Danish Experience with Community Owned Energy

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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 consumerowned 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%)









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)

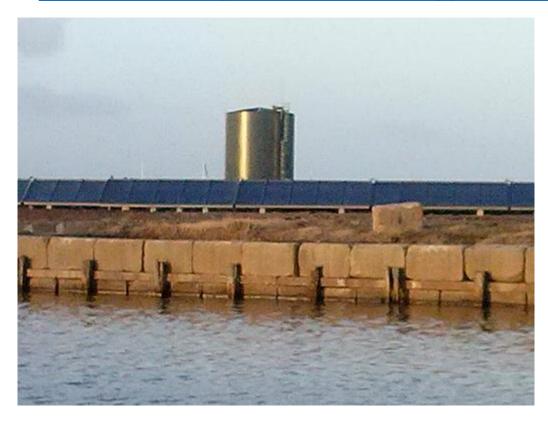




Renewable energy in consumer owned non-profit district heating Hvide Sande District Heating Cooperative 97 % wind + solar

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

Hvide Sande Fjernvarme (energyweb.dk)







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)







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)







Consumer owned PV in cities

- More PV is being installed
- Ca. 100.000 small "household" rooftop PV



- non-profit public housing association
- Energifællesskab EBO (eboconsult.dk)



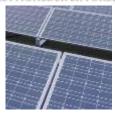


Copenhagen Solar Cell Guild

- 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:

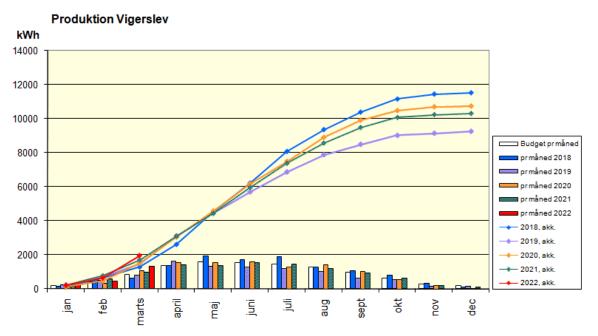
www.solcellelauget.dk/produktion.htm

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

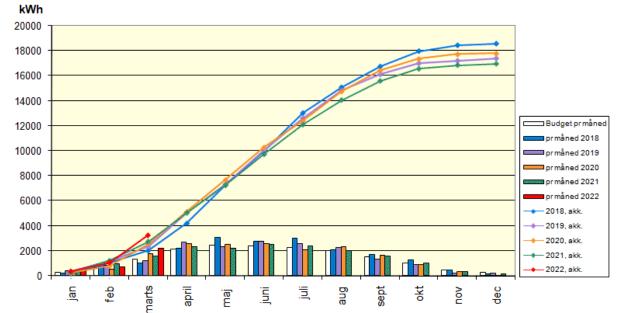
Production in 2020: 10,650 kWh, which is 10.9% higher than budgeted.

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









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.





Energy Community Avedøre A.M.B.A.

• The Energy Community Avedøre A.M.B.A was founded on 18 August 2020. The founders are from the local area Avedøre in Hvidovre Municipality. Founders are Hvidovre Municipality, Hvidovre Gymnasium, Avedøre Landsbylaug, Avedøre District Heating A.M.B.A., Filmbyen and EBO Consult. Energy community will cover an area of approx. 2 km2, approx. 6,000 citizens, a number of institutions and companies.

- Consumer-owned utility company, Avedøre District Heating A.M.B.A, and the tenants in a residential area. establish 60 solar panels on the roof of Solhuset with an area of about 750 m2, and 160 polycrystalline solar cell panels on the south facade of the house.
- Solar thermal panels produce approx. 350 MWh per year, corresponding to 75-100% of hot water consumption in period April-September to Solhuset's 454 flats.
- PV panels produce approximately 21,000 kWh of electricity per year.
 The idea of implementing the vision "from Store Hus to Solhuset" is the brainchild of the former Vice-chairman of Avedøre district heating company, Steen Jørgensen, in collaboration with the district heating company's administrator, EBO Consult.





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

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The Power of the Community Energy - Erasmus+ Project in 2019-22 https://www.inforse.org/europe/POWER_CE.htm