

# Eurogas Distribution Committee

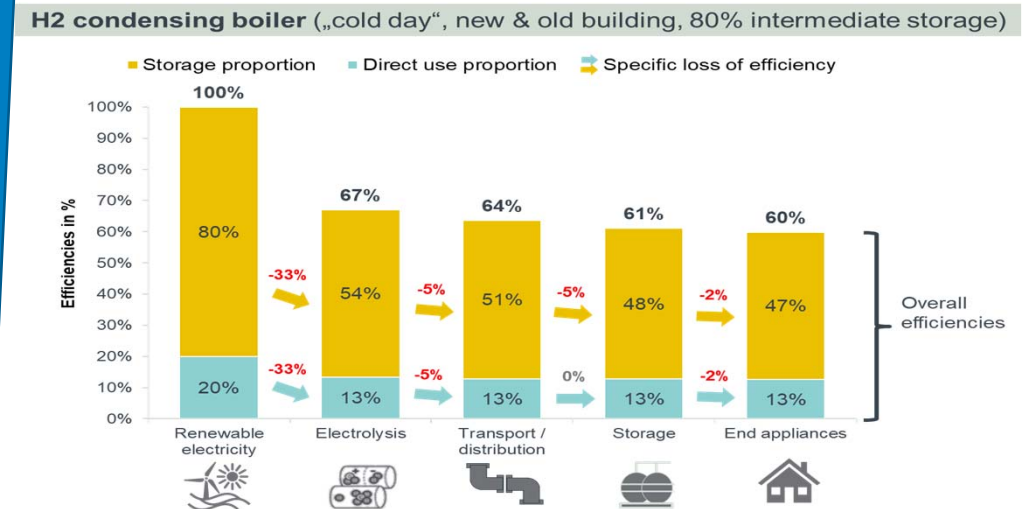
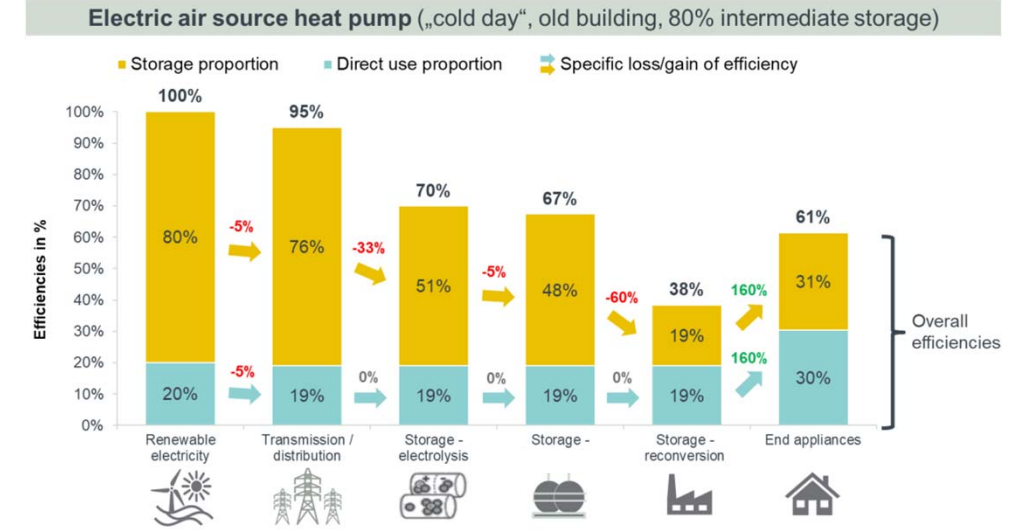
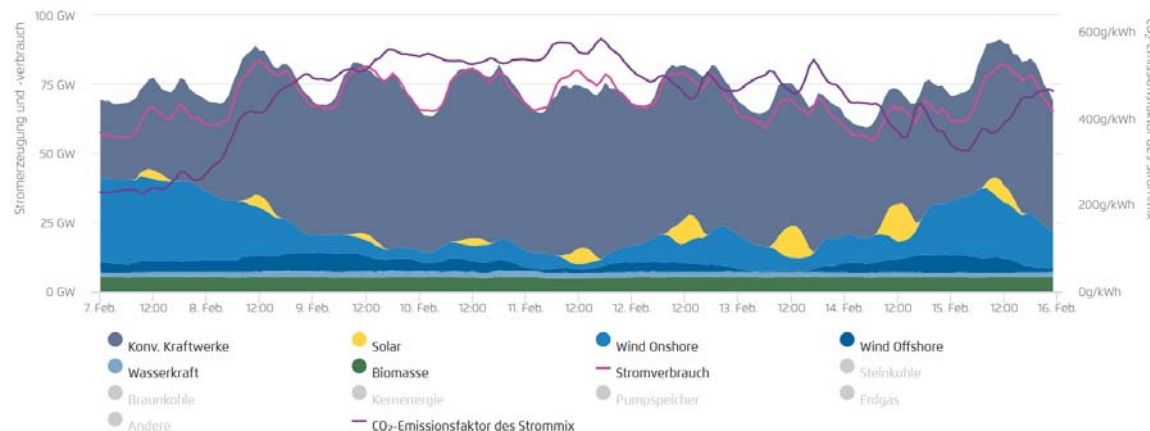
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# System efficiency in winter is key for heating

German gas load for heating is 230 GW + 100 GW for oil heating's → electrification requires 85 and 125 GW of electricity production in **wintertime**.

Energy efficiency improves on the final energy consumption. Still, the infrastructure must deliver the capacity needed in all seasons.

E.g. in Feb 2021 production from all RES was low. Timing and length of fluctuations are not plannable, DSM does not help.



# Real world limitations for district heating require the use of hydrogen and biomethane

## › Waste heat from industrial consumers has to be secured for:

- Long time periods
- Constant winter capacities
- Reasonable prices
- Also in times of recession (see Covid shutdowns)

- Waste heat will play a minor role in decarbonising district heating
- Assume 100% backup capacity for each kWh waste heat in the system

## › Temperature levels of existing district heating systems are not easily reduced and require **10 to 15 years to implement**. Also, **55 °C minimum** level for the last offtake to avoid legionella is required. Alternatively household would need an electric temperature booster which would be putting even more peak stress on the grid.

## › District heating systems will decarbonize with different technologies - biomethane and hydrogen will play a major role.

# 4 last thoughts on efficiency and heating

- Systemic efficiency throughout the year must be considered – build models both for a cold winter week and taking into account more limited availability for cooling water.
- Load shifting of electricity for mobility AND heating is a solution for short term challenges in the electricity grid, its contribution to the TYNDP is very limited
- Significantly increasing building renovation rates will be very challenging
- Electricity-based hydrogen technologies are still at the beginning of their development

02 Aug 2022, 13:05 Hannah Naylor

Boom of electric heaters causing concerns about German grid stability next winter

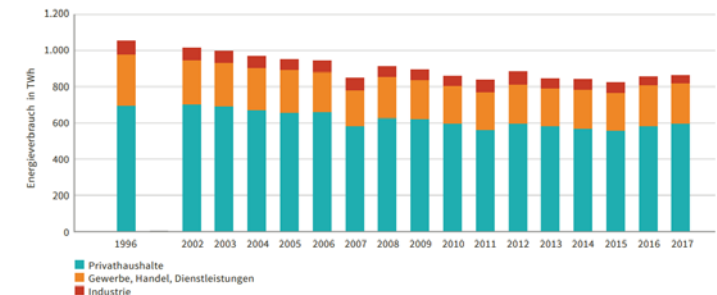
#Electricity #Cool #Heating #Politics

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Journalism for the energy transition

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By Lee Blain  
March 16, 2022

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