

INSTITUTION OF ENVIRONMENTAL SCIENCES

ANNUAL REPORT²⁰¹⁷

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"THE GROUNDWORK UNDERTAKEN OVER THE LAST THREE YEARS HAS, I BELIEVE, STRENGTHENED THE IES'S POSITION AND MADE IT FIT TO MEET THE CHALLENGES OF THE FUTURE"



As I approach the end of my term as Chair of the IES, it is appropriate to reflect on my experience over the last three years. I have seen the Institution grow from strength-to-strength with a new strategic plan placing the IES firmly on track towards continued success.

Noel Nelson Chair of Council. March 2018

A note from our Chair

accepted the position of Chair with little experience of the established ways of performing such a task, but this was not of great concern. I knew I could depend on ample support from other Council Members. whose collective knowledge covers a broad range of environmental disciplines and experience. The office staff, the 'engine room' of the Institution, also supported and advised me during my period as Chair. I would like to acknowledge both groups and express my gratitude for their hard efforts and assistance throughout my time as Chair.

The other reason I wasn't overly concerned about my lack of previous experience is that I desired to 'shake things up' a little. During my term in office, the Institution entered a period of reflection on our raison d'etre, provision of valued membership services, external stakeholder relationships, and the need to contribute to real and effective environmental change. The exercise was worthwhile, resulting in a reaffirmation of our overall remit, a refining of our objective and the publication of a new strategic plan. I believe this has made us a stronger organisation for the future.

As an environmental scientist whose area of expertise resides firmly within the atmospheric sciences, I have fought the inevitable pull towards specialisation and a drift into siloed thinking. Achieving balance between specialisation and wider systems-led thinking can be challenging, but the IES has offered me a valuable lifeline.

With its range of articles, the environmental SCIENTIST remains a superb read. This journal is complemented by additional expert communications including blogs and webinars.

Over the last three years, we have responded to numerous environmental policy inquiries, seeking to influence and lead the debate on a range of issues. Inputs from the IES and our sister organisations have been published on matters pertaining to sustainability, air quality, ecology and environmental management, to name but a few. These have taken the form of requests for evidence from the Environmental Audit Committee, the House of Commons Science and Technology Select Committee and the Mayor of London's Office, amongst others. It is important that the IES continues to represent the views and expertise of its members, and the environmental science community as a whole, informing Government and its agencies on environmental matters. Whenever appropriate, I would encourage you all to submit your evidence, expertise and opinions to the IES.

The IES has a difficult balance to maintain between focusing effort on achieving our mid to long-term environmental policy objectives, whilst also remaining flexible enough to respond to important inquiries, as and when they are announced. In recent months, discussions at the Environmental Policy Forum (EPF) has been dominated by the potential environmental impacts of Brexit. We are indebted to our Policy & Communities Officer,

"Achieving balance between specialisation and wider systems-led thinking can be challenging, but the IES has offered me a valuable lifeline."

Robert Ashcroft, who has performed a sterling iob in keeping us aware of relevant political changes. While EU legislation has not always been perfect, its influence has resulted in major environmental improvements in the UK Some environmentalists are concerned that the impetus for continued improvements may be lost in the event of Brexit. By transposing all appropriate EU law into UK law, the Repeal (or Withdrawal) Bill has been designed to ensure legal continuity after exit, but this will not itself secure a promising future for our environment. Fears still exist that standards will be weakened to secure a preferential trade deal. Who will provide an adequate level of scrutiny or enforcement in the absence of the EU Governance structure, and what will the impact be on resourcing environmental programmes, particularly if Government fail to uphold reasonable standards?

The IES will position itself at the forefront of these concerns and discussions, providing communications to inquiries while also developing forums that enable you, as environmental scientists, to contribute to contemporary challenges such as Brexit or plastics in our environment.

The groundwork undertaken over the last three years has, I believe, strengthened the IES's position and made it fit to meet the challenges of the future. I wish the next Chair well, and I will join the rest of you in supporting them as they face their future challenges, whenever and however I can

Whatever stage you are at in your career, the IES has membership services that will help you gain recognition and progress to the next level. Members come from all areas of the environment sector, wherever jobs are underpinned by science.

Growth in IES membership in 2017: 6.4%

Growth in IAQM membership in 2017: 8.9%

Ogrowth in number of Chartered Environmentalists

new HE/FE degree programmes accredited since 2016 meaning that the IES and CHES now have accredited courses worldwide

9.7





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Aiding professional development

Event highlights from 2017

January

Webinars

2017 saw 8 webinars run over the course of the year offering in-depth analysis and insight into subjects ranging from plastics to sustainable cities. January was a particularly busy period, with webinars on developing historic landfills and BREEAM outstanding rated buildings.

April **DMUG 2017**

This ever-popular, unapologetically technical, one-day IAQM conference of the Dispersion Model Users Group covered topical issues in emissions, exposure and dispersion modelling.

lune

Inaugural IAQM Early Careers Meeting The IAQM Early Careers Group provided the forum for nascent professionals to learn, practice presentation skills and network with peers in the first of a regular series of meetings.

September

Contamination Expo

The IES were an official partner and exhibited on both days at Europe's largest land condition event, the Contamination Expo, with over 3,000 contamination professionals attending for free.

October

Routes to Clean Air 2017 At this two-day IAQM conference in Birmingham, air quality, public health and transport professionals engaged and shared their experiences of improving traffic emissions.

November

University visits

Over the course of 2017, the IES visited 8 universities across the UK including Portsmouth, Sheffield, Plymouth, and Brunel. These visits introduced the IES to students on accredited courses and showcased the opportunities student membership provides.

environmental SCIENTIST

Feeding the nine billion



This issue explored some of the interconnected and wicked challenges of feeding the estimated 9.7 billion global population predicted by 2050. Innovation in thought, technology, policy and practice will play a crucial role in tackling food security in the coming decades, and the case studies presented in the environmental SCIENTIST provoked further discussion and insight into the approaches to the global challenge.

Science without borders: Making the SDGs successful



In 2015, world leaders adopted the seventeen goals of the 2030 Agenda for Sustainable Development at a special United National Summit. 193 Member States signed up to the goals and 169 targets which accompanied them. This edition, produced with the support of the UK Stakeholders for Sustainable Development (UKSSD), explored science's role, in partnership with policy, business and civil society, in delivering on this ambitious agenda.

Issues planned for 2018

February: Just boring? Challenging perceptions in land condition June: Well that wasn't meant to happen! Unintended consequences in environmental science September: Toying with nature: Recreation and the environment

December

The Magic Money Tree

This year's Burntwood Lecture was given by Bevis Watts, who provided insight into his unusual career trajectory. He went on to challenge attendees to apply societal pressure and use democratic power to influence change in the financial system for the good of the environment.

December

CEnv in a Day workshops

2017 saw a record number of CEnv in a Day workshops, with 14 run over the course of the year. The workshop condenses the whole assessment process to a single day, leading to the IES awarding the 2nd highest number of CEnvs out of all 24 SocEnv licensed bodies.

Time for a new Clean Air Act?



Though experts have been aware of the issue for many years, it is only recently that the majority of the media and public have become aware of the severity of the air quality crisis in many of Britain's towns and cities. But why has the regulatory response been so lacklustre? This issue explored topics around air quality management and measurement, and suggested ways in which both government and individuals can strive to tackle this problem.

Living Labs



Many higher education insitutions are initiating living labs programmes as they search for the most impactful ways to conduct research and education. The objective of a Living Lab programme is to establish a platform where people from different stakeholder groups can easily and effectively collaborate. This issue explored the development of the concept, presenting case studies from the perspective of a range of Living Labs stakeholders and considering its potential to drive further change.



"AS I READ THE LONG LIST OF JOURNALS, ANALYSIS PIECES, EVENTS, POLICY **ACTIVITIES AND** MEMBERSHIP SERVICES, IT'S HARD TO DO THEM JUSTICE IN SO FEW WORDS, BUT I WILL TRY"



As you will discover, browsing through the pages of this report, the past 12 months have seen the IES take a leap forward in the benefits afforded to members, and the impact we have had in the sector. As I read the long list of journals, analysis pieces, events, policy activities and membership services, it's hard to do them justice in so few words, but I will try.

Phil Holmes Honorary Secretary, March 2018

Honorary Secretary's Report

n what seems to be a tumultuous political period, the IES has increased its presence in the policy arena, making sure our members' voices and the environment are represented, no matter the twists and turns British politics takes. From letters to the Secretary of State for the Environment about post-Brexit management and submissions to the Stern REF review, to answering calls for information from the science and technology Select Committee, it's been a busy year for our Policy and Comminutes Officer, Robert Ashcroft; thanks for your hard work navigating those bureaucratic waters and for kickstarting our network of new communities.

The IES does not just focus its attention on policy makers, our members too have been challenged by the Institution. Ground breaking journals such as 'Time for a New Clean Air Act?' and 'Feeding the Nine Billion' have given their readers food for thought, and perhaps some thought-provoking bed-time reading. Our Publication Officers, Michelle Reeve and Paddy Fowler, have been relentlessly perusing authors and delving into difficult topics for our benefit.

Members have been doing their part too, using the IES to further their career and becoming Chartered Environmentalists in ever-increasing numbers. If you are not chartered yet, then I urge you to search for the Institution's 'CEnv in a Day' workshop, or take up the IES's offer of a mentor to help guide you through the process. You'll get great advice and guidance from our Vice President, Carolyn Roberts, who I thank for running so many workshops. Alternatively, if you want some career-enhancing CPD, but can't make it out the office, you can check out one of our webinars in our 'CPD over sandwiches' series. Last year's topics ranged from farm support to soil technology, a great way to spend a lunch break.

If those events weren't enough, the IES also helped deliver some big conferences, including the annual Burntwood Lecture, Routes to Clean Air and DMUG. My thanks go to Rhianna Jarvis for delivering the very demanding IES events calendar.

"In what seems to be a tumultuous political period, the IES has increased its presence in the policy arena, making sure our members' voices and the environment are represented, no matter the twists and turns British politics takes"



The past 12 months have seen us add to the thousands of environmental scientists who are members of the Institution. This increase in numbers, whilst brilliant, challenges even the most dedicated membership team. Thankfully, Chloe Fletcher, with help from Lisa Abbott, has been busy streamlining systems, helping members, corralling us Council members and supporting the CEO, to ensure we deliver a first-class membership experience, thank you both for your hard work.

That whistle-stop tour of the year brings me to the activities of IES Council, who have debated, reviewed, voted and drunk (their weight in coffee) through the last 12 busy months. Thanks to each of you for supporting the IES and the CEO.

The next year is shaping up to be just as busy and fulfilling for the IES and its members. Don't forget to head to the website (www.the-ies.org) to keep up-to-date with the latest news.

The politics of uncertainty



2017 was another year of political change and drama in the UK. A General Election which confounded pollsters, the beginning of formal Brexit negotiations and the ongoing activity across Government to put in place the institutional and legislative apparatus for the EU Exit all provided a complex background to a range of policy developments with relevance to science and the environment. What such a dynamic political environment brings is uncertainty and, as environmental scientists, we understand both the damage this can do and the importance of addressing it robustly in our decision-making.

The IES strives to stand up for science, scientists and the environment in our work. This means promoting vital support for environmental science skills development and interdisciplinary environmental research, and seeking to ensure decisions are made based on the best available evidence. Addressing these dual and interlinked challenges has characterised our policy engagement over the past year.

Research, skills and innovation

In 2017, we responded to major calls for evidence on the future of the Research Excellence Framework (REF), the UK science budget (which dictates levels of public spending on research and innovation), and the Government's important Industrial Strategy green paper. At a time of great change in the UK research and innovation landscape, the IES was keen to reiterate the value of publicly funded research, particularly interdisciplinary and challenge-focused projects. In our work on the Industrial Strategy, we highlight the importance of working towards sustainable growth and embedding this as a principle across government, and the opportunities on offer in the green economy.

Brexit and informing environmental progress

In advance of the General Election, the IES wrote to every major political party, urging them to include key environmental commitments in their manifestos. These letters built on our work across the year on the Sustainable Development Goals, the promised 25 Year Environment Plan (eventually released in January 2018) and post-Brexit environmental land management. As we move into 2018, we are pleased to see several principles for which we advocated included in key government policy documents, including the aforementioned 25 Year Plan and the 'Health and Harmony' agriculture command paper.

Throughout 2017, we continued to work extensively with colleagues in other environmental professional bodies and learned societies, often through the Environmental Policy Forum. We co-produced numerous letters, briefings and papers for Ministers, MPs and peers on land management and the European Union (Withdrawal) Bill. We will continue to work collaboratively, wherever possible, to make the case for strong, evidence-based environmental standards, and to ensure the expertise of environmental professionals is taken into account in decision-making.

Looking forward

In 2018, UK politics seems to have settled into an uneasy equilibrium. Significant uncertainty remains, but the pace of work within government is now swift to fill the policy vacuums left by EU Exit, and the ambition of much of this work is to be applauded. Of course, there is a great deal still to be done, and environmental scientists must play a key role in informing this work if we are to make positive environmental progress and factor in both political and scientific uncertainty. The IES stands ready to facilitate these exchanges, and we look forward to working with members, colleagues and individuals from across government and parliament over the year to come.

Reports & Guidance

Membership Survey



The IES surveys its members each year to gain an understanding of how they received the services provided that year, which services are particularly valued and what they might like to see in coming years. The 2017 survey reflected the IES office's commitment to excellent customer service, with 93% of respondents rating the office's ability to answer queries as either excellent or good. This year's Net Promoter Score surpassed last year's with a score of 33.

73% of members rated our reports as very or moderately interesting in the 2017 membership survey.

Analysis pieces in 2017

- Science and sustainability at the heart of Industrial Strategy
- Qualitative responses to the 2017 membership survey
- Tackling waterway pollution
- Standing up for science, scientists and the natural world
- membership
- plans to lead the way on diversity
- Being experts in an age of distain for expertise
- An economy fit for the future

Land-use planning and development control: planning for air quality



Originally published in 2015, this document seeks to provide guidance for individuals operating in the planning system on how to incorporate air quality considerations into the planning process. The Guidance was updated in 2017 to reflect changes in guidance documentation across the sector and to bring it in line with current use.



91% of members rated our reports and guidance as very important or important in the 2017 membership survey.

Redefining the boundaries of our

From baselines to best practice - our



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Past & Present

2017 2018

Community launch

Our Land Condition community launched in autumn. Two working groups were formed to work alongside IES staff to develop a new conference, the Land Condition Symposium and corresponding journal edition, 'Challenging perceptions in land condition'.

Promising start

The IAQM's first Early Careers Group meeting was held, opening the doors to newly-qualified professionals in the field of air quality.

Digital strategy

The development of a new online sign-up portal enabled students on accredited degree programmes to activate their free student membership of the IES with just a few clicks.

Model replicated

In 2018, we will be launching new communities that seek to replicate the success of the Land Condition model. Look out for more details soon.

On tour

Our highly popular CEnv in a Day workshop goes on the road with workshops in Manchester and Leeds.

Simplification online

We will be making membership renewals even easier with the a direct debit option as well as giving members even greater control over their data with the introduction of new GDPR measures.

Staff changes

Michelle Reeve left the IES to continue her PhD in spider locomotion and biomechanics, in her place, Paddy Fowler joined in October as Publications Officer. Rhianna Jarvis started as our new Events & Training Officer in March.

Cover to cover

The environmental SCIENTIST broke barriers in 'Science without borders', showed how research communities form in 'Living labs', set the table for the world in 'Feeding the 9 billion' and looked to the skies in 'Time for a new Clean Air Act'.

Webinars

As part of our digital strategy, a number of webinars were hosted covering a range of environmental science subjects from highly distinguished speakers.

Membership criteria

A new definition of Environmental Science was adopted to extend the IES membership scope to a broader range of natural, social and sustainability sciences, leading to the conception of new membership criteria.

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Growing further

As the IES continues to grow, we have recruited a second office administrator, Alex MacNaughton, with further expansion planned later in the year.

Upcoming publications

2018 has already seen the environmental SCIENTIST dig beneath the surface in 'Challenging perceptions in land condition'. Still to come, we will roll the dice in 'Unintended consequences' and spend time in the great outdoors in 'Recreation and the environment'.

Entrepreneurship

Owing to the success of last year's webinar programme, 2018 has seen the launch of Entrepreneurship and the Environment: a webinar series focusing on the culture and attitudes around entrepreneurship in the environmental science sector.

Diversity and inclusion

To tackle issues of underrepresentation across the sector, the IES will publish its diversity action plan, embed inclusive policies and practices into degree accreditation, and initiate plans to conduct a study into how identity can affect career prospects in the sector.



"WE HAVE ASSEMBLED A FANTASTIC STAFF TEAM, THE **BEST GROUP I HAVE WORKED** WITH. WITH THEIR HELP, AND THE ACTIVE INVOLVEMENT **OF OUR TRUSTEES** AND MEMBERS, THE IES WILL ENJOY ANOTHER SUCCESSFUL YEAR."



The common thread running through our members' professional lives is their engagement with science. Members are either scientists (teaching, research and applied), or professionals making decisions based on science. In the fragmented environmental sector, there are numerous bodies serving environmental managers, but the IES is unique in being the voice of science.

Adam Donnan CEO. March 2018

Redefining environmental science

he object of the organisation, "to educate the public in the environmental sciences", served as the aim of the organisation for 45 years, from 1972 to 2017. However, we no longer felt that this accurately represented the work of the Institution.

The strategic process we underwent in 2017 led to the development of new object for the Institution: 'Standing up for science, scientists and the natural world.' The new object reflects the multitude of stakeholders that we serve, with science remaining at the heart of everything we do.

In the early part of 2017, an IES working group examined a range of interpretations of environmental science, with the aim of publishing a new definition. They came up with the following: "Environmental science is an integrative academic field, unifying the physical, chemical, biological, engineering and social sciences in the study of the

environment and in finding sustainable solutions to environmental challenges."

This broadened the IES's previous characterisation by moving away from the narrow view that environmental science solely integrates the natural sciences to one that encompasses a multitude of other disciplines including social and engineering sciences. Our new membership criteria were published in December.

Looking at the coming year, I am excited about the potential of communities to deliver specialist services for groups of experts within our membership. Earlier this month, I attended the afternoon session of our newest major conference, the Land Condition Symposium, an output from our Land Condition community launched last year. It was fantastic to see the enthusiasm for the event and the desire to build on this success with more

"Moving away from the narrow view that environmental science solely integrates the natural sciences, to one that encompasses a multitude of other disciplines including social and engineering sciences."

resources for specialists in this area. I would like to thank the passionate and determined individuals involved in the community working groups for helping to deliver this.

There are some short-term challenges ahead. We have reached the capacity of our office and need to find a new headquarters. Over the summer, we will be reviewing our whole governance structure and constitution to modernise it further. Brexit dominates our policy work, but we are determined to become more proactive, making the case for new environmental regulations, not just defending what is already on the statute book.

We have assembled a fantastic staff team, the best group I have worked with. With their help, and the active involvement of our trustees and members, the IES will enjoy another successful year.



Statement of financial activities July 2016 - June 2017

Incoming resources
Voluntary income
Investment income
Total incoming resources
Resources expended
Total resources expended
Net movement in funds
Fund balances at 1 July
Fund balances at 30 July



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	2017	2016
	£	£
Incoming resources		
Voluntary income	315,284	289,243
Investment income	33	57
Total incoming resources	315,317	289,243
Resources expended		
Total resources expended	296,538	265,399
Net movement in funds	18,779	23,901
Fund balances at 1 July	110,592	86,691
Fund balances at 30 July	129,371	110,592
The statement of financial activities also complies with the requirements for an ir	come and expenditure account under the Cor	mpanies Act 2006



Sister organisations

IAQM

2017 was yet again another great year for IAQM events, with both DMUG and RTCA growing in size and reputation.

Over the year, we also launched the first of our early careers meetings, giving newly-qualified air quality specialists the opportunity to hone their skills and network in a friendly and supportive environment. This inaugural event, held in June, was highly successful, offering a valuable learning platform for early-career professionals mirrored by a large increase in the number of Associate Members of the IAQM. With the groundwork laid, we hope to conduct a rolling series over 2018.

GROWTH OF IAQM ASSOCIATE MEMBERSHIP IN 2017: 25%

As usual, we held several free discussion meetings including 'Assessing AQ impacts on habitats' and 'UK Implementation of the Medium Combustion Plant Directive'.

In January, we published an update to our 'Land-use planning and development control: planning for air quality' guidance, bringing it up to speed with changes to the EA's H1 methodology and LAQM TQ (09), both issued in 2016.

GROWTH OF IAQM TOTAL MEMBERSHIP IN 2017: 9%

The 'Time for a new Air Quality Act' edition of the environmental SCIENTIST, published in April, was introduced by our Chair, Claire Holman, who delved into the challenges facing non-road mobile machinery emissions, the fallout of "Dieselgate" and NOx emissions, and the social issues that lead to emissions in comparison to technological.

We had a very successful call for committee members, with 5% of our membership applying to be on the committee. These new joiners attended their first meeting in November, bringing with them valuable expertise and enthusiam which will help the IAQM continue to grow the scope of its membership services in the year to come.

CHES

In December, the Living Labs edition of the environmenal SCIENTIST was published, featuring content from a number of CHES committee members, authors from accredited universities and articles from universities worldwide.

GROWTH IN THE NUMBER OF ACCREDITTED COURSES IN 2017: 20%

In 2017, CHES matched the previous year's number of newly accredited courses with 17 more added to the list.

In April, CHES held a successful meeting, jointly hosted with the IES, to review the outcomes of the Wakeham Review. This has led to a programme of work exploring employability in universities.

CHES was also active in the policy arena, responding to consultations on REF2021 and contributing to the IES's response on the Industrial Strategy Green Paper.

100 PROGRAMMES ACCREDITED ACROSS 36 UNIVERSITIES AND COLLEGES

Recently, we introduced portfolios for our committee members. At the first meeting of 2018, each portfolio member sketched out their plans for the upcoming year. Collectively, this makes for an ambitious work programme for 2018.

Trustees & Staff Members

President: Sir John Lawton

Senior Vice President: Mr John Baines MBE MIEnvSc CEnv

Vice Presidents:

Dr Heather Barrett-Mold OBE FIEnvSc CEnv CSci Mrs Jenny Blumhof FIEnvSc CEnv CSci Dr Mark Everard FIEnvSc CEnv CSci Professor Jim Longhurst FIEnvSc CEnv CSci Professor William Pope FIEnvSc CEnv CSci Professor Carolyn Roberts FIEnvSc CEnv

The Honorary Officers of Council, who are also Council Members. from the 2017 AGM were:

Chair: Dr Noel Nelson MIEnvSc MIAQM Vice Chair: Mr Gary Kass FIEnvSc CSci Honorary Secretary: Mr Phil Holmes MIEnvSc Honorary Treasurer: Dr Jim Whelan MIEnvSc CEnv CSci Company Secretary: Ms Eleni Antoniades Snell MIEnvSc CEnv

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- The other members of Council from the 2017 AGM were:
- Mr Jonathan Atkinson MIEnvSc CEnv
- Mrs Linsey Cottrell MIEnvSc
- Mrs Julie Hill MIEnvSc
- Dr Claire Holman FIEnvSc FIAQM CEnv
- Mr David Holmes MIEnvSc
- Dr Iain Hossack MIEnvSc CEnv
- Dr Jackie Rogers MIEnvSc
- Dr Lesley Sloss FIEnvSc
- Mr Nick Walton FIEnvSc CEnv
- Professor Phil Wheater FIEnvSc CSci

Staff members and contractors on 31st December 2017 consisted of:

- Chief Executive Officer: Adam Donnan **Events and Training Officer:** Rhianna Jarvis Membership & Projects Officer: Chloe Fletcher Office Administrator: Lisa Abbott Policy & Communities Officer: Robert Ashcroft **Publications Officer:** Paddy Fowler
- Journal Graphic Designer: Kate Saker Journal Sub-editor: Paula Gilfillan



