



Criteria for Definition of Net Zero Energy Buildings

Sartori, Igor; Marszal, Anna Joanna; Napolitano, Assunta; Pless, Shanti; Torcellini, Paul; Voss, Karsten

Published in:
EuroSun 2010

Publication date:
2010

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Sartori, I., Marszal, A. J., Napolitano, A., Pless, S., Torcellini, P., & Voss, K. (2010). Criteria for Definition of Net Zero Energy Buildings. In *EuroSun 2010: Book of Abstracts* (pp. 25). EuroSun 2010.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

ZEBs – No Fundamental Progress over the Last 25 Years?

Mr Harald N. Røstvik¹

¹MNAL, Kirkegt 3, 4006 Stavanger Sentrum, Norway

After the many ZEB attempts in the early nineties, the field stagnated and the new mantra was better insulation. Nowadays ZEBs are being revisited as many passive and low energy buildings have been built and are working well. The building profession seem to be looking for more challenging tasks in the direction towards zero energy buildings. The author explores development between 1985 and 2010 and shows own examples of ZEB designs for villages, nations and large buildings over 15 000 m². Most of them have not been published in the architectural journals.

Criteria for Definition of Net Zero Energy Buildings

**Dr Igor Sartori¹ Ms Anna Marszał² Dr Assunta Napolitano³ Dr Shanti Pless⁴
Dr Paul Torcellini⁴ Prof Karsten Voss⁵**

¹SINTEF, P.O.Box 124, N-0314 Blindern, 0314 OSLO, Norway

²Aalborg university, Sohngaardsholmsvej 57, 9000 Aalborg, Denmark

³EURAC, viale Druso 1, 39100 Bolzano, Italy

⁴NREL, 1617 Cole Blvd., 80401-3305 Golden, CO, United States

⁵Bergische Universität Wuppertal, Haspeler Straße 27, 42285 Wuppertal, Germany

The idea of a Net Zero Energy Building (NZEB) is understood conceptually, as it is understood that the way a NZEB is defined affects significantly the way it is designed in order to achieve the goal. However, little agreement exists on a common definition that is based on scientific analysis. The term is used commercially without a clear understanding and countries are enacting policies and national targets based on the concept without a clear definition in place. Commercial definitions may be partial or biased in their scope, hence not suitable as a basis for regulations and national policies. As the rationale behind the promotion of NZEB is to endorse the design of environmentally friendly buildings that promote sustainable development, there is the need to agree on scientifically sound definitions of NZEB, which can then create the basis for legislations and action plans to achieve the political targets. The purpose of this paper is to build upon concepts found literature and expand the analysis coming to identify a series of criteria that characterise NZEB definitions. Evaluation of such criteria and selection of related options becomes a methodology for elaborating scientifically sound NZEB definitions in a formal, systematic and comprehensive way.