

Sustainable Cities need Fire Resilient Buildings

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Fire is a disruptive event whether it is accidental, deliberate or a cascading effect from man made or natural disasters. It not only risks to injure and kill people it can also take away critical infrastructure. Besides the immediate effect of a fire the long term effect on the local community can be significant both emotional, economical and environmental.

Our built environment is changing. 21st century buildings need to accommodate a growing population primarily in urban areas where land is scarce. This has led to an increased focus on high rise buildings. The way we live is also changing with a growing preference for big open spaces inside our buildings and often a mixed use of buildings for both residential and commercial purposes. Building materials such as brick, stone and concrete are being replaced with light weight materials and the use of plastic materials within the building envelope is increasing. At the same time, the buildings have to accommodate the needs of an aging population particularly in areas such as Europe and North America.

With increased pressure on the urban environment from population growth, change in demographics and climate change, it should not be acceptable that buildings are lost due to fire. Nor should it be acceptable for fires during extreme natural events such as hurricanes, earthquakes and wildfires to lead to the loss of a significant number of buildings. The fire performance of buildings needs to be an essential part of defining sustainable and resilient cities. Only focusing on life safety is not enough. We need buildings that are Fire Resilient.

The presentation will discuss how focusing only on energy efficiency and sustainability can lead to buildings that are not resilient to our oldest threat fire. Examples from real fires will be shown to emphasise the need for fire resilient buildings. Finally the necessary steps to take to deliver sustainable, energy efficient and fire resilient buildings will be discussed and possible solutions presented.