

Living and Sustainability: An Environmental Critique of Design and Building Practices, Locally and Globally

Abstract / Initial Proposal Form:

1. Paper / Proposal Title:

The Relations Between Building Energy Performances and Raw Material Scarcity

2. Format:

Written paper and verbal presentation

3. Author(s) Name:

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5. Abstract (300 words):

Through the last decade there has been an increased focus on the global scarcity of raw materials. This has resulted in international reports drawing attention to production methods, products and design methods within the building industry. Conjointly, regulations and demands affiliated with energy performance of the building have

developed drastically since the 1970ies. In order to meet these high performance demands an escalating amount of materials is being used per building.

As an example the Danish building legislation focuses primarily on operational performance as the main issue for a sustainable building culture thereby negating the subject of material scarcity. But when discussing material scarcity within the context of a sustainable building culture concerns regarding durability, effectiveness, flexibility, embedded energy and material recirculation also need to be considered thus displaying the existing regulation and its focus as being simplistic and old-fashioned. This raises a question of whether or not contemporary building legislations, regulations and directives are in- or decreasing the carbon footprint of the building industry?

Through an analysis of EU reports on material scarcity, directives on energy performance and international/national building legislations this article investigates how the regulations are executed. Furthermore, it is discussed how they influence architectural design and the sustainable building culture.

6. Author(s) Biography (200 words each):

Henriette Ejstrup, born in 1985 in Aalborg, Denmark, is a PhD candidate at The Royal Danish Academy of Fine Arts School of Architecture. Her project "The Tectonics of Reuse" was initiated in the fall of 2015 and is based within the Center for Industrialised Architecture (CINARK). It focuses on the tectonics of insulation and reuse in the vernacular architecture and if it can provide 'new' tectonic knowledge to energy optimization of existing single-family houses and industrialised architecture in general. Henriette received her diploma in 2011 at Aarhus School of Architecture with a master in restoration, transformation and infill. In 2012 she worked at COWI surveying Values in the Architectural Environment (SAVE surveys) and worked at the department of competitions at Cubo Architects. From 2013-2015 Henriette held a position as a caseworker at the Danish Cultural Agency handling legislations and verdicts on building projects within listed buildings and providing covers, notes and statements to the Ministry of Culture.

Pelle Munch-Petersen was born in 1981 in Copenhagen, Denmark. He graduated as a constructing architect in 2005. Since then he has been working at Henning Larsen Architects based in Copenhagen. From 2007-2012 he studied architecture at The Royal Danish Academy of Fine Arts School of Architecture. In January 2016 Pelle Munch-Petersen started his industrial Ph.D. studies at The Royal Danish Academy of Fine Arts School of Architecture at the department CINARK (Center for Industrialised Architecture) in cooperation with Henning Larsen Architects – a study that is on-going at this time. The PhD-study has its field of interest in sustainable architecture and the

working title is; "The new Façade Paradigm – Re-cycling – Up-cycling and disassembly in Façade design".