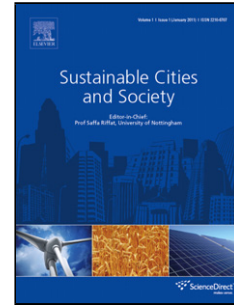


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Sustainable Cities and Society – Special Issue: From sustainable buildings to sustainable cities

Obstacles in energy planning at the urban scale

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Highlights

- Review of urban planning's new requirements and goals to tackle energy issues
- Presentation of a systematic framework to map challenges hindering urban energy planning
- Review of tools and methods to manage “wicked problems”
- Application of the theoretical framework to a case-study in Switzerland

Abstract

Cities are expected to play a key role in achieving the ambitious energy targets set by the European Union. By looking at opportunities beyond the single building scale, urban planners can significantly contribute to shape energy-efficient and low-carbon cities. However, the complexity involved in such a broad task impedes the realization of any simple solution. This paper aims to make clear the many interrelated challenges and obstacles which hinder efficient urban energy planning. After reviewing the new requirements and goals of urban planning and its links with energy issues, a systematic framework to analyze the issues at stake is presented. The importance of such a structured and comprehensive definition and understanding of the problem is discussed, arguing that it is a necessary step to improve and develop adapted solutions which embrace the entirety of the problem. The approach is applied to a case-study in Switzerland, mapping out the different challenges and corresponding solutions related to energy planning encountered in an urban development project.

Keywords: urban planning; energy planning; urban energy system

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