

EDINBURGH 2003 – ‘BUILDING SUSTAINABILITY, VALUE AND PROFIT’

Opening Address by Terry Wyatt. President CIBSE.

‘SUSTAINABILITY IN THE CALM BEFORE THE STORM’

Ladies and Gentlemen, Once in a while certain truths hit you and you can no longer see the world in the same way. For me this summer has proved such a time. That’s why my message to you at the beginning of this conference is to stress that sustainability isn’t just a trendy fad, or a criteria box you can tick to keep a few fussy clients happy. Sustainability is right now fundamentally about acting for our survival as a human race and ensuring that we can have a decent quality of life across the globe. And with buildings consuming around half of all commercial energy and producing 50% of global carbon emissions, it’s an issue where we as an industry are ideally placed and singly more obligated than any other industry to provide the solutions and point the way to an energy efficient, low carbon future.

For me, this summer wasn’t just about the unusual weather and highest ever temperatures we’ve had in the UK. All the way across Europe; extreme temperatures have been experienced, a 20% fall in food production, and 15,000 excess deaths of the elderly in France alone through heat exhaustion. Remember too this is barely a year since major floods devastated many parts of Europe. If you care to track these extreme events across the globe then, what we have been experiencing in Europe, is not the exception. Record highs on temperature, increased frequencies of high rainfall and flooding, and unusual events. Today is warmer globally than we have ever been before, at a time when natural climate variability trends says that we should be significantly colder.

Fig.1

Now I know from my own scientific and engineering training that you can’t base major policy strategies on strange weather events in a single year, or on feelings that things don’t seem right. I don’t. You take a look at long-term trends, listen to the best that independent scientists can tell you, and open your eyes and observe.

It won’t have escaped your attention that John Houghton, former head of the UK Meteorological Office and co-chair of the IPCC, the international scientists advising the world’s government on climate change, concluded last month that: “I have no hesitation in describing (climate change) as a "weapon of mass destruction". He went on to say that: “Like terrorism, this weapon knows no boundaries. It can strike anywhere, in any form - a heatwave in one place, a drought or a flood or a storm surge in another. Nor is this just a problem for the future. The 1990s were probably the

warmest decade in the last 1,000 years, and 1998 the warmest year now set to be overtaken by this year. Global warming is already upon us.”

The World Meteorological Organisation warned this month that extreme weather events already seem to be becoming more frequent as a result. The US mainland was struck by 562 tornados in May (which incidentally saw the highest land temperatures globally since records began in 1880), killing 41 people. The developing world is the hardest hit: extremes of climate tend to be more intense at low latitudes and poorer countries are less able to cope with disasters. Pre-monsoon temperatures this year in India reached a blistering 49C (120F) - 5C (9F) above normal. And before this killer heat-wave began to abate, thousands lay dead. Taken altogether; ‘Climate Change’ related deaths far exceeded those from terrorism. **Fig.2**

While no one can ascribe a single weather event to climate change with any degree of scientific certainty, higher maximum temperatures are one of the most predictable impacts of accelerated global warming, and the parallels - between global climate change and global terrorism - are becoming increasingly obvious. “

Yet as far as our political leadership and the general public are concerned we seem to be in denial, enjoying the calm before the storm to come and simply not facing up to the changes we will have to make in the way we organize our economies to effectively move to a carbon neutral future. And yes, I fully acknowledge the vision and rhetoric of our Prime Minister in adopting a 60% CO2 reduction target for the UK. We have gone further than many countries in starting on the long path to dramatically reducing carbon emissions. And yet, knowing what is facing us with inaction, the response so far has still been tentative and limited. We can and need to do a lot more and fast.

For anyone who knows John Houghton – a scientist known for restraint and understatement, these conclusions are stark and terrifying. They require a substantial and measured response. So far the political response has been timid and faltering. In the USA it has been no better (worse) and the Bush Administration has adopted the ostrich approach of burying its head in the sand, pretending that there is still major scientific uncertainty over climate change and doing everything it can to open up vast areas for oil explorations and production. This is despite the President’s own Academy of Sciences telling him in his first year of office that Global Warming was real and human induced greenhouse gases were to blame, and confirming this conclusion again this year. **Fig.3**

“Houston we have a problem”...”Surface temperature measurements recorded daily at hundreds of locations for more than 100 years indicate that the Earth's surface has warmed by about 1 degree Fahrenheit in the past century. This warming has been

particularly strong during the last 20 years, and has been accompanied by retreating glaciers, thinning arctic ice, rising sea levels, lengthening of growing seasons for some, and earlier arrival of migratory birds..... The changes observed over the last several decades are likely because of human activities, for the most part” National Academy of Sciences, 2003]

Now as you may know I am not a man prone to negative thinking – in the end you have to believe that we can change and make a difference or why bother people with speeches and your concern? However, I would not be doing my job as President of CIBSE and co-chair of this conference if I simply made a few bland statements about sustainability, suggested to you that it was *quite* important and that we could make some money out of it (which of course we can) and just said thankyou to the Minister. It’s not going to be like that. The Storm is coming and we’d better be ready for it. We need to be clear on our role in this turbulent future and what we need from Government to allow us to deliver on solutions.

The Good News is that our industry is THE solution to climate change and greenhouse gas emissions. To appreciate what this means; I think the problem and its challenges will best be seen from a few illustrations:

The increasing imbalance of atmospheric Carbon, that is perturbing the global climate, is shown and the task to move from the ‘business as usual’ curve, even, to a ‘doubling of pre-industrial levels, as is the current ‘international target’, is clearly demanding. Fig.4

**Then; meeting the targets of the Government ‘White Paper’ is, for the UK, an immense task as is shown Fig.5
And, **Fig.6 & Fig.7** with buildings responsible for the lions share, the challenge to us is colossal. **Fig.8****

Especially when seen in the context of the miniscule reduction to the emissions from dwellings made by all the insulation, draft-proofing and double glazing that’s been done over the past 25 years. Fig.9

A dramatic increase in the generation of electricity by renewable means is proposed by the White Paper, with part of this envisaged to come from buildings producing there own power. Fig.10

But, set against the overall use of ‘Climate Changing Carbon emitting fossil fuels’, it has negligible effect on cutting overall emissions. Fig.11

Unless, that is, ‘Energy Efficiency’ is first employed. Fig.12

It is the effects to come from achieving a 25% overall cut to emissions, said to be economic by 2020, through more efficient use of energy, which really makes the breakthrough and also enhances the relative effects of the renewables to substantially reduce fossil fuel dependency and its resulting emissions.

The greater portion of that 'Energy efficiency' challenge comes to our industry, -- in short,-- to us.

So much for the challenge ahead.

What about the delivery and the policies, which can enable this?

Fundamentally, unless we can influence financial and investment flows so that every £, € and \$ spent is done in a low carbon way, we will fail.

Right now across the globe, millions of everyday decisions are taking place, which affect the climate. What car shall I buy? Should I specify this building to run on gas or oil, like I've always done – or do I widen this to include modern Bio source fuels? Will we opt for gas condensing systems rather than standard ones? How much efficiency and zero carbon energy are we going to factor into this building development? Do I invest in a company that is opening up pristine wilderness to oil exploration, or not? Too much at the moment the wrong decisions are being made for reasons of inertia, short-term economics, lack of information and awareness, insufficient confidence in doing something new, indolence and an attitude which looks to make quick profits today at the expense of tomorrow. That's the opposite of sustainability, which is often more easily understood by reference to 'what it is not'.

Undoubtedly our industry can play an important role through education, information and leadership. But Government too must play its role. We've pledged our commitment to partnership with Government, but to make that real the pace must be picked up by them and some hard decisions taken.

The UK's Energy White Paper had superb vision and good analysis. The pace of delivery of its core message however is way too slow. Of course you need to give industry early warning of changes to regulations and standards, but not at the, sometimes glacial, pace we seem to be travelling. So let me be specific on just a few things that could make a difference and allow us to do our bit. I'm taking them from the present draft of our implementation proposals that we will be delivering in March next year.

Fig.13

- 1. Make the aspirational 20% renewables target legal and give a clear signal that the renewable growth doesn't stop in 2010. The problem with the current 10% target is that it has become a ceiling and not the target, and the delivery will be well below this because companies are incentivised to opt for smaller renewable outputs at high prices and profits. Make the 20% target by 2020 clear and legal and watch that change overnight so that UK renewables capacity rises rapidly.**

- 2. Cheap energy has been a mantra for 15 years in this country. Its days are numbered and prices are already rising – a point made honestly by the Minister at a recent Fuel Poverty conference. The current low electricity prices – (well, for the commercial sector anyway as most of the cost savings were never passed on to the domestic consumer) – are simply unsustainable and will end soon. Pressure on gas prices is relentless and don't expect the Russian gas companies to offer cheap fuel as our own supplies begin to diminish. And what will we trade to buy it with anyway.**

Government's like the UK have to own up about this and embrace higher prices as the vehicle for higher efficiency and more attractive renewable economics. Or at least bring in carbon taxes to reflect the serious damage caused by cheap fossil fuels.

The UK Government could provide a strong lead by ensuring that carbon shadow pricing is included in all new public sector investments, as a prelude to full carbon pricing in all sectors.

- 3. The PFI is an area of Government policy that the Minister will be familiar with. Yet it is sadly lacking with regard to the low carbon aspirations of its clients. I know of one case in Scotland where a Health Trust had strong carbon reduction targets and were keen on using local wood for a modern wood heating system. The PFI winner had no obligations to respond to this and simply built an oil boiler as usual. The Trust had to buy a small piece of adjoining land to build its own wood heating system and pipe the heat into the new complex. What a waste of money and time! I hope that the Minister will tighten up this silly anomaly and make sure that PFIs have to adhere to the best standards of low carbon construction and energy supply. With hundreds of schools, hospitals and other buildings coming via PFI this is essential if we are not to build up a long legacy of polluting, minimum standard buildings for the future. Life cycle analysis is the key here, yet too often PFI is all about keeping capital costs low without much concern about running costs. That's old school thinking and should have no place if the Government truly believes in its 60% carbon reduction target.**
- 4. Get a move on with regard to the introduction of the EU Buildings Performance Directive. We are running perilously close to the introduction of this legislation, in 2005, and yet internal government battles are delaying agreements on the scope of the Directive so that building owners and users don't know what they have to do and when.**

Yet it is important to acknowledge and applaud, as we certainly do, the government in recognising the fundamental need to immediately up-grade the Part 'L' of the building regulations in pursuit of building energy efficiency. A keystone to achieving the White Paper

So before handing over to the Minister, whom I'm absolutely delighted to have here today -- 'our own, first, Minister for Construction, someone who is not averse to leaving his script and speaking his mind --the anti-dote to spin"-- let me just conclude with a final thought.

When the head of the Tyndall Climate Centre says that: "this climate excursion is already close to what high-level scientific consensus has identified as 'dangerous interference' with the planet's life support systems" it's time to act.

In the calm before the storm you have time and money to do things that can help a great deal later. When the storm is about you it is too late to lament that you didn't adopt better building standards and approaches. It is too late to wish that you had developed the enormous local renewable resources, free from Middle East security concerns more quickly. There is no point in adopting an approach, which waits for the storm and then tries to do in panic and at high costs and at a time when economies are reeling, what we can do now with foresight, planning and cost-effectiveness.

Sustainability means acting now, not later. In the construction industry we accept responsibility for 50% of global carbon emissions and we know what we have to do to cut that in half before we even get onto more radical design and operational solutions. No more warnings are needed. **Fig.14 No excuses are acceptable; - Let's get on with it – TODAY.**
