



Energy Communities in Denmark

Good examples and concerns.

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History with cooperatives

- Power sector established as cooperatives and municipal companies 100 years ago
- District heating (now 62% of all heating) established as cooperatives and municipal companies, mainly since 1950
- Centralisation and larger power plants until 1990
- Starting in the 1980's: new decentralisation with cooperatively owned, grid-connected windpower and with gas cogeneration of heat and power (CHP) by primarily district heating cooperatives
- Since around 1998: Less favourable regulations is leading to fewer cooperative windmills and closure of local CHP. This includes open electricity market, stop of feed-in tariffs.

Danish heating: community owned

- 64% of all Danish heating is delivered via district heating systems owned by 350 consumer cooperatives and 50 larger municipal owned non-profit companies
- 67,700 new consumers were connected in 2019
- 60% is from renewable energy and increasing: biomass, solar, geothermal, heat pumps, 70% CHP
- Legislation guarantees the non-profit status
- Loans with municipal guarantees makes it affordable



Wind (community) power expansion in Denmark

- Windmills of economic size became too big for single houses and farms during the 1980's
- With feed-in tariffs of 85% of consumer price for cooperatives, and fair connection costs, the basis was made for expansion of windpower with cooperatives. Total capacity of coop windpower increased from 5 MW in 1985 to 840 MW in 1998. Then preferential rules for cooperatives ended.
- Today new cooperatives can get state guarantees for development costs until 500,000 DKK (70,000 €)
- At least 3500 MW of 3800 MW land based wind power is established by citizens and private investors (but some has later been sold to power companies)
- Total windpower investments from farmers, cooperatives, private investors is over 35000 mio. DKr. (about 5000 mio. Euro)



Local ownership reduces protests

- Nisum Bredning windpower cooperative had no protests to near shore windpower, but Vattenfall got huge protests to nearby project on near shore windpower, 2018
- Hvide Sande local windpower company got no protests for windturbines near harbour, 2011



Danish experiences in brief:

- **With the right legislation community energy can deliver large shares of the energy supply with affordable prices and local support.**
- **Citizens will go for affordable and popular solutions.**
- **Transition to sustainable energy can be faster when community power is part of the development.**
- **Cooperatives can manage large investments, with the right financial and technical advisors**
- **EU internal market regulations have not been supportive to community energy because of "equal access" rules and state-aid guidelines. Now, hopefully new EU rules for energy communities will start a new wave.**

EU legislation Implementation in Denmark

- Denmark is implementing of the the electricity market directive with public consultation August 2020, amended electricity law to be discussed in Parliament in October and voted in November. Renewable energy directive will be implemented in the start of 2021
- The guiding principles for citizens energy communities in EU are:
 - Supportive framework
 - Sharing of power production via existing network
 - Equitable payment for system costs
 - Rights and duties according to roles in power sector (producer, aggregator, user, etc.)
 - Possible ownership or leasing of network

Concerns with Danish Implementation

In current drafts of for the electricity law, the support for citizens energy communities and prosumers is at a minimum. Our specific concerns are:

- Too much regulation delegated to statutory orders, including definitions of citizens energy communities
- The supportive framework for citizens energy communities(CEC) is missing (can come in statutory orders)
- No exclusion from balance responsibility up to 400 kW (from 2026 to 200 kW)
- Each CEC will be dependant of an aggregator
- CECs will not get the rights to own, establish, and manage distribution grids
- The prosumers cannot send electricity between legal divisions of land, even behind the meter
- CECs and prosumers are not able to participate in the power markets without being dependant on an electricity supply company (an energy trading company).
- There is proposed fee to distribution companies for working with CECs, potential barrier.
- The Renewable Energy Directive (RED) provisions are not implemented at the same time as the electricity market directive, creating confusion
- The evaluation of barriers for renewable energy communities according to RED is missing, should be made ASAP and should be a basis for the legal work

Thank you

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