

The Extraordinary Challenge

Think – Share – Do

Andy Ford

Presidential Address 2011

The Chartered Institution of Building Services Engineers



Andy Ford, Technical Director for Mott MacDonald Fulcrum, has worked extensively on innovative buildings throughout his career and contributed to many award winning designs. His speciality lies within creative and sustainable low energy design solutions.

His work has taken a more specific focus in recent years, concentrating on how the industry can respond to the challenge of climate change. He is President of CIBSE and chair of the UK Green Building Council (UK-GBC) policy committee. He also serves on the managing boards of these organisations.

Andy is responsible for the design of a number of ground breaking UK buildings. His early work on low energy buildings on the UEA campus includes The Elizabeth Fry Building (1994) which is still the lowest energy non domestic building in the UK. More recently he was engineering designer of Jubilee Library, Brighton, which won PFI project of the year, Prime Ministers Best Building award, Building Services Awards Major Project of the Year 2005 and a Stirling Prize finalist 2005.

He was winner of the IMechE Construction and Divisional Prize 2009, awarded for "significant contribution made in the execution, promotion and advancement of mechanical engineering applied in the building services and construction field".

***"We include everyone
in the supply chain.
And that means we are
uniquely placed to involve
everyone in a joint vision
for the built environment"***





The Extraordinary Challenge

Think – Share – Do

I want to thank you for trusting me with the job of CIBSE president for the next year. I regard it as a huge privilege. I also view the coming year with a mixture of trepidation, because I want to serve you well, and excitement, because – recession or no recession – pain or no pain – make no mistake our industry is in a time of incredible opportunity.

But more about that in a moment.

This past year I've had the great pleasure of working with my predecessor Rob Manning.

Rob is an engineer's engineer – he understands the industry from the inside out. Before Rob – I don't think we really grasped the incredibly strategic role CIBSE has in supplying technical information and expertise to the industry as a whole. But Rob underlined something else, the fact that CIBSE is unique because of the make up of its membership. We include everyone in the supply chain. And that means we are uniquely placed to involve everyone in a joint vision for the built environment.

We're getting that message.

He's made CIBSE stronger, more financially robust, more confident of its position and ready to go.

And on your behalf I'd like to thank him.

So what about the coming year?

I want first to say something about the context:

As a parent I worry about lots of things. But one of the things I often think about is what kind of a world will my children and hopefully grand children grow up in?

From our point of view there are three powerful realities we can't dodge:

Firstly the threat of devastating climate change due to significant rises in carbon dioxide (CO₂) levels. By and large, governments around the world have got the message. To one degree or another they are now calling for changes in the ways we live.

The second unavoidable reality is that energy is rapidly increasing in price. Oil is



becoming scarcer and we are competing against other rapidly expanding economies for our share.

Last month, BP's annual report revealed that a prediction had now become a reality – that we are no longer discovering oil at a rate to meet world demand. The supply has, as they say, maxed out.

Thirdly – there's the issue of energy security.

The world is a highly volatile and unstable place. The so called 'Arab Spring' – is an amazing and completely unpredicted phenomenon, where whole populations are calling for an end to despotic rule. Anyone who lives in a free society will applaud this. On the other hand the resultant conflicts reveal the fragility of our fuel supplies.

Here in the UK we sit at the end of a gas pipeline that can be turned off by any number of 'diplomatic incidents'.

And after one of the largest scale natural disasters we have ever witnessed, Japan's nuclear power plants have ceased to function – adding to their terrible suffering.

But beyond our natural human empathy and sympathy – doing whatever we can to help – beyond that what is it to us?

Well, for instance, one unexpected result is that the world is fast running out of certain digital components. An earthquake on the other side of the world is threatening production schedules at the BBC. How strange and how delicate – our dependence on each other.

So what is our role in response to all this?

Here at CIBSE we talk about delivering 'the greater comfort of mankind'. In the light of these challenges we will be doing much more than that.

Actually I think we can be proud of the contribution CIBSE has already made. We've contributed significantly to the debate in the past 10 years. Since the time of the past president, Terry Wyatt, we have also been telling the world that the rise in CO₂ in the atmosphere had reached dangerous levels. We also showed how extremely important building and buildings are in this equation. We understand how to design and construct buildings to minimise energy use.

Our government listened, understood and has told us building engineers to fix it.

And that's what we are working to do.

So what needs to be done?

The challenge is to decarbonise our built environment – fast. We are not simply talking about building services we are talking about influencing energy supply, architecture, design and materials.

Incredibly this has to happen over the working lifetime of a young engineer who's starting his career today. 2050 might sound a long way off but it equates to

“Actually I think we can be proud of the contribution CIBSE has already made. We've contributed significantly to the debate in the past 10 years”

refurbishing one building a minute, on average to a standard that will deliver improved comfort and an 80% reduction in carbon over the building's lifespan, every minute for the next 40 years. This assumes all 'new' buildings we construct will be 'zero carbon' by 2019.

So what is my message to you?

1. A call to young people to come into the industry

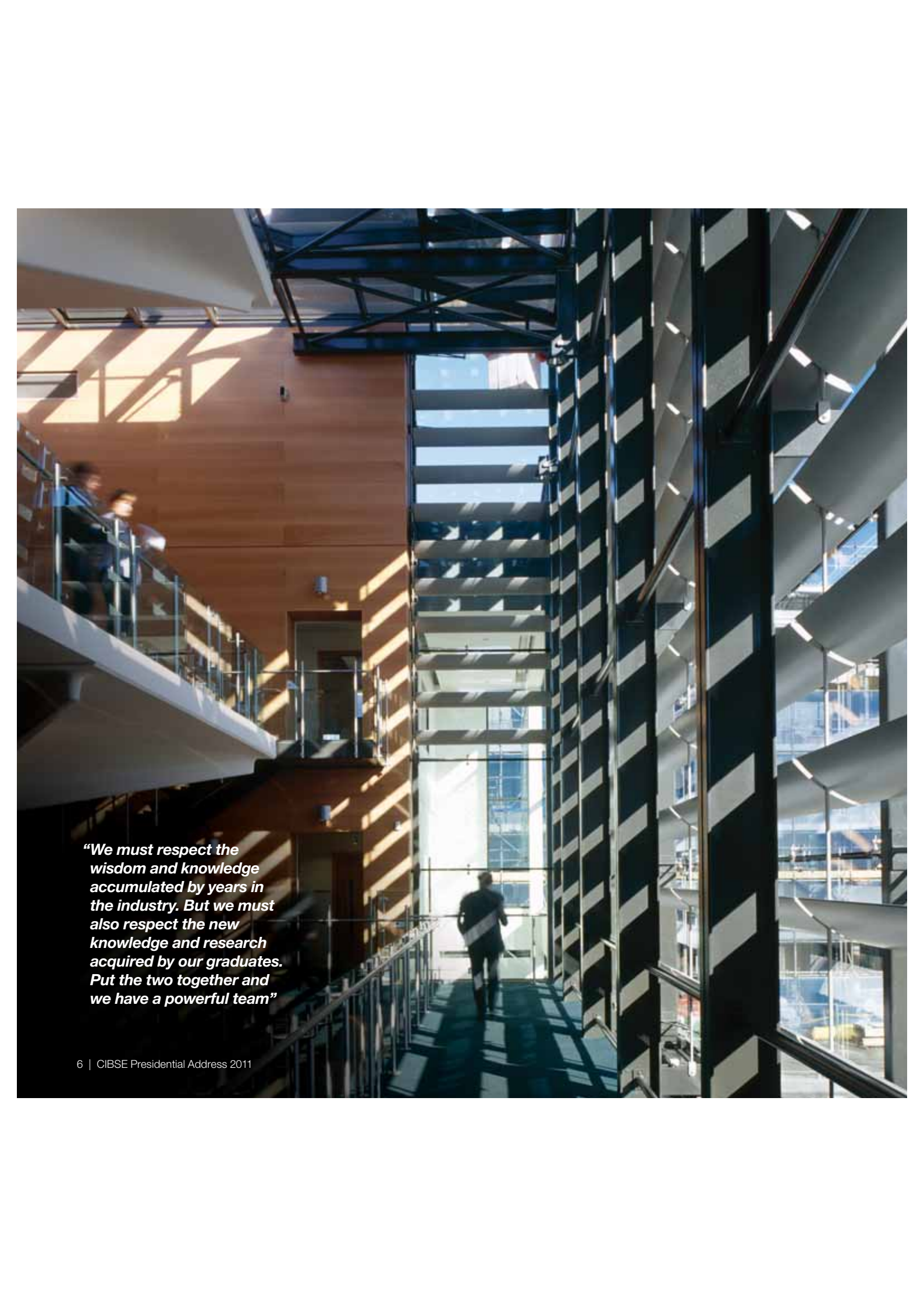
This is an exciting time to be in our industry. This is the greatest challenge we have ever faced. Being a building engineer is a wonderful opportunity to really make a difference and to shape a new integrated industry. Let's reverse the brain drain from engineering into finance. We need your brains here to create this new industry.

2. A call for mutual respect

Traditionally young people learn from older people because they have gained more knowledge. But sustainability was not a subject available to study until 10 years ago. So today young people with degrees in sustainability are often calling the shots on our projects. They are filled with ambition to change the world. They crash into the existing structure for getting things done. This is often a recipe for conflict. New comers and experienced collide. The 'stuck in the mud old timers' meet the 'wet behind the ears know nothings.'



“Being a building engineer is a wonderful opportunity to really make a difference and to shape a new integrated industry”



“We must respect the wisdom and knowledge accumulated by years in the industry. But we must also respect the new knowledge and research acquired by our graduates. Put the two together and we have a powerful team”



To me this is a question of respect. We must respect the wisdom and knowledge accumulated by years in the industry. But we must also respect the new knowledge and research acquired by our graduates. Put the two together and we have a powerful team.

I developed my own consulting practice so that it became known for cutting edge sustainability thinking or so I am told by my competitors. Within the organisation we created a culture where those who came from a pure science or university background were as respected as those who came up through the tools.

3. A call to create a continuous cycle of action

We have learned over the past few years how to think, share and do.

For example we've thought a great deal about where CO₂ comes from in the creation of buildings. We shared that knowledge widely – with architects, designers, civil servants, legislators and politicians. Then we followed through with our support for the Royal Academy of Engineering's campaign to embed professors of building engineering physics into all built environment courses. Then we built some 'low carbon' buildings. Now we have started the cycle again – examining our low carbon buildings to see how low carbon

“This cycle of think, share and do is a powerful model for continuous improvement, it must involve all in the design, construction and operation of buildings”

they actually were. We are learning a great deal and now we have some more work to do.

This cycle of think, share and do is a powerful model for continuous improvement, it must involve all in the design, construction and operation of buildings.

Our membership is wide, we are already spread through 94 countries. I believe that by putting in place efficient methods of disseminating knowledge gained, such as the Knowledge Portal, we will give all our members an edge, enabling them to lodge new localised information. This in turn will help both our members to stay ahead as new knowledge is created in the countries where construction continues apace and attract in the key adjacent professionals.

4. A call to widen our membership

I said a few moments ago that we should be respectful of each other's knowledge, talents and experience. This dramatic change cannot be implemented without collaboration with and by all involved in the process. A revolution of respect would have another effect – it will put out the welcome mat to a wider range of people including architects, facilities managers, energy and building managers and many other engineers and groups.

This will dramatically enrich our organisation and enable us to be the place that connects our industry together, the place to think.

My vision is simply this: for CIBSE to facilitate an industry revolution that will impact upon the well being of generations to come. And my conviction is that there is no reason why we cannot do so.

The Chartered Institution of Building Services Engineers

222 Balham High Road, London SW12 9BS

General Enquiries: +44 (0)20 8675 5211

Email: info@cibse.org

Website: www.cibse.org

CIBSE is a registered charity No. 278104