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Adapting the Danish Building Stock and Urban Environment to Climate Change

International conference

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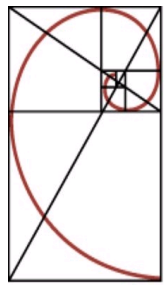
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Programme theme:

Practice

Abstract Title:

Adapting the Danish Building Stock and Urban Environment to Climate Change

Abstract Text:

Buildings are important and play a vital economic and social role in society. They are very vulnerable to climate change and it is therefore an important issue to reduce CO₂ emissions from the building stock; another important issue is to adapt the building stock to the challenges of the future climate. It is important to preserve the value of the building stock through adjustment to future performance-based building requirements, as important buildings have been for centuries. However, in the future, adaptation is expected to be dictated by climate change in contrast to the past when the building stock was dictated by the need for protection. The adaptation needed is strongly related to the climate change expected. Many resources have been spent to define data on the impact of climate change that are relevant for the building sector and more are needed as assumptions change over time. Available emission scenarios from SRES [Nakiæenoviæ, N. et al., 2000: IPCC Special Report] include A2 and B2 [PRUDENCE ,2005], and EU2C scenario [Danish Government, 2008, Danish Strategy for adaptation to a changing climate] are used for describing the climate change expected in Denmark leading up to year 2100. The impact of climate change on the built environment is unknown and also the uncertainty on the individual parameters for example for temperature, precipitation, wind speed, atmospheric humidity, solar radiation and soil moisture. In addition, the consequences of climate change on the existing built environment are not known either, as the vulnerability of the existing building stock has yet to be investigated. The poster will present relevant climate parameters for Denmark including the change in mean year values, as well as the extent of maximum and minimum extremes. Cases will be presented that show climate adaptations carried out on the Danish building stock and specific design solutions will be described. Solutions related to

individual buildings as well as solutions involving the built environment will be shown.

Topic:

06 Adaptation planning and decision tools

09 Adaptation in urban regions

13 Adaptation and human health

Presentation preference:

Poster presentation

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