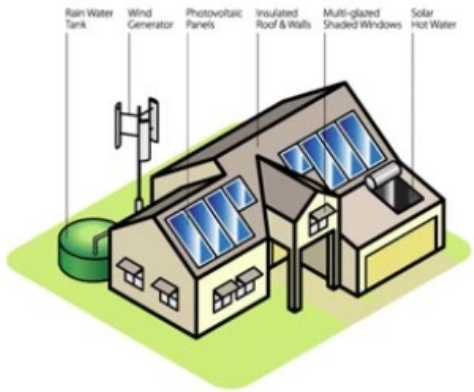
Hybrid Energy Systems – LeadENG -

Tamás Kerekes

tak@energy.aau.dk

Hybrid Energy systems - LeadENG



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2022 update for Denmark

- **wind** turbines and **solar** cells produced as much as **59.3% of Denmark's total electricity** consumption;
- Solar 2,181 GWh; Wind 19,002 GWh;
- In 2021 only 1,309 GWh from solar;
- **93 days** when **solar + wind** production **covers the consumption**
- Denmark's total electricity production from **wind and solar accounted for over 70% of electricity** consumption on average over the month of February, July and November;
- March and August all the way down to just over 44% and just under 38% of electricity consumption
- PV installations built without any subsidies and for self-consumption account for 1.72 GW of the capacity

Ref: Energinet, Energistyrelsen, EMD International and Danmarks statistik

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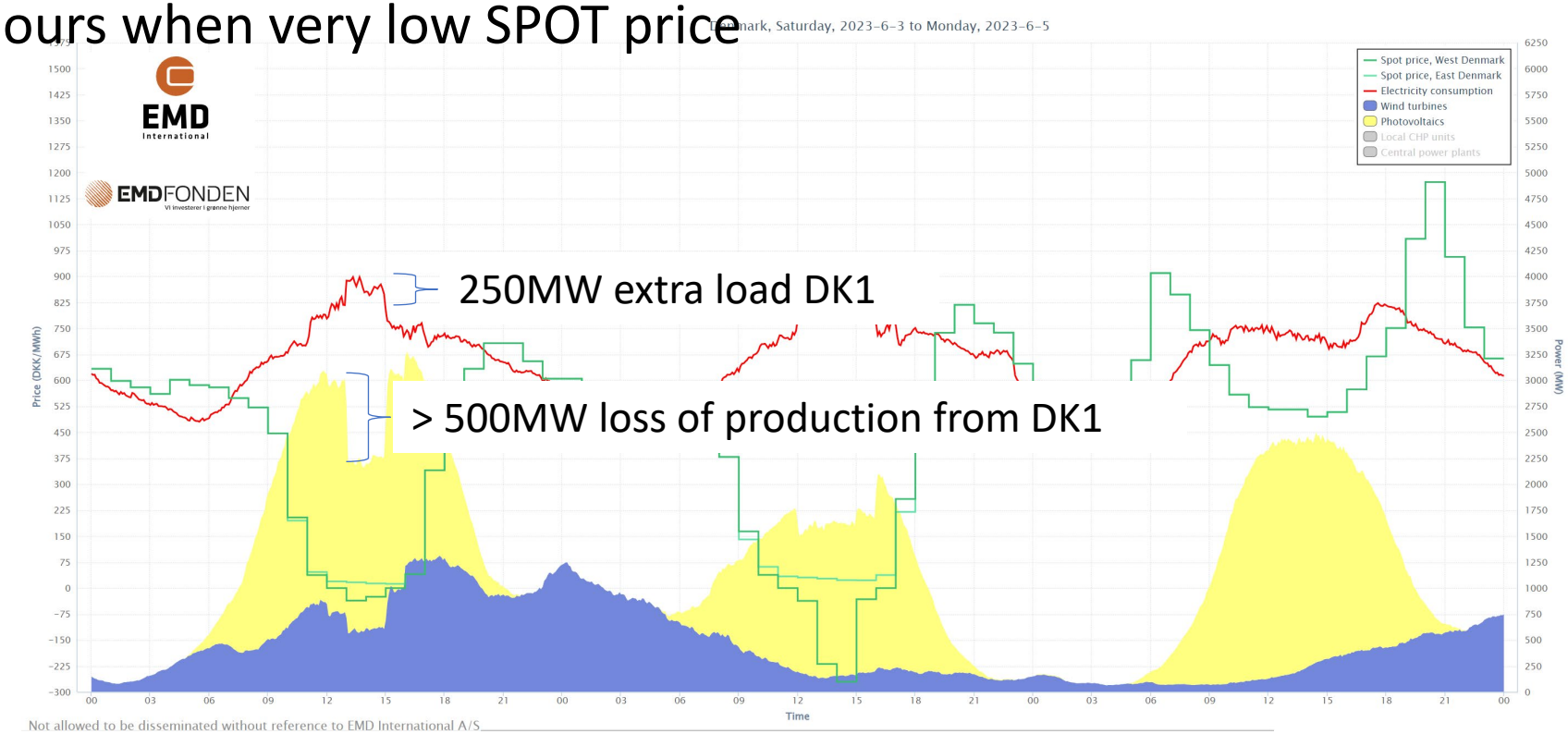
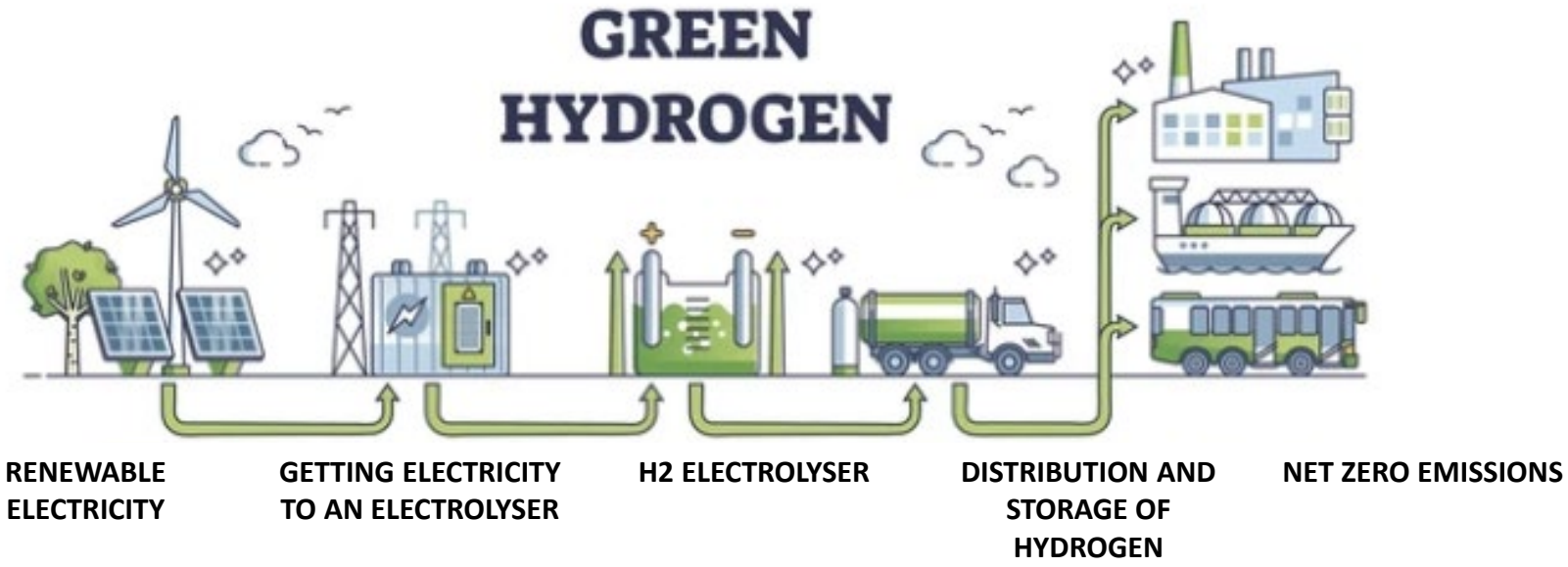
- Energy management of hybrid PV systems
  - SPOT prices vary depending on the weather
  - Sunny hours when very low SPOT price



Green Fuels for Denmark



AAU Energy students

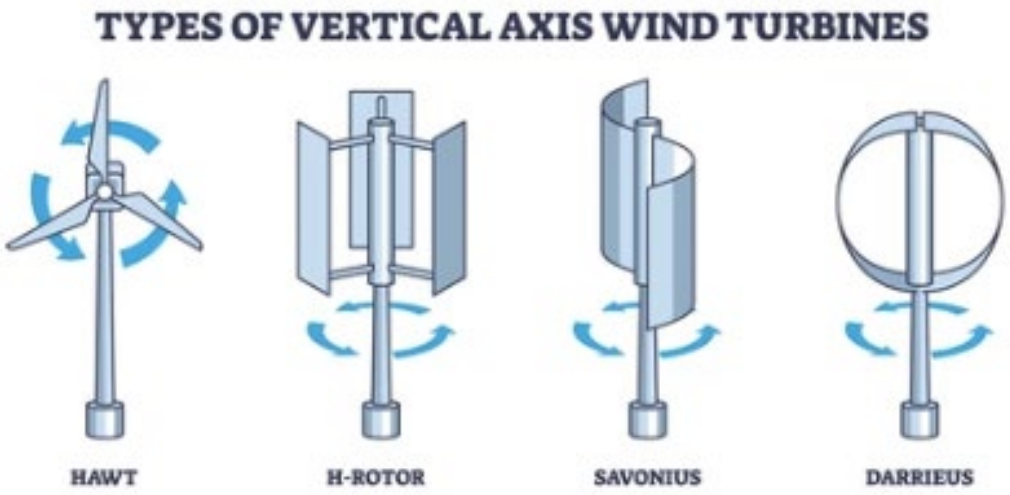
WT:
- choose generator
- model power/energy

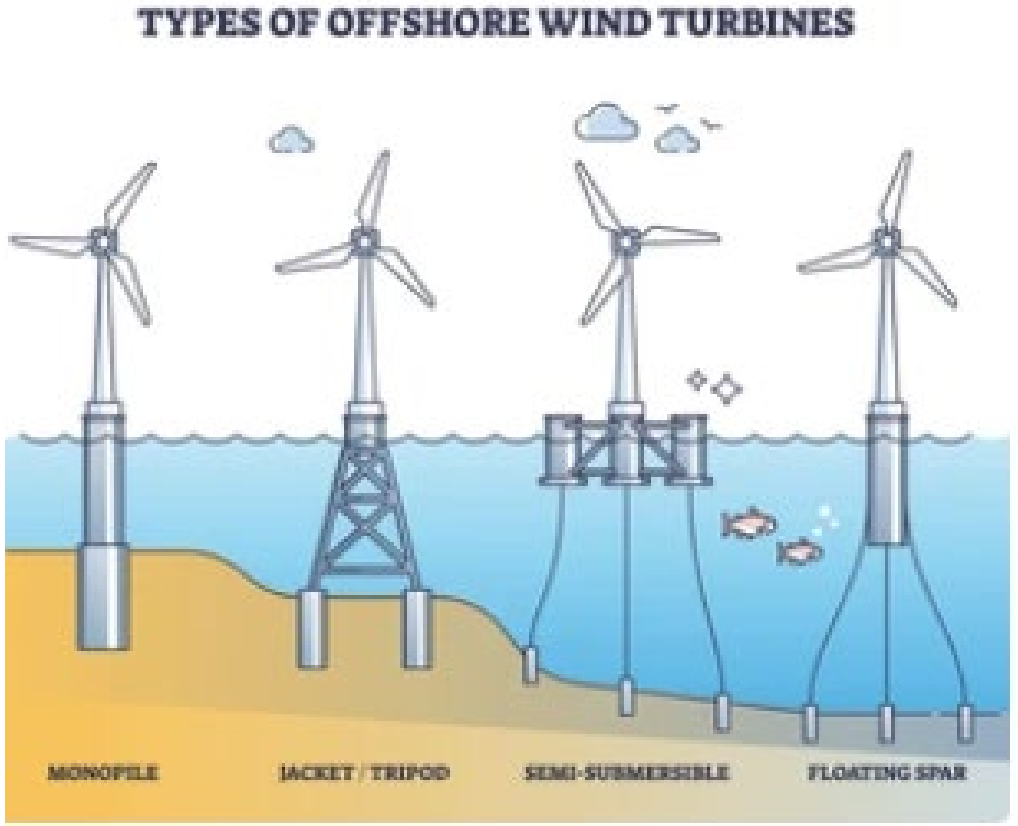
PV:
- choose panel
- model power/energy

BAT:
- choose battery
- model power/energy

Communication with other LeadENG groups!

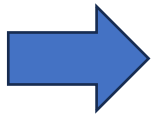
Other topics outside AAU Energy





Best outcome - LeadENG

Floating WT



Floating PV