

Sustainable Architecture–What's Next?

Subjects: Construction & Building Technology

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Sustainable architecture encompasses more than energy efficiency, zero carbon dioxide (CO₂) emission or renewable energy use in the built environment. It also needs to alleviate overall impacts on the natural environment or ecosystem that surrounds it. It may be argued that primitive vernacular architecture (architecture without architects) built and operated using local techniques and resources alone can be considered to be sustainable. Yet later, after the 1992 Rio Conference and its declarations, more specific definitions emerged putting weight on the rational use of land area, materials and energy, preferably local, as well as area efficient planning, economy and recyclability. The advantage of this is to reduce the ecological footprint of buildings and the climate gas emissions from a sector that represents 35–50 percent of global climate gas emissions, depending on how one counts. This paper clarifies concepts, questions cemented truths and points a way forward by asking; what's next?

Keywords: sustainable ; architecture ; Zero Energy Mass Custom Homes (ZEMCH) ; energy ; efficiency ; forecasting ; ethics ; climate change ; log burning

A few months ago, the author of this article had the pleasure to be part of a zoom-union, a 50 years celebration with classmates from first year at the School of Architecture, University of Manchester, England in 1970. The group was supposed to meet in that great city, but the reunion was cancelled, like so many other trips during 2020, due to the Covid-19 pandemic. The way all had adapted digitally since the lockdown started mid-March was impressive. Everybody has been intensively digitalized and the impact of that change was remarkable since it happened in a very short period of time and its long-term positive effects are not yet clear. This paper will not only deal with shaping the notion of sustainable architecture but also speculate how today's COVID-19 pandemic could change the way we think and act from viewpoints of the author's learning experiences as a professor, teacher, researcher, and an architect over the last 50 years. The intention is to communicate and share them in a structured way.

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