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Publication date:
2014

Document version
Peer reviewed version

Citation for published version (APA):
Große, J., Fertner, C., & Groth, N. B. (2014). *Dilemmas of energy efficient urban development in three Nordic cities*. Poster session presented at IARU Sustainability Science Congress, Copenhagen, Denmark.

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Dilemmas of energy efficient urban development in three Nordic cities

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Introduction

Energy is high on the agenda of the European Union and in current urban development. In this study we focus on the role of urban planning in energy efficiency in 3 Northern European cities - **Turku (FI), Eskilstuna (SE) and Tartu (EE)**. The case studies were developed in close collaboration between the authors and representatives of the cities. The research was carried out by field trips, interviews and analysis of local reports and planning documents.

Between two policy arenas

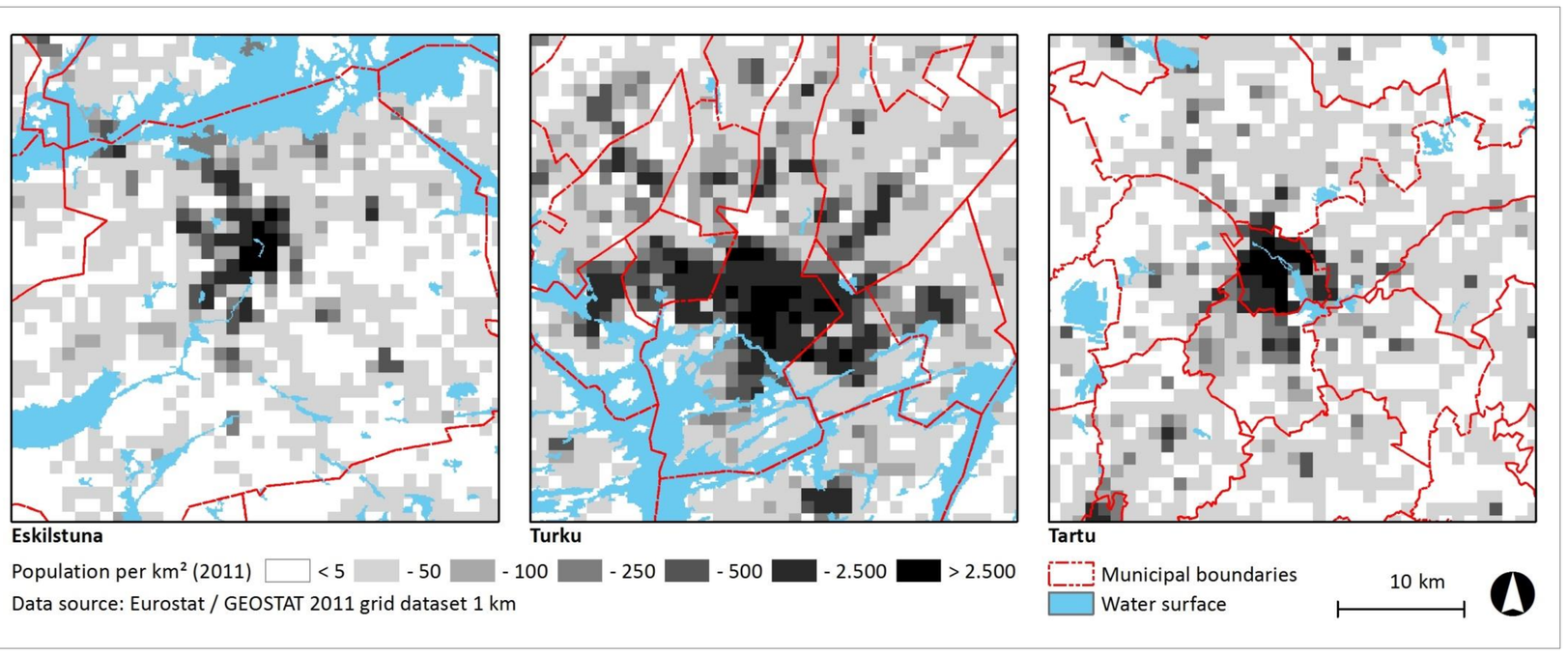
Energy efficiency and climate is an omnipresent issue in **Eskilstuna**. The municipality has a clear "**climate oriented**" strategy and a concrete orientation in planning within the municipal concern (municipal services, energy supply, public enterprises); still, the municipal concern has only a limited coverage of energy related issues. At the same time Eskilstuna follows a policy of **regional enlargement** by tightening relations to the labour market of Stockholm.

Although, Eskilstuna has a notable commitment to energy efficiency, the policies of sustainability are of 'second-order' only compared to the 'first-order' economic driven development of the regional urban system. The refurbishment of urban structure is hardly compensating for the effects of commuting, which is however taken as inevitable. The Eskilstuna case shows very clearly the differences between the **two policy arenas** the municipality is in: The municipality acting as a concern ('planning') and the municipality acting as an agent of energy initiatives ('strategy'). The efficiency of the first is very high, due to an omnipresence of 'sustainability thinking'. The total effect of the latter is, however, much larger.

Conclusions

All three cases exemplify that the actual **scope of action for energy efficiency efforts in urban planning** is to a very high degree determined by the organisation of the planning system, local power relations or the coverage of a municipal concern. Additionally, the actual commitment to sustainability resp. the **driver behind energy efficiency** in national and urban policies determines the content and total effect of set up objectives and measures – either energy efficiency is a subordinate or a leading principle.

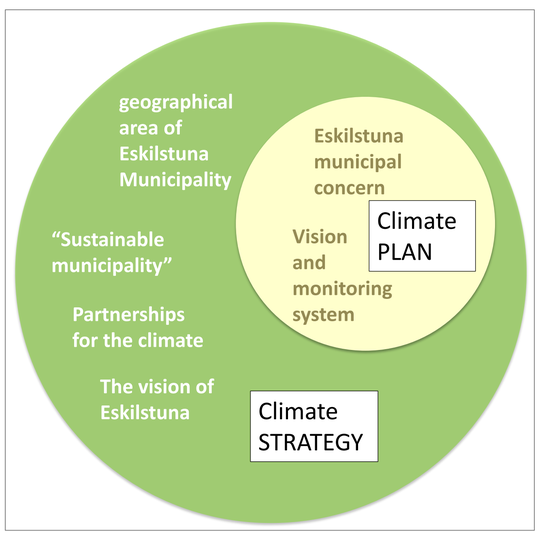
Further research should focus on exploring appropriate possibilities to **extend the scope of action** within the given planning framework in order to enable municipalities to deliver integrated energy efficiency measures and control urban development. Potentials to investigate lie e.g. in the involvement of stakeholders and the **facilitation of alliances** as well as in the targeted use of **incentives** (e.g. to connect to district heating …).



Between co-operation and competition

Finland is characterised by a very fragmented municipal structure, especially in urban areas, and extensive municipal self-government competencies. Regional coordination is dependent on voluntary collaboration of municipalities. Consequently, it is – despite very ambitious targets in energy efficiency issues – very difficult to **address problems crossing municipal borders**, whereon – in terms of urban sprawl – the main effort should be directed.

Turku, as many Finnish cities, is urbanising but in parallel undergoing tendencies of urban sprawl, inducing regional and car-dependent commuting as far as to Helsinki. To coordinate urban development, Turku and 13 neighbouring municipalities have set up the "Structural model 2035" as a **common land-use strategy**, developed out of the national municipality reform. Within this context the Structural model 2035, which aims to have common targets for all significant land use activities, can be seen as a remarkable step towards policy and planning coordination on a regional level.



Left:
Climate strategy of Eskilstuna

Right:
Turku region Master Plan 2035

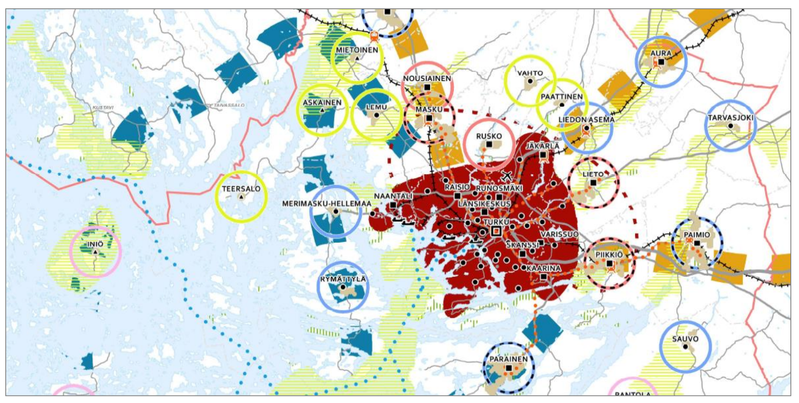
Below left:
Commuting pattern around Eskilstuna *(Roto 2012)*

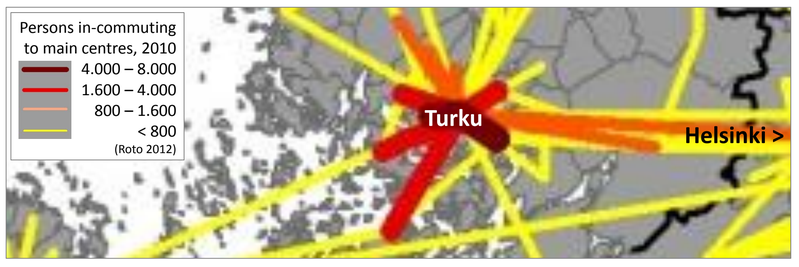
Below right:
Commuting pattern around Turku *(Roto 2012)*

Limited planning competences and spatial confinements

Energy efficiency efforts in Estonia are aiming at fuel independency, but planning lacks concrete measures for energy efficiency on a national or local level. Estonia has set up the concept of "**low-density urbanized space**" – a principle for urban development – in order to meet the requirements of sustainable (compact) urban form while considering the traditional low-density settlement structures in Estonia. However, **Tartu** is facing ongoing **urban sprawl** and car-dependent commuting.

The Tartu case shows the limitations in the actual **scope of action** in terms of territorial scope (municipal area) or planning competences. Tartu's urban planning ends at the narrowly confined municipal boundary. This causes a **gap of cooperation on the regional level**, leading to dispersed urban development in suburban municipalities, and competing developments between neighbouring municipalities. Furthermore, although the main responsibility for planning is at the municipal level in Estonia, Tartu has very limited influence on household decisions due to a high private ownership and strong property rights. Urban planning is '**locked-in**' the framework of local power relations.





References
Eskilstuna kommun (2013): Klimatplan För Eskilstuna
Roto, J. (2012). *Demographic trends in the Nordic local labour markets.* Nordregio Working Paper 2012:13.
Turku region Master Plan 2035

Acknowledgements
This work was done in the frame of the EU-FP7 project PLEEC (Planning for energy efficient cities), GA no. 314704, www.pleecproject.eu

PLEEC
This project is financed by the European Union
SEVENTH FRAMEWORK PROGRAMME