



Boston Breathes Better with Burke

**DENNIS K. BURKE**

Biodiesel - Fuel from the family farm for Boston



DENNIS K. BURKE INC.  
PREMIUM  
DIESEL FUEL,  
MOTOR OIL,  
AND GASOLINE

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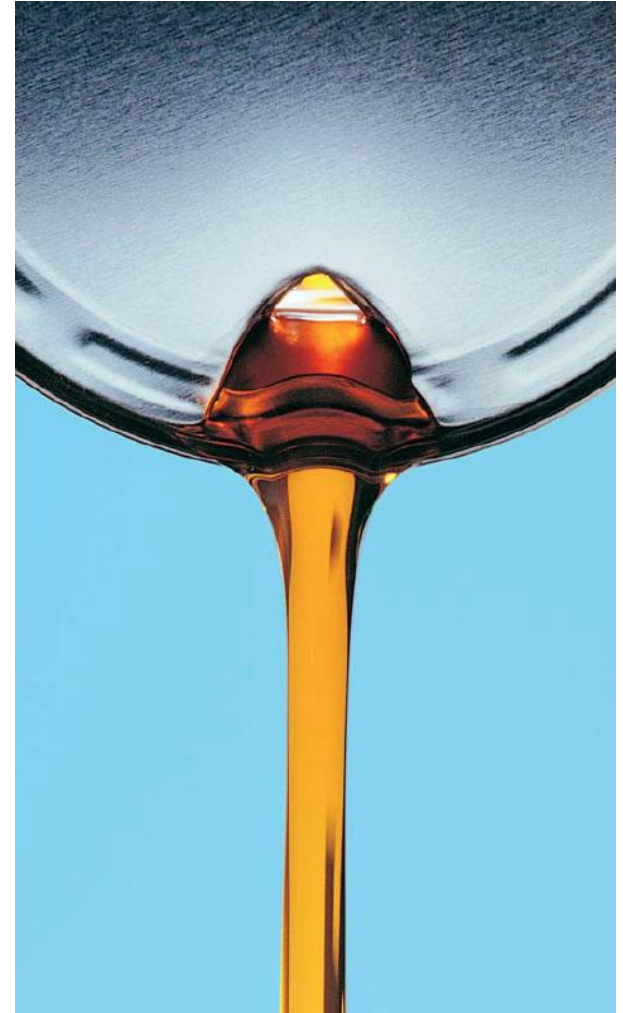
# What does the German target of 80 % reduction of carbon dioxide until 2050 mean for our business

Lambert Lucks

Nora workshop | 14<sup>th</sup> September 2016

# IWO Germany

- Institut für Wärme und Oeltechnik e. V. (IWO)  
“Institute for Heating and Oil Technology”
- Organization of the German oil industry
- Established 1984
- Located in Hamburg
- Members and associate Members
  - Oil industry
  - Oil importing companies and wholesalers
  - Supporting Members (boiler manufacturer, tank- and component manufacturer, oil external trade)





# Objectives of IWO

- Development of suitable political framework conditions for the heat market
- Development of advanced heating and fuels technology
- Nationwide marketing campaigns for modernization of heating systems
- Nationwide communication in web and print media of IWO



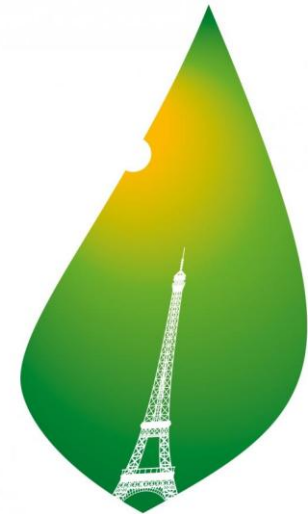
# German Market Figures - 2015

- 20 million people in 10 million homes are heating with oil
- 5,6 million oil boilers are in operation
- 27 % market share
- 80.500 oil boilers sold a year - condensing and low temperature
- 30 % increase in condensing boiler sales
- 30 % of new cond. boilers are combined with solar thermal
- 16,1 million tons of heating oil sold



# The assignment: Keep the global warming below 1,5 °C

- Paris climate conference declaration
- 195 states confirmed this target
- That means we need the balance between carbon dioxide and the renewable carbon source for
  - Heating
  - Mobility
  - Aviation
  - Industry
  - Power
- That also means, we have to substitute a worldwide consumption of 94 million barrel crude oil – every day?



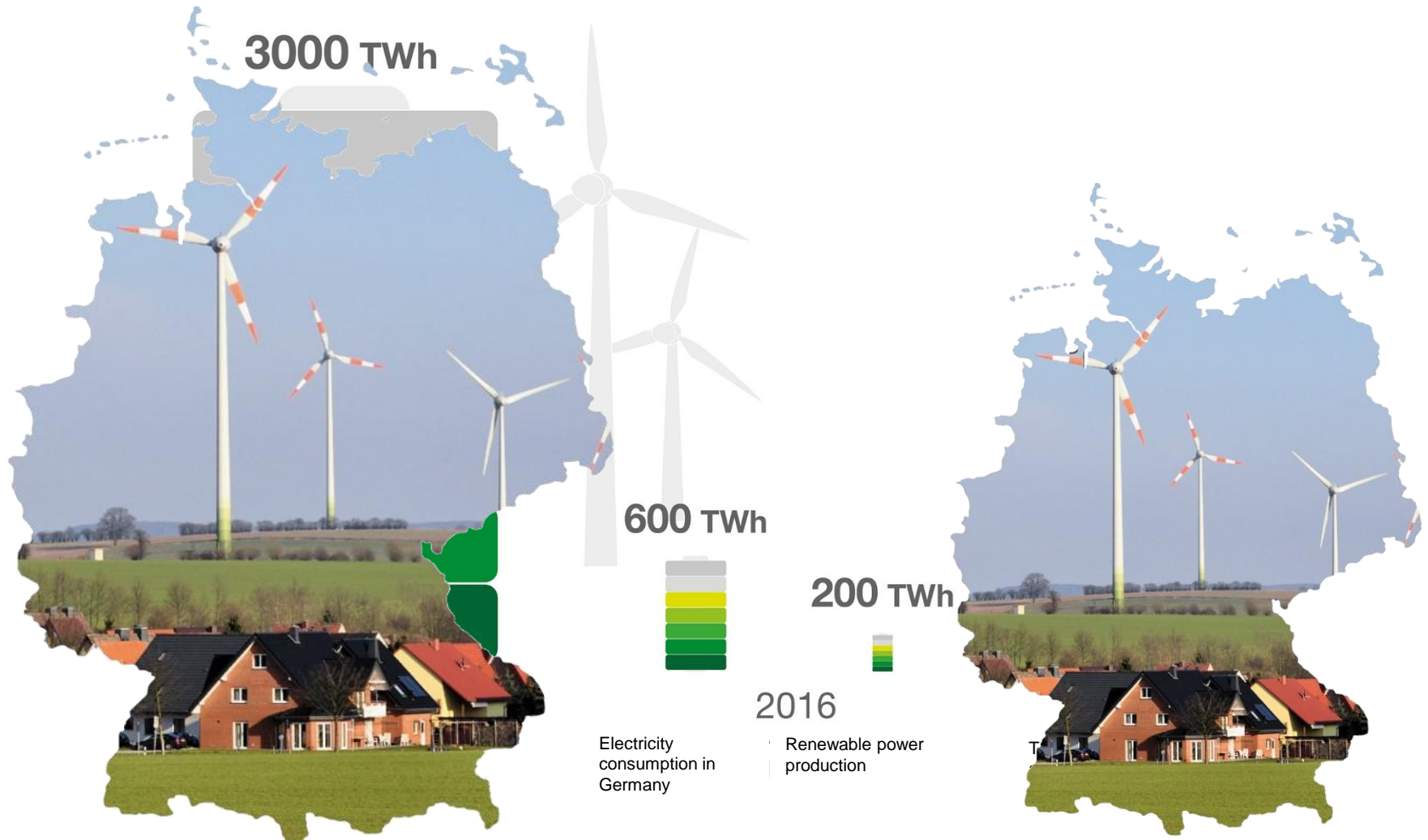
COP21 • CMP11  
**PARIS 2015**  
UN CLIMATE CHANGE CONFERENCE



# What about traffic, aviation and industry?

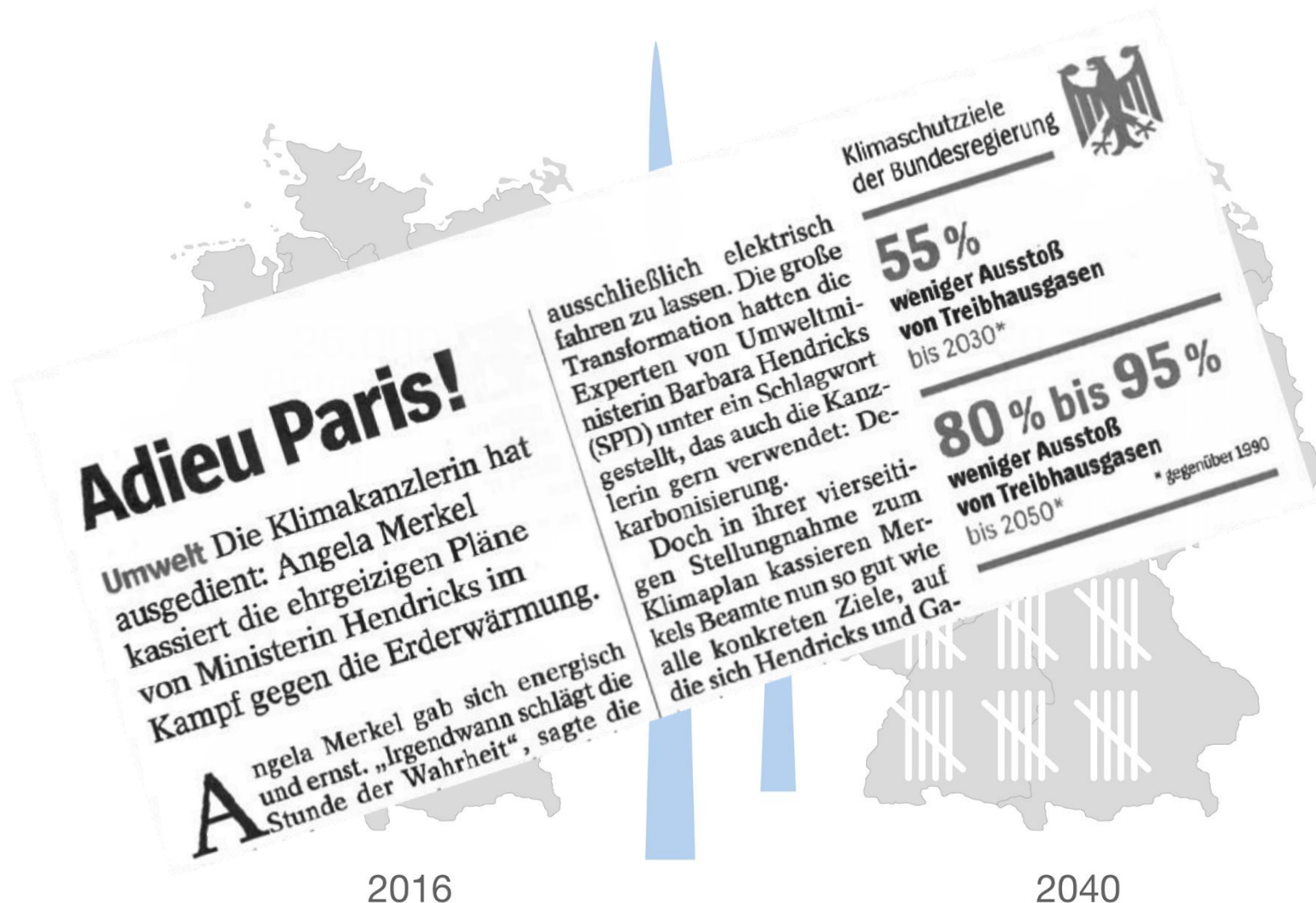
- In which way we could fulfill the political target for Germany to reduce 80 % carbon dioxide until 2050, include traffic, heating and industry?
  - Hybrid cars, electricity cars, railroad
  - Trucks with overhead lines (for 40.000 miles Autobahn)
  - Power to liquid and synthetic fuels for aviation
- Therefore, we have to reduce the consumption, increase efficiency, reconstruct our power supply with renewable energy and develop new biofuels.
- And we need renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply renewable power supply.

# You have to pay and you have to accept





# Therefore you need more than 80.000 wind engines



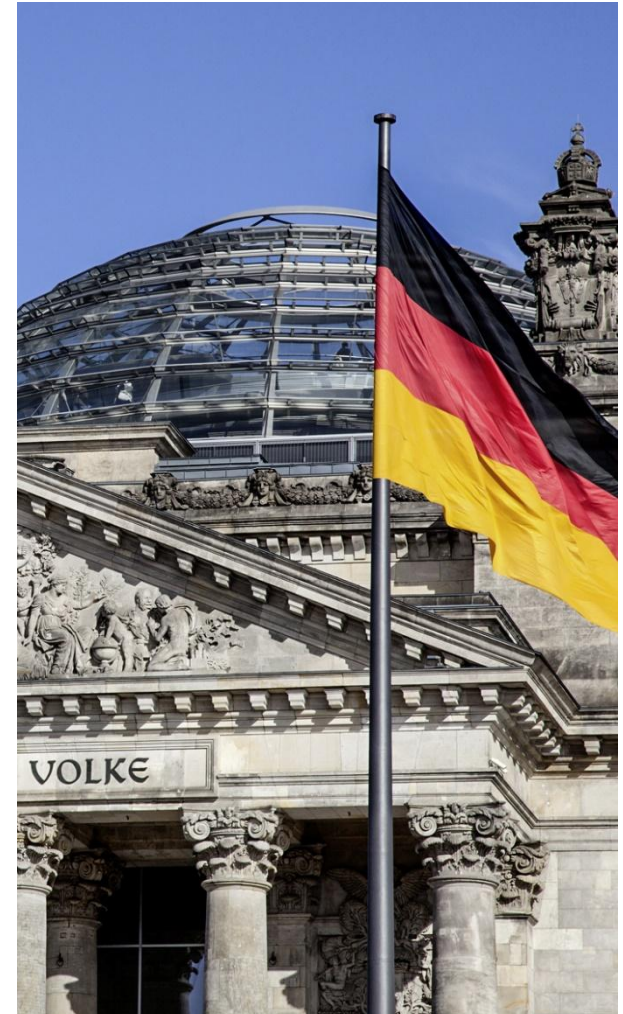
# Target for the German heating market

## Three German policy-statements

The target:

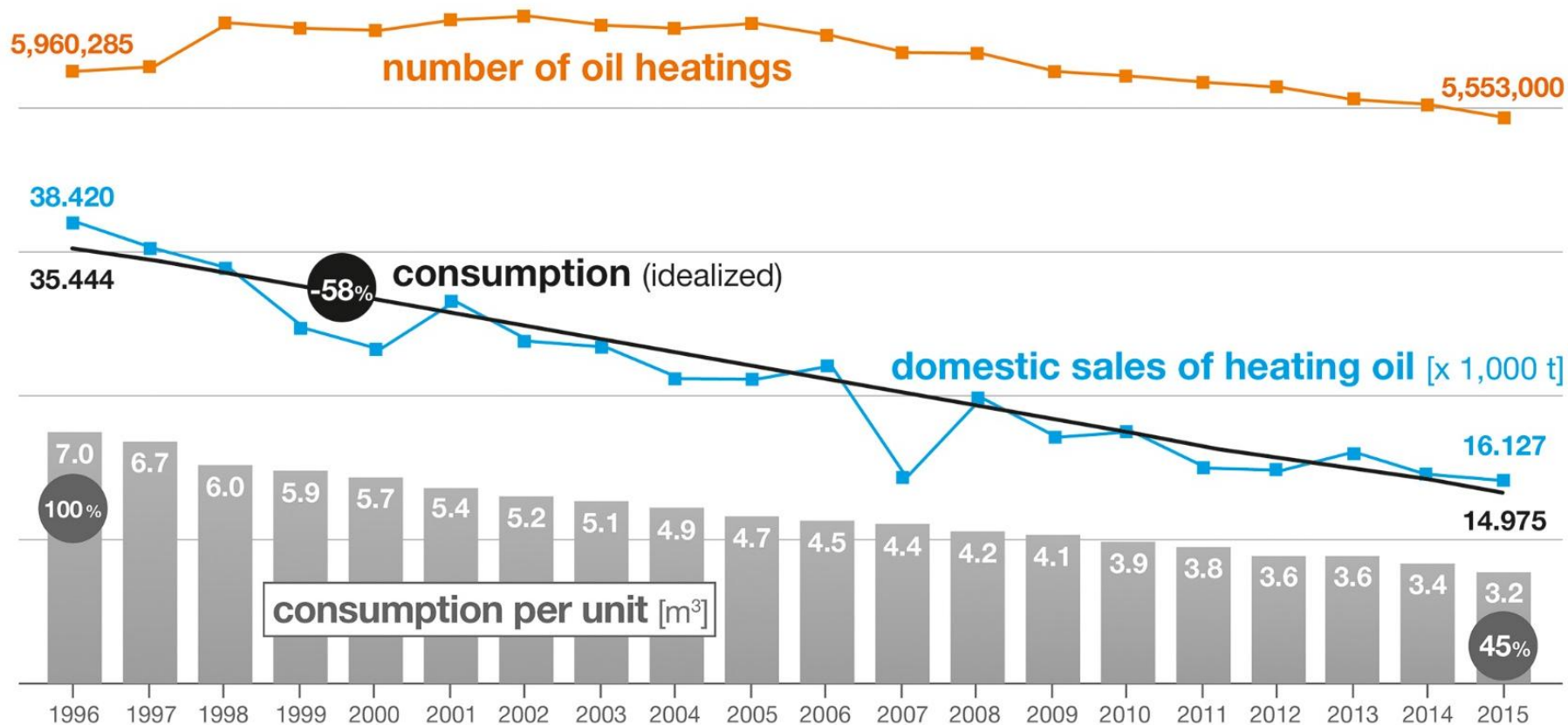
carbon dioxide reduction of 80 % until 2050

- Heaters have a useful life of 20 years; from 2030 at the latest should therefore investments no longer take place in heating with fossil fuels or natural gas, so we can make the transition by 2050
- Governmental subsidies for fossil heaters should be canceled 2020
- District heating, as well as heat pumps are future technologies, which will help to achieve the emission targets



# Is the target practicable?

## Heating oil sales - number of oil heating's

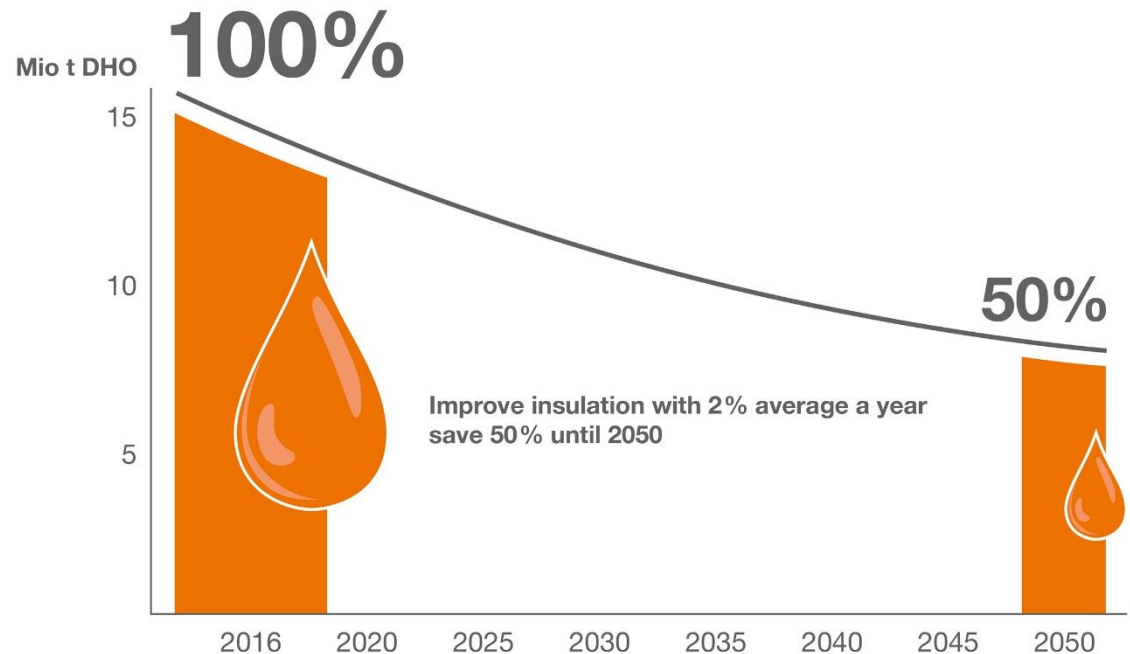


Source: ZIV-Bericht; BAFA April 2016; Grafik: IWO

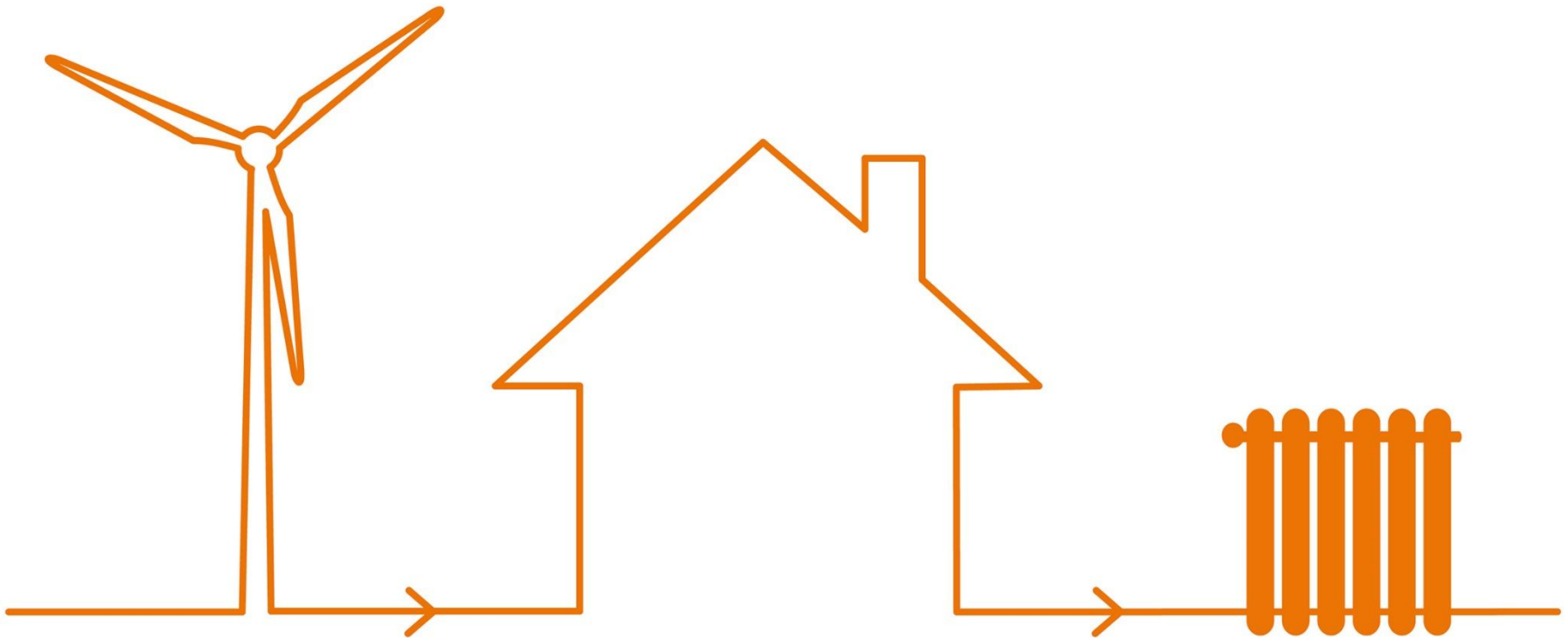


# Our Options

- High efficient heating systems with small capacity (condensing boilers) → save 30 % at once
- Improve insulation with 2 % average a year → save 50 % until 2050
- Integrate hybrid heating systems – heating oil in combination with:
  - Solarthermal
  - Wood
  - Renewable electricity
- Modern fuels
  - Low sulfur heating oil (50 ppm)
  - Renewable fuels (HVO, PtL, BtL)



# Sector coupling: heat and renewable power generation



For example:

# cyclone Mike

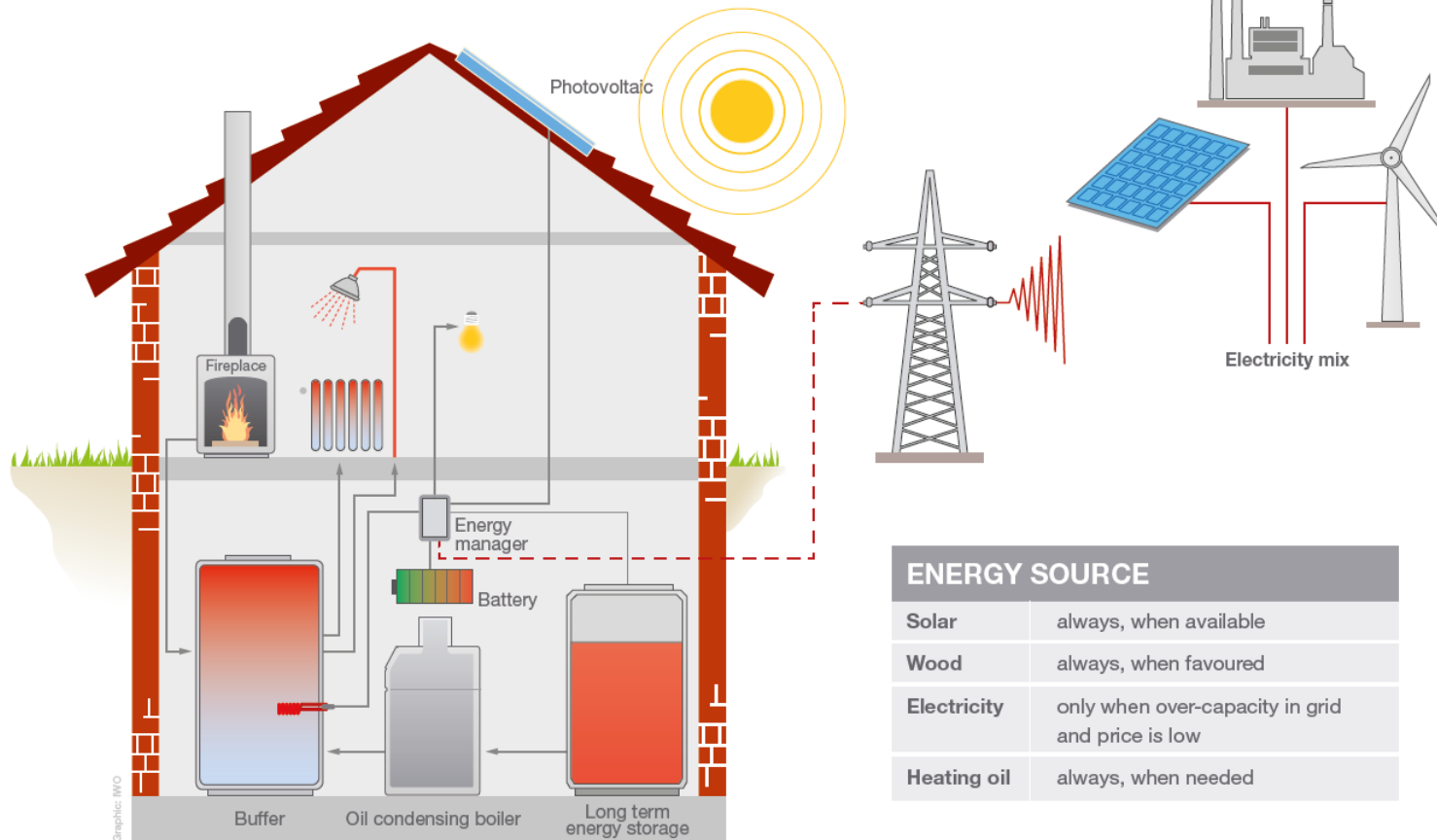
30<sup>th</sup> march 2015





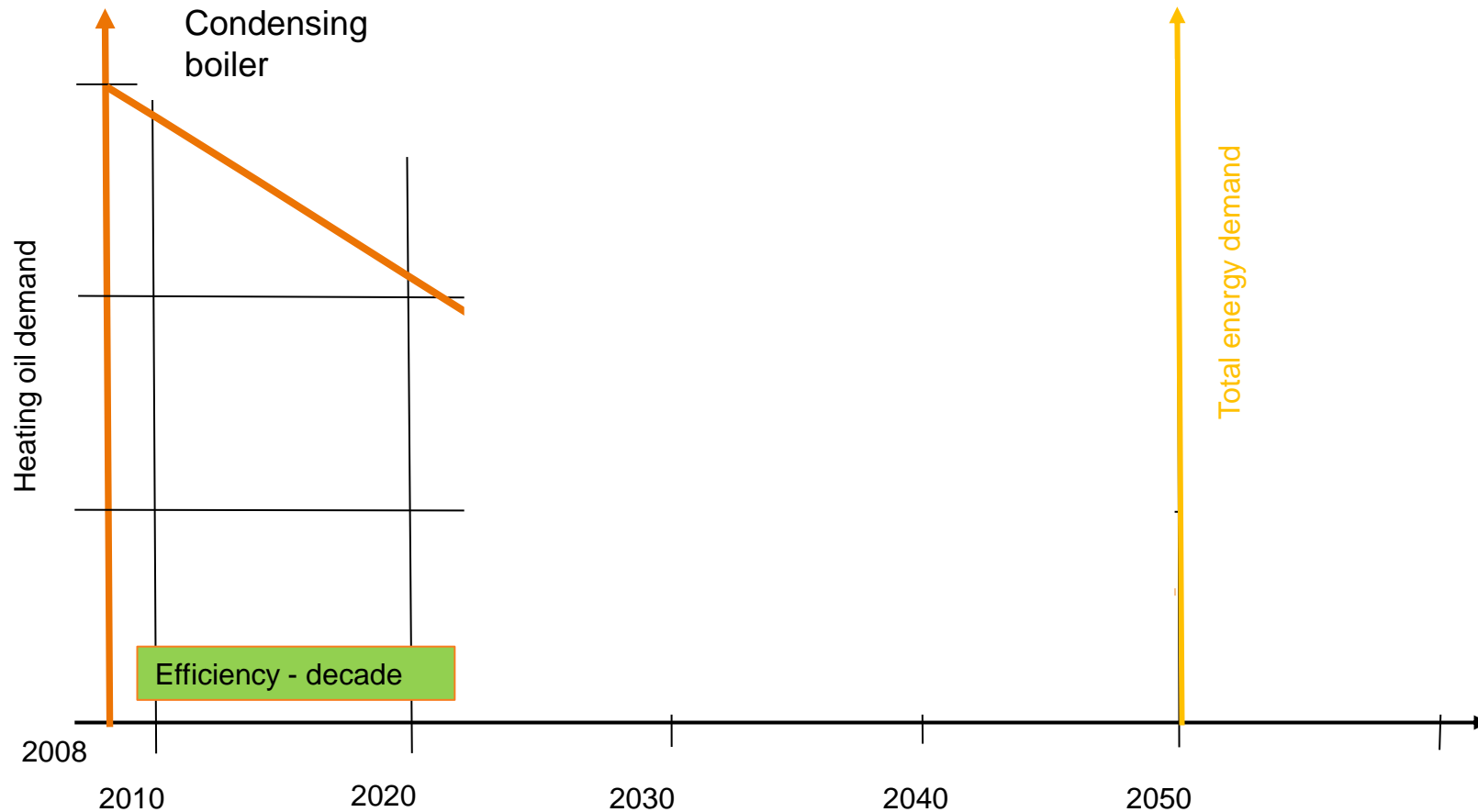
# What means full hybrid heating system

**FULL HYBRID SYSTEM** Heating system minimising the cost of energy and maximising security of supply for an eco-efficient integration of renewables



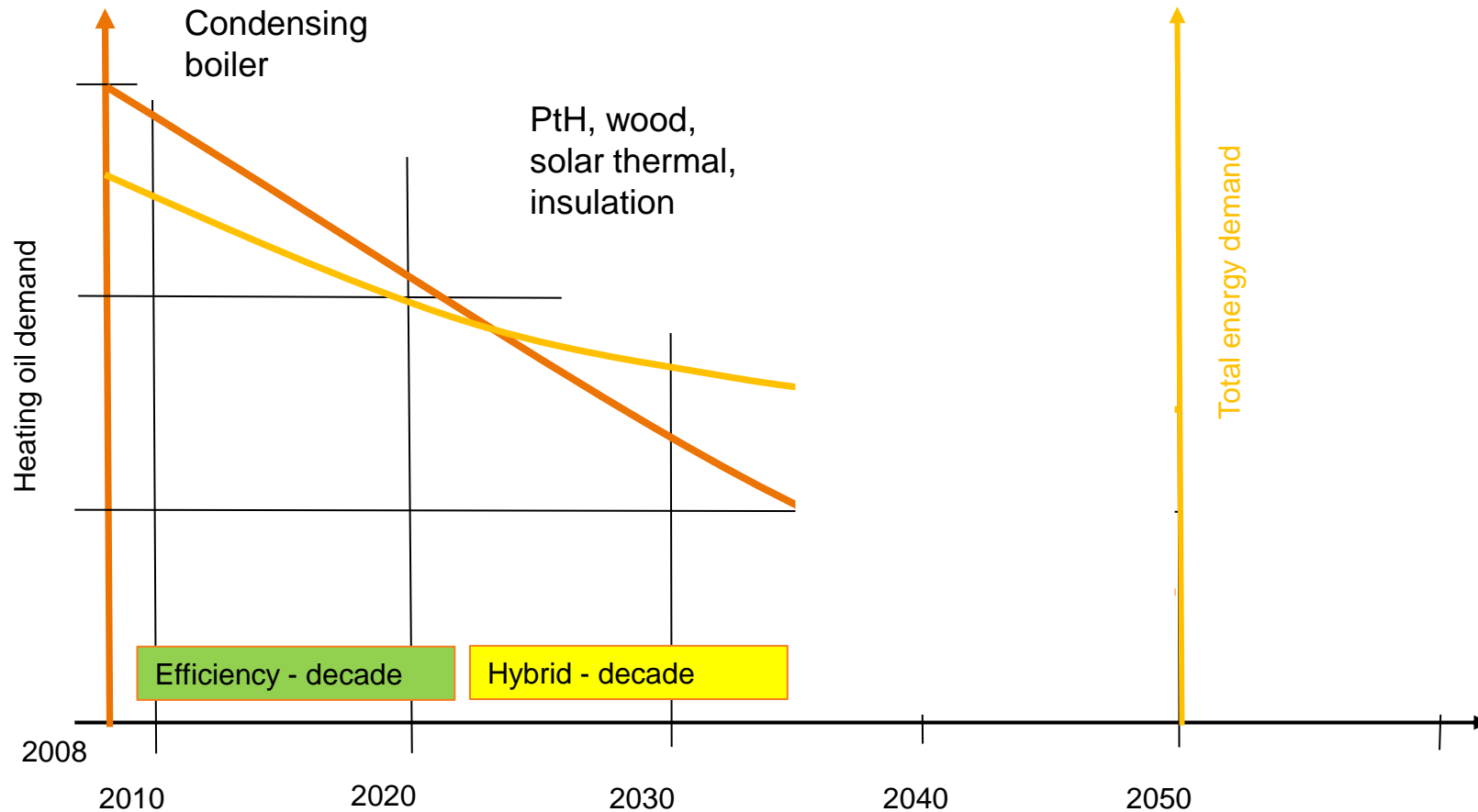
# Efficiency – hybrid – and beyond

**Political goal: – 80% up to 2050**



# Efficiency – hybrid – and beyond

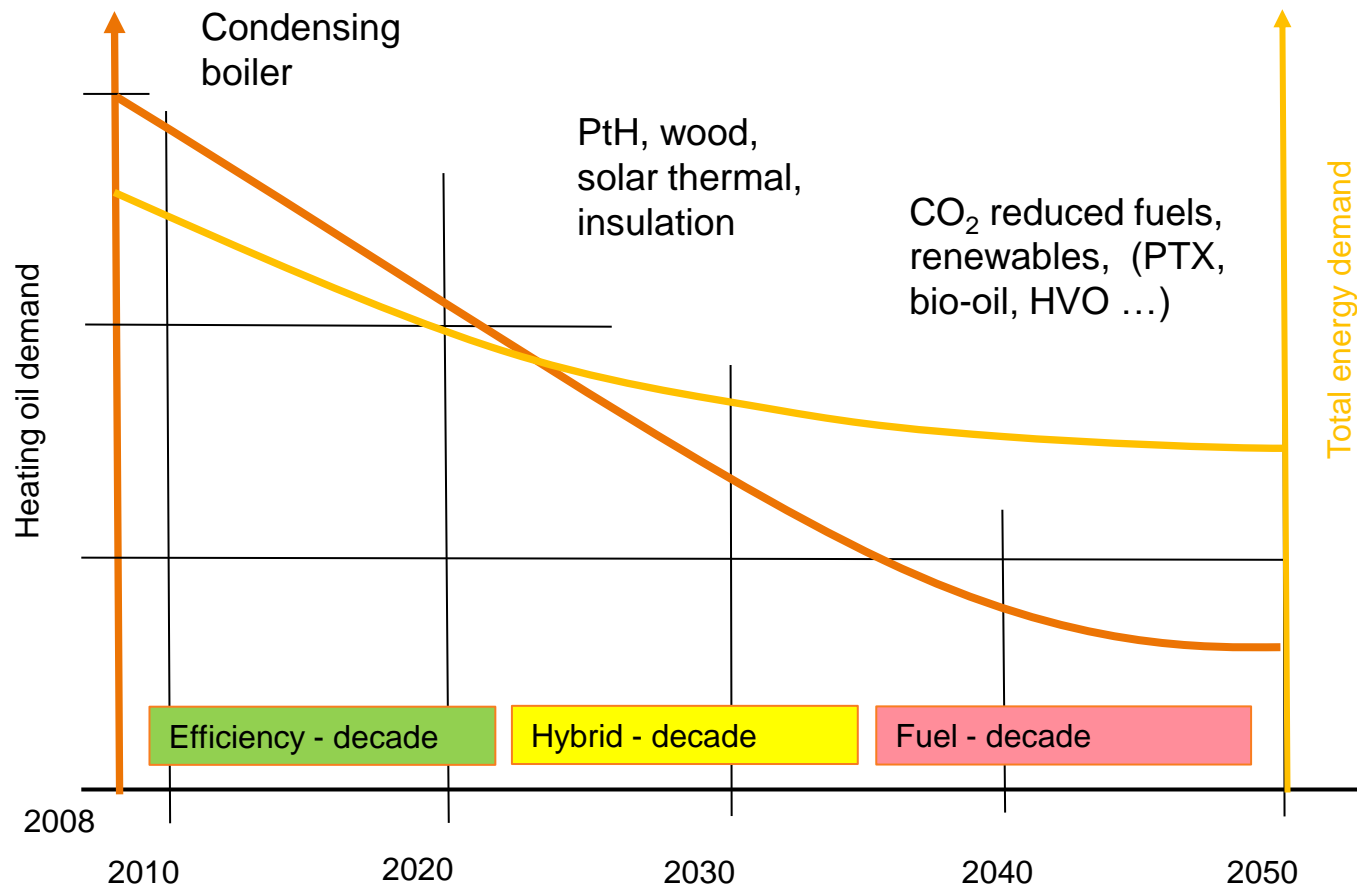
**Political goal: – 80% up to 2050**





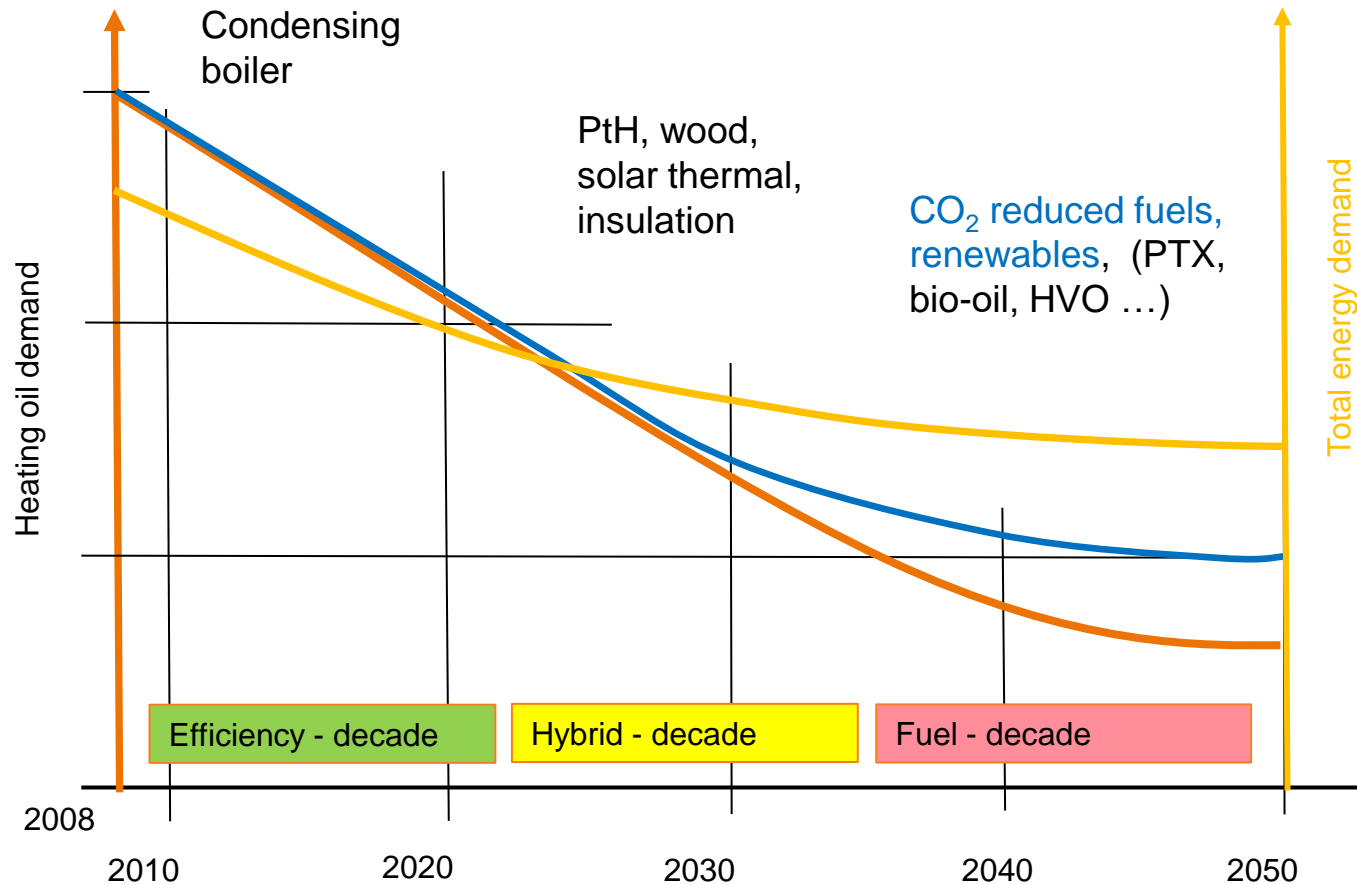
# Efficiency – hybrid – and beyond

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# Key Arguments

- Cost-effective solution for energy savings via efficiency measures (e. g. use of oil condensing technology)
- Social acceptability – deep renovation will increase rental fees
- Heating oil – easy combination with renewable energies e. g. solar heat or renewable electricity
- Heating oil as back-up energy and necessary part in the energy mix





# Heating oil should be part of the solution

