Danish Solar Concepts – Behind & in Front of the Electric Meter

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1. Helios Solar Model for social housing
2. Social Housing community Vendsysselhus
3. Housing community AB Landsdommergaarderen
4. Housing community AB Amsterdamgaarderen
5. European Union Directive – Danish law 889; Local Green system delivery - central EL grid
   Energy Community Avedoere A.M.B.A. Hvidovre Solarcarport + EV chargers
   Renewable production & Charge Point Operator; Open source charging for all citizens – APP/Visa
7. Konklusions Hurdles Demands
1. Helios Solar Model – CO2 Neutral Social Housing

Helios Solar model developed in 2012 for Landsbyggefondens Innovation Foundation

Cooperative housing sector in Denmark
560,000 apartments - 1.1 mio. inhabitants

Plan for 365,000 CO2 Neutral social apartments
5,83 mio. inhabitants in Denmark.

Different CO2 scenarios
35-47 % reduction
2. Boligforeningen Vendsysselvej – Housing Community
121,5 Kwh Solar cells Solar Future, 12 x 10 KW inverters
99 Kamstrup secondary meters, 40 KW XOLTA batteries
Reuse of rain water for washing machines, Energy windows
Paperwool- & Silicat insulation
3. AB Landsdommergaarden
52,25 kWp Red Solar BIPV cells in red tile roof
3 x 15 kW Inverters + 74 secondary meters + 10 KW XOLTA Battery
4. AB Amsterdamgaarden - Hørsholm
70 kWp . BIPV - 4 x15 kW Fronius inverters
42 Kamstrup secondary meters + 60 KW XOLTA batteries
5. Local Energy Community - EU Directive – Law 883

Local renewable Electricity – Pixi Diagram

NOTE:

En del af de ansvarlige PV-stationer blev lokaliserede, så de kunne anerkende EU-opslag om ressourcer.
11,88 kWp Solarcarport 4 P – pladser Demo project
2 x 22 KW EV BOX BL EV Chargers
Avedøre Energy Cooperative A.M.B.A, Hvidovre Gymnasium
Renewable Energy and EV charging

Local Renewable system delivery – green local EL production
CPO, Charge Point Operator - MSP, Mobility Service Provider
Customer – Electric Vehicle – payment by APP / Visa card
Open source system – access for all citizens & companies

Avedøere Energy community A.M.B.A.
Founded 18. August 2020. Partners:

- Municipality of Hvidovre
- Heating company Avedøere
- Hvidovre Gymnasium & HF education
- Movie city area – Zentropa etc.
- Avedøere village – housing area
- EBQ Consult ApS – REScoop.EU
KAB appartments – cooperative team up
6,000 appartments – area 2 m2 miles
Business models and financing, leasing etc.?
6. Future Technology Development - Frequence regulation - EL net balance
Nerve Smart system 600/300 KW battery or XOLTA 80+80+80 + 80 KW
Can be combined with EV Chargers, (slow, fast & rapid) & Local Energy Community
7. Observations, Conclusions, Hurdles & Demands

**Renewable Energy Cooperatives locally means:**
- Short distance from production, energy saving and consumption - reduce investment in central EL net
- EL cables crossing local cadastral boundaries is crucial!

**A combined renewable strategy must be based on:**
- A: In the cities: Solar installations on roofs and over parking places, combined with batteries and EV chargers, heat pumps, biomass & Local small windmills on land
- B: Central big windmills in the sea & Solarparks on in fields

- Denmark made a minimum implementation of EU Renewable Energy Directive (REDII) into Law 889 - 2021
- Maximum REDII implementation is neccessary! – attachment to Law 889 or new REDII/ law in 2023!
- Business Plans and financial models, risk and security / SWAT analysis must be made before start a RED Energy community with fase plan for action and development!
- Guaranties granted by the state / municipalities for projects
Thanks You

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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