



Theme and Objectives

Introduction - Low Carbon Cities

The planning and delivery of low carbon cities is a hugely important topic with massive implications for the future of our planet. Atmospheric levels of carbon dioxide are some 35% higher than they were before the start of the industrial revolution just over 200 years ago and they continue to rise. According to the United Nations' International Panel on Climate Change (IPCC): 'Warming of the climate system is unequivocal, as is now evident from observations of increases in the global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level'. There will be a range of effects across all continents of the world, often through extremes of drought or flooding, and many of the world's major cities face a particular threat from sea level rise.

If we are to avoid the worst effects of climate change, we will need to step up greatly the limited efforts that we are making so far to reduce greenhouse gas emissions. This will require an unprecedented level of international agreement and a concerted programme of action. 2009 will be the pivotal year for the environment because it will culminate in a major UN meeting to be held in Copenhagen in December. This is charged with agreeing a successor to the Kyoto Protocol.

We face the threats from climate change at a time of continuing world population growth, with rising material expectations over much of the globe, but growing concerns regarding the adequacy of food and water supplies and of other key resources, particularly oil. The IPCC scientists tell us that if we are to stabilise greenhouse gas concentrations in the atmosphere at a level that would avoid potentially catastrophic climate change, we must act to ensure that global emissions peak within the next ten years or so, and then steadily decline. But the present trend is in the wrong direction. The world continues to increase its use of fossil fuels, we consume ever more, car and air travel continue to expand and deforestation, which reduces the earth's capacity to absorb carbon dioxide, continues on a massive scale.

How then do we 'square the circle' and drastically cut greenhouse gas emissions as the scientists recommend? What are the choices that are available to us? To what extent can we rely on technological advances such as carbon capture for fossil fuel power stations, and greener ways of powering cars? What reliance should be placed on renewable energy to meet our needs? Does the creation of a market for carbon form part of the answer? Or should the future lie in the pursuit of new and less resource intensive paths for human development? The likelihood is that the necessary action will involve a combination of these options.

Over half of the world's population now lives within cities. Because they concentrate people and activities, they place a particular burden upon the world's resources. Thus, in terms of ecological footprints, the extent to which places draw from beyond their own boundaries to sustain current levels of consumption and waste discharge, London is thought to have a footprint almost 300 times its geographical area. Thus, cities are crucial in the search for sustainability and, if we are to put the world on a lower carbon path, action based upon the cities will form a major part of the solution.

The 45th Congress explores the role of planning, and of all those involved in the planning and development process, in the drive to achieve less resource intensive, low carbon cities. The theme marks a logical progression from that of last year's event which addressed the reality and consequences of urban sprawl. In sustainability terms those unrestrained, land consuming patterns of growth are the opposite of what we need to achieve and, encouragingly, speakers at that Congress were able to point to numerous examples of schemes where planning has been able to shape cities that are more respectful of the environment in its widest sense.

This Congress continues this debate, although, given the urgency, it has an even more practical emphasis. While the need for adaptation to the inevitable climate change that is 'in the system' is not ignored, we seek examples of

plans, developments and approaches that are achieving, or promise, much reduced greenhouse gas emissions. How, in practical terms, should low carbon cities be planned, designed and delivered? The intention is that the Congress should bring together a wealth of such experience that we can share, and disseminate more widely for application in our daily planning work. With its compact form, and innovative urban and transport policies, Porto will provide an excellent setting for what should be a most stimulating debate.

A Green Congress

As befits the title Low Carbon Cities, our aim is that this should be a 'Green Congress'. Events such as this attract participants from all over the world, and we are conscious of the fact that, through our flying and other travel, we are, ourselves, contributing to greenhouse gas emissions. Therefore, as part of our intention to move towards becoming a carbon neutral organisation, we have taken the important step, this year, of seeking to offset the carbon emissions associated with the Porto Congress. In this, we will be working with the well respected offset provider, Climate Care. (Details can be found at: www.climatecare.org)

At the end of the Congress, a calculation will be made of how many tonnes of CO₂ our travel and our activities in Porto are likely to have generated. Based on that tonnage, a payment, which will amount to a very small proportion of our fee income, will be made to Climate Care which will then be invested in energy reduction projects in developing countries. We are confident that, by acting in this way, we will not only be addressing our Congress related emissions but we will also be helping to spread low carbon technologies. This approach has significant sustainable development benefits, both locally and globally.

The Parallel Workshops

At this stage, five workshops are planned, although the number might change depending upon the number of papers accepted. They all provide scope for both theory and practice, and especially for 'lessons learned' described in specific case studies. **Authors are invited to target their contributions to one of the workshop topics, and to address the specific questions that have been posed.** While this does not exclude other possible papers, there should still be a reasonable fit with one or more of the workshop topics.

Workshop 1 – Tackling the effects of climate change on our cities and urban regions – today and tomorrow

The increasingly sophisticated climate change models are now becoming able to predict the likely effects of temperature and weather changes at a world region and sub regional level. For example, within Europe, the likelihood is that many areas that are already dry will become even drier while regions that are already wet will receive even more rainfall. Worldwide, sea level rise threatens the integrity of many coastal cities while extreme weather events will increase in their intensity. On the other hand, some regions might benefit in the medium term, in terms of crop yields, for example, before negative effects become more general. What are the realities, and how should man respond in different parts of the world?

The matters to be covered in this workshop include the following:

1.1 *The realities and manifestations of climate change* What are the realities and costs of such change for individual cities and urban areas in economic, social and environmental terms? Is existing, and forecast, change perceived in terms of flooding or water shortages, the creation of urban heat islands, human health or other effects, or a combination of these?

1.2 *Adaptation, mitigation, or both?* What is the right way forward for specific cities. Is it to ***adapt*** to observed and anticipated climate change? Or should the emphasis of the cities be on ***mitigation***, to tackle the causes of climate change, as part of the collective effort to reduce the build up of greenhouse gases? The view of the IPCC is that, globally, a mix of strategies that includes both mitigation and adaptation is required, but which ingredient should be prioritised in any specific city, or are both equally important?

1.3 *Climate change as a stimulus for innovation?* What opportunities might arise for new technologies aimed at saving energy or reducing resources? What might be their implications in planning terms? To what extent might climate change give rise to new opportunities for the use of land, for example through agriculture or tourism?

Workshop 2 – Strategic Land Use Planning for Low Carbon Cities

The link to planning is through the concept of sustainable development. So how can we best make our cities and urban regions sustainable, low carbon places and how should we formulate and implement our plans to that end?

The questions to be addressed by this workshop will include:

2.1 Sustainable urban structures What forms of settlement are the most sustainable in low carbon terms? To what extent are density, land use mix and accessibility, as well as a degree of self containment, the driving factors – what is the evidence? Given that sustainability has economic and social, as well as environmental dimensions, how should we set the priorities, or are there genuine ‘win win’ strategies that provide clear routes to low carbon cities?

2.2 Planning for growth – which direction? How can planners best channel necessary urban growth? Is land recycling automatically the best option in terms of carbon emissions or can urban extensions or new settlements perform as well, given the right designs? What does practical experience tell us?

2.3 City restructuring What role can planning play in the remodelling, or ‘retrofitting’, of outworn city areas and in the upgrading of older neighbourhoods, in ways that also lead to improved energy efficiency and reduced carbon emissions?

Workshop 3 – Transport, community energy, and waste/recycling strategies

This workshop looks at infrastructure, focusing upon three policy areas that are of critical importance to the environmental quality of our cities, and legitimately part of spatial planning. Thus, efficient public transport systems and measures to manage or restrain the unbridled use of the private car can play a major role in limiting carbon emissions. Local energy planning, providing for energy efficient building layouts and designs, efficient local electricity and heat generating plant, and the widespread use of renewable technology, has also a substantial part to play. And effective waste planning, through waste minimisation, recycling, and composting, as well as energy recovery in appropriate cases, makes better use of resources, and limits landfill disposal and emissions.

The considerations for this workshop will include:

3.1 Efficient city transport systems What is best practice in terms of comprehensive public transport planning and associated links with new development? How are cities planning for more sustainable transport in which improved public transport, cycling and walking are given new priority? How can the need to use the car be reduced and kept within environmentally acceptable limits; for example, what part should parking strategies and other forms of traffic management play? Conversely, what role might there be for the electric car or other low/zero carbon vehicles, and what would be their implications in planning terms?

3.2 Community energy strategies What can be done at the planning level to secure new development that is energy efficient? What is best practice in terms of local generation for electricity and heating, for example through Combined Heat and Power (CHP) and district heating? What part can renewable energy play, in terms of plant that can serve a local area, a neighbourhood, for example, or through microgeneration at a block or individual property level?

3.3 Waste strategies What role can sustainable waste strategies and integrated waste management play in the move towards low carbon cities? What economic, social and environmental benefits can be drawn from treating waste as a resource? In terms of 3.2, what are the pros and cons of energy recovery through the burning of waste?

Workshop 4 – Design for low carbon cities

Planning, by itself, has often been too ‘broad brush’ to cope with the necessary detail for a quality living and working environment. That is the domain of the related discipline of urban design. Good design is the key to creating developments that are sustainable in the broadest sense. There is a growing recognition of what constitutes good design and there are numerous examples from around the world of successful places that both function well and are attractive in architectural and landscape terms. But, it does not follow that these are necessarily low carbon as well. If we are to reduce our demands on the planet, this must be the new and additional aim for urban design and the landscaping that accompanies it.

This workshop addresses urban design from the level of the city neighbourhood, or block, down to that of the individual property. It also covers public open space, including strategies for parks and ecological corridors and opportunities for the growing of food.

The themes to be covered in this workshop will include:

4.1 Low carbon design What are the ingredients for energy efficient, resource conscious, building layouts and designs? What standards of energy efficiency should we be aiming for, and how can we ensure that these are secured within new developments, as well as within existing ones? How can we ensure that places are well connected, while reducing dependence upon the car?

4.2 Open space and landscape strategies What part can open space and landscaping play as counterparts to intensive urban development, in terms of the quality of urban life, human health and well being, biodiversity and moderating the urban climate (countering the phenomenon of heat islands, for example)? How best can we expand and enhance our urban greenspace as an integral part of low carbon cities?

4.3 Food growing To what extent can our cities be planned and adapted to provide enhanced opportunities to produce food locally, thereby reducing 'food miles'. To what extent can the 'waste' generated by our cities be turned to advantage, for example, through the production of organic compost for food growing purposes?

Workshop 5 – The management and delivery of low carbon cities

The move towards less resource intensive, low carbon cities will be a huge task that will place immense burdens upon those responsible, from the public authorities and related agencies, to the developers who will carry out the work and to the communities that will be directly affected. Spatially, there will be two dimensions to this, the new developments that will need to be planned and designed following low carbon principles, and the restructuring/remodelling of older areas that will be particularly challenging. There is also the question of skills, in what for many will be an entirely new area of work.

The matters to be covered in this workshop will include:

5.1 City management – the existing experience How has the task of delivering low carbon developments been managed up to now and who have been the actors? What, for example, has been the relationship between central and local government – who should take the lead? In terms of city governance, has sufficient priority been accorded by the politicians to low carbon cities? How should the low carbon city, and the likely greater cost of its developments, be financed and who should be the financiers? What monitoring schemes have been set up to measure environmental performance over the longer term?

5.2 Innovative practices What new approaches to management and delivery have been tried, and what have been their achievements? To what extent have new sources of funding been the key? What, overall, are the lessons for future low carbon developments?

5.3 Skills for low carbon cities What are the core skills that are needed and where are the gaps? Are multidisciplinary teams required and what should be their make up? For his/her part, how well equipped is the 'traditional' planner and what additional training is required? How can the professionals more adequately engage with local communities to foster a participative approach to the upgrading of local areas on low carbon principles?