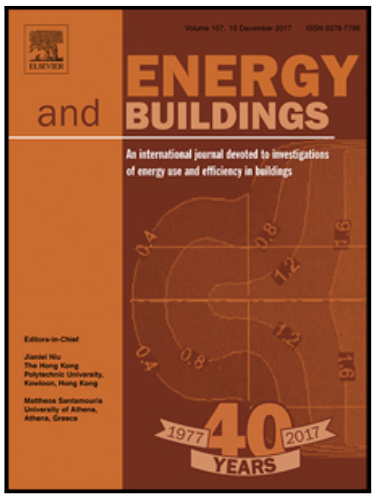

A holistic approach to assess the exploitation of renewable energy sources for design interventions in the early design phases

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PII: S0378-7788(17)33158-4
DOI: 10.1016/j.enbuild.2018.06.066
Reference: ENB 8668

To appear in: *Energy & Buildings*

Received date: 20 September 2017
Revised date: 3 June 2018
Accepted date: 30 June 2018

Please cite this article as: Gabriele Lobaccaro , Croce Silvia , Daniele Vettorato , Salvatore Carlucci , A holistic approach to assess the exploitation of renewable energy sources for design interventions in the early design phases, *Energy & Buildings* (2018), doi: 10.1016/j.enbuild.2018.06.066

Highlights

- A holistic approach for supporting the urban surfaces use optimization is proposed.
- Design and technological interventions at district and building level are evaluated.
- High-albedo materials can counterbalance solar losses due to urban complex shadows.
- The combination of solar analyses with CFD simulations plays a key role in designing DSFs and BIPV.
- Cool materials and green façade could reduce about 1°C the outdoor thermal stress.