



**THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

**ANNUAL REPORT AND FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2016**

**Charity No. 278104**



## **CONTENTS**

### **Page**

2	Trustees' Report
39	Independent Auditors' Report
41	Consolidated Statement of Financial Activities
42	Consolidated and Institution Balance Sheets
43	Consolidated Cash Flow Statement
44	Notes forming part of the Consolidated Financial Statements



# **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

## **Annual report and financial statements for the year ended 31 December 2016**

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The Trustees present their report and the audited financial statements for the year ended 31 December 2016.

### **1) OBJECTIVES AND ACTIVITIES OF THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS ("CIBSE"/ THE "INSTITUTION")**

#### **What we do**

The Chartered Institution of Building Services Engineers (CIBSE) is the professional body that exists for:

- 1) The promotion for the benefit of the public in general of the art, science and practice of such engineering services as are associated with the built environment and with industrial processes, such art, science and practice hereinafter called "building services engineering"; and,
- 2) The advancement of education and research in building services engineering, and the publication of the useful results of such research.

CIBSE supports building services engineers by accrediting courses of study in further and higher education, by approving work based training programmes and providing routes to full professional Registration and Membership, including Chartered Engineer, Incorporated Engineer and Engineering Technician. Once qualified, CIBSE offers a range of services, all focussed on maintaining and enhancing professional excellence throughout a career.

CIBSE is the standard setter and authority on building services engineering. It publishes Guidance and Codes which are internationally recognised as authoritative, and sets the criteria for best practice in the profession.

The Institution speaks for the profession and so is consulted by government on matters relating to construction, engineering and sustainability. It is represented on major bodies and organisations which govern construction and engineering occupations in the UK, Europe and worldwide.

## **President's Message**

One of the first things you learn when you're helping to run such a large and diverse organisation as CIBSE is that the sheer range of opinions on what the institution is currently about, what it should be about, what it has been about and what it will be about in the future are nearly infinite. You may go into your role as President with a firm view of the organisation, but after meeting and talking with some of the many hundreds of members and volunteers who make up the groups, societies, divisions and committees that enable the smooth running of the work we do; you'll quickly find your ideas challenged.

CIBSE carries out a range of important functions in the building services engineering industry, from training to certification to knowledge creation, and all of these areas have passionate champions who believe that this function is the most important one of all. But over the past year, I've come to think that the most important role that CIBSE carries out is its ability to inspire – especially during times when the future appears uncertain.

Amongst all the practical benefits, membership of CIBSE is a commitment to realising a better future for the building services industry. One in which engineers grow and share their knowledge in order to make their work better, and to pass those benefits on to society as a whole in the form of safer, more comfortable and more sustainable buildings. This commitment is hard-won through the stringent application process, but it is a career-long goal that outlasts short-term changes in the economy and the political climate.

When it was announced in the early hours of the 24<sup>th</sup> of June this year that the UK had voted to leave the European Union, it was primarily a feeling of uncertainty that pervaded the industry and the country at large – which continues to this day – especially around the future of the UK's climate policy, which is largely bound up in EU legislation that may cease to have effect. At the time, I called for the building services industry to shrug off the uncertainty and keep working together to maintain the high standards we set ourselves.

Difficult times like these can easily see high-minded ideals put on the back-burner, collaboration shelved in favour of protectionism and standards compromised – but I need not have worried. Despite the jitters, CIBSE and its members continued to work on myriad projects for the benefit of building services: Putting on our biggest ever conference and exhibition, releasing a revolutionary new BIM software tool, creating our second Code of Practice amongst a huge range of new knowledge and far more besides. All while keeping a constant eye on Brexit, and the impact it will have on our industry and its aims.

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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It is true that we might not know exactly how the UK government will approach a range of issues that affect the built environment for months, and probably years, so it remains up to institutions like CIBSE to set the agenda, maintain standards and act as cheerleaders for better and more sustainable buildings. The built environment needs our hard work and advocacy more than ever in the coming years, and it presents an excellent opportunity to push for an even more ambitious programme of sustainability related measures that will build strong foundations for future generations.

The true strength of CIBSE is its ability to call on the accumulated wisdom of thousands of some of the most skilled and most dedicated professionals across all fields in the built environment, and to focus that knowledge towards solving some of the biggest problems of the next decade. As energy security, cooperation on climate change and the phase-out of fossil fuels become more and more fraught as issues, we will be working with current engineers and the engineers of the future to create solutions.

This would, of course, not be possible without the dedicated volunteers who give so much of their time and effort to help us deliver education, training and individual development that drives the industry forward in the UK and around the world. Ranging from the highly regarded Regional activities, to helping with Group and Society events, lending expertise and helping to organise such a complex institution, the volunteers' help is of incalculable benefit when their own work lives are often so busy and high-pressure on a day-to-day basis.

CIBSE also relies enormously on its growing team of staff who work tirelessly to further the institution's work and to ensure that it remains sustainable to serve the industry for many more years to come. Through their work this year we delivered an unprecedented set of events, training, workshops and more, as well as implementing a new CRM and delivering a range of new features including the re-designed CIBSE Journal.

I hope this annual report into CIBSE's work will give you a useful look into the strides we have made in the last year, and a glimpse into what 2017 will bring.

## **Strategic Themes**

### **Theme 1: Improving building performance**

The improvement of building performance is one of the key functions for which CIBSE as an organisation exists. The performance of buildings in the UK and around the world affects many aspects of daily life, from the environment to the economy, and is one of the key areas in the fight against climate change. 40% of the UK's total carbon emissions are created by its building stock, and lowering this figure is key to lowering the country's overall carbon footprint.

Building performance is about more than just carbon reduction, however. Even the most efficient building possible would still be a failure if it were uncomfortable to live and work in – similarly, if other aspects of the building's life are sacrificed in favour of efficiency; such as the health of its occupants, the community in and around the building and the profits of the company that owns it, the building's performance is reduced.

CIBSE champions the continual improvement of building performance as a natural consequence of what it does day-to-day; accrediting courses, creating routes to professional registration, training, producing guides and setting standards. All of this educates engineers and society at large in the importance and practicalities of creating better performing buildings, in order to improve the UK's building performance as a whole.

### **Theme 2: Sharing engineering knowledge**

The built environment is a tremendously complex and ever-changing field that requires precision from its practitioners in order to deliver and maintain homes and businesses that run smoothly. CIBSE creates and publishes authoritative guidance on subjects across the entire industry in order to allow engineers to keep up with the latest best practice in technology and standards.

It is not just the engineers in specific fields that benefit from the publication of this research – the entire industry benefits from understanding allied professions and the wider impact that technical developments, new standards or changes in the law will have on the built environment as a sector. By advancing the education of engineers and keeping them at the forefront of building services research, wider society also benefits from the fruits of better buildings and improved building performance. By enabling engineers to improve their skills and knowledge, everyone can save on their energy bills, minimise environmental impact and live and work in more comfortable spaces.

### **Theme 3: Membership**

The building services profession is a huge community of people working in the built environment, with an immense impact on the public's everyday lives. In order to ensure that these professionals



## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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have access to the latest information and research that CIBSE produces, it is necessary to make the pool of membership as wide as possible so that it impacts the industry as a whole, and therefore the wider population.

CIBSE relies on its members to help generate the knowledge that the industry benefits from in a wide variety of fields, and countries across the world, to ensure that its scope is as broad and deep as possible. The diversity of CIBSE's membership is important in reaching the organisation's goals, as the benefit to society at large is at its greatest when the knowledge that CIBSE publishes is sourced from as large a cross-section of people and professions as possible.

CIBSE Membership is also about recognising and accrediting expertise, so that those who are qualified can be widely and reliably recognised. By doing this, CIBSE promotes good practice and ensures that the best engineers who value good building performance highly are given due prominence in the industry. For this reason CIBSE also places a high priority on recruiting international members, to ensure that these standards are spread around the world, as well to promote the UK engineering industry abroad.

#### **Theme 4: Growing CIBSE Services**

CIBSE Services is a commercial organisation which functions to support the wider charitable aims of CIBSE, by undertaking commercial services that adhere to the aims and ethos of the organisation. Such work enables CIBSE to carry out wider charitable actions that are of benefit to society as a whole, such as running the CIBSE Technical Symposium at a cost that enables young engineers and those starting their careers to benefit from the knowledge it produces.

CIBSE Services also exists to raise the profile and status of building services engineering through the delivery of information, including training and certification; to provide a route for all suitable practitioners to deliver high quality outcomes in the areas in which they operate. Through its commercial work, CIBSE Services ensures that this information remains commercially viable, and thereby ensures its continued availability in the long term.

#### **Theme 5: Raising awareness and driving our profile**

In order to maximise the impact of all the work CIBSE does, it is necessary to demonstrate the importance of the full spectrum of building services engineering work to as wide a range of people as possible. The public benefit that the research CIBSE carries out can have is proportional to the extent that people are aware of the issues behind buildings and building performance, and appreciate the benefits of supporting building services engineers in their careers and in their task of bettering building performance.

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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Demonstrating the importance of good building performance and the link with good building services engineers reinforces the message that the success of the built environment is crucial to many areas in the public consciousness, from productivity to carbon emissions. Advancing the education of the public in this way then encourages the appreciation and dissemination of the research CIBSE carries out.

## 2) ACHIEVEMENTS AND PERFORMANCE

### Theme 1: Improving Building Performance

Without building services and the engineers who design them, no building would be anything but a dark, cold, empty shell. Services engineers make the places we live and work safe, comfortable and healthy places to be, and their work ensures that buildings perform on all of these measures to the best of their ability. To enable engineers to remain up to date on the latest science, best practice technology and standards available on building performance, CIBSE produces and updates guidance every year to educate engineers in the practicalities and principles of better building performance.

#### Guide B

CIBSE's Guide B: Refrigeration and Air Conditioning is one of the Institution's flagship publications, which underpins HVAC systems and the work of one of the industry's largest sectors. 75 years old and last comprehensively updated in 2001, with a revision in 2005, it has evolved in content and form, but always with the objective of providing an overview of guidance to good practice in the selection and design of HVAC systems.

A new section addresses heat networks, whilst there is a new section giving practical examples of HVAC applications in practice.

According to Dr Roger Hitchen, chair of the Guide's steering group and author of the chapter, "The inclusion of Part 0 to the new Guide has been driven by changes we have seen in the industry, which has seen more and more engineers join building services from other disciplines or more general engineering degrees. The intention is to make this transition easier and to make their future work more effective by helping them to understand the issues created by different contexts, and their relevance to HVAC design."

#### CP2 : Surface Water Source Heat Pumps: CoP for the UK

In 2015, CIBSE broke new ground by publishing its first code of practice – a publication that laid out requirements rather than best practice – on Heat Networks, that sought to back up an under-used technology with hard data to encourage its adoption. This year, CIBSE took their next step in this area by releasing a second Code – on Surface Water Source Heat Pumps.

CP2 Surface Water Source Heat Pumps: Code of Practice for the UK is designed to raise standards by setting minimum requirements, highlighting best practice and integrating the supply chain across the whole life of the project. Surface water source heat pumps (SWSHPs) are an underused technology in the UK. Harnessing renewable energy from the sea, rivers, canals and lakes

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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represents a huge opportunity to provide low carbon heating/cooling to buildings. The Code of Practice has been produced to assist in achieving that aim by raising standards right across the supply chain and to stimulate adoption of the technology.

#### **BIMHawk**

BIMHawk, a website and software plug-in which enables the creation of standard parameters for use in BIM objects, was launched by CIBSE at the annual Conference. The software has been developed by NG Bailey's Paul Marsland, Design and BIM Development Manager, and enables authorised users to create or upload Product Data Templates (PDTs) corresponding to real-world products with a full set of industry-recognised parameters ready to be filled in. The model can then be imported directly into BIM platforms without disrupting the rest of the design.

The new plug-in has many potential uses, the primary one being the ability for clients to acquire structured data in a predictable format that is used from start to finish by the design and delivery teams. This removes the need to create new models from scratch for every element of a design, or edit generic or existing models that are not compatible and do not use the same parameters.

Contractors, Consultants and commissioning engineers will also be able to use BIMHawk to compare products on a like-for-like basis, making the process of specifying much faster and more simple, and saving the client money.

## **Theme 2: Sharing engineering knowledge**

Knowledge sharing is one of CIBSE's strategic roles in the industry. CIBSE serves the industry and its clients by developing, publishing and disseminating internationally recognised Guidance and Codes giving authoritative guidance for the design, installation and operation of engineering services in buildings.

2016 has been a significant year for CIBSE publication, with the launch of a completely revised edition of all four volumes of CIBSE Guide B on heating, ventilation, air conditioning and refrigeration systems, along with a new volume, an applications guide to HVAC strategies for common building types.

In 2016 we also launched a new Digital Engineering Series, providing detailed guidance on the application of digital technologies, including Building Information Modelling, in the engineering services sector. As well as the new online guides, a number of templates have been launched to support the adoption of digital tools by the sector.

Working through the Society of Light and Lighting CIBSE publishes guidance on Lighting, and in 2016 new titles on lighting controls and lighting for the external environment were published.

Last year we published 16 titles, as below:

1. SLL LG6 Lighting for the exterior environment (January)
2. CP2 Surface water source heat pumps – Code of Practice for the UK (March)
3. SLL LG14 Lighting controls guide (April)
4. Lighting Factfiles 4: Directives, regulations & standards etc (May)
5. New weather data sets (153 separate sets, to supersede ALL previous sets) (May)
6. Guide B: B0 Applications and activities: HVAC strategies for common building types (June)
7. Guide B1 Heating (June)
8. Guide B2 Ventilation and ductwork (June)
9. Guide B3 Air conditioning & refrigeration (July)
10. Guide B4 Noise and vibration control for building services systems (July)
11. Guide B Combined index (across all parts) (July)
12. Digital Engineering DE1: Pre-qualification questionnaires (August)

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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13. Digital Engineering DE1T: PQQ – Templates (August)
14. Digital Engineering DE2: Employer's information requirements (October)
15. Digital Engineering DE2T: Employer's information requirements – Templates (October)
16. Digital Engineering DE3: BIM execution plans (November)

This compares to 12 titles published in 2015, 12 in 2014 and 10 in 2013.

We currently have 50 additional publications projects approved by CIBSE's Knowledge Management Committee (KMC) aiming for publication in the next 3 years.

#### Technical symposium

The CIBSE Technical Symposium is an annual event designed to allow industry practitioners to present and engage with the latest and most cutting-edge knowledge in the industry. From full-time academic staff with published papers to practicing engineers with practical case study presentations, the Symposium is open to the full spectrum of ideas that enrich and complement the industry's engineering knowledge.

The 2016 Symposium focussed on 2015/2016 President Nick Mead's theme of collaboration, and working together with other industry professionals to achieve better building performance. 51 speakers delivered their presentations to a sell-out crowd on topics as varied as optimum fan coil design, to occupant behaviour.

The Symposium also included the following highlights:

- Jonathan Hines of Architype introduced a series of case studies that demonstrated the effectiveness of Passivhaus in reducing energy usage in a number of schools by as much as 70%
- A lively debate between panellists, including former CIBSE president George Adams, on the topic "Putting our head above the parapet is impossible with the present industry structure".
- A presentation by Ian Van Eerden of Northrop Consulting Engineers and Paul Angus of Erbas on the Australian building performance scheme NABERS, demonstrating how it works and how it's lessons could be applied to improve operational building performance in the UK.

#### Technical Journals

- CIBSE publishes two technical Journals, Building Services Engineering Research and Technology (BSER&T), and Lighting, Research & Technology (LR&T). These continue to go from strength to strength, with BSER&T published six times a year and LR&T eight times per

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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year in response to demand from those submitting papers, and significantly increasing the role of the Institution in disseminating research to a wide audience.

- During 2016 Prof Chris Underwood stepped down from the chair of the BSER&T Editorial Panel, having completed his five year term. Bill Whalley also stepped down as Managing Editor after nearly twenty years in the role. CIBSE is indebted to both for their tireless contributions to the Journal. Also during 2016 LR&T appointed additional associate editors to support Dr Peter Boyce, the Editor.
- CIBSE members continue to benefit from online access to both Journals as a benefit of their membership package.

### Societies (Divisions)

CIBSE operates four “Divisions” as they are defined in the by-laws. Three are called Societies, and the fourth, and newest, is the Institute of Local Exhaust Ventilation Engineers, ILEVE. All four are commonly referred to as “the Societies”:

- Society of Light and Lighting (SLL)
- Society of Public Health Engineers (SoPHE)
- Society of Façade Engineering (SFE)
- Institute of Local Exhaust Ventilation Engineers (ILEVE)

### The Society of Light and Lighting (SLL)

SLL represents and welcomes all those who are interested in the art, science and engineering of light, lighting and its applications, and is open to everyone with an interest in lighting. The Society offers authoritative publications, professional recognition and a wide range of learned society activities. The SLL is recognised worldwide as an authority on lighting and its applications. The SLL has an active website, Twitter account (@SLL100) and LinkedIn discussion group to allow communication with and between SLL members. The Society also organised a range of events, including the Ready Steady Light competition, and the 2016 Pockets of Light event held in York.

The year began in Royal fashion, as the SLL team were invited to Buckingham Palace to present HRH the Duke of York with honorary Fellowship of the SLL, for his patronage of the industry. As Patron of the UNESCO International Year of Light 2015, HRH The Duke of York KG, attended a number of celebratory events and engaged with the scientific, commercial and creative lighting industries. In recognition of his contribution, SLL offered the Duke an Honorary Fellowship of the Society, which was graciously accepted.

Under new President Jeff Shaw, the SLL also continued its golden year of awards for the Night of Heritage Light – claiming Heritage Project of the Year at the Lighting Design Awards, Best Creative

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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Lighting Event at the darc Awards and a Highly Commended at the Construction Marketing Awards. Rounding off its celebration of the first anniversary of the Night of Heritage Light, the SLL team took part in the spectacular events in the ancient city of York with 'Pockets of Light' and 'Illuminating York'. Working with local schools, the SLL held workshops that introduced students to the art and science of light, and utilised their designs in lighting some of York's most famous sites: Including the Roman Multangular Tower and St Michael's Church.

Another fabulous year of events, training and publications was rounded off by the Young Lighter of the Year Awards, which was won by Sofia Tolia for her work on street lighting that improves traffic safety.

#### **The Society of Public Health Engineers (SoPHE)**

[SoPHE](#) aims to provide a higher profile and focus for public health engineers within CIBSE. The Society has its own classes of membership, independent of those of CIBSE, and is able to provide designatory letters to those who are suitably qualified and experienced in public health engineering. SoPHE also awards the SoPHE Graduate of the Year Award annually to focus attention on the next generation of engineers.

In 2016 it was won by Amelia Paszkowski, Brittany Harris and Ross Boulton (all of BuroHappold), whose design for a practical and affordable flood defence system designed for individual homes delivered impressively on all requirements. As well as this, the design was commended for its sustainability – both in terms of the materials used and its community impact: It is 100% re-usable and biodegradable, and it encourages communities to be self-sufficient and co-operative in planning flood measures.

#### **The Society of Façade Engineers (SFE)**

[SFE](#) was set up to bring people together in a forum to advance knowledge of façade engineering, promote good practice and ensure that today's increasingly complex building façades meet the many and varying requirements placed on them.

#### **The Institute of Local Exhaust Ventilation Engineers (ILEVE)**

The newest division of CIBSE, [ILEVE](#), 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 2016, The Institute of Local Exhaust Ventilation Engineers swore in its first female Chair Jane Bastow, five years since the Institute was founded in 2011. Jane Bastow is a ventilation engineer with over 30 years of experience, and managing director of P&J Dust Extraction Ltd. She is a founder member of ILEVE, and has been a Vice Chair of its Steering Committee for over four years.



## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

Also on the agenda at the ILEVE AGM was the Institute's Competence Cards – cards issued to members as evidence of their qualifications in the field. A focus will be placed on helping engineers to meet the competency requirements in order to move the industry's skills forward, and to spread knowledge about its expertise to other industries.

#### **Special interest groups**

CIBSE has 18 specialist interest groups, covering a range of topics. Participation in these is open to all with an interest in the topic, regardless of whether or not they are members.

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

#### **Networks**

##### **Women in Building Services Engineering (WiBSE)**

The WiBSE network exists to support and encourage women joining, working, staying and progressing in the building services industry, to inspire the next generation and create the support network that will enable more women to join, stay and progress within our industry and Institution.

The aims of the network are to:

- Increase and retain the number of women in the Building Services Industry.
- Improve life for those women already working in the sector by providing advice, encouragement, support, mentoring and training.
- Address the gender imbalance issues.

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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- Provide networking events for members.

#### Young Engineers Network (YEN)

The CIBSE Young Engineers Network is a network of regional centres that aim to provide a forum & support network for young engineers within CIBSE. Each Centre consists of a committee which organises technical and networking events in the local area. A Centre can consist of young engineers who happen to live or work in that area or a centre may also be formed at a place of learning and consist of students. The aims of YEN are to:

- Promote a positive and welcoming image.
- Provide a platform for new thinking, novel approaches to design and knowledge exchange.
- Ensure that young engineers engage more closely with our professional institution at an early stage in their careers.
- Encourage more women to join the building services profession.
- Establish a link with CIBSE Council.
- Promote building services engineering to school and university students.
- Guide young engineers towards a long term career in building services.

#### Theme 3: Developing our membership

With over 21,000 members in more than 100 countries around the world, CIBSE is the leading professional body for the building services profession. CIBSE members are part of a global network that offers professional support and expertise, working in partnership with other professional bodies, construction and engineering firms worldwide to deliver excellence in the built environment.

CIBSE provides members with:

- Unlimited access to the Knowledge Portal
- Subscription to the CIBSE Journal, CIBSE e-newsletter and BSER&T Journal
- Preferential rates on printed copies of publications from CIBSE and other publishers
- Extensive opportunities for professional development and networking.

#### 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, Hong Kong and the United Arab Emirates with CIBSE members in over 100 countries outside the UK.

There are also Chapters in [Canada](#), [China \(Shanghai and Chongqing\)](#), [Qatar](#), [Singapore](#) and [Sri Lanka](#).

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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The CIBSE regions in the UK and around the world continued to play a major role in the Institution during 2016. Each region is driven by a committee of dedicated volunteers who aim to promote the intellectual welfare of members and improve the understanding of building services engineering among other professions and society in general by organising periodic meetings and other activities related to the theme of the built environment.

Following many years of work by the UAE committee, CIBSE gained a license in April 2016 from the Dubai Association Chamber to operate as an official region in the United Arab Emirates (UAE). This is not only a milestone for the local committee in the UAE, but one for CIBSE, as this is the first new region that has been launched in 29 years. The launch dinner was attended by the CIBSE President and the Director of Membership.

The CIBSE Scotland region celebrated its 80<sup>th</sup> anniversary with the launch of a special publication on its place in Scottish engineering history, as well as an anniversary dinner and awards. At these ceremonies, the region's first ever Student Awards were launched and won by Kiyomi Honjigawa, Heriot Watt University and Kieran McFadden from Glasgow Caledonian University.

CIBSE Northern Ireland Region celebrated its 50th anniversary with a dinner in Belfast on 4 November. John Field, CIBSE President, joined the regional chair, Jonathan Grimshaw, and regional dinner secretary, Richard Gilpin, to commemorate the half-century – where certificates of commendation were also presented to prominent members.

- 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
- Ireland
- Merseyside & North Wales
- North East
- North West

# THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

## Annual report and financial statements for the year ended 31 December 2016

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- Northern Ireland
- Scotland
- South Wales
- South West
- Southern
- United Arab Emirates
- West Midlands
- Yorkshire

## Theme 4: Growing CIBSE Services

### Certification

CIBSE Certification continues to make significant progress in expanding its ability to certify to new standards.

Having successfully applied to UKAS to be accredited to certify organisations against the Energy Management Systems Standard ISO 50001, CIBSE Certification now provides the industry with an avenue to ISO 50001 compliance, saving them money and making it easier to comply with ESOS regulations. A growing number of both large and small organisations are now being certified against ISO50001, and CIBSE Certification has also applied to UKAS to be accredited to ISO9001 Quality Management.

In addition, the Register of Heat Network Consultants has now been successfully established and is growing in numbers. [www.cibsecertification.co.uk](http://www.cibsecertification.co.uk)

### Training and CPD

CIBSE Training continued to offer numerous continuing professional development (CPD) courses, Online Learning modules, and energy assessor training programmes. In 2016, over 150 courses ran, training over 2000 delegates.

The CPD portfolio covered a range of topics, such as electrical service, energy efficiency, facilities management, fire safety and lighting. In comparison to 2015, 2016 saw an increase of 30% uptake in in-house courses. This resulted in 71 courses being delivered directly to commissioning companies. Two new Online Learning modules were released, Drainage and Acoustics, enhancing the new flexible resource for maintaining and upgrading the skills of engineers already in the sector. [www.cibse.org/training](http://www.cibse.org/training)

### Knowledge Portal (KP)

The Knowledge Portal provides all CIBSE members with access to the full range of CIBSE guidance as a benefit of membership, allowing them to access the full range of authoritative guidance online, anywhere and at any time. This enables them to ensure that the services they provide to their clients can be based on the current and up to date guidance. The portal also makes CIBSE's knowledge accessible to all, on payment. Revenues from the portal contribute to the maintenance and development of CIBSE's guidance, which includes:

- CIBSE Guides
- Applications Manuals
- Lighting Guides

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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- Commissioning Codes
- Technical Memoranda
- Knowledge Series
- A wealth of other CIBSE content including case studies and research papers submitted to the Technical Symposia

[www.cibse.org/knowledge](http://www.cibse.org/knowledge)

#### **CIBSE Journal**

The Journal had a very successful 2016, cementing its reputation as the industry leading magazine. The Journal supported CIBSE events and initiatives across the year with promotion and coverage of the Building Performance Awards – including detailed case studies of the 2016 winners; promotion and coverage of the CIBSE Building Performance Conference and Exhibition; promotion and post event coverage of the CIBSE Technical Symposium; coverage of the Young Engineers Awards and support and coverage of other CIBSE, Society, Group and Regional events across the year.

It produced a Careers supplement in February, showcasing why the industry is an exciting place to work, and aiming to encourage building services engineering as a career.

The Journal published a further five supplements in 2016. These were: Schools and education; BIM; Commercial heating – for the first time; Hotel and leisure; CPD. As well as producing a lighting special, which ran inside the December 2016 edition.

The October 2016 edition saw the Journal produce a special 40th Anniversary edition, commemorating the 40 years since CIBSE gained its Royal Charter. This special edition included essays from leading industry figures, including: Patrick Bellew, founding director of Atelier Ten; Max Fordham, founder of Max Fordham; CIBSE President John Field; and Sasha Krstanović, director of building engineering at AECOM.

Online the CIBSE Journal website, and jobs site have continued to grow their presence, increasing visitor figures. [www.cibsejournal.com](http://www.cibsejournal.com)

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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#### Theme 5: Raising awareness and driving our profile

A key priority for CIBSE throughout the year was to raise the public profile of the Institution, in order to support wider use of the Institution's knowledge and expertise to deliver better buildings and to shape the debate around key issues in the building services sector

#### **Building Performance Conference and Exhibition (17-18 November 2016)**

The 2016 Building Performance Conference and Exhibition focussed on health and wellbeing and welcomed over 500 guests, speakers and exhibitors to London's QEII Conference Centre for the third and final time – with the next Conference taking place at London Olympia in Kensington. The first day of the Conference saw a heavy focus on building performance, opening with two industry heavyweights in Max Fordham and Patrick Bellew, who gave their thoughts on how our attitude to performance has changed. The afternoon sessions then focussed on air quality, both indoor and outdoor, and how it impacts the built environment.

The building performance segments of the day were kicked off by making the financial case for building performance, including how to sell the benefits to the supply chain, and why you can't afford to ignore whole life cost. This was followed by an update on the future of building performance legislation in light of Brexit.

The second day also saw occupants feature heavily, beginning with a focus on retrofitting as a way to improve the existing building stock. Speakers including Munish Datta of Marks & Spencer and Joel Gustafsson of Max Fordham LLP presented examples of how retrofitting can not only improve a building's energy performance, but also make it a more pleasant environment to live and work in.

Day two was rounded off with a presentation by Digital Catapult's Mat Colmer on the potential of technology to revolutionise the future of building services engineering, from advances in the potential of big data to the use of virtual reality, and the business benefits of a good data strategy.

[www.cibse.org/build2performlive](http://www.cibse.org/build2performlive)

#### **Engaging with Government**

CIBSE interacts with government and other external stakeholders such as the Royal Academy of Engineering and the British Standards Institution in policy and technical fields. We contribute to a number of government departments, including the Departments of Communities and Local Government, DCLG, and Business, Energy and Industrial Strategy, BEIS, which incorporates the former Department of Energy and Climate Change, DECC

Our objective is to provide government with clear advice on the engineering options, opportunities and challenges relating to policy for the built environment and the companies and engineers working in the sector and in its supply chain. Through our focus on building performance we seek to raise

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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awareness in government of the impacts of policy on delivering buildings that perform effectively for the benefit of their users and the businesses that operate them.

#### **Strengthening the future of the industry**

The UK has one of the longest and most vibrant histories of engineering in the world, and a long tradition of delivering engineering innovation – but its future depends on the ability to train new generations of engineers to fill the growing demand. The next crop of young engineers also need to be trained to strive for better building performance, and to value sustainability. CIBSE is very active in supporting engineers starting their careers, encouraging young people into engineering and assisting the growth of those already in the industry, as well as working to diversify the sector to reach untapped sources of talent.

#### **Media relations**

Marking our second year with public relations agency Ridgemount PR, 2016 was another record-breaking year in the press, placing the highest ever number of articles and generating the highest ever level of AVE (advertising value equivalent – the amount of money it would have cost to place the same piece in the press as a paid advertisement).

CIBSE and Ridgemount were able to place and complete 43 feature articles in 2016, up from a total of 22 in 2015. This, and a general increase in the amount of non-feature media coverage obtained, allowed us to increase the total number of news articles published featuring CIBSE by 217 to 1012, the first time CIBSE has featured in over 1,000 articles in a year. The value of this coverage was £1,636,171 – an increase of £511,418 on the 2015 total, and over double the 2014 total. This PR activity raises wider awareness of the work of the Institution and makes its guidance, training and activities known to a wider body of users and beneficiaries than would otherwise know of our work.

#### **CIBSE website**

In July 2016 the CIBSE website was integrated with CIBSE's new CRM system. The main change for website users was the introduction of a new MyCIBSE area for website users where they can check and update their contact details, view information about their membership status as well as, for the first time, store payment information, view past transactions and download receipts. Over 8,000 members had logged in to the new MyCIBSE area by 30 January 2017. [www.cibse.org](http://www.cibse.org)

#### **Social media**

##### **#Build2Perform**

Designed as a way to gather all CIBSE's building performance content in one easy-to-reach place, and to mark CIBSE out as a champion of building performance online, the new hashtag #Build2Perform has made a significant difference to CIBSE's voice.



## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

---

Now adapted into the brand across the range of online media, and into the CIBSE Journal and Conference, #Build2Perform has placed CIBSE content in front of an extra 150,000 people a month. It is also regularly used by leading individuals and organisations including the Engineering Council and Innovate UK.

#### **Podcast**

As a new feature for 2016, the CIBSE podcast was introduced to expand the range of media that CIBSE is able to cover. Intended as a 'behind the scenes' feature, it would present the work CIBSE does in a bite-size and accessible way to enable members and potential members to engage 'on the go'.

This podcast has been hosted online and promoted via the #Build2Perform blog and brand, and with five podcasts produced so far, has attracted 1,100 listens. Topics have ranged from CIBSE events to topics such as indoor air quality, wellbeing and diversity in engineering, and have featured topical guests including Max Fordham, Alan Fogarty, Susie Diamond and Julie Godefroy.

[www.soundcloud.com/build2perform](http://www.soundcloud.com/build2perform)

#### **Twitter**

CIBSE's social media activity online continued to be led by its Twitter account, which achieved a record year in terms of its reach and effectiveness. Led by the launch of its new flagship hashtag, #Build2Perform, the account grew its followers by more than 2,600 – reaching 19,000 by the end of the year.

As well as doubling the number of mentions, likes, retweets, replies, mentions and link-clicks received by the account on the 2015 figures, the average number of interactions per tweet increased to 58 from 38, meaning that nearly twice the number of people saw CIBSE's activity compared with the same period last year. [www.twitter.com/cibse](http://www.twitter.com/cibse)

#### **Blog**

The CIBSE blog (now named the #Build2Perform blog) also saw a bumper year. Buoyed by the effect of its re-launch under the new hashtag, the blog saw its average readership double from around 2,000 a month to 4,000 a month. It also managed to more than double its total readership over the year to over 53,000 – recording its top five best ever months in 2016, and seven of the top ten most-read blogs.

The #Build2Perform blogs expanded the range of topics, as well as its sources, and debuted a series of mini-themes that continued throughout the year – including alternative methods of power generation, the HFC phase-out, wellbeing and occupant behaviour. These were successful in engaging readers to return for subsequent blogs on the same topic. [www.cibseblog.co.uk](http://www.cibseblog.co.uk)

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

---

#### LinkedIn

LinkedIn acts as a forum for discussion of technical topics and a wide range of topical issues, from news to legislation to best practice. The main CIBSE group saw another 1,047 people join in 2016, pushing the total to over 22,000. CIBSE divisions, regions and special interest groups also host their own groups to communicate with their members and followers.

[www.cibse.org/linkedin](http://www.cibse.org/linkedin)

	2016	2015
Twitter followers	19,000	16,370
Blog views	53,359	24,337
LinkedIn members	22,210	21,163
Podcast listens	1,100	n/a

#### Building Services Awards

##### Building Performance Awards (24 February 2016)

Building performance is one of the most important issues that must be tackled by the building services industry, this country and this planet over the next few decades. The CIBSE Building Performance awards provide a crucial focus on proven building performance, rather than designed or predicted performance.

Judged by a diverse panel of experienced professionals from across the built environment supply chain, entrants are required to provide at least one year's worth of operational performance data to prove their achievements in delivering outstanding building performance.

The 2016 winners were announced at a dinner attended by over 750 people at the Grosvenor House Hotel in London on 24 February 2016. Waterman Building Services celebrated winning the overall prize of Building Performance Champion for its low-energy services strategy at Liverpool's Everyman Theatre. Munish Datta, judge and head of facilities management and Plan A at Marks & Spencer, said: " This entry was something special – it goes beyond carbon, looking at all the other things that tie sustainability together." [www.cibse.org/bpa](http://www.cibse.org/bpa)

##### FAÇADES 2016 (1 December 2016)

Organised by the Society of Façade Engineering, FAÇADES 2016 provides an opportunity for those within the discipline of façade engineering to gain recognition by their peers and the architectural community. The 2016 winners were announced at the Glass Supper on 1 December in London with Façade of the Year going to Arup for 10 New Burlington Street, London, and Outstanding Façade Innovation awarded to TU Delft & ABT Consulting Engineers for the Crystal Houses, Amsterdam.

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

---

#### **The Happold Brilliant Award**

*Winner: University of Ulster Faculty of Art, Design and the Built Environment*

Each year the Chartered Institution of Building Services Engineers (CIBSE) presents the Happold Brilliant Award to the University Department judged to offer the best balanced accredited course in the discipline. The trophy was received by Dr Mervyn Smyth and Dr Jayanta Mondol on behalf of the University of Ulster

#### **Ken Dale Travel Bursary**

*Winner: Elie El Choufani of WS Atkins & Partners Overseas – Dubai*

Dubai-based Elie El Choufani was awarded the 2016 Ken Dale Travel Bursary for his proposal to research airport design in different environments around the world, to identify opportunities and new approaches to energy efficiency at airports that can lessen both cost and emissions.

The Bursary is an annual award that offers young building services engineers the opportunity to experience technical, economic, environmental, social and political conditions in another country and to examine how these factors impact the practice of building services engineering.

#### **CIBSE Gold Medal**

*Winner: Doug Oughton*

The CIBSE Gold Medal is the highest award that CIBSE bestows on an individual, and recognises a lifetime of excellence in building services engineering, and exceptional contribution to the improvement of the profession. A rare honour, the medal has only been awarded 31 times since its inception in 1912.

Doug, a CIBSE Past-President (2002/03), was recognised for his exceptional services to the institution; for his contribution to CIBSE over almost 50 years, and especially his work on skills and professional development within the building services profession.

#### **President's prize – The Undergraduate Award (Sponsored by Hays Building Services)**

*Winner: Ann Johny, Heriot-Watt University*

Ann Johny from Heriot Watt University, Dubai is the winner of the 2016 CIBSE Undergraduate Award. Ann studied for a BEng (Hons) in Architecture Engineering and won with her final year project entitled "Optimising Double Skin Facades for High Rise Office Buildings in United Arab Emirates". Dr Kirk Shanks, representing Heriot Watt University, Dubai, was also awarded a trophy in acknowledgement of its achievements.

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

The Award is open to all CIBSE Student members in their final year of BSc, BEng and MEng study. A selection panel, appointed by the CIBSE Board decide which project is worthy of winning by looking for evidence of excellent understanding and knowledge in building services engineering, science and design, as well as originality and high quality visual information. The Award is the subject of an open competition and has an annual closing date.

*Runners up:* Anastasija Taranenko from Heriot Watt University, UK and Roxana Maria Amarandei from Gheorghe Asachi Technical University.

### **Society of Light and Lighting (SLL) Young Lighter of the Year Award (24 November 2016)**

The SLL Young Lighter of the Year Award provides a unique platform for young lighters to raise their profile within the industry. Lighting engineer Sofia Tolia won in 2016, with her paper, entitled 'Variable Lighting Levels for Highways - A Different Approach', which was delivered in a 15 minute presentation at the LuxLive exhibition on 24 November 2016. James Duff won best presented paper for 'A Journey Towards Change', and other finalists were Aisha Robinson and Eleonora Brembilla.

### **Society of Public Health Engineers (SoPHE) Young Engineer Award**

The SoPHE Young Engineer Award challenges applicants, aged 18-35, to develop an engineering solution. Amelia Paszkowski, Brittany Harris and Ross Boulton, from BuroHappold Engineering, won in 2016 with their project to design a cheap and efficient flood barrier to protect bungalows. The design consists of a simple plastic and rubber barrier which can be erected by one person in 45 minutes to protect a house from flood water. Rachael Porter, from Hoare Lea, also received a high commendation.

### **Young Engineers Awards (13 October 2016)**

The 21<sup>st</sup> Young Engineers Awards (YEA) were marked once again by a very high standard of entry and the truly international range of entrants from across Europe and the Middle East. The awards emphasised the importance of hands-on-learning, and using that learning to adapt current methods for the future. On that theme, the young hopefuls were tasked with delivering a presentation on the topic of technology, and how it can help or hinder the modern engineer.

### **CIBSE ASHRAE Graduate of the Year 2016**

*Winner:* Antoni J. Sapina Grau, WSP/Parsons Brinkerhoff and Brunel University

The CIBSE Graduate of the Year prize at the YEA is one of the most coveted in the industry, and recognises excellence in the early stages of the engineer's career. The shortlisted finalists are among the best young engineers in the profession by default, and what makes this award different

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

is that the contenders must also prove that they have the best soft skills by delivering five minute presentations on a theme.

Antoni Sapina Grau delivered his presentation on the impact of technology on traditional engineering skills, crafting a witty and informative talk on how computers enable engineers to juggle the varying needs of all the stakeholders in the construction process.

#### **CIBSE Employer of the Year Award 2016**

*Winner:* TÜV SÜD Wallace Whittle

The awards may be about young engineers, but none of their work would be possible without the support, encouragement and training provided by stellar organisations who go above and beyond to ensure their staff have the best start to their careers. From help with CPD to hands on experience with big projects, to support in further qualifications, employers can make a huge difference to a young engineer.

This year's overall prize was won by TÜV SÜD Wallace Whittle, while in the individual categories the Large Employer of the Year was Atkins, the Medium Employer of the Year was TÜV SÜD Wallace Whittle and the Small Employer of the Year was Method Consulting LLP.

#### **Below is the full list of award winners in 2016:**

##### **Bronze Medals for Services to the Region**

- P Forrest – CIBSE West Midlands
- B Sterling – CIBSE Ireland

##### **Carter Bronze Medal**

- C A Short, G Renganathan, and K J Lomas

##### **CIBSE Building Performance Awards**

- Building Performance Champion / Project of the Year – Leisure: Everyman Theatre, Liverpool - Waterman Building Services
- Building Services Consultancy of the Year (up to 100 employees): Beverley Clifton Morris (BCM)
- Building Services Consultancy of the Year (over 100 employees): Hoare Lea
- Facilities Management Team Award: Sirius Building, Canberra, Australia - Mirvac Group
- Energy Saving Product of the Year: EndoTherm - Endo Enterprises (UK)
- Building Performance Training Programme Award: Building Services Explained for VolkerFitzpatrick Site Teams – VolkerFitzpatrick

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

- Collaborative Working Partnership Award: John Lewis, York - IES / John Lewis / Lateral Technologies and Solutions / Next Control Systems
- Energy Management Initiative Award: British Land Portfolio Energy Reduction Programme - British Land
- Lighting for Building Performance Award: WWF, Living Planet Centre, Woking - Atelier Ten
- Project of the Year - Commercial/ Industrial: 50 Shakespeare Street Refurbishment, Nottingham - Nottingham Trent University
- Project of the Year - Public Use: Wilkinson Primary School, Wolverhampton - Architype with E3 Consulting
- Project of the Year – Residential: Clapham Retrofit, London - Arboreal Architecture
- Project of the Year – International: David and Lucile Packard Foundation Headquarters, California, USA Elementa Consulting (member of Integral Group)

#### **CIBSE Gold Medal**

- D Oughton

#### **CIBSE Silver Medal**

- J Anderson
- K Kelly
- H Lung Wai Lam
- C Northey

#### **FAÇADES 2016 (Society of Façade Engineering)**

- Façade of the Year: 10 New Burlington Street, London – Arup
- Outstanding Façade Innovation: Crystal Houses, Amsterdam – TU Delft & ABT Consulting Engineers

#### **The Happold Brilliant Award**

- Winner: The University of Ulster Faculty of Art, Design and the Built Environment

#### **Honorary Fellowships**

- P Day
- M J Holmes
- M A Humphreys
- M Smith

#### **Ken Dale Travel Bursary**

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

- Winner: E El Choufani

#### **Napier Shaw Bronze Medal**

- J Taylor, M Davies, P Biddulph, E Oikonomou, C Shrubsole and A Mavrogianni

#### **President's Prize: CIBSE Undergraduate Award**

- Undergraduate Award winner: A Johny

#### **Society of Light and Lighting Young Lighter of the Year Award**

- Young Lighter of the Year: S Tolia

#### **Society of Public Health Engineers Young Engineer Award**

- Winners: A Paszkowski, B Harris and R Boulton

#### **Young Engineers Awards**

- CIBSE ASHRAE Graduate of the Year: A J Sapina Grau
- CIBSE Employer of the Year: TÜ SÜD Wallace Whittle

## Plans for the future

### Theme 1: Improving Building Performance

We will drive improved performance of our built environment through a life cycle whole-building approach to design, operation and maintenance.

### Theme 2: Sharing engineering knowledge

We will lead by working with our members, and industry, to provide best practice knowledge, guidance, and learning at point-of-use to continuously improve the performance of buildings and the communities they serve.

### Theme 3: Developing our membership

We will champion the contribution that our sector and our members make to society by delivering buildings that are comfortable, valuable and sustainable.

### Theme 4: Growing CIBSE Services

We will support industry by developing resources that deliver comfortable, valuable and sustainable buildings, and support technical excellence, business success and individual achievement.



## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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#### 3) 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 subsidiary CIBSE Services Ltd are incorporated into the Consolidated Accounts.

In 2016, total income increased by £259k from £6.7m to £7m largely due to a £327k increase in trading subsidiary income, which also absorbed a £88k decrease in membership income. Total expenditure increased by £634k from £6.8m to £7.5m due to substantial investment two areas. The first of these is the Institution's 2020 Strategy, which was adopted to develop the work of the Institution across the key areas of activity described in the Trustees report and thus deliver a substantial long term enhancement to the delivery of its objectives. The Trustees remain fully committed to the long term benefits of this strategy, although it is acknowledged that expected income sources have not emerged as quickly as had been hoped. The second major investment was in the Institution's IT Strategy, which has been a three year project to overhaul the Institution's websites, to replace its CRM system and to improve integration in order to enhance significantly the delivery of the Institution's services and activities.

As a result, net expenditure before gains on investments rose from £84k in 2015 to £458k in 2016. To support the investments made, the Board had given approval in previous years for the use of £500K of the Institution's reserves to support the IT project and this sum was drawn down from the Institution's investments during 2016.

Although improved, continued volatile financial market conditions resulted in unrealised gains on investment assets of £45k in 2016 compared to a gain of £31k in 2015 and £114k in 2014.

There was an actuarial loss on the defined benefit pension scheme of £218k during 2016, attributable in large part to the requirement to adopt a revised discount rate in the valuation of scheme liabilities. This compared with a £205k actuarial loss during 2015. The next triennial valuation of the scheme is due as of 1<sup>st</sup> April 2017.

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

---

These movements resulted in a net decrease in funds of £437k from £3.1m in 2015 to £2.7m in 2016. This decrease is attributable to a surplus of expenditure of £459k, reflecting the agreed use of reserves as described above in pursuit of the Institution's objectives, together with net gains on investment assets of £240k offset by the actuarial loss on the defined benefit pension scheme of £218k.

The cash balance decreased by £378k from £714k in 2015 to £336k in 2016, partly as a result of the factors described above, but also because the transition to the new CRM system prevented the early collection of 2017 subscription income, which in previous years has improved the cash position.

#### **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 current free reserves are sufficient for these purposes, but it is the intention of the Trustees that reserves will be rebuilt to previous levels over time.

At the year end, the Institution held free reserves of £0.6m (2015: £1.1m), being the amount of funds available for unrestricted use. This represents reserves carried forward 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 Sub Committee. As described above, a previously agreed draw down of £500K was undertaken during 2016 to finance the strategic development of the Institution's IT systems.

#### **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.

The Trustees have identified a loss of contact with, and relevance to the membership and failure to develop and maintain appropriate and relevant content for the Knowledge Portal, as a major operational risk to CIBSE and its subsidiary. The Knowledge Management Committee review and update content on a regular basis and communication with members through Council, Regions,

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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Societies and Groups, election of Board and Council Members is in place to mitigate this risk so as ensure continuous provision of service and development.

Financial sustainability has been identified as a principal financial risk for both the charity and its subsidiary company. A key element in the management of financial risk is a 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.

Attention has also been focussed on non-financial risks arising from processing online payment transactions, fire, health and safety of employees and members. These risks are managed by ensuring accreditation is up to date, having robust compliance policies and procedures in place, and regular awareness training for staff.

Risk is assessed as part of the consideration of all new projects, and the Finance 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 CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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#### **4) STRUCTURE, GOVERNANCE AND MANAGEMENT**

The Chartered Institution of Building Services Engineers is governed by its Royal Charter and By-Laws, which were awarded in 1976 and last amended in 2010, when they were substantially streamlined by the removal of many former By-Laws into a new set of Regulations. Following a further review carried out in 2015, the Board in 2016 approved and introduced an updated set of rules, terms of reference and operational procedures for the many Committees and Sub Committees that assist in the work of the Institution.

The members of the Board of the Institution are the Trustees of the Charity. The Board is composed of the Officers of the Institution (the President, the President Elect, the three Vice Presidents, the Honorary Treasurer and the Immediate Past President) and five additional members who are elected for a three year term of office. Apart from the office of President, which is filled automatically by the previous year's President Elect, all positions are directly elected by and from the membership of the Institution according to rules set out in the Royal Charter, By-Laws and Regulations.

The Board is required to nominate candidates each year for all forthcoming vacancies, which it does in the light of advice received from its Nominations Committee. All newly appointed Trustees are provided with an information pack containing relevant information on their role, including Charity Commission guidance on Trustees' responsibilities. In addition, training on Trustees' responsibilities is carried out annually.

The Board meets every two months to direct the business of the Institution. and is assisted by the House & Remuneration Sub Committee (which deals with terms and conditions of employment of the Chief Executive and senior staff and ad hoc issues) and the Finance, Risk, Audit & Governance Sub-Committee (which deals with budgeting, management and financial accounts, audit, risk and governance issues). The Standing Committees of the Institution (the Education, Training & Membership Committee, Technology Committee, Professional Practices Committee, Publications & Research Outputs Delivery Committee and the Regional Liaison Committee) report to the Board and have delegated authority within their spheres of activity.

The Institution's trading subsidiary CIBSE Services Limited is governed by Directors, appointed by the Board of the Institution, who meet regularly to monitor and direct its activities. The purpose of CIBSE Services Limited is to generate income for the Institution through the development and operation of commercial activities which are aligned with and support the objectives of the Institution. The Chair of CIBSE Services Limited makes regular reports to the Board of the Institution.

The Chartered Institution of Building Services Engineers Hong Kong Ltd is a company limited by guarantee registered in Hong Kong. It was established to handle the operation of the CIBSE Hong

## **THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

### **Annual report and financial statements for the year ended 31 December 2016**

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Kong Region in order to meet local legislative requirements, and ultimate control of the company rests with the CIBSE Board through the appointment of its directors. The Hong Kong region otherwise operates in the same manner as other CIBSE regions, but under the auspices of this local incorporation.

#### **Key management personnel remuneration**

The Board of Trustees is responsible for the governance and overall control of the Institution. The Chief Executive conducts the business of the Institution on a day to day basis under the direction of the Board of Trustees, supported by the senior management staff of the Institution.

All Trustees give of their time freely and no Trustee remuneration was paid in the year. Details of trustee expenses and related party transactions are disclosed in Note 8 to the accounts.

Trustees are required to disclose all relevant interests and register them with the Chief Executive and in accordance with the Institution's policy withdraw from decisions where a conflict of interest arises.

The pay of the charity's Chief Executive and senior management staff is reviewed annually by the House & Remuneration Sub Committee, which is a sub-committee of the Board of Trustees comprising the President, President-Elect, Immediate Past President and Honorary Treasurer. Authority is delegated to the House Sub Committee to appraise the performance of the Chief Executive and to approve any increase to the remuneration of the Chief Executive and of the senior management staff. A range of factors are considered in this process, including job performance, price and earnings inflation, market conditions and comparisons with other professional institutions.

#### **Public benefit**

We have referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing our aims and objectives and in planning our future activities.

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

Annual report and financial statements for the year ended 31 December 2016

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### 5) REFERENCE AND ADMINISTRATIVE DETAILS

The Institution is a Registered Charity, under charity registration no. 278104. Its principal office is at 222 Balham High Road, London SW12 9BS.

#### **Investment powers**

The Institution has powers contained within its Royal Charter and By-Laws which provide for investment of funds in such manner as the Board thinks fit, subject to any requirements of law.

The investment objective is to generate a stable income stream to support the on-going activities of the Institution whilst achieving capital growth over the long term. The Institute seeks to produce the best financial return within an acceptable level of risk.

#### **Trustees**

The following were members of the Board and thus Trustees of the Charity during the whole year, unless otherwise stated:

Janet Beckett (to July 2016)

Paddy Conaghan

John Field

Susan Hone-Brookes (from July 2016)

Lynne Jack (from May 2016)

Peter Kinsella (to May 2016)

Stephen Lisk (from May 2016)

Stuart MacPherson

Nick Mead

Tadj Oreszczyn

John Packer (to May 2016)

David Pepper

Andrew Saville

Catherine Simpson (to May 2016)

Peter Y Wong (from May 2016)

#### **Chief Executive Officer**

Stephen Matthews

#### **Members of the Consultative Council**

- All the members of the board
- Past Presidents:

# THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

## Annual report and financial statements for the year ended 31 December 2016

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- George Adams
- Peter Kinsella
- **Elected Members:** Peter Raynham, Colin Ashford, Tessa Guy, David Cooper, Farah Naz, Mariana Trusson, Geraldine O'Farrell
- **Co-opted Members:** Cathie Simpson, Wally Gilder
- **Patrons Representative:** David Fitzpatrick
- **Society Representatives:**
  - Jeff Shaw (SLL),
  - Steve Vaughan (SoPHE),
  - Graham Dodd (SFE),
  - Jane Bastow (ILEVE)
- **Young Engineers Network:** Carla Bartholomew
- **YEN Mentor:** Andrew Saville
- **WiBSE:** Laura Dunlop
- **REHVA:** Andy Ford, David Fisk
- **Fellows Network:** Geoff Prudence
- **EC(UK) Board Rep:** George Adams
- **BIM Group:** Les Copeland
- **Standing Committee Chairs:**
  - **Education Training and Membership** Laurence Aston
  - **Communication Committee** Mariana Trusson
  - **Technology Committee** Bryan Franklin
  - **Prof Practices Committee** Adrian Catchpole
  - **Knowledge Management Committee** David Hughes
  - **Regional Liaison Committee** Peter Wong
- **Group Representatives:**
  - **ASHRAE** Tim Dwyer
  - **CHP** Phil Jones
  - **Day Lighting** John Mardaljevic
  - **Electrical Service** Tony Sung
  - **Facilities Management** Geoff Prudence
  - **Heritage** Neil Sturrock
  - **Industry, Educ & Training** Nick Mead
  - **IT & Controls** Vacant
  - **Lifts** John Bashford
  - **Natural Ventilation** Martin Liddament
  - **Resilient Cities** George Adams
  - **Energy Performance** TBA
  - **Healthcare** Richard Knight
  - **Intelligent Buildings** Derek Clements Croome

# THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

## Annual report and financial statements for the year ended 31 December 2016

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- **School Design** Paul Eslinger
- **Building Simulation** Hazim B. Awbi
- **Homes for the Future** Ashley Bateson
- **Chimneys & Flues** TBC
- **Regional Representatives:**
  - **ANZ** Ian Small
  - **North West** Patrick Nicholls
  - **East Anglia** Jonathan Page
  - **Northern Ireland** Jonathan Grimshaw
  - **East Midlands** David Guzzetta
  - **Ireland** Brian West
  - **HCNE** James Bourne
  - **Scotland** Gerry Brannigan
  - **HCNW** Rashmi Patel
  - **South Wales** Justin Thomas
  - **HCSE** Richard Davies
  - **South West** Joshua Eckett
  - **HCSW** David Wigley
  - **Southern** Samantha Pope
  - **Hong Kong** KY Leung
  - **West Midlands** Lionel James
  - **Merseyside & North Wales** Alfred Leung
  - **Yorkshire** Simon Owen
  - **North East** Philip Oliver
  - **UAE** Raef Hammoudeh

### **Principal bankers**

National Westminster Bank Plc  
128 Balham High Road  
London SW12 9AE

### **Auditor**

Moore Stephens LLP  
150 Aldersgate Street  
London, EC1A 4AB

### **Principal solicitors**

Beale & Company  
Garrick House  
27-32 King Street  
Covent Garden  
London WC2E 8JD

### **Investment advisors**

CCLA Investment Management Limited  
80 Cheapside  
London  
EC2V 6DZ



## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### Annual report and financial statements for the year ended 31 December 2016

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#### **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).

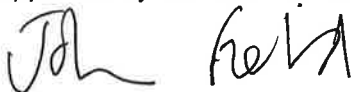
The law applicable to charities in England & Wales requires the Trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Institution and the Group and of the incoming resources and application of resources of the Institution and the 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.

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



John Field

**President**

23 March 2017

**Independent auditor's report to members of The Chartered Institution of Building Services Engineers**

We have audited the financial statements of The Chartered Institution of Building Services Engineers for the year ended 31 December 2016 which comprise the Consolidated Statement of Financial Activities, the Institution and Consolidated Balance Sheets, the Consolidated Cash Flow Statement and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

This report is made solely to the Institution's Trustees, as a body, in accordance with Chapter 3 of Part 8 of the Charities Act 2011 and regulations made under section 154 of that Act. Our audit work has been undertaken so that we might state to the Institution's Trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Institution and the Institution's Trustees as a body, for our audit work, for this report, or for the opinions we have formed.

**Respective responsibilities of Trustees and Auditor**

As explained more fully in the Trustees' Responsibilities Statement set out on page 27, the Trustees are responsible for the preparation of financial statements which give a true and fair view.

We have been appointed as auditors under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's (APB's) Ethical Standards for Auditors.

**Scope of the audit of the financial statements**

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Institution's and the Group's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the Trustees; and the overall presentation of the financial statements. In addition, we read all the financial and nonfinancial information in the Report of the Trustees to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

**Opinion on financial statements**

In our opinion the financial statements:

- give a true and fair view of the state of the Institution's and the Group's affairs as at 31 December 2016, and of its incoming resources and application of resources, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

**Matters on which we are required to report by exception**

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you if, in our opinion:

- the information given in the Report of the Trustees is inconsistent in any material respect with the financial statements; or
- proper accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

**Moore Stephens LLP**

Chartered Accountants and Statutory Auditor

*Moore Stephens LLP*  
.....25/4/2017

150 Aldersgate Street

London

EC1A 4AB

Moore Stephens is eligible to act as an auditor in terms of section 1212 of the Companies Act 2006

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 31 DECEMBER 2016

	Note	Unrestricted Funds £	Restricted Funds £	Total 2016 £	Unrestricted Funds £	Restricted Funds £	Total 2015 £
<b>INCOME FROM:</b>							
<b>Charitable activities</b>							
Members' subscriptions		2,941,083	52,683	<b>2,993,766</b>	3,036,880	45,353	<b>3,082,233</b>
Fees receivable for charitable services	3	752,019	13,100	<b>765,119</b>	722,829	13,255	<b>736,084</b>
<b>Other trading activities</b>							
Trading subsidiary companies		3,141,437	-	<b>3,141,437</b>	2,814,510	-	<b>2,814,510</b>
<b>Investments</b>							
Investment income	4	90,338	-	<b>90,338</b>	98,834	-	<b>98,834</b>
<b>Total income</b>		<b>6,924,877</b>	<b>65,783</b>	<b>6,990,660</b>	<b>6,673,053</b>	<b>58,608</b>	<b>6,731,661</b>
<b>EXPENDITURE ON:</b>							
<b>Raising funds</b>							
Trading subsidiary companies		3,369,068	-	<b>3,369,068</b>	2,758,871	-	<b>2,758,871</b>
IT infrastructure investment		99,326	-	<b>99,326</b>	97,974	-	<b>97,974</b>
<b>Charitable activities</b>							
Membership		1,472,788	-	<b>1,472,788</b>	1,407,380	-	<b>1,407,380</b>
Publications		448,477	-	<b>448,477</b>	469,314	-	<b>469,314</b>
Technical		499,205	69,273	<b>568,478</b>	525,957	54,464	<b>580,421</b>
Regional & special interest groups		1,067,158	-	<b>1,067,158</b>	1,060,424	-	<b>1,060,424</b>
Research		313,270	-	<b>313,270</b>	314,358	-	<b>314,358</b>
IT infrastructure investment		111,012	-	<b>111,012</b>	126,878	-	<b>126,878</b>
<b>Total expenditure</b>	5	<b>7,380,304</b>	<b>69,273</b>	<b>7,449,577</b>	<b>6,761,156</b>	<b>54,464</b>	<b>6,815,620</b>
<b>Net (expenditure)/income before gains on investments</b>		<b>(455,427)</b>	<b>(3,490)</b>	<b>(458,917)</b>	<b>(88,103)</b>	<b>4,144</b>	<b>(83,959)</b>
Net gains on investments	11	240,053	-	<b>240,053</b>	30,827	-	<b>30,827</b>
<b>Net (expenditure)/income</b>		<b>(215,374)</b>	<b>(3,490)</b>	<b>(218,864)</b>	<b>(57,276)</b>	<b>4,144</b>	<b>(53,132)</b>
<b>Other recognised losses</b>							
Actuarial loss on defined benefit pension scheme	19	(218,000)	-	<b>(218,000)</b>	(205,000)	-	<b>(205,000)</b>
<b>Net movement in funds</b>		<b>(433,374)</b>	<b>(3,490)</b>	<b>(436,864)</b>	<b>(262,276)</b>	<b>4,144</b>	<b>(258,132)</b>
Fund balances brought forward at 1 January 2016		3,054,965	90,899	<b>3,145,864</b>	3,317,241	86,755	<b>3,403,996</b>
<b>Fund balances carried forward at 31 December 2016</b>		<b>2,621,591</b>	<b>87,409</b>	<b>2,709,000</b>	<b>3,054,965</b>	<b>90,899</b>	<b>3,145,864</b>

All amounts relate to continuing activities.

The notes on pages 31 to 52 form part of these financial statements.

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

CONSOLIDATED AND INSTITUTION BALANCE SHEETS AS AT 31 DECEMBER 2016

	Note	Group		The Institution	
		2016 £	2015 £	2016 £	2015 £
<b>Fixed assets</b>					
Intangible assets	9	-	-	-	-
Tangible assets	10	808,512	748,250	552,728	495,031
Investments	11	2,060,033	2,519,980	2,060,035	2,519,982
<b>Total fixed assets</b>		<u>2,868,545</u>	<u>3,268,230</u>	<u>2,612,763</u>	<u>3,015,013</u>
<b>Current</b>					
Stocks of publications		17,314	68,127	17,314	68,127
Debtors	12	3,554,520	748,686	3,057,556	437,649
Cash at bank and in hand		335,606	713,791	275,055	388,566
<b>Total current assets</b>		<u>3,907,440</u>	<u>1,530,604</u>	<u>3,349,925</u>	<u>894,342</u>
<b>Liabilities</b>					
Creditors: Amounts falling due within one year	13	(4,039,985)	(1,734,970)	(3,363,417)	(1,113,276)
<b>Net current liabilities</b>		<u>(132,545)</u>	<u>(204,366)</u>	<u>(13,492)</u>	<u>(218,934)</u>
<b>Net assets excluding pension scheme (liability)/asset</b>		<u>2,736,000</u>	<u>3,063,864</u>	<u>2,599,271</u>	<u>2,796,079</u>
Defined benefit pension scheme (liability)/asset	19	(27,000)	82,000	(27,000)	82,000
<b>Total net assets</b>		<u>2,709,000</u>	<u>3,145,864</u>	<u>2,572,271</u>	<u>2,878,079</u>
<b>The funds of the charity</b>					
Restricted Funds	14	87,409	90,899	87,409	90,899
<b>Unrestricted funds</b>					
General fund	15	1,426,022	1,884,015	1,289,293	1,616,230
Designated funds	15	1,195,569	1,170,950	1,195,569	1,170,950
<b>Total charity funds</b>	18	<u>2,709,000</u>	<u>3,145,864</u>	<u>2,572,271</u>	<u>2,878,079</u>

Approved and authorised for issue on behalf of the Board of Trustees on 23 March 2016



J Field  
President



S MacPherson  
Honorary Treasurer

The notes on pages 31 to 52 form part of these financial statements.

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2016

	Note	2016 £	2015 £
<b>Net cash used in operating activities</b>	I	(983,048)	(82,012)
<b>Net cash flow from investing activities</b>			
Income from investments		90,338	98,834
Proceeds from sale of investments		700,000	-
Purchase of property, plant and equipment		(185,475)	(156,461)
Net cash flows from investing activities		(378,185)	(139,639)
		-	-
<b>Reconciliation of net cash flow to movement in net funds</b>			
Decrease in cash	II	(378,185)	(139,639)
Change in net cash funds resulting from cash flows		(378,185)	(139,639)
Net cash funds at 1 January 2016		713,791	853,430
Net cash funds at 31 December 2016		335,606	713,791

**Notes to the cash flow statement**

**I. Reconciliation of net income to net cash flow from operating activities**

Net expenditure for the reporting period (as per the Statement of Financial Activities)	(218,862)	(53,132)
Gains on investments	(240,053)	(30,827)
Investment income	(90,338)	(98,834)
Depreciation charges	125,211	91,448
Increase/(decrease) in stocks of publications	50,813	(2,180)
(Decrease)/increase in debtors	(2,805,834)	52,173
Increase in creditors	2,305,015	76,340
Decrease in pension asset to liability	(109,000)	(117,000)
Net cash used in operating activities	(983,048)	(82,012)

**II. Analysis of changes in net funds excluding term deposits**

	At 01/01/2016 £	Cash Flows £	At 31/12/2016 £
Short term deposits ( <i>deposited on 24 hour notice</i> )	537,382	(421,596)	115,786
Cash at bank and in hand	176,409	43,411	219,820
<b>Total cash and cash equivalents</b>	<b>713,791</b>	<b>(378,185)</b>	<b>335,606</b>

The notes on pages 31 to 52 form part of these financial statements.

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENT FOR THE YEAR ENDED 31 DECEMBER 2016

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#### 1 GENERAL INFORMATION

The Chartered Institution of Building Services Engineers is a charity registered in England and Wales, registration number 278104. It is governed by its Royal Charter and By-laws which were awarded in 1976 and last amended in 2010. The registered office is 222 Balham High Road, London, SW12 9BS.

#### 2 ACCOUNTING POLICIES

The principal policies adopted, judgements and key sources of estimation uncertainty in the preparation of the financial statements are as follows:

##### **(a) Basis of accounting**

The financial statements have been prepared under the historical cost convention with items recognised at cost or transaction value unless otherwise stated in the relevant note(s) to these financial statements. The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2015) - (Charities SORP (FRS 102)), the Financial Reporting Standard applicable in the UK and Ireland (FRS 102) and the Charities Act 2011.

The Chartered Institution of Building Services Engineers meets the definition of a public benefit entity under FRS 102.

The Trustees consider that there are no material uncertainties about the Institution's ability to continue as a going concern. The most significant areas of judgement and key assumptions that affect the items in the financial statements relate to the estimation of the defined benefit pension scheme's assets and liabilities (see Note 2(q) and Note 19).

##### **(b) Financial statements of the Institution and its trading subsidiaries**

The financial statements include the consolidation of CIBSE Services Limited and The Chartered Institution of Building Services Engineers Hong Kong Limited (CIBSE Hong Kong Limited), both wholly owned subsidiaries of the Institution.

No separate Statement of Financial Activities has been presented for the Institution. The results of the Institution for the year ended 31 December 2016 are included in Note 16.

Exemption from the requirement to disclose transactions between the institution and its subsidiary companies has been taken under section 33.1A of FRS 102 as transactions occur between wholly owned members

##### **(c) Funds**

The Institution has divided its funds into categories according to their nature and purpose as follows:

##### ***Unrestricted funds***

Funds available for the Institution to pursue all of its objectives under its Royal Charter and comprise:

##### General fund

This represents the undesignated accumulated surpluses from funds available for the general objectives of the Institution.

##### Designated fund

Funds designated to pursue a particular objective or group of objectives under the Royal Charter and comprise:

##### *Research Fund*

This fund has the objectives of raising and designating funds for the purpose of enabling research to advance the art, science and practice of building services engineering.

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENT FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

#### 2 ACCOUNTING POLICIES (continued)

##### *Education Fund*

CIBSE established this fund with the objective of raising and designating funds to enable CIBSE to further education in the art, science and practice of building services engineering.

##### *Richard Tully Family Publication Fund*

This fund was established by the designation of a gift from Richard E J Tully, with the objective of funding awards to encourage the continued publication of good engineering practice in the profession of building services engineering.

##### *Domestic Building Services Panel Fund*

This fund has the objectives of raising and designating funds for the purpose of enabling research to advance the art, science and practice of building services engineering for Domestic Heating publications.

##### *Society of Light and Lighting Fund*

This fund has the objective of funding the operations of the Society of Light and Lighting Fund.

##### *Ken Dale Fund*

This fund was established following receipt of a legacy from past president Ken Dale designated to advance the art, science and practice of building services engineering in his name.

##### **Restricted funds**

These funds have been received by the Institution with specific restrictions on their use within the objectives of its Royal Charter and comprise:

##### *Patrons Fund*

This fund was formed to provide a base for financing activities of concern to the building services industry as a whole, for which adequate funds were not available within the unrestricted funds of the Institution, and to provide liaison between the Institution and its members with the commercial organisations involved in building services engineering.

##### **(d) Branches, groups and regions**

The activities of branches, groups and regions, together with their assets and liabilities are incorporated within these accounts.

##### **(e) Income**

###### **Subscriptions**

Subscriptions due are treated as income for the periods to which they relate. Subscriptions received in respect of future years are carried forward in the financial statements as deferred income until the relevant subscription

###### **Legacies**

Legacies are included in the Statement of Financial Activities where probate was granted prior to the balance sheet date and a distribution is considered probable and the amount can be reliably estimated.

###### **Donations and grants**

Donations and grants are included in the financial statements when receivable.

###### **Volunteers**

CIBSE as an organisation relies heavily on its volunteers to allow it to carry out the wide variety of work that it does, across a range of fields within building services. Attempting to provide such in-depth knowledge for an industry as diverse as building services is an enormous undertaking, and would be impossible without the hundreds of experts who give their time and resources to the Institution and work to remain on the forefront of technology.

Carrying out a variety of roles on a voluntary basis for CIBSE, from contributing to technical papers, to serving on the board and deciding strategy, to helping at events and with media requests, the volunteers give substantial resources at a time when the industry has never been more stretched.



## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

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#### 2 ACCOUNTING POLICIES (continued)

##### **Volunteers (continued)**

However, as it is impractical to place a monetary value on the volunteers' contribution due to the absence of a reliable measurement basis, the contribution of volunteers are not included as income in the financial statements.

##### **Fees received for charitable services**

These represent amounts receivable in respect of goods or services during the year.

##### **Investment income and gains**

Investment income, including any tax recoverable thereon, is included in the financial statements in the year in which they are receivable. Investment gains and losses are incorporated in the financial statements as they occur. Unrealised gains and losses arising from the valuation of investments, together with any movements in such gains are separately identified within the financial statements.

##### **(f) Expenditure**

Expenditure is accounted for on an accrual basis and is recognised where there is a legal and constructive obligation to pay for the expenditure.

Charitable expenditure comprises expenses incurred on the defined charitable purposes of the Institution. Cost of raising funds comprises expenses incurred in enhancing and maintaining the public image of the Institution and expenditure incurred in trading activities that raise funds.

Governance costs comprise expenses incurred in the governance of the Institution and its assets and are primarily associated with constitutional and statutory requirements.

Each category includes direct expenses and staff costs, together with an allocation of overhead costs based on a combination of direct staff costs and activity levels.

##### **(g) Intangible fixed assets**

Goodwill arising on an acquisition of trade and assets represents the difference between the fair value of the consideration paid and the fair value of the net assets acquired. It is capitalised and amortised through the profit and loss account over the estimate of its useful economic life of three years.

Goodwill is amortised on cost at 50% in the first year and, 30% & 20% over the next two years after consideration of its estimated useful life of 3 years.

##### **(h) Tangible fixed assets**

Tangible fixed assets are stated at historical cost less depreciation. Equipment renewals due to technological changes are charged to the Statement of Financial Activities as incurred. Depreciation is provided at rates calculated to write off the cost less estimated residual value on a straight-line or reducing balance basis over their estimated useful lives as follows:

Freehold land	No depreciation
Freehold buildings	2% per annum on cost or subsequent valuation
Computer equipment	33%- 50% per annum on cost
Furniture and equipment	20% per annum on written-down value or cost

##### **(i) Investments**

Listed investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price. The Statement of Financial Activities includes the net gains and losses arising on revaluation and disposals throughout the year.

Unlisted investments comprise investments in subsidiaries which are measured at cost less impairment.

**2 ACCOUNTING POLICIES (continued)**

**(i) Investments (continued)**

A source of financial risk faced by the charity is that is that of volatility in equity markets and investment markets due to wider economic conditions, the attitude of investors to investment risk, and changes in sentiment concerning equities, particularly currency risk, and within particular sectors or sub sectors.

**(j) Impairments**

Assets not measured at fair value are reviewed for any indication that the asset may be impaired at each balance sheet date. If such indication exists, the recoverable amount of the asset, or the asset's cash generating unit, is estimated and compared to the carrying amount. When the carrying amount exceeds it's recoverable amount, an impairment loss is recognised in the Statement of Financial Activities unless the asset is carried at a revalued amount where the impairment loss is a revaluation decrease.

**(k) Financial Instruments**

The company only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value with the exception of bank loans which are subsequently measured at amortised cost using the effective interest method.

A financial asset is derecognised only when the contractual rights to cash flows expire or are settled, or substantially all the risks and rewards of ownership are transferred to another party, or if some significant risks and rewards of ownership are retained but control of the asset has transferred to another party that is able to sell the asset in its entirety to an unrelated third party. A financial liability (or part thereof) is derecognised when the obligation specified in the contract is discharged, cancelled or expires.

**(l) Stocks**

Finished stocks relate to technical publications and are stated at the lower of cost and net realisable value. Cost comprises the price of purchasing, printing, binding and compilation.

**(m) Debtors**

Trade and other debtors which are receivable within one year and which do not constitute a financing transaction are initially measured at the transaction price. Trade debtors are subsequently measured at amortised cost, being the transaction price less any amounts settled and any impairment losses.

A provision for impairment of trade debtors is established when there is objective evidence that the amounts due will not be collected according to the original term of the contract. Impairment losses are recognised in the statement of financial activities for the excess of the carrying value of the trade debtor over the present value of the future cash flows discounted using the original effective interest rate. Subsequent reversals of an impairment loss that objectively relate to an event occurring after the impairment loss was recognised, are recognised immediately in the statement of financial activities.

**(n) Cash at bank and in hand**

Cash at bank and in hand include cash and short term highly liquid investments with a short maturity of three months or less from the date of acquisition or opening of the deposit.

**(o) Creditor**

Creditors and provisions are normally recognised at their settlement amount after allowing for any trade discounts due.

**(p) Holiday pay accrual**

A liability is recognised to the extent of any unused holiday pay entitlement which has accrued at the balance sheet date and carried forward to future periods. This is measured at the undiscounted salary cost of the future holiday entitlement so accrued at the balance sheet date.

**2 ACCOUNTING POLICIES (continued)**

**(q) Pension contributions**

The Institution operates a non-contributory pension scheme providing benefits based on final pensionable salary. The assets of the scheme are invested with an insurance company and are totally separate from those of the Institution. This scheme was closed to new members in 1999. The Institution has fully adopted the disclosures set out in section 28 of FRS 102. The difference between the fair value of the assets held in the Institution's defined benefit pension scheme and the scheme's liabilities measured on an actuarial basis using the projected unit method are recognised in the Institution's Balance Sheet as a pension scheme asset or liability as appropriate. The carrying value of any resulting pension scheme asset is restricted to the extent that the Institution is able to recover the surplus either through reduced contributions in the future or through refunds from the scheme.

Changes in the defined benefit pension scheme asset or liability arising from factors other than cash contributions by the Institution are charged to the Statement of Financial Activities in accordance with section 28 of FRS 102. The Institution contributes to a stakeholder pension scheme operated by Aviva and is open to all employees. The annual contribution payments are charged to the Statement of Financial Activities.

**(r) Taxation**

The Institution is registered as a charity, registration number 278104, and in consequence it is exempt from taxation on income arising from and expended on its charitable activities.

**(s) Foreign currencies**

Transactions in foreign currency are recorded at the rate ruling at the date of the transaction. Monetary assets and liabilities are translated at the rate of exchange ruling at the balance sheet date. All differences are taken to the Statement of Financial Activities.

**(t) Judgements and key sources of estimation uncertainty**

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. There are no estimates and assumptions that are considered to have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

3 CHARITABLE SERVICES INCOME

Fees receivable for charitable services for the year is derived from:

	Unrestricted funds	Restricted funds	Total 2016	Unrestricted funds	Restricted funds	Total 2015
	£	£	£	£	£	£
Training Delegate Fees	82,552	13,100	95,652	85,267	13,255	98,522
Publications	254,475	-	254,475	232,539	-	232,539
Societies fees	99,392	-	99,392	102,420	-	102,420
Grants and royalties	217,720	-	217,720	230,899	-	230,899
Sundry	97,880	-	97,880	71,704	-	71,704
	<u>752,019</u>	<u>13,100</u>	<u>765,119</u>	<u>722,829</u>	<u>13,255</u>	<u>736,084</u>

4 INVESTMENT INCOME

Investment income for the year is derived from:

	Unrestricted funds	Restricted funds	Total 2016	Unrestricted funds	Restricted funds	Total 2015
	£	£	£	£	£	£
Listed investments	88,767	-	88,767	97,038	-	97,038
Cash deposits	1,571	-	1,571	1,796	-	1,796
	<u>90,338</u>	<u>-</u>	<u>90,338</u>	<u>98,834</u>	<u>-</u>	<u>98,834</u>

5 EXPENDITURE

	Staff Direct Costs	Other Direct Costs	Staff Support Cost	Other Support Cost	2016 Total	2015 Total
	£	£	£	£	£	£
<b>Expenditure on raising funds</b>						
Trading subsidiary companies	795,418	2,573,650	-	-	3,369,068	2,758,871
IT infrastructure investment	-	99,326	-	-	99,326	97,974
<b>Expenditure on charitable activities</b>						
Membership	467,980	219,878	530,659	254,271	1,472,788	1,407,380
Publications	103,931	116,069	154,465	74,013	448,477	469,314
Technical	234,047	128,064	139,517	66,850	568,478	580,421
Regional & special interest groups	184,557	514,089	249,137	119,375	1,067,158	1,060,424
Research	55,108	184,459	49,827	23,875	313,270	314,358
IT infrastructure investment	220	110,792	-	-	111,012	126,878
	<u>1,841,261</u>	<u>3,946,327</u>	<u>1,123,604</u>	<u>538,385</u>	<u>7,449,577</u>	<u>6,815,620</u>

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

6 SUPPORT COSTS

The support costs have been allocated on the following basis:

<b>Support cost</b>	<b>Basis of allocation</b>	<b>2016</b>	<b>2015</b>
		<b>£</b>	<b>£</b>
Administration staff and welfare	Staff time	1,123,604	1,068,184
Temporary staff, recruitment & consultants	Direct allocation to projects	33,620	73,695
Meeting costs	Direct allocation to projects	18,307	14,660
Office costs	Total number of employees	54,458	76,527
Premises	Area occupied basis	40,143	50,497
IT	Direct allocation to projects	142,700	108,922
Legal & professional fees	Direct allocations to project	35,535	41,102
Depreciation	Direct allocation to projects	24,589	17,997
Bad debt	Actual	(4,395)	13,473
Marketing	Direct allocation to projects	162,350	189,163
		<u>1,630,911</u>	<u>1,654,220</u>
<b>Governance costs</b>	<b>Basis of allocation</b>		
Auditor's remuneration - statutory audit	Direct allocation to projects	17,148	17,931
Auditor's remuneration - non-audit services	Direct allocation to projects	1,066	1,921
AGM & annual report cost	Direct allocation to projects	2,902	7,536
Board ballot costs	Direct allocation to projects	-	17,289
Trustees expenses	Direct allocation to projects	9,962	14,044
		<u>31,078</u>	<u>58,721</u>

**THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS**

**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)**

**7 STAFF COSTS**

	<b>2016</b>	<b>2015</b>
	<b>£</b>	<b>£</b>
Wages and salaries	2,497,033	2,119,540
Temporary Staff and agency fees	80,829	77,397
Social security costs	255,174	235,430
Pension costs:		
Defined contribution pensions	97,829	93,434
Defined benefit pensions	34,000	26,000
	<u>2,964,865</u>	<u>2,551,801</u>

The average number of employees during the year, who were all engaged in the activities of the Institution and its subsidiaries, was:

60                      59

All Trustees give of their time freely and no Trustee remuneration was paid in the year (2015: £Nil).

The key management personnel of the parent charity, the Institution, comprise the Trustees, the Chief Executive Officer and the senior management team. Total employee benefits of key management personnel for the year under review, excluding the Trustees were £740,368 (2015: £658,406).

Neither of the Institution's wholly-owned subsidiaries employ staff directly. As a result, the key management personnel and their aggregate employee benefits for the group is the same as the Institution as disclosed above.

The number of employees earning total emoluments of £60,000 or more:

£70,001 to £80,000	2	2
£80,001 to £90,000	2	1
£90,001 to £100,000	1	1
£100,001 to £110,000	1	1
£110,001 to £120,000	-	-
£170,001 to £180,000	-	-
£180,001 to £190,000	1	1

Contributions in the year for provision of the pension schemes in respect of the above higher paid employees amounted to £58,129 for 6 staff (2015: £54,445 for 5 staff).

## THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

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#### 6 TRANSACTIONS WITH TRUSTEES AND RELATED PARTY TRANSACTIONS

The Trustees of the Institution are the members of Board, who are drawn, from time to time, from the membership of the Institution. No member of Board received any remuneration or benefits-in-kind for their duties as Trustees (2015: Nil).

Members of the Board of Trustees are reimbursed for travelling and other expenses whilst engaged on the activities of the Institution.

	<b>2016</b>	<b>2015</b>
	<b>£</b>	<b>£</b>
Reimbursements were made as follows:		
Reimbursed In 2015 to 9 Trustees	10,411	-
Reimbursed In 2015 to 9 Trustees	-	16,876
	-----	-----

Under the terms of the Royal Charter & Bylaws, the Institution is empowered to make reasonable and proper payments to members for services actually rendered to the Institution. This power includes Trustees, in their capacity as members of the Institution. In their capacity as members of the Institution, Trustees are obliged to pay annual subscriptions due to the Institution and are entitled to take advantage of the services offered by the Institution and its subsidiary company, on the same terms offered to all members, or to the general public. Where members or their connections provide services to, or utilise any other services or facilities of the Institution, the amounts paid to or charged by the Institution are based on either:

- Standard rates paid by the Institution to members and non-members alike, for services such as lecturing or interviewing of candidates; or
- Rates negotiated on behalf of the Institution, independently of the member involved, by the Board, or their delegated committee, based on competitive tenders or general commercial rates.

During the year, the Institution is aware that payments have been made by the Institution for commercial services provided to it, or charges made by the Institution for utilising other services or facilities of the Institution, by certain Members of the Board of Trustees, or their connections, as follows:

In the 2016 year there were no speaker costs paid to trustees (2015 : £446).

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

9 INTANGIBLE FIXED ASSETS

<b>Group</b>	<b>Goodwill</b>
	<b>£</b>
<b>Cost or valuation</b>	
Balance at 1 January 2016 and at 31 December 2016	155,572
	-----
<b>Accumulated Amortisation</b>	
Balance at 1 January 2016 and at 31 December 2016	155,572
	-----
<b>Net Book value</b>	
At 31 December 2015 and at 31 December 2016	-
	-----

10 TANGIBLE FIXED ASSETS

<b>Group</b>	<b>Freehold Property</b>	<b>Computer Equipment</b>	<b>Furniture &amp; Equipment</b>	<b>Total</b>
	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
<b>Cost</b>				
Balance at 1 January 2016	426,000	758,191	308,405	1,492,596
Additions	-	172,683	12,790	185,473
	-----	-----	-----	-----
Balance at 31 December 2016	426,000	930,874	321,195	1,678,069
	-----	-----	-----	-----
<b>Accumulated depreciation</b>				
Balance at 1 January 2016	107,936	366,134	270,276	744,346
Charge for the year	5,680	108,807	10,724	125,211
	-----	-----	-----	-----
Balance at 31 December 2016	113,616	474,941	281,000	869,557
	-----	-----	-----	-----
<b>Net book value</b>				
At 31 December 2016	312,384	455,933	40,195	808,512
	-----	-----	-----	-----
At 31 December 2015	318,064	392,057	38,129	748,250
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THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

10 TANGIBLE FIXED ASSETS (*continued*)

Institution	Freehold Property £	Computer Equipment £	Furniture & Equipment £	Total £
<b>Cost</b>				
Balance at 1 January 2016	426,000	227,419	305,146	958,565
Additions	-	85,890	12,790	98,680
Balance at 31 December 2016	<u>426,000</u>	<u>313,309</u>	<u>317,936</u>	<u>1,057,245</u>
<b>Accumulated depreciation</b>				
Balance at 1 January 2016	107,936	87,671	267,927	463,534
Charge for the year	5,680	24,668	10,635	40,983
Balance at 31 December 2016	<u>113,616</u>	<u>112,339</u>	<u>278,562</u>	<u>504,517</u>
<b>Net book value</b>				
At 31 December 2016	<u>312,384</u>	<u>200,970</u>	<u>39,374</u>	<u>552,728</u>
At 31 December 2015	<u>318,064</u>	<u>139,748</u>	<u>37,219</u>	<u>495,031</u>

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

11 FIXED ASSETS INVESTMENTS

	Group		The Institution	
	2016	2015	2016	2015
	£	£	£	£
Market value 1 January 2016	2,519,980	2,489,153	2,519,982	2,489,153
Sale of units	(700,000)	-	(700,000)	-
Net gains on investments				
Gains on sale of investments	195,243	-	195,243	-
Net gain on revaluation at 31 December 2016	44,810	30,827	44,810	30,827
	<u>2,060,033</u>	<u>2,519,980</u>	<u>2,060,035</u>	<u>2,519,980</u>
Market value 31 December 2016	2,060,033	2,519,980	2,060,035	2,519,980
Investments are made up of:				
Listed investments	2,060,033	2,519,980	2,060,033	2,519,980
<b>Trading subsidiaries:</b>				
100% interest in CIBSE Services Limited	-	-	2	2
100% interest (100% Group / 50% The Institution) in The Chartered Institution of Building Services Engineers Hong Kong Limited	-	-	-	-
	<u>2,060,033</u>	<u>2,519,980</u>	<u>2,060,035</u>	<u>2,519,982</u>
The historical cost of fixed asset investments are:				
Listed Investments at 1 January 2016	1,962,837	1,962,837	1,962,837	1,962,837
less sale of units	(504,757)	-	(504,757)	-
	<u>1,458,080</u>	<u>1,962,837</u>	<u>1,458,080</u>	<u>1,962,837</u>
Listed Investments at 31 December 2016	1,458,080	1,962,837	1,458,080	1,962,837

The listed investments are managed on behalf of the Institution by CCLA Investment Management Limited. Investments within the portfolio which amount to more than 5% of the total values are:

	Group		The Institution	
	2016	2015	2016	2015
	£	£	£	£
Listed investments:				
COIF Charities Investment Fund	2,060,033	2,519,980	2,060,033	2,519,980

The significance of financial instruments to the ongoing financial sustainability of the Institution is considered in the investment powers section of the Trustees' Annual Report. The basis of fair value for listed investments is equivalent to the market value, using the mid-market price.

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

12 DEBTORS

	Group		The Institution	
	2016	2015	2016	2015
	£	£	£	£
Trade debtors	3,174,355	487,542	2,733,971	124,258
Amounts owed by group undertakings	-	-	45,417	120,815
Prepayments and accrued income	291,056	192,526	189,060	123,958
Other debtors	89,109	68,618	89,108	68,618
	<u>3,554,520</u>	<u>748,686</u>	<u>3,057,556</u>	<u>437,649</u>

13 CREDITORS: AMOUNTS DUE WITHIN ONE YEAR

	Group		The Institution	
	2016	2015	2016	2015
	£	£	£	£
Trade creditors	459,850	346,587	254,017	170,574
Accruals	178,582	147,909	131,171	133,657
Deferred income: amounts received in advance for subscriptions & services	2,978,436	1,001,456	2,693,110	660,434
Taxation and social security	194,839	124,488	82,415	77,665
Other creditors	228,278	114,530	202,704	70,946
	<u>4,039,985</u>	<u>1,734,970</u>	<u>3,363,417</u>	<u>1,113,276</u>
<b>Deferred income</b>				
At 1 January 2016	1,001,456	950,114	660,434	592,546
Amounts released to income	(1,001,456)	(950,114)	(660,434)	(592,546)
Amount deferred in the year	<u>2,978,436</u>	<u>1,001,456</u>	<u>2,693,110</u>	<u>660,434</u>
At 31 December 2016	<u>2,978,436</u>	<u>1,001,456</u>	<u>2,693,110</u>	<u>660,434</u>

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

18 ANALYSIS OF CONSOLIDATED NET ASSETS BETWEEN FUNDS

	Unrestricted Funds £	Restricted Funds £	Total 2016 £
<b>Fund balances at 31 December 2016</b>			
Fixed assets	808,512	-	808,512
Investments	2,060,033	-	2,060,033
Current assets	3,820,031	87,409	3,907,440
Current liabilities	(4,039,985)	-	(4,039,985)
<b>Net Assets excluding pension scheme liability</b>	<u>2,648,591</u>	<u>87,409</u>	<u>2,736,000</u>
<b>Defined benefit pension scheme liability</b>	(27,000)	-	(27,000)
<b>Net assets including pension scheme liability</b>	<u>2,621,591</u>	<u>87,409</u>	<u>2,709,000</u>

**19 CIBSE PENSION SCHEMES**

CIBSE operates both a defined contribution and a defined benefit pension scheme which require contributions to be made separately to administered funds for the benefit of the employees. The defined contribution scheme was opened in November 2001 and employer contribution commenced in April 2007.

**Final salary pension scheme**

The defined benefit scheme has been reported under section 28 of FRS 102. The most recent valuation was at 1 April 2014. The assumptions which had most significant effect on that valuation were:

- (i) future long term average salary increases pre-retirement of 5.1% per annum.
- (ii) future long term average salary increases post-retirement of 3.5% per annum.

This actuarial valuation showed that the market value of the scheme's assets was £3,454,000 and that their actuarial value was 92% of the benefits that had accrued to members after allowing for expected future salary increases. The actuarial valuation recommended that the rate of contributions be increased to 33.9%. The Trustees and the Employer agreed to additional Employer contributions of £108,000 p.a. from 1 April 2014 until the Funding Valuation shortfall is addressed. The actuarial valuation calculated the Funding Valuation shortfall is expected to be addressed over 3 years from 1 April 2014 until 28 February 2017. The payments are payable by the last day of February each year and are due to remain the same over the period.

Based on the current schedule of contributions the estimated contribution to be paid over to the scheme in 2017 is at least 33.9% p.a of the pensionable salary roll, on a monthly basis.

The number of employees in the scheme at 31 December 2016 were:

	<b>2016</b>	<b>2015</b>
Active employees	3	3
Deferred pensioners	23	24
Pensioners	8	7

The financial assumptions used by the actuary to calculate the scheme liabilities under FRS 102 were as follows:

	<b>2016</b>	<b>2015</b>
Rate of increase in salaries	4.50%	4.00%
Rate of increase in pensions in payments accrued before 6 April 1997	3.00%	3.00%
Rate of increase in pensions in payments accrued after 6 April 1997	3.00%	3.00%
Discount rate	2.60%	3.60%
Retail price inflation	3.30%	2.80%

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

19 CIBSE PENSION SCHEMES (*continued*)

	2016 £'000	2015 £'000
<b><i>Analysis of the amount charged to expenditure</i></b>		
Current service cost	(40)	(35)
Total service cost	(40)	(35)
<b><i>Net interest costs</i></b>		
Interest income on plan assets	137	130
Interest expense on defined benefit obligation	(131)	(121)
Net return	6	9
Total pension costs charged to the Statement of Financial Activities	(34)	(26)
<b><i>Analysis of the actuarial loss recognised in the Statement of Financial Activities</i></b>		
Actual return on plan assets, excluding interest income	348	(109)
Experience gains and losses arising on the scheme liabilities	20	33
Changes in assumptions underlying the present value of the scheme liabilities	(586)	(129)
Total actuarial losses recognised in the Statement of Financial Activities	(218)	(205)
<b><i>Analysis of the pension accounting information under FRS 102 is shown below</i></b>		
<b><i>Amount recognised in the Balance Sheet</i></b>		
Present value of defined benefit obligation	(4,273)	(3,658)
Fair value of plan assets	4,246	3,740
Net defined benefit (liability)/asset	(27)	82
<b><i>Change in defined benefit obligation</i></b>		
Defined benefit obligation at beginning of period	(3,658)	(3,447)
Current service costs	(40)	(35)
Interest expenses	(131)	(121)
Remeasurement arising from changes in assumptions	(586)	(129)
Remeasurements arising from experience	20	33
Benefits paid	122	41
	(4,273)	(3,658)

THE CHARTERED INSTITUTION OF BUILDING SERVICES ENGINEERS

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2016 (CONTINUED)

19 CIBSE PENSION SCHEMES (*continued*)

**Change in plan assets**

Assets at beginning of year	3,740	3,617
Interest income	137	130
Actual return on plan assets, excluding interest income	348	(109)
Employer contributions	143	143
Benefits paid	(122)	(41)

Assets at end of year	4,246	3,740
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Actual return on assets	485	21
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**Asset class split**

	<b>2016</b>	<b>2015</b>
Equities	55%	63%
Property	5%	-
Corporate Bonds	6%	-
Gilts	33%	37%
Cash	1%	-
	100%	100%

