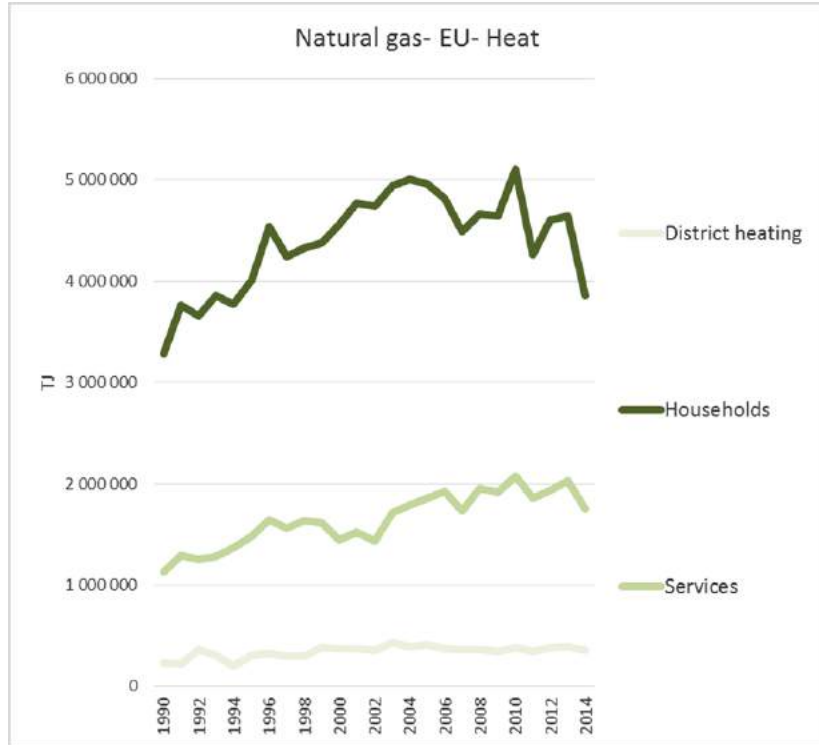


Unhappy times for fossil gas in Europe ?

Anne Marit Melbye and Einar Wilhelmsen



Less gas for heat, power and industry



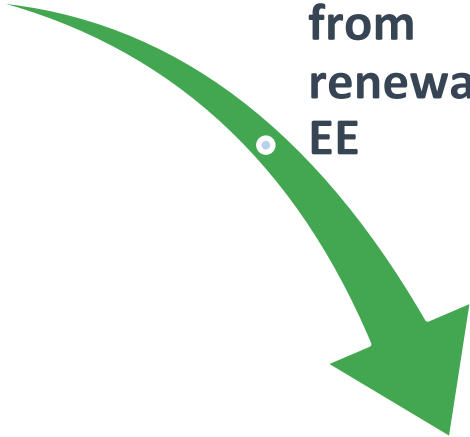
**377 million tonnes
CO₂ per year.**



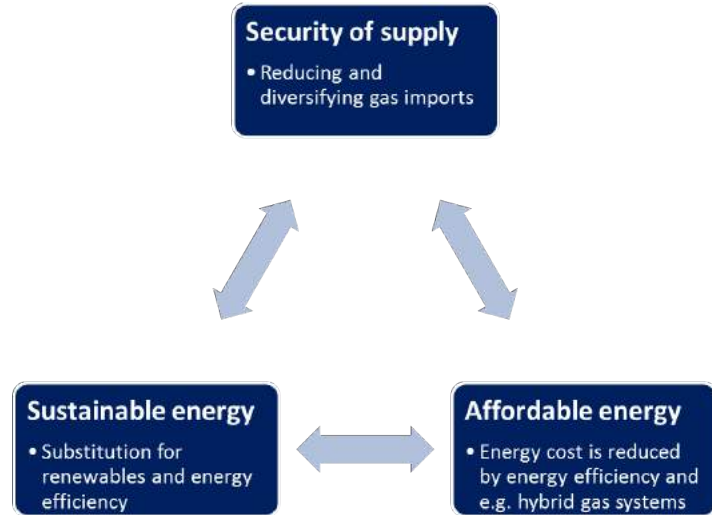
Driver: EUs energy agenda?

Security of supply

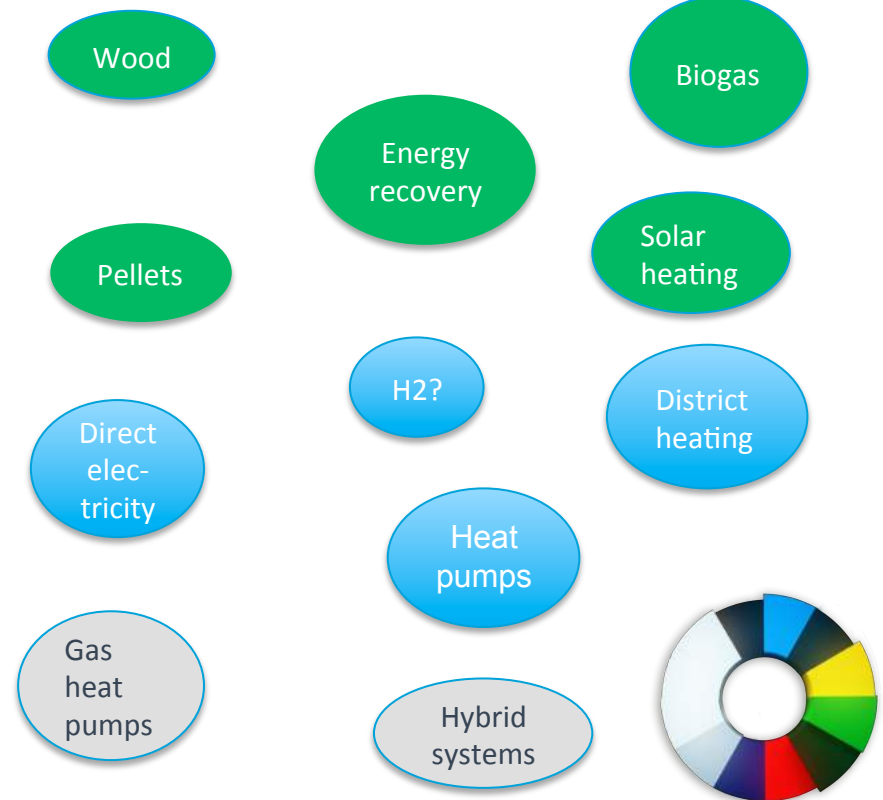
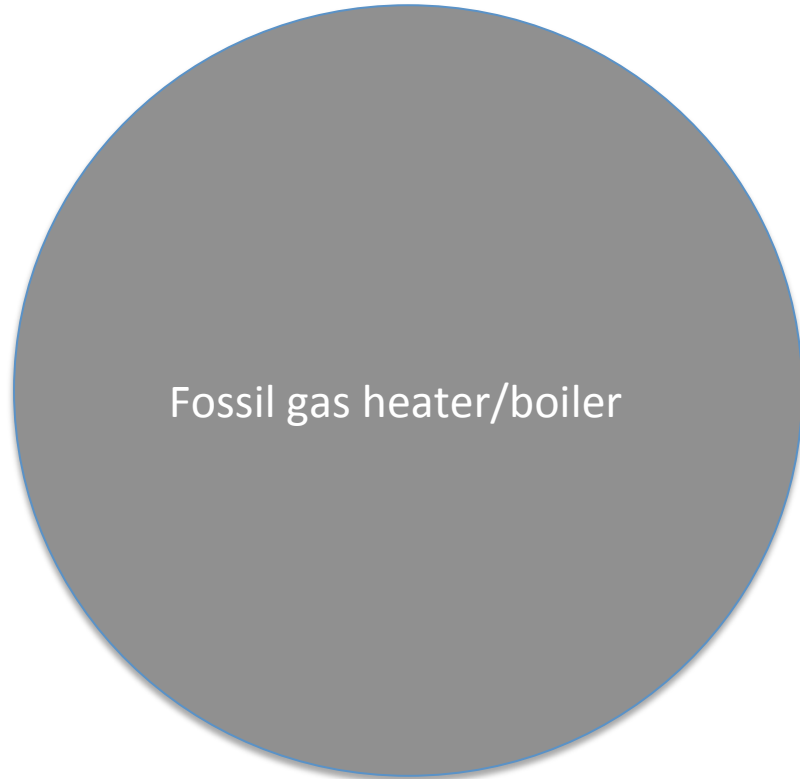
Competition from renewables & EE



Climate policy



Driver: Competition?



Driver: Energy Efficiency?

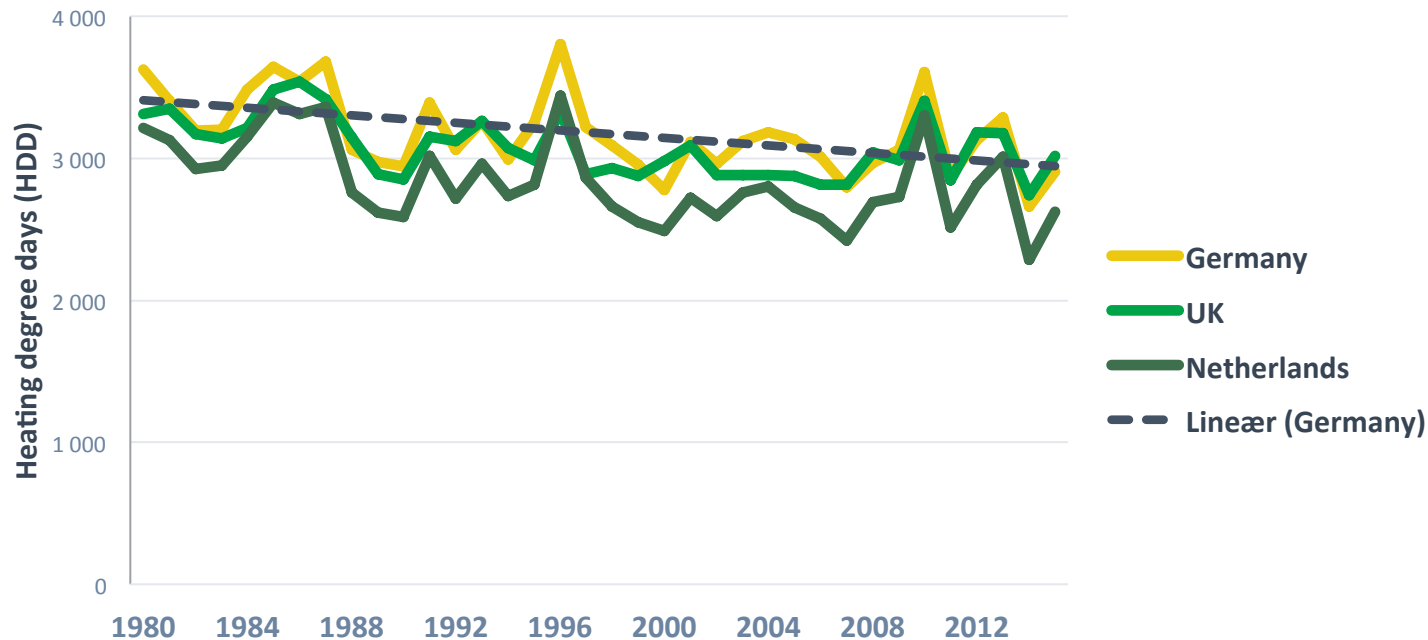


- Powerhouse Kjørbo:
- Energy use down by 86 %



Driver: It's the climate, stupid!

Warmer winters reduce heat demand

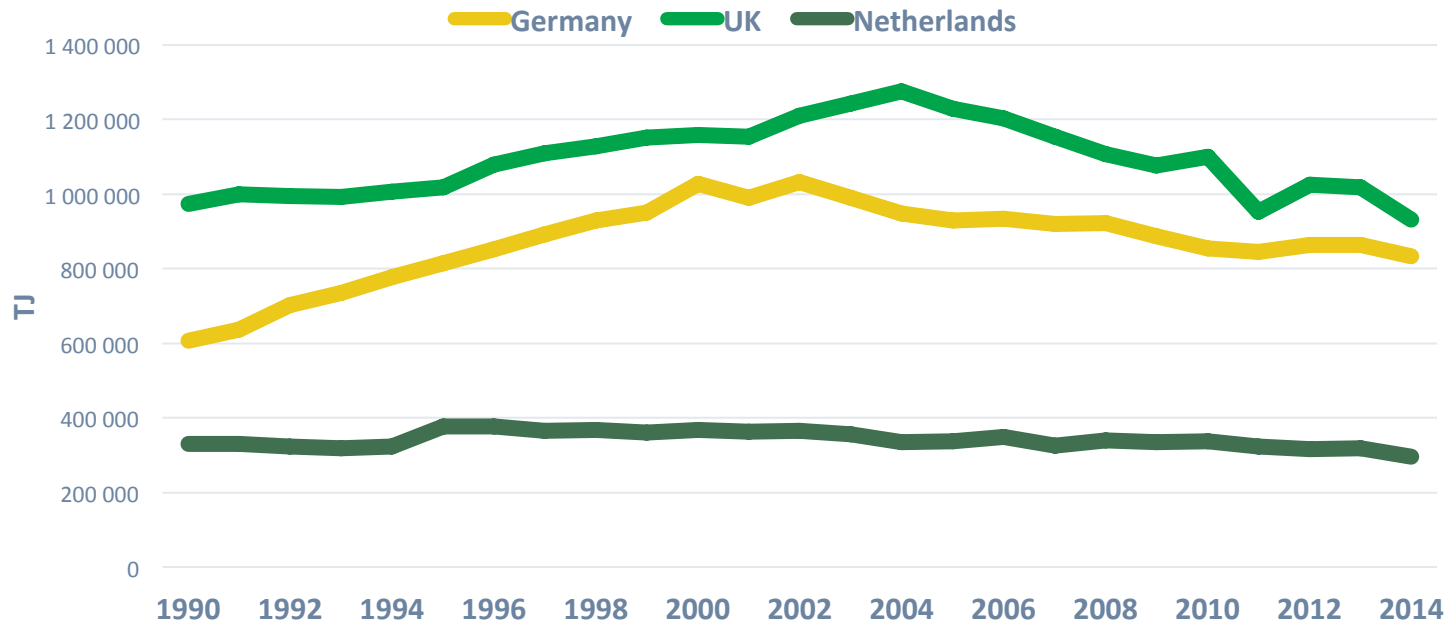


Eurostat Heating Degree Days (31.10.2016)



Conclusion #1: Reduced gas demand when corrected for temperature

Temperature corrected residential gas demand



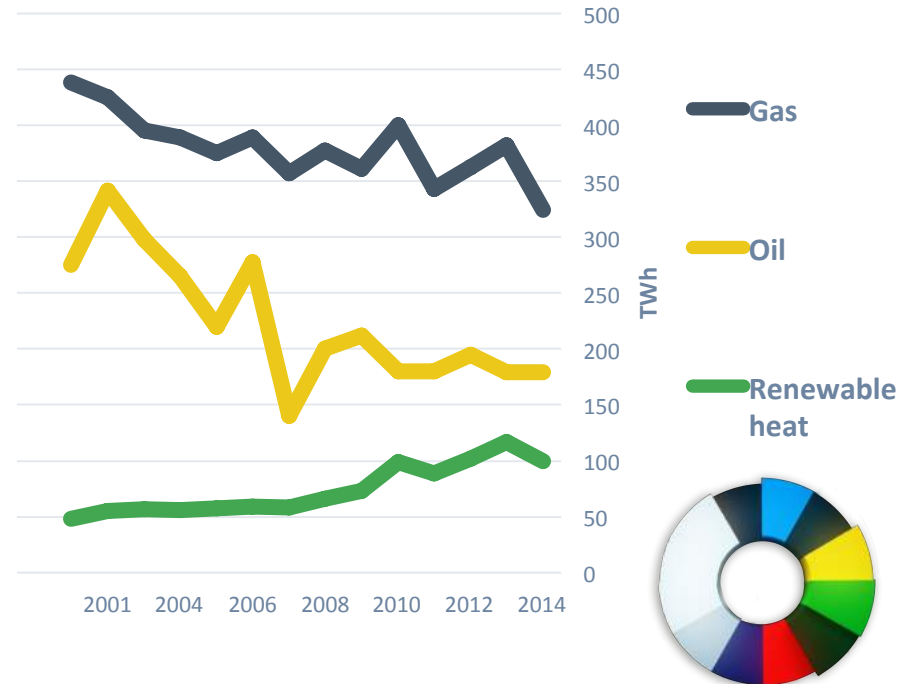
Eurostat Energy Balances (17.10.2016) and heating degree days (31.10.2016)



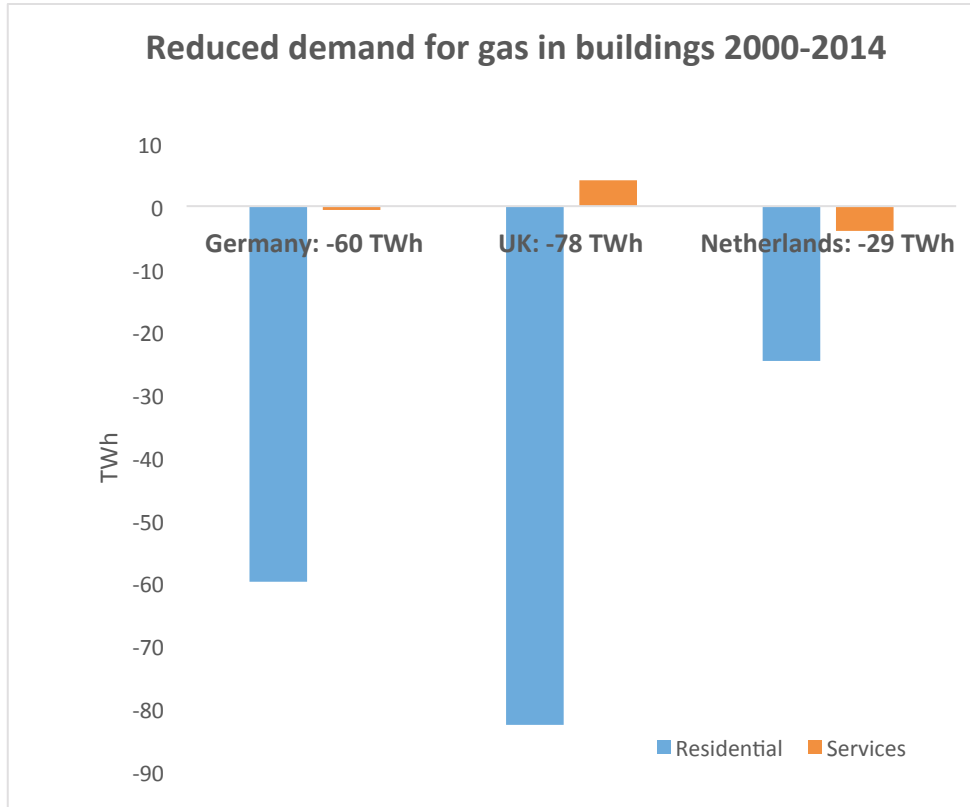
Conclusion #2: Case study: Efficiency delivers.

- Germany
 - Efficiency and substitution.
- UK and the Netherlands
 - Almost no oil heating
 - Large cuts due to efficiency
- Lots of national policy!

Heat, buildings in Germany



Conclusion # 3: Most change in residential sector



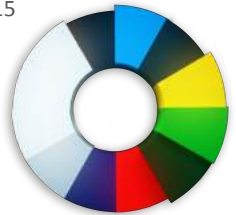
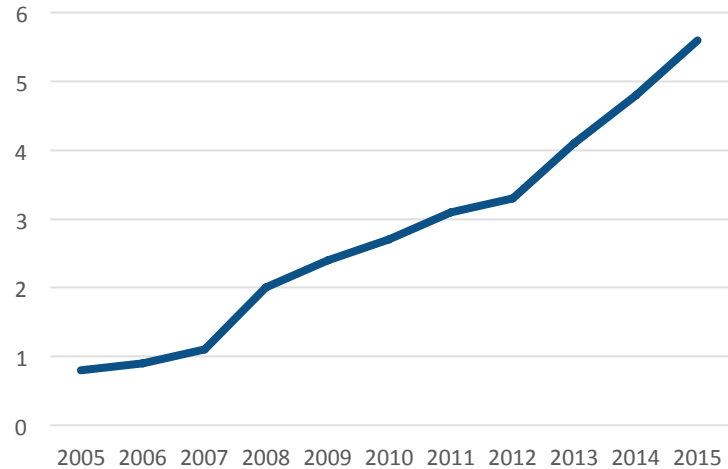
Annual gas consumption down by 176 TWh.



The future ?

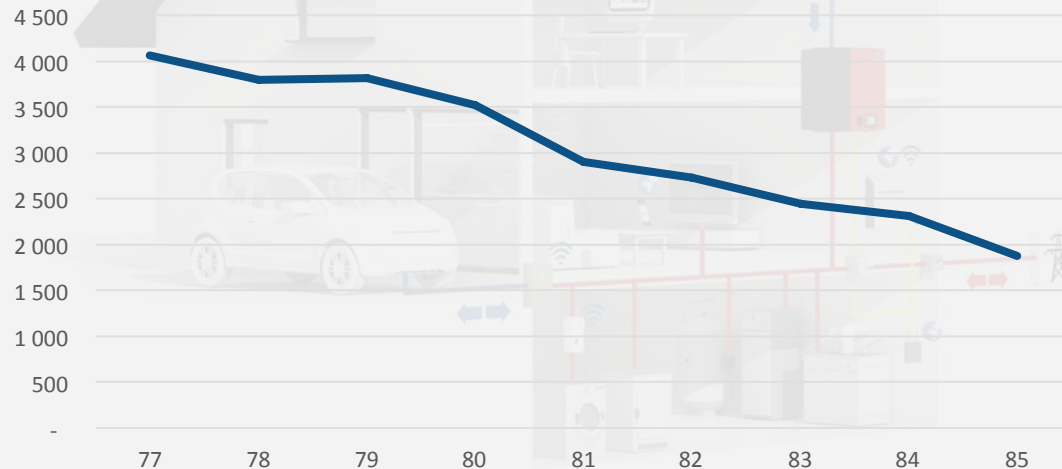


Share of renewable heating and cooling. UK



Local production, electrification and digitalization?

Sales of fuel oils in Norway
Temperature-adjusted, million liters



2 000 million liter

15-20 TWh

5 million tonnes CO₂



Main conclusions

Business as usual = falling gas demand.

New regulations, technologies and promising programmes for alternative heating.

Stronger EU and national policies will accelerate reduction.

New climate policies will probably accelerate reduction.



EU target for near-zero emission for buildings in 2050 means no gas

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