings and the interventions needed to significantly reduce emissions from the existing stock.

“““

Stopping to test policies for their compatibility with net zero and with the building safety agenda is important; enforcing those policies to achieve the right outcomes is also necessary.

 Hywel Davies, CIBSE Technical Director, CIBSE Journal Aug 21

We champion

Supporting engineers into CIBSE membership and professional registration remains at the centre of what the membership department does.

Initiatives for 2022 include:

- Continuing our vital work on the building safety agenda, contributing to the framework of the contextualised register and to revalidation plans.
- Embedding and developing CPD standards to support the continued competence of the industry.
- Simplifying the process of our Individual Route for applicants to gain IEng/CEng Registration who do not hold the required academic qualifications.
- Continuing process improvement to ensure customer service and staff efficiency.
- Embedding more robust unconscious bias training for our volunteers across Standards and conducting an end-to-end process review to ensure our guidance and support is as good as it can be for neurodivergent candidates.
- Introducing moderation across all interviews to ensure continuous improvement.
- Implementing two revised apprenticeship standards for End-Point Assessment and review of our existing assessment methods in line with Ofqual regulatory requirements and a submission of a further two standards to Ofqual for recognition.
- Supporting our Groups, Regions and Societies to develop strategic plans in order to continue to enhance their impact.
- Supporting our vital volunteers by ensuring they have improved resources through our new website and are properly thanked through more recognition.
- We will also continue to participate in the work of the Construction Leadership Council and Construction Industry Council to champion the role of engineers and engineering in building a safer future under the new regulatory regime.

We inspire

We will continue to maximise the impact of the work of CIBSE, our members and the wider building services engineering community and their commitment to improving the safety, performance, health and sustainability of the built environment.

We will expand our internal press support and the key messages of our communications, in the press, social media and blogs and create awareness outside the building services engineering community of the value and impact of our members' work.

We will use our 125th year anniversary as a platform to inspire the next generation of building services engineers, challenging our members and communities to increase their efforts to engage with students and early careers engineers.

We will move forward with creating a new website, which personalises members' experience, clearly reflects CIBSE's voice and provides access to knowledge and information that supports our diverse community of built environment professionals.

We will continue to showcase good practice through *CIBSE Journal*, our awards, events, #GrowYourKnowledge webinars, Build2Perform Live, Technical Symposium, our technically focussed Societies and Special Interest Groups and other technical activities and communications, raising public awareness of what CIBSE and its members do and the importance and value of building services engineering to society.

Certification

In 2021 CIBSE Certification continued to certify the competence of energy professionals. CIBSE Certification has more than 750 energy assessors registered for the purposes of the Energy Performance of Buildings Regulations and Climate Change (Scotland) Act and more than 900 Low Carbon Consultants.

CIBSE Certification continuously works to raise the profile of its certification schemes to reinforce the reputation of Low Carbon Consultants (LCCs) and Low Carbon Energy Assessors (LCEAs) as a high quality, expert service and an important means of raising competence across the industry. The Minimum Energy Efficiency Standards Regulations have seen an increase in demand for CIBSE Certification registered energy assessors from landlord organisations reviewing their property portfolios.

The COVID-19 lockdown and ongoing restrictions continued to present a challenge in 2021, but through regular contact with Department for Levelling Up, Housing and Communities officials and the Property Energy Professionals Association, CIBSE Certification were able to keep assessors informed about Government guidance and business support.

Lodgement credit sales in 2021 were back to a more normal level.

Our UKAS accreditation to certify energy management systems against ISO 50001 and quality management systems against ISO 9001 means that CIBSE Certification can support companies operating energy management systems or quality management systems by providing third party assessment that their system operation conforms to the standard.

In 2021 CIBSE Certification broadened their appeal by adding ISO 14001 for environmental services to their portfolio. They are now in the process of adding ISO 45001 (Occupational Health and Safety Management Systems) accreditation. The vision for CIBSE Certification remains for it to be the go-to certification body for the building services engineering sector. Despite ongoing limitations imposed by the pandemic, 2021 saw the largest income from this area of activity to date.

CIBSE Certification Ltd is a wholly owned subsidiary company of CIBSE. Its day-to-day operations are overseen by its Board and Steering Committee to maintain the objectivity and impartiality required of a certification body by the international and national standards under which it operates.

www.cibsecertification.co.uk



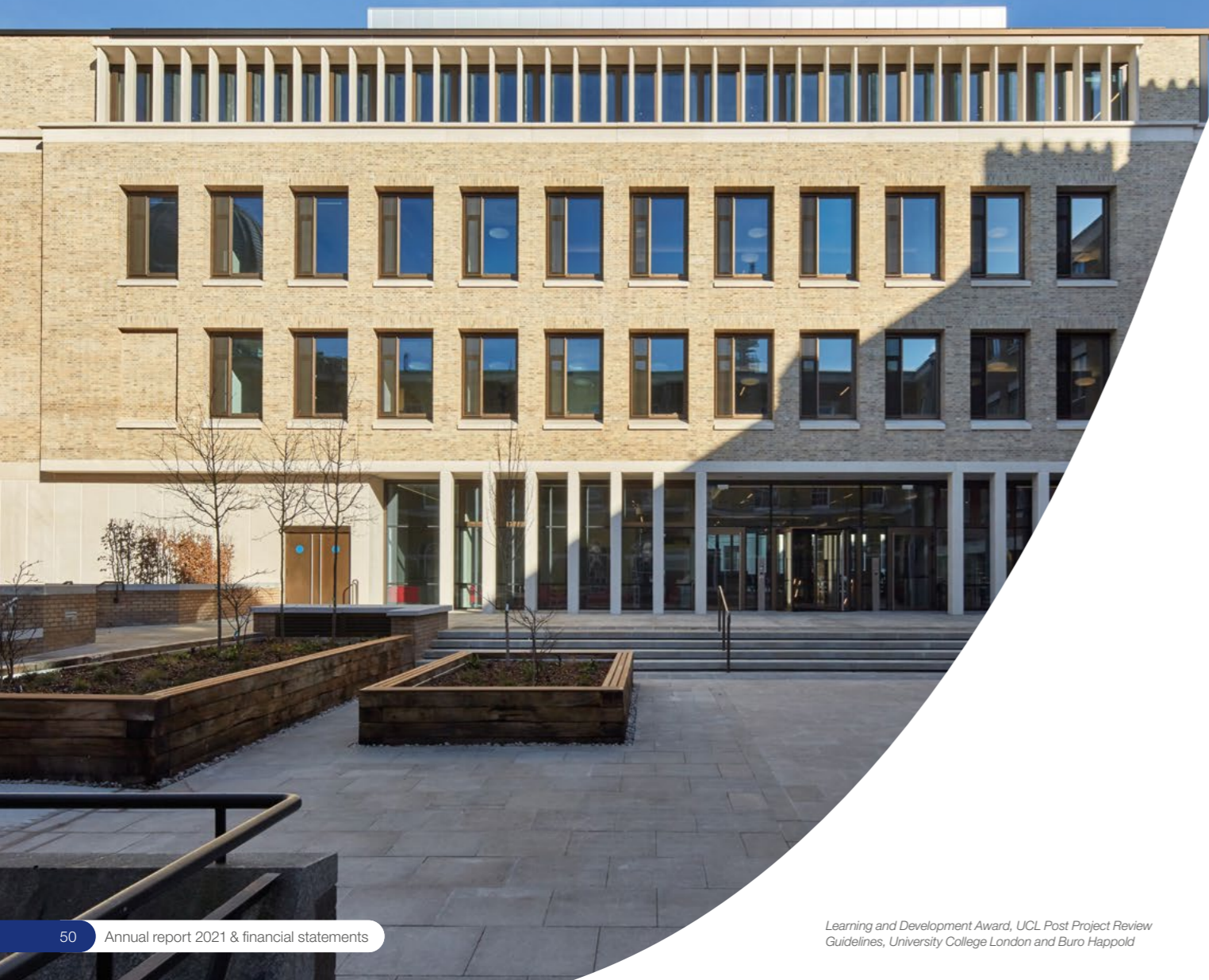
Consultancy of the Year (over 300 employees), Buro Happold



Building services are key to making buildings a healthy, comfortable and productive place to live or work



David Butler, CIBSE Trainer, Ductwork Design



Financial review

The Institution's Annual Accounts are presented to comply with the Charities Act 2011, its Royal Charter and By-Laws, and to meet all applicable accounting standards including the Statement of Recommended Practice – Accounting and Reporting by Charities and the Financial Reporting Standard applicable in the UK and Republic of Ireland (Charities SORP FRS 102). Investments are shown at market value and the Annual Accounts incorporate the assets, liabilities, income and expenditure of the Regions. The results of the Institution's commercial subsidiaries, CIBSE Services Limited, CIBSE Certification Limited and The Chartered Institution of Building Services Engineers Hong Kong Limited, are incorporated into the Consolidated Accounts.

Total income for 2021 was £6.90M, representing an increase of £775k in 2020. Most revenue streams across the Group improved in 2021 with only revenues from investments and restricted activities remaining at either similar or slightly below 2020 levels. The most significant increase was seen in the trading subsidiaries, which grew by £380k from 2020 levels. Although not yet back to pre-pandemic levels, market confidence appears to be improving and commercial revenue continues to grow. In addition, a bequest from the late Graham Manly was received in 2021, which the Trustees have agreed to designate as a separate fund in the upcoming year, in honour of his contribution to the organisation.

Whilst expenditure continued to be monitored tightly across the business and cost saving measures implemented wherever growth would not be impacted, new activity across the Group coupled with inflationary pressures saw expenditure increase over the year to £6.61M from £6.20M in 2020.

The overall result of the above was a surplus before gains on investments of £279k, compared with a loss of £87k in the previous year. This was further increased by a net gain on investments of £293k, resulting in a net surplus of £572k.

There was an actuarial loss on the Defined Benefit Pension Scheme of £130k, as a result of investment performance, actuarial assumptions and the effect of the asset ceiling. The Institution continues to fund the recovery plan agreed following the triennial valuation of the Scheme carried out on 1st April 2020.

As a result, funds increased by £442k from £2.57M in 2020 to £3.02M in 2021.

The Group cash balance increased from £1.28M in 2020 to £1.91M, following improved performance.

Reserves policy

The Institution has a reserves policy to maintain a level of funds that is sufficient to meet four months of payroll expenditure, any unplanned contingencies and to accommodate investment for new initiatives. The Board considers that the Institution's overall level of funds is sufficient for these purposes, and the free reserves of the Institution have increased during the year. The intention of the Board is to rebuild free reserves to previous levels over time.

At the year end, the Institution held free reserves of £0.98M (2020: £0.69M), being the amount of funds available excluding restricted and designated funds, and less reserves held as tangible fixed assets.

It is the view of the Board that any expenditure from reserves should be applied only to finance new initiatives which will make a substantial contribution to the delivery of the Institution's strategic charitable objectives, and that the cost of existing activities should be met from incoming revenues from year to year. Any decision on the use of reserves rests with the Board on the advice of the Hon. Treasurer and the Finance, Risk, Audit & Governance Sub Committee.

Going concern

Whilst considering the adoption of going concern for the Group, the Trustees take into account a number of factors including key risks facing the organisation, budgets and ongoing forecasting, cashflow forecasts, including sensitivity analysis, and short- and long-term liquidity.

The COVID-19 pandemic significantly impacted revenues from subsidiaries during 2020. However, 2021 has seen revenues strengthen and some even return to pre-pandemic levels. Membership income, which accounts for over half of the Group's revenues, remain consistent. The Institution worked hard to continue to demonstrate member benefits in an online environment and this was supported through access to substantial and essential knowledge provided by CIBSE, some of which were key guidance during the COVID-19 pandemic with respect to ventilation.

The Institution also owns in its entirety, the freehold premises from which it operates at 222 Balham High Road: an asset likely to be worth more to the Institution than is currently recognised in the accounts. Whilst short-term liquidity continues to be an area of focus, as is the case for most businesses, there are currently adequate cash reserves removing any concerns.

To protect against any further impact of the COVID-19 pandemic, or the need to draw down on investments in a potentially undesirable market, the Institution also secured a Government-backed Coronavirus Business Interruption Loan facility of £500k. The facility has not been used at the time of preparing these accounts.

The Group conducts ongoing, detailed forecasts and cashflow analysis to assess liquidity and is confident that there are adequate resources to meet obligations falling due within the next 12 months and will continue to drive growth for the foreseeable future.

It is for the above reasons that the Trustees continue to consider CIBSE a going concern.

Risk management

It is the responsibility of the Board as the Trustees of the Institution to examine the major operational and business risks which the Institution faces and to establish appropriate systems to manage significant risks.

Risk is assessed as part of the consideration of all new projects, and the Finance, Risk, Audit & Governance Sub Committee is charged with the detailed examination of the Institution's Risk Register and the presentation of an annual review of the Institution's overall risk profile for the Board's consideration. This review has identified and assessed the major risks faced by the Institution and confirmed that appropriate control systems have been established to manage those risks. The Board will continue to review the overall risk profile on an annual basis, and to consider specific and substantial risks as they arise.

The Board has identified:

- a loss of contact with, and relevance to the membership, and
- a failure to develop and maintain appropriate and relevant content for the Knowledge Portal

as major operational risks to the Institution and its subsidiary. To address the first of these risks, the Institution allows for election of Board and Council Members, and communicates regularly with members through Council, Regions, Societies and Groups. For the second risk, the Knowledge Management Committee reviews, and updates content on a regular basis.

The Board has identified financial sustainability as a principal financial risk for the Institution and its subsidiary companies. Key elements in the management of financial risk include regular review of available liquid funds to settle debts as they fall due, regular liaison with the bank, and active management of trade debtors and creditors balances to ensure sufficient working capital.

The Board is aware that the UK's exit from the European Union may continue to have potentially significant consequences for the Building Services Industry and for the Institution.

The COVID-19 pandemic impacted on several areas of risk, in particular affecting income streams and limiting the Institution's ability to conduct its normal activities. The Finance, Risk, Audit & Governance Sub Committee (FRAG) kept the situation under constant review. Mitigating action was taken wherever possible, including moving activities to an online format and reducing expenditure where possible. As the UK government lifts restrictions, so the risk has subsided. FRAG has consolidated previous Brexit and COVID schedules into the main body of the risk register.



Project of the Year – International,
DaiyaGate Ikebukuro, Nikken Sekkei

Consolidated statement of financial activities for the year ended 31 December 2021

	Unrestricted funds	Restricted funds	Total 2021	Unrestricted funds	Restricted funds	Total 2020
	£	£	£	£	£	£
INCOME FROM:						
Donations and legacies	93,525	-	93,525	-	-	-
Charitable activities						
Members' subscriptions	3,541,396	50,748	3,592,144	3,403,003	51,815	3,454,818
Fees receivable for charitable services	384,026	-	384,026	215,945	2,500	218,445
Other trading activities						
Trading subsidiary companies	2,758,593	-	2,758,593	2,379,344	-	2,379,344
Investments						
Investment income	63,033	-	63,033	64,085	-	64,085
Total income	6,840,573	50,748	6,891,321	6,062,377	54,315	6,116,692

Consolidated statement of financial activities
for the year ended 31 December 2021 (continued)

	Unrestricted funds	Restricted funds	Total 2021	Unrestricted funds	Restricted funds	Total 2020
	£	£	£	£	£	£
EXPENDITURE ON:						
Raising funds						
Trading subsidiary companies	2,581,518	-	2,581,518	2,582,211	-	2,582,211
Charitable activities						
Membership	1,826,466	-	1,826,466	1,639,580	-	1,639,580
Technical	526,822	20,680	547,502	514,529	49,008	563,537
Regional & special interest groups	1,154,469	-	1,154,469	961,404	-	961,404
Research	502,206	-	502,206	457,204	-	457,204
Total expenditure	6,591,481	20,680	6,612,161	6,154,928	49,008	6,203,936

Consolidated statement of financial activities
for the year ended 31 December 2021 (continued)

	Unrestricted funds	Restricted funds	Total 2021	Unrestricted funds	Restricted funds	Total 2020
	£	£	£	£	£	£
Net income/ (expenditure) before gains on investment	249,092	30,068	279,160	(92,551)	5,307	(87,244)
Net gains on investment	293,243	-	293,243	125,574	-	125,574
Net income/(expenditure)	542,335	30,068	572,403	33,023	5,307	38,330
Other recognised losses						
Actuarial loss on defined benefit pension scheme	(130,000)	-	(130,000)	(131,000)	-	(131,000)
Net movement in funds	412,335	30,068	442,403	(97,977)	5,307	(92,670)
Fund balances brought forward at 1 January	2,471,247	102,258	2,573,505	2,569,224	96,951	2,666,175
Fund balances carried forward at 31 December	2,883,582	132,326	3,015,908	2,471,247	102,258	2,573,505

Consolidated and Institution Balance Sheets as at 31 December 2021

	Group		The Institution	
	2021	2020	2021	2020
Fixed assets				
Intangible assets	-	-	-	-
Tangible assets	665,074	585,157	492,411	419,897
Investments	2,382,242	2,088,999	2,382,246	2,089,003
Total fixed assets	3,047,316	2,674,156	2,874,657	2,508,900
Current assets				
Stocks of publications	23,608	29,900	-	-
Debtors	748,899	626,948	326,555	363,561
Cash at bank and in hand*	1,912,339	1,283,711	1,485,263	992,351
Total current assets	2,684,846	1,940,559	1,811,818	1,355,912
Liabilities				
Creditors: Amounts falling due within one year	(2,283,587)	(2,065,210)	(1,657,345)	(1,508,101)
Net current assets/(liabilities)	401,259	(124,651)	154,473	(152,189)
Total assets less current assets/(liabilities)	3,448,575	2,549,505	3,029,130	2,356,711
Creditors: Amounts falling after more than one year	(441,667)	-	(441,667)	-
Net assets excluding pension scheme asset	3,006,908	2,549,505	2,587,463	2,356,711
Defined benefit pension scheme asset	9,000	24,000	9,000	24,000
Total net assets	3,015,908	2,573,505	2,596,463	2,380,711

Consolidated and Institution Balance Sheets as at 31 December 2021
(continued)

	Group		The Institution	
	2021	2020	2021	2020
The funds of the charity				
Restricted Funds	132,326	102,258	132,326	102,258
Unrestricted funds				
General fund	1,643,099	1,278,354	1,223,654	1,085,560
Designated funds	1,240,483	1,192,893	1,240,483	1,192,893
Total charity funds	3,015,908	2,573,505	2,596,463	2,380,711

*Creditors amounts due over one year includes £441,667 and amounts due in less than one year includes £58,333, a total of £500,000 relating to a loan facility drawn down on 18 May 2021 from Government's Coronavirus Business Interruption Loan Scheme. At 31 December 2021, this was held in cash on the Balance Sheet.



Nominations process review

Each year, vacancies arise for Institution Officers, Board Members and Council Members and the CIBSE Board has to nominate and appoint candidates for the various roles to take office at the following AGM. The Board is advised in this process by the Institution's Nominations Panel, which considers candidates in detail and makes recommendation to the Board.

A new methodology was introduced in 2021 to improve the objectivity and transparency of this process, to increase the focus on diversity and inclusivity, and to ensure a broad range of representation across different sectors of the industry.

The Nominations Panel implemented a target quota system for the nominations pool, which included having a maximum of 60% of nominations from one gender and having 20% from ethnic minority groups. Through an awareness raising campaign and by encouraging individuals directly to put themselves forward, the panel achieved these quotas. This was key to ensuring sufficient and diverse choice in the pool of candidates to be taken forward to nomination.

Objective scoring criteria were established for the assessment process, with compulsory quotas applied to the final outcome, and non-compulsory quotas used to ensure breadth of choice but not to be enforced at final selection.

Following an enhanced marketing and outreach programme, 23 members were put forward as potential candidates for consideration by the Nominations Panel. All completed an application form with references being taken, and each candidate was evaluated by the Panel against the agreed scoring criteria.

This has proved a valuable exercise and is already delivering a more robust process of consideration. The system will be developed in future years, with lessons learned from the 2021 nominations round being used further to refine and enhance the nominations process.

Nominations Panel members:

George Adams	Alexandra Logan
Vince Arnold	Stuart MacPherson
Colin Ashford	Nick Mead
Tony Day	Farah Naz
John Field	Mike Smith
Kevin Kelly	

Members of the Board and Council

With effect from CIBSE AGM, 4 May 2021:

President: Kevin Kelly
 President-Elect: Kevin Mitchell
 Vice President: Fiona Cousins
 Vice President: Susan Hone-Brookes
 Vice President: P L Yuen
 Hon Treasurer: Adrian Catchpole
 Immediate Past President: Stuart MacPherson

Elected Members of the Board

Vince Arnold
 David Cooper
 Les Copeland
 David Fitzpatrick
 Laura Mansel-Thomas

Chief Executive Officer

Ruth Carter

Members of the Consultative Council

All Board members are also members of Council

Past Presidents

Lynne Jack
 Stephen Lisk
 Stuart MacPherson

Elected Members

Colin Ashford
 Andrew Bott
 Sebastian Gray
 Scott Mason
 Andrew Piper
 Dimple Rana
 Mike Smith
 Becci Taylor
 Linda Vidler

Co-Opted Members

Ashley Bateson
 Lynne Jack
 Alexandra Logan
 Ruth Kelly Waskett

Divisional Representatives

Ruth Kelly Waskett (SLL)
 Peter White (SoPHE)
 Chris Aspinall (SFE)
 Les Copeland (SDE)
 Dean Greer (ILEVE)
 Scott Mason (Patrons)

Young Engineers Network

Rebecca Michaelsen

YEN Mentor

Andrew Saville

WiBSE

Annette Ash

Inclusivity Panel

Alexandra Logan

REHVA

Andy Ford/David Fisk

Fellows Network

Geoff Prudence

EC(UK) Board Rep

Andrew Rowe

Standing Committee Chairs

- Education Training and Membership: Andrew Rowe
- Communication Committee: David Fitzpatrick
- Technology Committee: Katie Clemence-Jackson
- Professional Conduct Committee: Doug King
- Knowledge Management Committee: Ted Pilbeam
- Regional Liaison Committee: Kevin Mitchell

Group Representatives

- CIBSE ASHRAE: David Green
- Building Simulation: Darren Woolf
- Chimneys & Flues: Jim Kinnibrugh
- CHP and District Heating: Huw Blackwell
- Daylight: John Mardaljevic
- Electrical Services: Tony Sung

- Energy Performance: Roger Macklin
- Facilities Management: Geoff Prudence
- Healthcare: Steve Clifford
- Heritage: Andrew More
- Homes for the Future: Tom Lelyveld
- HVAC Systems: Mary-Ann Clarke
- Information Technology and Controls: Peter McDermott
- Intelligent Buildings: Derek Clements Croome
- Lifts: Adam Scott
- Natural Ventilation: Chris Iddon
- Resilient Cities: Kerstin Johansen
- School Design: Alan Fogarty

Regional Representatives

- ANZ: Mark Crawford
- East Anglia: Nicola Booth

- East Midlands: Jarrod Tandy
- HCNE: James Bourne
- HCNW: Gita Maruthayanar
- HCSE: Steven Peet
- HCSW: Hakeem Makanju
- Hong Kong: Vincent Ma
- Ireland: Michael Curran
- Merseyside & North Wales: Paul Guyers
- Northern Ireland: Jonathan Grimshaw
- North East: Phillip Hilton-West
- North West: Will Harrop
- Scotland: Karen Warner
- South Wales: Paul Bullock
- South West: Alexander Freeman
- Southern: Paul Coe
- UAE: Farah Naz
- West Midlands: Martin Trentham
- Yorkshire: Pritpal Jandu



Trustees' responsibilities

The Trustees are responsible for preparing the Trustees' report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The law applicable to charities in England & Wales requires the Trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Institution and the Group and of the incoming resources and application of resources of the Institution and the Group for that period. In preparing these financial statements, the Trustees are required to:

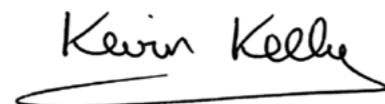
- Select suitable accounting policies and apply them consistently;
- Observe the methods and principles in the Charities SORP;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Institution and the Group will continue in operation.

The Trustees are responsible for keeping adequate accounting records that are sufficient to show and explain the Institution's transactions and that disclose with reasonable accuracy at any time the financial position of the Institution and the Group and enable them to ensure that the financial statements comply with the Charities Act 2011. They are also responsible for safeguarding the assets of the Institution and the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustees are responsible for the maintenance and integrity of the corporate and financial information included on the Institution and the Group's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

The Trustees are responsible for the maintenance and integrity of the corporate and financial information included on the Institution and the Group's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Approved by the Board of Trustees and signed on its behalf by:



Kevin Kelly
President 2021 – 2022



The Chartered Institution of Building Services Engineers

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Website: **www.cibse.org**

CIBSE is a registered charity: **number 278104**

