INTERNATIONAL COUNCIL FOR RESEARCH AND INNOVATION IN BUILDING AND CONSTRUCTION

INFORMATION

Nr. 1/02

Around the Task Groups and Working Commissions

W108 – Climate Change and the Built Environment

Introducing the New Working Commission and its Coordinator

Geoffrey J Levermore

In its recent Hong Kong Meeting the Programme Committee established a New Working Commission which is a successor of the existing TG21 on Climatic Data for Building Services. Geoffrey Levermore is the appointed Coordinator of this commission. As Professor of the Built Environment, Geoff is employed at the Manchester Centre for Civil and Construction Engineering, University of Manchester Institute of Science and Technology, (UMIST), in England.

NEW COMMISSION W108 – CLIMATE CHANGE AND THE BUILT ENVIRONMENT

Since the creation of the Task Group TG21, climate change has become a subject of international concern, manifested by the signing of the Kyoto treaty. The implications of forecast climate change - whatever actions are taken to mitigate it in the near future - for the design and operation of the built environment are very large, and there is no international research forum dealing with them. Accordingly, an initial proposition has been put to CIB that the Task Group should be converted into a Working Commission on climate change and the built environment. This would give it a more permanent status within CIB, and a much broader remit. The present role of the group in facilitating the exchange of information on climatic data as applied to the design of buildings would continue, but would be part of a much wider range of activities.

Scope

All aspects of building performance, where these are affected by climate change, would come within the scope of the Commission and its membership would therefore be expanded to embrace not only environmental researchers but also those dealing with materials, structures and construction operations. There would be need to be strong interactions with other Working Commissions dealing with these specialist areas.

Objectives

1. To provide a forum for establishing the exchange of weather data, climate change scenarios, research findings and formulating joint research projects on the impacts of climate change on construction and the

built environment, and measures to anticipate and ameliorate such impacts

2. To facilitate the transfer of data and research findings to practitioners, in particular to influence building design and adaptation, the revision of relevant standards, codes and specifications so that these reflect potential impacts of climate change.

3. To be a vehicle through which funding for collaborative research into the impact of climate change on the built environment might be secured.

Work Programme

1. Preparing a review, related to the built environment of:
- climate change scenarios,
- climate change data,
- climate change impacts
- climate change mitigation
- and governmental regulation of building design and plant to
- mitigate climate change impacts in the built environment

in each WC member's and other countries, and putting this information on the CIB website.

2. The preparation of a set of country studies of the potential impact of climate change, each based on the same climate change scenario (IPCC or Hadley model) to provide a common base for information exchange and future co-operation

3. The organisation of a conference at which these would be presented, provisionally scheduled for 2004.

Meetings

Meetings of the Commission would be held annually and would be associated with a research symposium. It is envisaged that the first meeting would be held in late 2002. The programme for the initial meetings would be:

Meeting 1 – confirmation of aims, identification of climate scenarios, agreement on responsibilities for work programme, agreement on actions to secure funding

Meeting 2 - discussion of initial country assessments, agreement on conference programme, discussion of collaborative research

Meeting 3 - (to be held in association with conference) identification of common future research priorities, planning for future programme

Funding for the Secretariat of the Working Commission will be sought from national and international sources but UMIST are prepared to provide a Coordinator and secretary. A WC Committee is being assembled. It is considered that a joint Coordinator in another country will be required.

Commission Secretariat

Prof R Courtney as Secretary (aided by Mr E Keeble, former TG21 Secretary).

CURRICULUM VITAE COORDINATOR

Geoff read Physics at Imperial College, London gaining his BSc, ARCS in 1971 and his PhD, DIC, in quantum tunnelling measurements in relation to the Johnsen-Rahbek Effect in 1974. He then worked at the GEC Hirst Research Centre and then the Jules Thorn Lighting Laboratory. In 1980, whilst heading the Wandsworth Energy Conservation Section he founded the London Boroughs Energy Management Group. He joined UMIST in 1991 from South Bank University. At UMIST he is Programme Director of a new MSc in Sustainable Electrical Building Services Engineering. Currently he is Chair of the CIBSE Weather Panel and Co-ordinator of the CIB Task Group21; Climatic Data for Building Services and he is a corresponding member of ASHRAE TC 4.2, Weather Information. He is author of the book Building Energy Management Systems; Application to low-Energy HVAC and Natural Ventilation Control published in 2000 by E & FN Spon.

Research Interests

Weather data; for design of buildings, plant and natural ventilation, climate change. Levermore is a member of the Tyndall Centre for Climate Change and has organised a successful international conference on Climate Change and the Built Environment in April 2002.
Control and modelling; "intelligent" buildings, low-energy buildings, natural and mixed mode air conditioning, with the use of fuzzy logic and artificial neural networks; Building Energy Management Systems.
Occupant feedback; related to the interior environment with Overall Liking Score and fingerprint, Sick Building Syndrome; occupant control.
Lighting perception; related to coloured light sources and daylight in buildings.