

Ian Pearson, UK Minister for Climate Change and Environment, speech at Charles University, Prague, Czech republic 24 May 2007

“The challenge of climate change, or a new Industrial Revolution?”

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It is a real pleasure to be here in this illustrious institution. Nearly thirty years ago, I visited Prague to discuss philosophy, politics and economics, only then it was in secret, in rooms in people's houses, with members of Charter 77 and other who lived in fear of arrest but whose only crime was a love of philosophy. It has been great that the 'velvet revolution' has allowed the University once again to take its place as one of the key centres for learning in Europe.

The changes seen here at the University are just one part of the fundamental changes which have swept across this region over the last 20 years. When I was first here there was still an artificial line drawn across Europe – East and West – with two different political and economic traditions which had been completely opposed for nearly 50 years. The amazing progress since then – culminating in the expansion of the European Union in 2004 – has finally ended the divide between the 450 million citizens of Europe.

There are no better examples than this magnificent city of how to embrace this profound change. Prague now embodies modern Europe, whilst still celebrating its history and culture.

But, if the scientists are right, and I believe they are, Prague and the whole of Central and Eastern Europe are about to experience further change. This time not political or economic change but environmental. And no less dramatic than what has happened before.

Science

Let us be clear. Climate change is the greatest long term threat facing the world today. Over 2500 scientists, under the auspices of the UN Intergovernmental Panel on Climate Change, have concluded that our climate is warming at an unprecedented rate and that mankind is responsible. Globally eleven out of the last twelve years rank among the twelve warmest years every recorded.

(Slide 1) Atmospheric levels of the key greenhouse gases, particularly carbon dioxide, far exceed anything seen in the last 400 thousand years. Levels have increased 35% since the start of the industrial revolution in the 18th century.

Clear signs of warming are already being seen – radically different from anything previously observed *(Slides 2 and 3)*. Globally, sea levels rose by about 20cm during the 20th century and continue to rise at a rapid rate. There is widespread retreat of mountain glaciers and winter snow cover *(Slide 4, 5, 6, 7)*. The frequency and intensity of drought has increased substantially over the last 30 years affecting more and more parts of the world.

There are some who doubt the science. Who continue to try and explain away climate change by natural climate variation or even changes in the Sun. However, I believe the evidence is overwhelming. The IPCC's fourth assessment report – the most authoritative report to date on climate change – evaluated all available evidence on the possible reasons for our changing climate. They concluded that it was very likely – over a 90% probability – that the changes already seen were due to human activity (*Slide 8*). Therefore the debate is no longer about whether climate change is happening, but how it can be stabilised. The science is robust. The consequences are clear. The need for action is certain.

Future impacts and adaptation

And the climate will continue to warm. We are already committed to further warming over the next few decades from past human emissions alone. The IPCC's best estimate is that by the end of the century temperatures will be between 1.8 and 4 degrees centigrade higher than today (*and could be as high as 6.4 degrees*). Even at the lower end of that scale – somewhere around two degrees – we start to see dangerous climate change. At that temperature rise 95% of the Great Barrier Reef disappears. Sea-level rises could displace millions of people in low-lying countries such as in Bangladesh (*Slide 9*). And as glaciers melt around the Himalayas, water resources for up to 500 million people in China, India and much of South Asia are likely to become more scarce.

(*Slide 10*) But Africa is hit hardest. Crop yields in Africa could fall by at least 10%. Disease may become more widespread. We may see 40–60 million more malaria cases a year. Dengue fever, cholera, dysentery – all diseases that are climate sensitive – can be expected to increase in future. Christian Aid (*a British development charity*) estimate that by the end of the century 182 million people in sub-Saharan Africa will have died from climate change associated diseases.

The number of refugees created by climate change could dwarf that caused by conflict or political or economic necessity. When land becomes inhabitable due to crop failure, flood or sea level rise people will move in search of better conditions. By 2050 up to 200 million people could become environmental refugees. Fewer natural resources also fuels conflict exacerbating this problem.

Europe is not immune from the effects either. Winters will become warmer and wetter with summers hotter and drier. Flood risk in winter will increase substantially. Summer will bring drought and greater risk of forest fires. Human and animal diseases unknown in Europe till recently like bluetongue and West Nile Virus will take advantage of the warmer conditions. Food poisoning and skin cancer rates will increase.

Our biodiversity will also be affected. We're already seeing species moving north and to higher ground. In the UK Spring now comes 10 days earlier than it did 30 years ago. Invasive species will move in. Parasites, fungi and bacteria will increasingly survive warmer winters. All putting additional pressure on native species and increasing extinction rates.

The devastating floods experienced in this city in 2002 – which across Europe resulted in nearly \$16bn of losses – and the heatwave of 2003 that resulted in 35,000 extra deaths across Europe have already given us a flavour of what may be to come. These events are likely to become more common in a changing climate and we need to be prepared to deal with them.

The impressive architecture in this city has stood for many hundreds of years. Many people assume these buildings will remain for evermore. But the changes we are now experiencing are going to be faster and more dramatic than anything we've seen before.

In the UK we've looked at the effect climate change may have on our historic buildings. We've found that Pests and insects are less likely to die off as winters warm up. This can be a real problem for the lovely beams and vaulted ceilings of our Cathedrals. We are already seeing an increase in the death watch beetle. Those buildings on clay may experience subsidence, lead flashing may move due to hotter weather and buildings with shallow foundations are put at particular risk if they flood.

Helping our historic buildings prepare for our changing climate is just one of the ways we will need to adapt. All of us, Governments, businesses and individuals need to think about how the decisions we make in our everyday lives could be affected by our changing climate. This can be about decisions on whether to build on land at increasing risk from flooding or how to adapt our homes to a different climate.

Economics of Climate Change

And of course as the Stern Report made clear last year climate change is not just a threat to the environment. Failing to tackle climate change could cost between 5–20% of global GDP. It is the costs of inaction, not action, that are the threat to growth.

Addressing climate change now makes economic sense. If we want to keep our economies vibrant and growing we must reduce our emissions. The financial costs of not doing so – to Governments, businesses and individuals – are huge. Extreme weather events are already costing the global economy tens of billions of dollars each year and this will only increase with climate change.

To do so we must start taking carbon out of our economies. All of our economies must become transition economies – from economies that are reliant on carbon intensive fossil fuels to low carbon economies.

Countries such as the Czech Republic have already shown how economies can be transformed in only a short period of time – changing fundamentally the basis for how they operate. I believe we need to look at that experience as we seek to change the basis of all our economies away from their reliance on carbon.

Vision for Europe

Europe has already led one industrial revolution. I believe it's now time for it to lead another. But this time, a revolution in the use of environmental industries and new

technologies. A low carbon revolution with innovation at its heart. Where the future of every industry is to become an environmental industry.

I want to see a Europe where we take carbon out of our electricity production (*Slide 11*). Where we expand our use of existing technologies such as renewables and nuclear. Where we put into practice emerging technologies like carbon capture and storage. And where we invest in research, to help develop as yet unknown technologies which can help us reach the ultimate goal of carbon neutral power generation.

I want to see a Europe where our buildings are designed to save energy not consume it (*Slide 12*). Where all existing buildings are insulated and new buildings zero-carbon. Where homes and offices start to become part of the solution as well as the problem – generating their own energy through microgeneration and supplying it to others. Making use of community solutions like distributed generation and community heat and power.

One of Europe's greatest technical achievements was the invention of the internal combustion engine. But it's now time for it to adapt to a world where our transport solutions must reduce their reliance on fossil fuels (*Slide 13*). The future must be of increasing use of sustainable biofuels, of alternative technologies such as electric and hydrogen fuel cell vehicles and innovative approaches to public transport.

And as individuals we must learn to understand our carbon footprints and what we can do to reduce it in our everyday lives.

I believe this future is within our grasp. And it will bring huge benefits. Not only will it help us prevent dangerous climate change it will provide greater energy security. Enabling us to reduce our dependence on supplies from outside Europe, where energy is being increasingly used for political leverage.

The progress made with new technologies has been astonishing. The environmental industry sector is expanding dramatically. In Europe its turnover is currently €227bn a year and it sustains 3.5 million jobs. This is expected to triple or quadruple in the next 10 years and may grow even faster. The potential for jobs and growth from the sector is enormous. Globally, it is expected that by 2010 the sector will be three times the size of the civil aerospace industry.

International action

But to make a real difference to climate change action in Europe will not be enough. We need international agreement. The United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol are only the first stages. As the first phase of the Kyoto Protocol expires in 2012 we need to ensure there is a comprehensive international framework in place to tackle this greatest of threats.

I believe the framework will need to establish a goal of stabilising greenhouse gas emissions in the atmosphere. It will need developed countries to continue to take the lead with binding targets, but also further fair and effective contributions from other countries based on the principle of common but differentiated responsibility. We will

need to ensure there are effective mechanisms in place to support these commitments through enhancing the role of the carbon market and in how we deploy technology and addressing the significant emissions from deforestation and international transportation.

This year is an important one in achieving agreement on a post-2012 framework. The G8 and UN discussions could prove to be the turning point needed if we are to take effective action to tackle climate change. The European Union's influence was critical in establishing the Kyoto Protocol, as it will be again in the forthcoming negotiations. Europe is uniquely placed to secure this policy on a global scale. More than ever before, all the nations of Europe – including the UK and the Czech Republic – need to work together and continue to show the leadership which the rest of the world needs to tackle the acute and unavoidable issue of climate change.

The European Union has the credibility to lead international discussions because of its commitment to tackling climate change at home. The decision at Spring council to adapt a unilateral 20% emissions reduction target cemented the EU's reputation as a world leader, and builds on other achievements such as the world's first international emissions trading scheme and ambitious renewable energy targets. The EU commitment to go further and agree a 30% reduction if others countries follow is a challenge to them to step up to the mark and join us launching full and comprehensive negotiations on a post-2012 framework at the UN Climate Conference in Bali at the end of this year.

Action in the UK

In the UK we recognise the importance of demonstrating leadership by example. Our draft Climate Change Bill, the first of its kind anywhere the world from a Government, was launched in March. It proposes legally binding targets to reduce carbon dioxide emissions by 60% by 2050 and 26–32% by 2020.

By providing a credible and long-term legal framework, we will enable business and individuals to plan and invest with greater confidence and clarity in order to really deliver the changes needed to move to a low carbon economy. The use of five-year carbon budgets, set 15 years ahead, also provides the balance between certainty and flexibility to manage this transition.

In the UK, there is a striking degree of consensus between UK business and the environmental lobby on some of the key issues around tackling climate change. Many British businesses have seen that cutting emissions and increasing efficiency makes business sense. Some of our largest businesses are rethinking the way they work so that they can take carbon out of their business.

For example Tesco, our largest supermarket, have set a target of halving their energy intensity by 2010. They are switching to low energy lighting, phasing out HFCs in refrigeration, investing in renewable energy and increasing the efficiency of their distribution system to make fewer trips by road. Thereby both saving money and cutting emissions. They are also promoting energy efficient products, so encouraging their customers to play their part in reducing emissions.

I'm proud of Britain's achievements in tackling climate change. We are one of the few European Union countries, not only to achieve its Kyoto target, but is actually on course to double it – with a cut of 23 to 25%. At the same time we have shown that you can have sustained and continuing economic growth whilst still cutting emissions. We have exposed the myth, which is often stated, that you can't have growth and tackle climate change.

In the last 10 years, Britain has had the first economic cycle since our Industrial Revolution in which the link between economic growth and pollution growth has been broken – with 28% growth in our GDP with an 8% cut in greenhouse gas emissions. We have achieved that whilst improving our competitiveness, maintaining high and stable levels of employment and enjoying our longest period of sustained economic growth for over 200 years.

Conclusion

By 2050, the world economy may be 3 or 4 times larger than today, and emissions will need to be a quarter of today's. We need to start taking action now if we want to prevent catastrophic climate change in the latter half of the century.

Yes, there are difficult decisions. But a low carbon economy can be good for business, good for the environment, and good for citizens.

If we – the nations of Europe – can work together, harnessing our investment, our creativity and our innovation, our economic power and our market potential, we stand a far better chance of safeguarding our planet, securing sustainable economic growth and achieving the social justice we want for coming generations.

We also have to show the poorer countries of the world that we are all prepared to play our part. This is a moral as well as an economic and environment imperative.

Each of the challenges of climate change is also an opportunity: for new markets, new jobs, new technologies. For cleaner, healthier and greener communities, countries and continents.

This is not a threat to our competitiveness. It is the key to our future ability to compete in a world in which the sustainable use of resources and environmental technologies will become increasingly important. History has taught us that, in the 19th Century, nations learnt to produce on a massive scale. In the 20th Century, nations learnt to consume on a massive scale. And in the 21st Century, we are going to have to learn to sustain on a massive scale.

It's still possible to avoid the worst impacts of climate change but it requires strong and collective action. Delay will be costly and dangerous. This is the biggest challenge facing this planet. We are all affected. And we must all agree to take action for the sake of ourselves, for our children, and for their children.

Thank you.