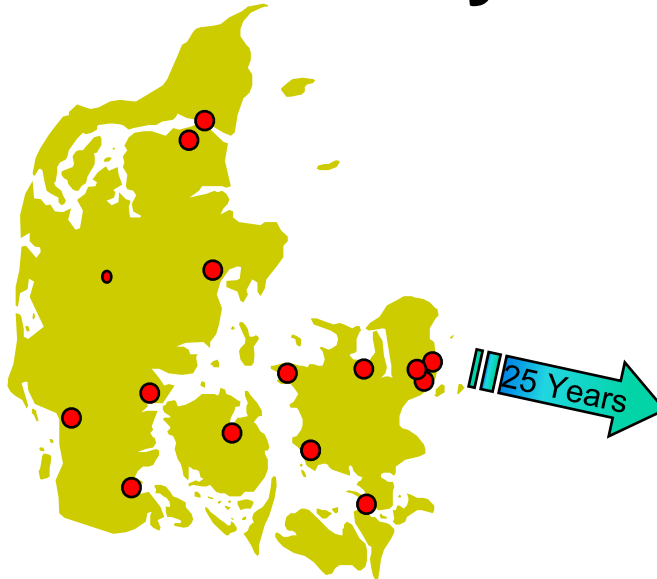


# Designing Energy Infrastructure in a Danish perspective

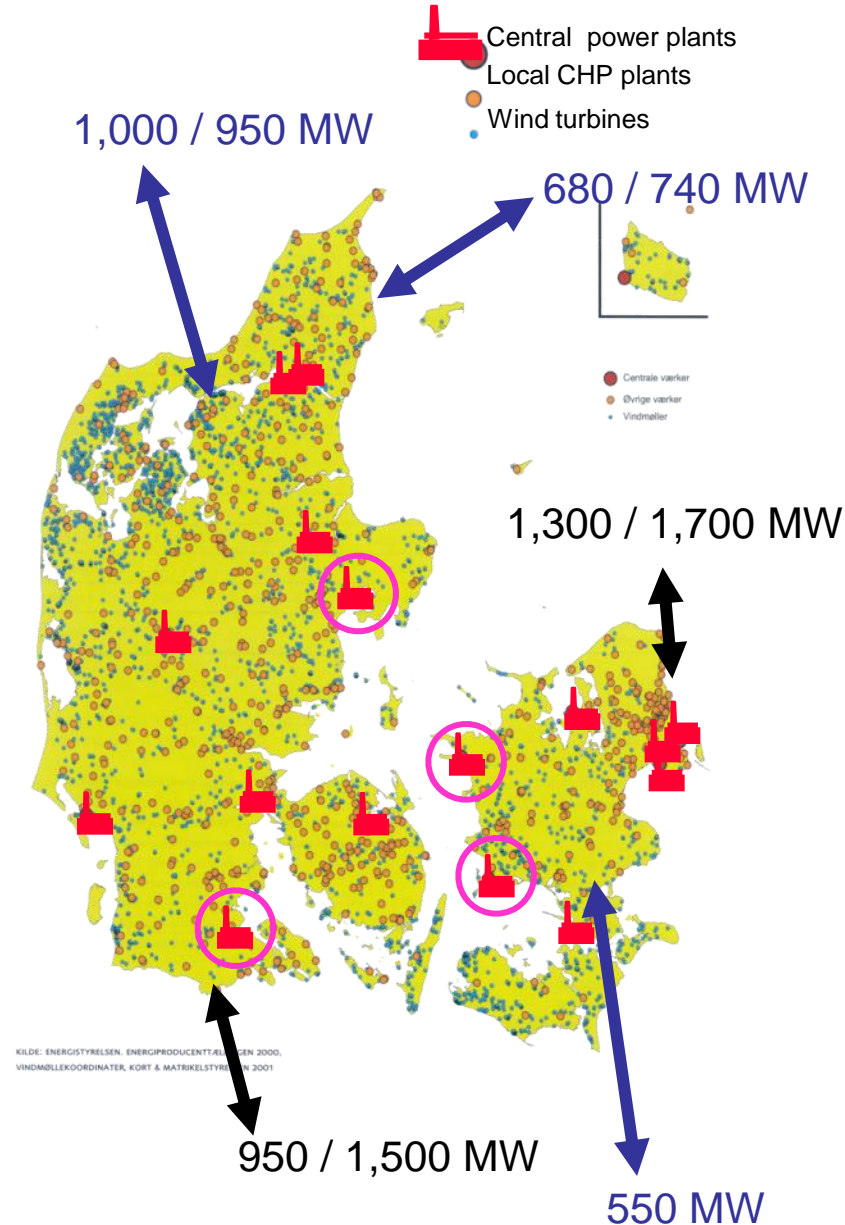


# The Danish Power System

1970s  
and  
1980s

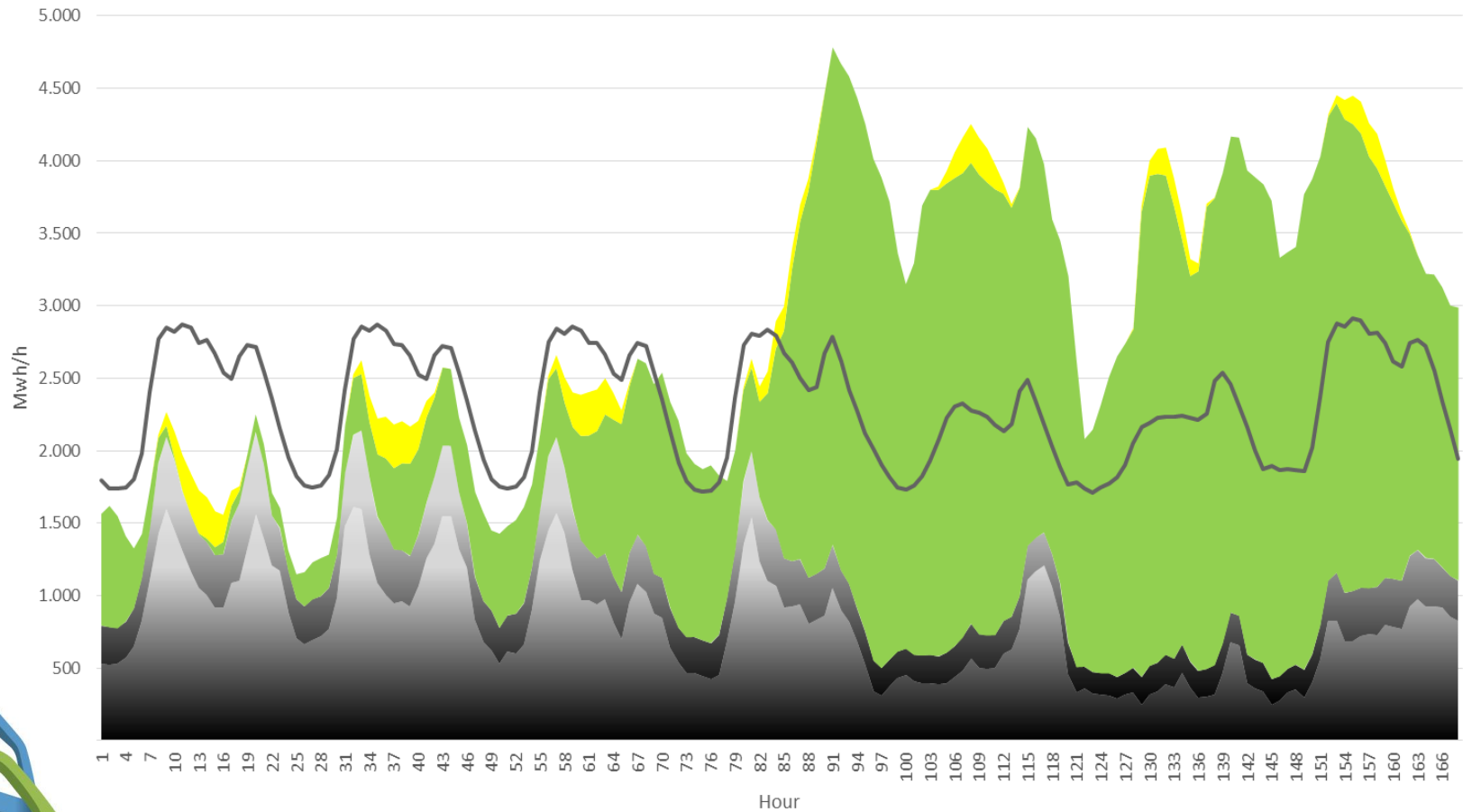


- Centralized energy production
- Many decentralized plants
- Strong and reliable grid
- Strong inter connectors
- Large and strong district heating and natural gas networks



# The future is already here

Electricity Production and Consumption, DK West, 1 week March, 2014

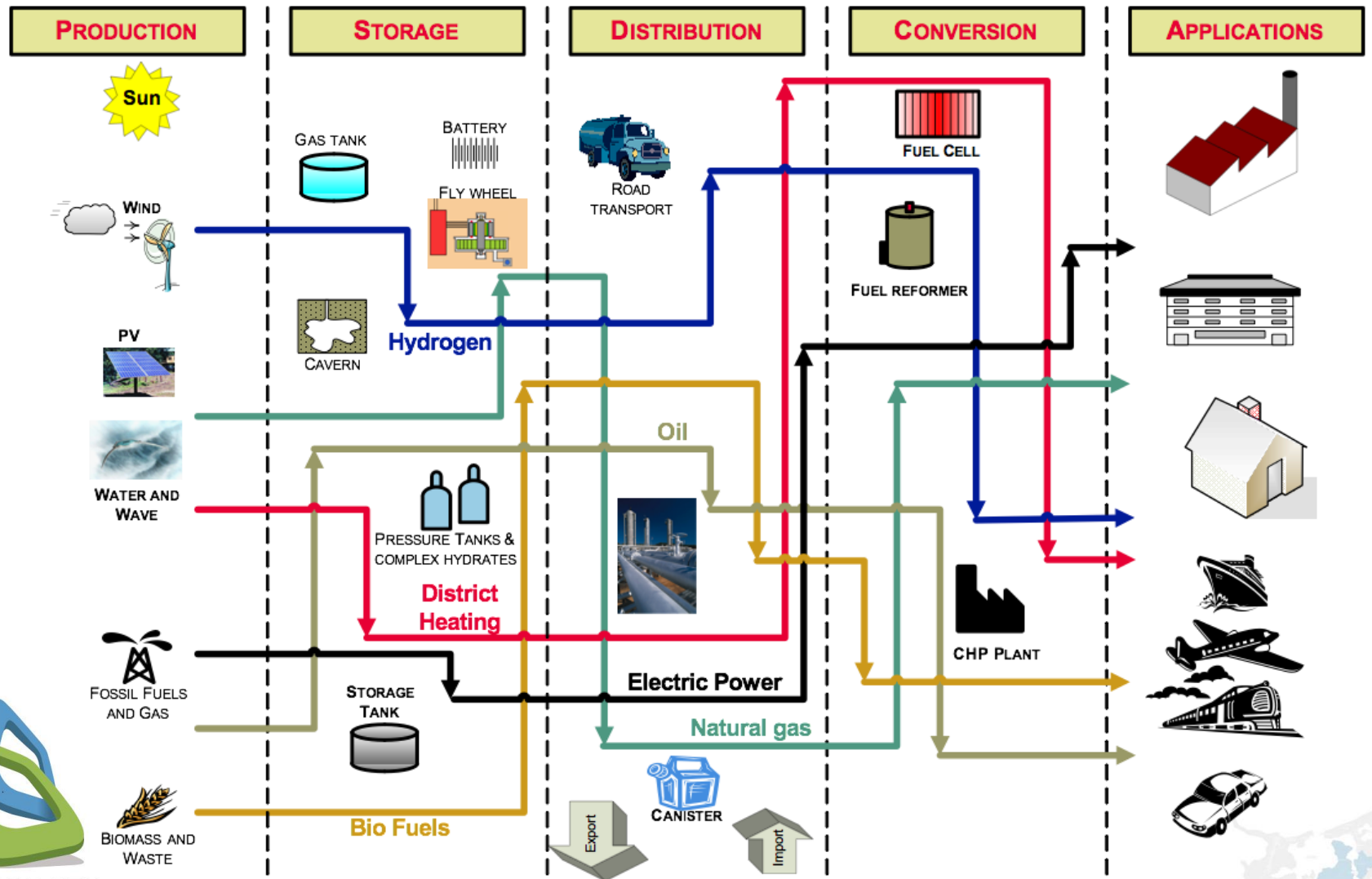


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DK-West: Central production    DK-West: Decentral production    DK-West: Wind Production  
DK-West: PV production (estimate)    DK-West: Net Consumption



# Integration of Energy Sources, VE-Nets paradigm



# Green Field City, Vinge, Frederikssund

- Creating a city, Vinge, based on renewable energy
- 100% electrified flexible smart energy system with coupled “Pro-sumers”
- A large soil based pipe energy storage field exploiting heat and cooling potentials



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