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Review PhD thesis Ernest Shtepani, M.Arch., second submission

The current review is based on the second submission of the PhD thesis "Energy Efficiency in the Urban Scale" by M. Arch., DipArch. Ernest Shtepani. In my first review, my conclusion was that the work is interesting and relevant, but the thesis text, as a report of the scientific work, lacks coverage and methodological detail to make it clear for others what has been done, what problems have been encountered, which methodological issues were solved, and in depth analysis of the results. In this review therefore, I will report mainly on the changes of the work, where relevant.

The new submitted thesis follows the same structure as the first submission. Chapter 1 gives the introduction of the work. Chapter 2 (theory) is expanded and Chapter 3 explains better the methodology. Chapter 4 (analysis of generated patterns) remains the same, as well as Chapter 5 (optimization by means of evolutionary algorithms). This chapter provides model-based understanding of the relationship between urban form and energy performance. Chapter 6 is a good analysis of the Prague building stock. The inserted double page overviews are helpful to understand the analysis. Chapter 7 provides well-based modest conclusions on the work. It is a pity that the potential link between model understanding of Chapter 6 and stock analysis of Chapter 7 is not worked out more. This is work that is left to future research. The literature section has been improved. The work has been published in a journal and conference proceedings.

To conclude, the work is an improvement of the earlier submitted PhD thesis. On the basis of this work, I can state that work meets the standard of scientific research, and that it can be defended for title of PhD.

Thank you for your consideration.

Prague, 30. 4. 2019



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