

# Danish Experience with Community Owned Energy

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by Henning Bo Madsen, chair of INFORSE-Europe, Denmark  
International Network for Sustainable Energy - Europe



# Danish Experiences with Community Ownership

## Once upon a time (20 years ago)

- ✦ All electricity utilities were consumer-owned cooperatives or municipal - both production and supply.
- ✦ All district heating companies were consumer-owned cooperatives or municipal - both production and supply. This still applies to supply and very much to production companies.
- ✦ Almost all wind turbines were owned by locally based wind turbine cooperatives



**Danish District Heating has a about 400 companies all over Denmark:  
50 are municipally owned district heating companies, which deliver around 66 % of all district heating, the rest of 350 are predominantly consumer owned cooperatives and only a handful are private companies.**

**They supply 64 % of Danish households (1.7 million) with district heating – the goal is 75 % and District Heating is expanding, and the prices for the consumers are decreasing / stabile - if they use RE.**

**Renewable part is increasing now 60% . Mostly biomass, but partly solar at 160 plants (most cover 15-20% of yearly demand, few with seasonal storage 50%)**



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## District heating

- around 2/3 of heating, 350 small and medium consumer owned cooperatives 50 municipal, all non-profit companies by law

## Electricity

- At least 3.500 MW of 3.800 MW land-based wind power is raised by private / citizens (about 10 million DKK pr. MW),
- Total investment from citizens over 35.000 million DKK (about 5.000 million Euro)



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# Renewable energy in consumer owned non-profit district heating Hvide Sande District Heating Cooperative 97 % wind + solar

- 3 Wind mills + Electric Heat Pump and boiler + Thermal Solar -

[Hvide Sande Fjernvarme \(energyweb.dk\)](http://energyweb.dk)



Renewable energy in consumer owned non-profit district heating

# Ringkøbing District Heating Cooperative

Thermal Solar plant + Electric Heat Pump and boiler

- [Ringkøbing Fjernvarme \(energyweb.dk\)](http://energyweb.dk)





# Renewable energy in consumer owned non-profit district heating Lem District Heating Cooperative - 85% RE total

- wood chips 62% + Thermal Solar 8% + electric Heat Pump 20% -

[Forside \(lemvarmevaerk.dk\)](http://lemvarmevaerk.dk)









# Copenhagen Solar Cell Guild

- Copenhagen Solar Cell Guild is Denmark's first solar cell association, which allows private citizens to buy a share in a solar cell plant, thus contributing to a greener environment.
- The guild was founded in 2005. The guild is still running today with solar cells on Valbyhallen and Vigerslev Substation.





# Solar PV Cooperatives

**Copenhagen Cooperative:** founded in 2004. The guild is built up as an ordinary wind turbine guild.

Produktion:

[www.solcellelauget.dk/produktion.htm](http://www.solcellelauget.dk/produktion.htm)

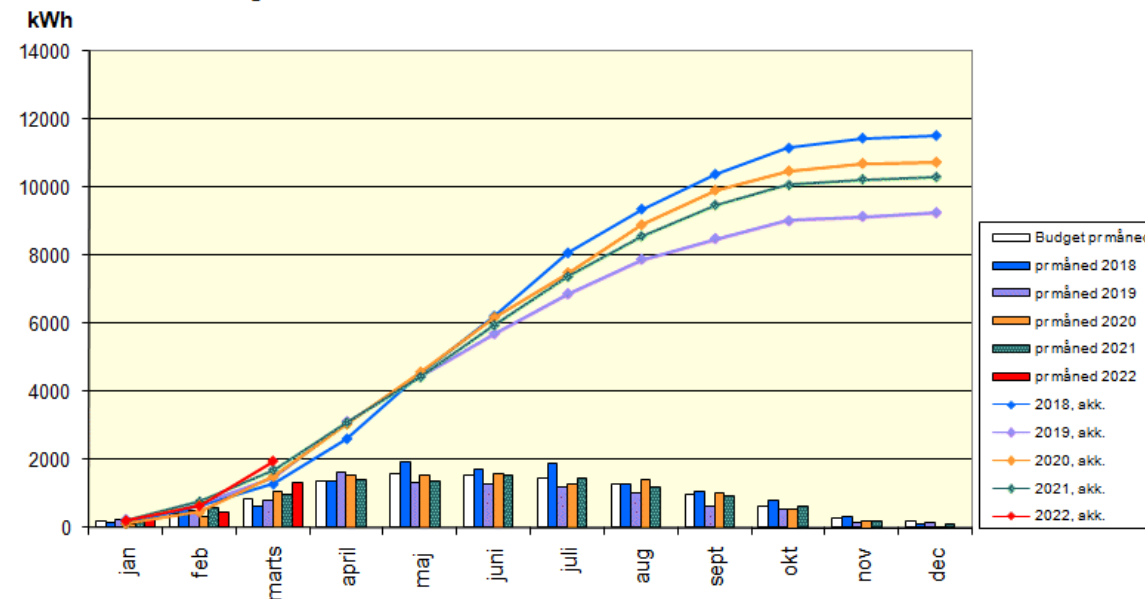
**Vigerslev:** In 2005, **440 shares sold.**  
290 DKK per share.

Production in 2020: 10,650 kWh, which is 10.9% higher than budgeted.

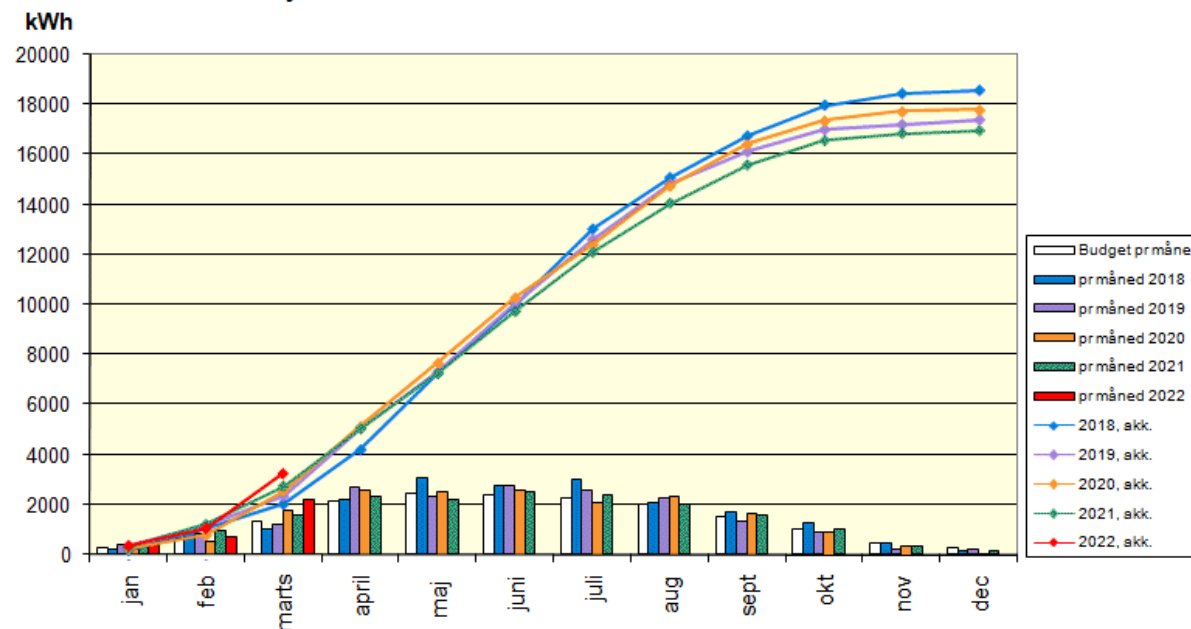
**Valby Hallen:** Production in 2020: 17,900 kWh, 6.6% higher than budgeted.



Produktion Vigerslev



Produktion Valbyhallen





# Middelgrunden's windmill guild

- The 20 iconic offshore wind turbines just off Copenhagen are the result of a collaboration between utility companies and private citizens.
- 10 of the turbines are owned by private citizens who have joined together in a guild to finance the offshore wind turbines.







## Brenderup – Citizen's owned solar park on public shares



A public share in the park costs 10,000 DKK (1300 Euro), and selling 200-300 pieces. The entire solar park will cost around 8 million DKK, but it will also be able to supply green electricity to about a third of Brenderup's citizens.

1 MW = 1.5 football field with ordinary PV in Denmark

# Thanks you



**Read about us - INFORSE-Europe's web site**

[www.inforse.org/europe](http://www.inforse.org/europe)

**Contact: [henning.madsen@inforse.org](mailto:henning.madsen@inforse.org)**

**The Power of the Community Energy - Erasmus+ Project in 2019-22**

[https://www.inforse.org/europe/POWER\\_CE.htm](https://www.inforse.org/europe/POWER_CE.htm)

