

Strategic energy planning in Denmark

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A study in development and implementation of strategic energy plans in Danish municipalities

Questions to be answered throughout the study:

- What is the existing research in the area of (strategic) energy planning?
- What is new with “Strategic” energy planning compared to the energy planning there has been conducted in the municipals so far?
- How does the municipalities conduct energy planning today?
 - Strategic energy plans – target settings and implementation
 - Barriers in the current planning



What is the existing research in the area of (strategic) energy planning?

Current research:

- Strategic energy planning is a relatively new area and not a lot of research can be identified
 - Broaden the search to include climate action plans and energy plans
- A lot of research in:
 - Energy system analysis
 - Target settings in municipal energy/climate plans
- Lack of research in how to successfully implement the (strategic) energy plans in the municipalities – some barriers are mentioned



Findings in existing research

- There is a recognition of that the municipals are important in order to manage climate change [1]-[7]
- Several studies in municipal target settings in energy and climate plans [5]-[8] show a large variety in the quality of the plans
- Most studies are made in an urban (city) level context, and are not looking at the whole geographic area of the municipality
- Mention a need for strategic energy planning [5],[7], but does not define what they mean.

Barriers mentioned in existing research:

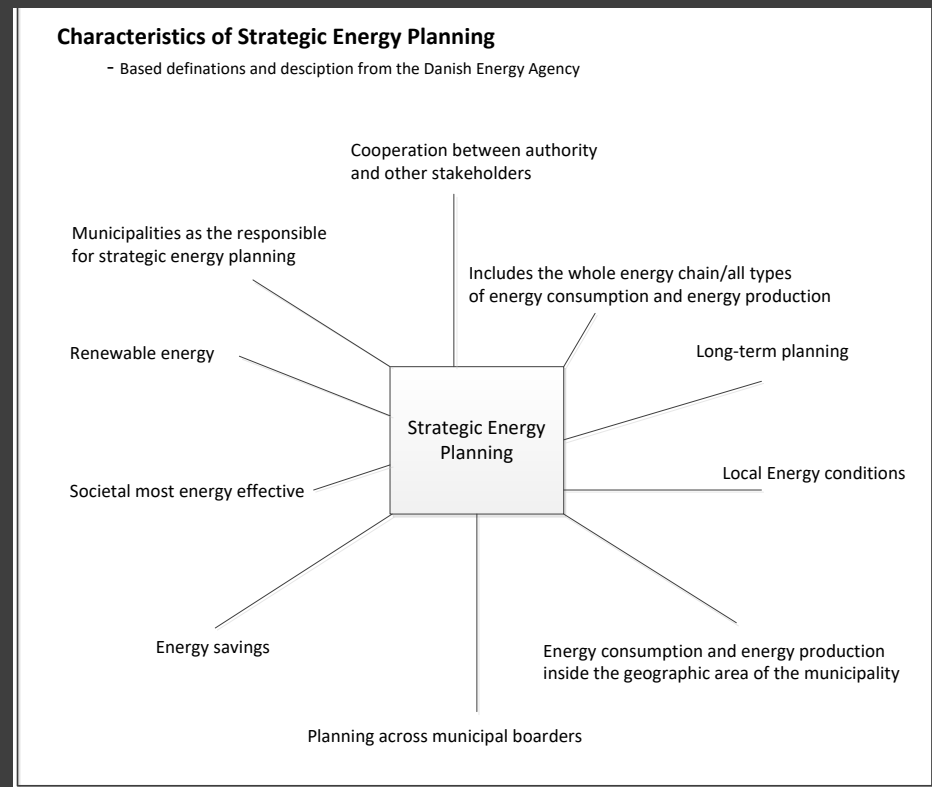
Local barriers	National Barriers
<ul style="list-style-type: none">- Lack of financial resources- Political will/knowledge- Voluntary assignment- Lack of technical skills and knowledge- Use of traditional instruments to communicate with citizens (does not work)	<ul style="list-style-type: none">- No clear description of expectations to the municipalities (not mandatory)- No funds to the local strategic energy planning- No clear definition of strategic energy planning



What is new with “Strategic” energy planning compared to the energy planning there has been conducted in the municipals so far?

- Barrier: No clear (official) definition of strategic energy planning

An discussing analysis of what the new in strategic energy planning is

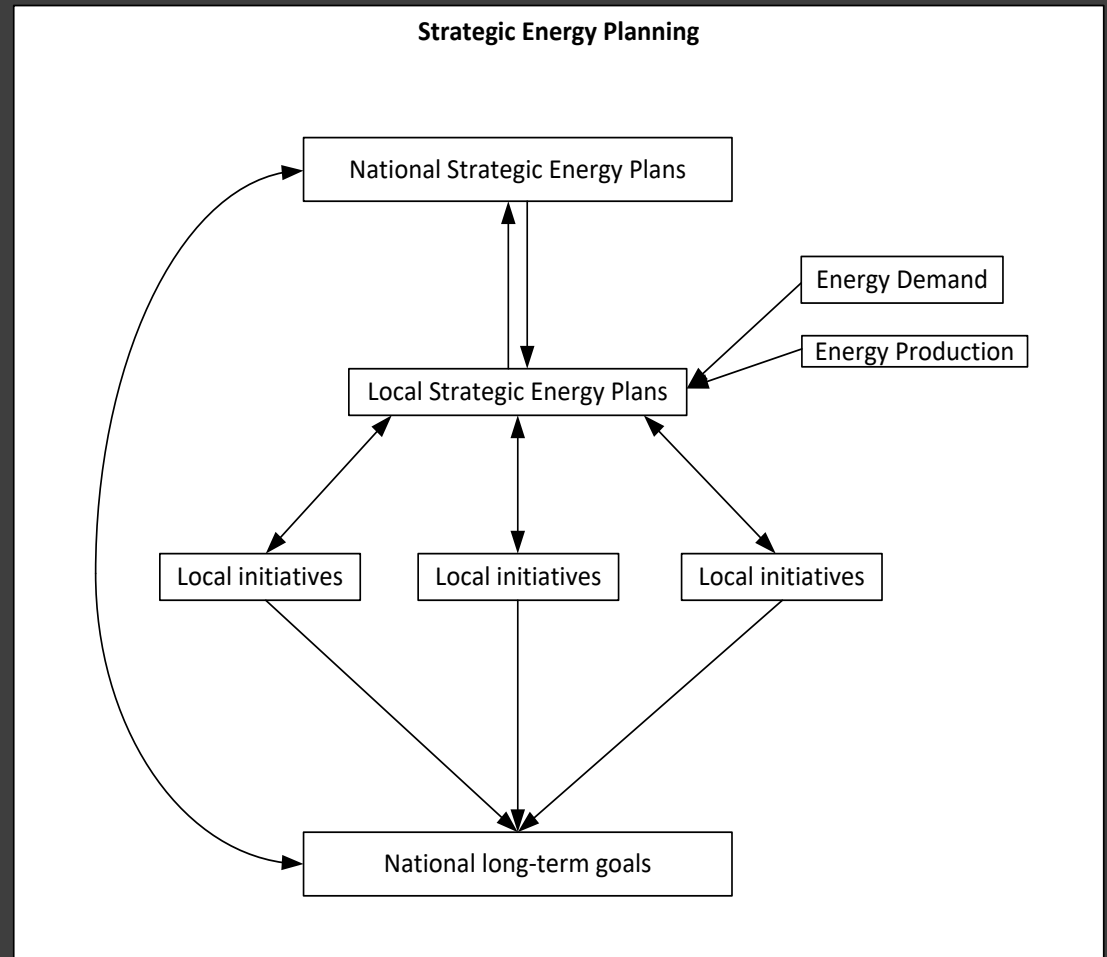


My thoughts:

- System thinking rather than technology/sector thinking
- Combination of short-term and long-term targets
- Vertical communication channels
- Inclusion of a broad variety of actors

Further data collection:

- Interviews:
 - Municipalities
 - Danish Energy Agency



How does the municipalities conduct energy planning today?

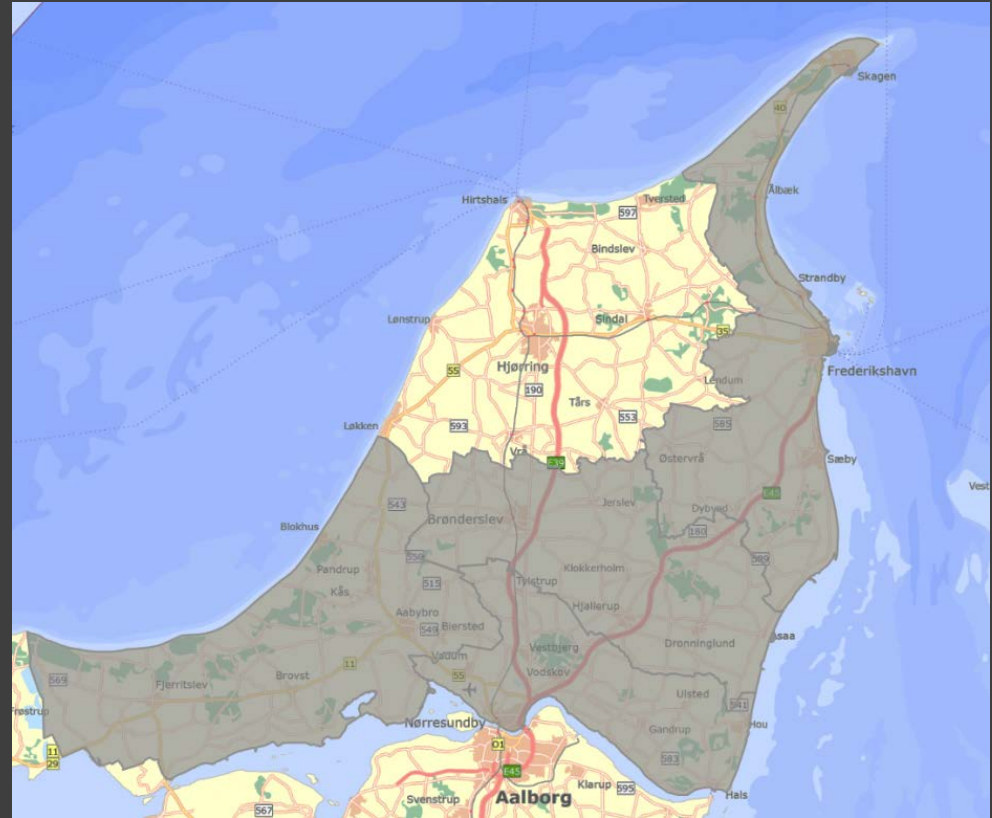
Case study:

Hjørring Municipality
in North Jutland

- Based on their strategic energy plan
- One group interview
- Four individual interviews

Interviews with other municipalities
in order to identify how different
municipalities work

- Identify different approaches



Use the case study and interviews to confirm some of the barriers found in the existing research and to compare their work to my discussion of what strategic energy planning is

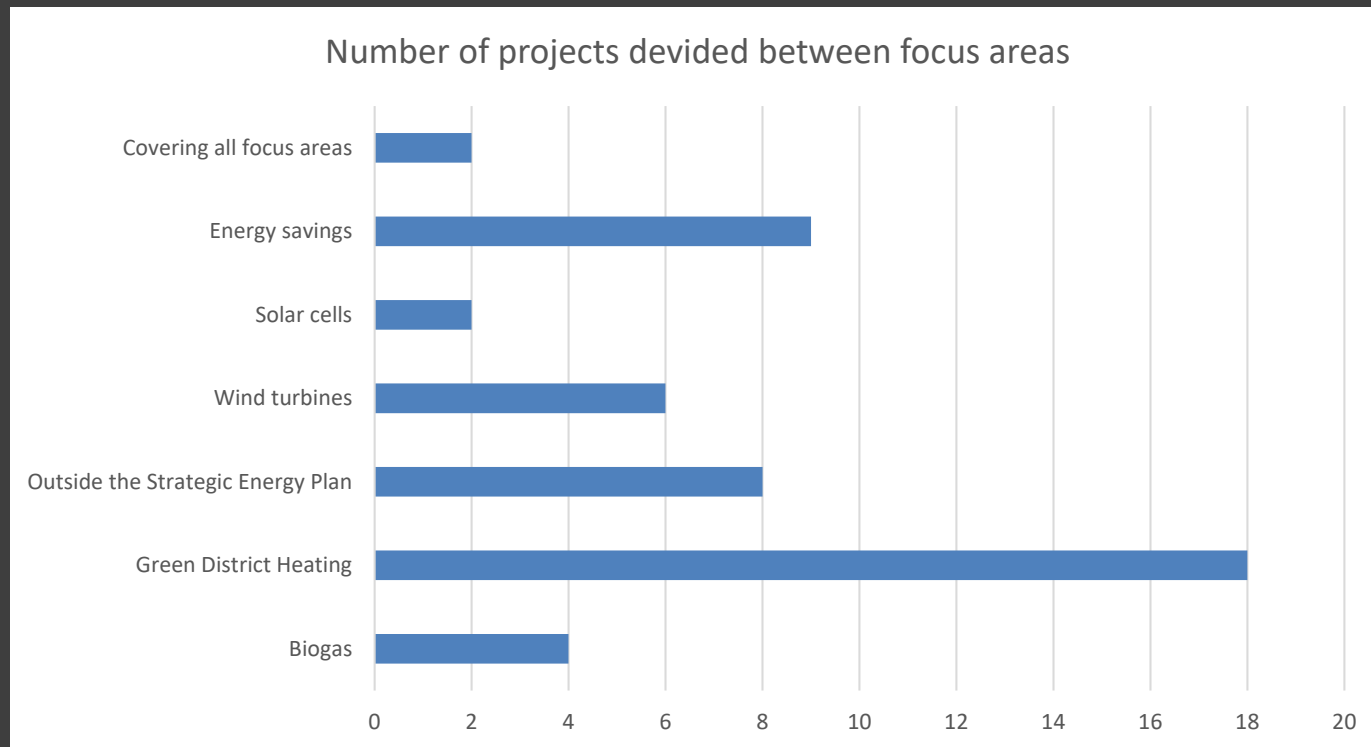


Hjørring Municipal – Strategic Energy Plan

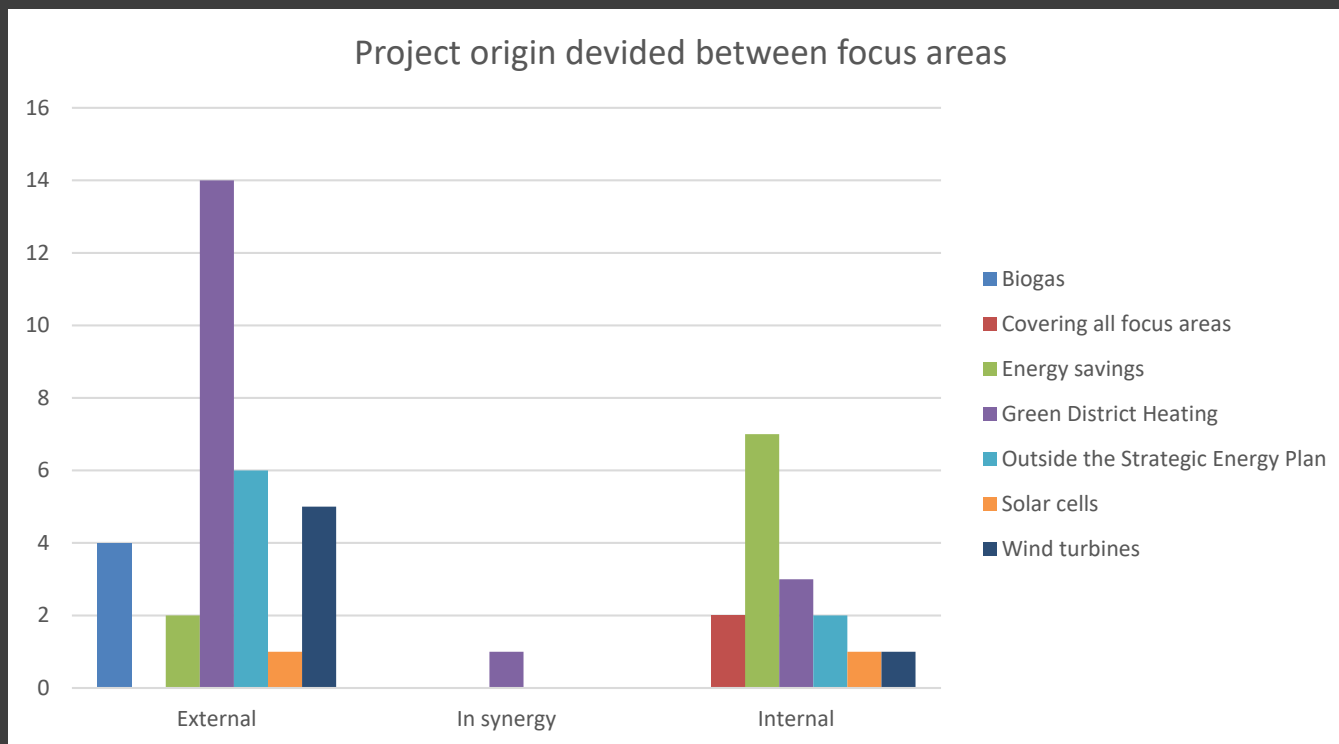
Focus areas	Goals
Energy savings	Reduction in electricity demand by 15 % Reduction in heat demand by 20 %
Wind	Electricity production from wind 1,000 TJ/yr
Solar power	Electricity produktion from Solar 170 TJ/yr
Biogas	Min. 75 % of manura should be used in biogas production
Green District Heating	All distric heating should come from ground heat, solar heat, geothermal, biogas, biomas and/or waste heat.



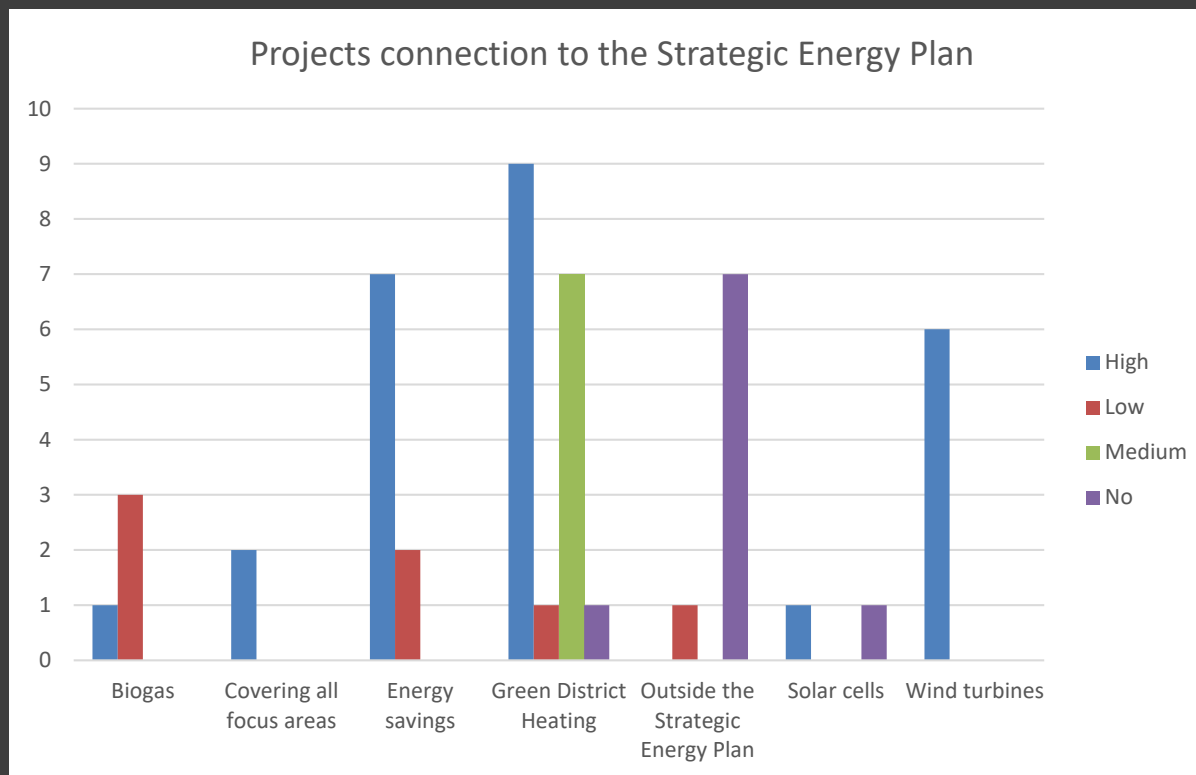
- 49 energy projects was identified (combined projects before and after the strategic energy plan)
- 8 projects was not related to the focus areas at all
- 2 projects covers all focus areas



- 32 projects are developed outside the municipal organisation
- Projects developed internal in the municipality involves often citizens/consumers or are “mandatory” assignments



- The majority of the projects are related to the highly connected to the strategic energy plan
- Projects not connected to the strategic energy plan are either dismissed projects, projects finish long time before the strategic energy plan was developed or projects regarding transportation



Initial findings

- Most of the projects are related to the strategic energy plan
 - but is this a coincidence or a product of the strategic energy plan?
- A lot of the identified projects are projects starting outside the organisation
- The municipality is highly dependent on their citizens to act within the frames they make on the area (cannot force energy initiatives)

The municipal develop a framework through the strategic energy plan, municipal plan and other strategies – but they are highly dependent on citizens/consumer, project developers and other actors to act upon them.

Further investigation

- Compare their strategic energy plan with the discussion on what strategic energy planning is (is Hjørring municipality's plan a strategic plan?)
- Conduct interviews with other municipalities in order to identify how a variety of municipals conduct energy planning today



Questions?

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References:

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