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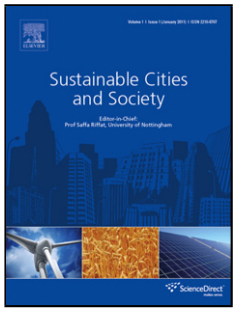

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Energy planning of low carbon urban areas - Examples from Finland

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Highlights

- Urban planners need to evaluate the environmental impacts of design options.
- A method is proposed for a district energy and CO_2 emission analysis.
- Kurke tool is developed to support low carbon urban energy planning.
- The method is tested in two real life case areas in Finland.
- CO_2 emissions can be reduced up to 78% via energy supply choices.

Abstract

During urban planning, city planners and municipal authorities make various choices that impact districts' energy efficiency and emissions significantly. However, they often lack information about the actual effects of the design options. This paper describes a methodology, embedded to a tool called Kurke, that aims to support the planning of sustainable and energy efficient urban areas by analysing the energy performance of city plans and the impacts of their energy design alternatives on carbon dioxide emissions during planning. The methodology supports holistic energy analysis of urban areas, including

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