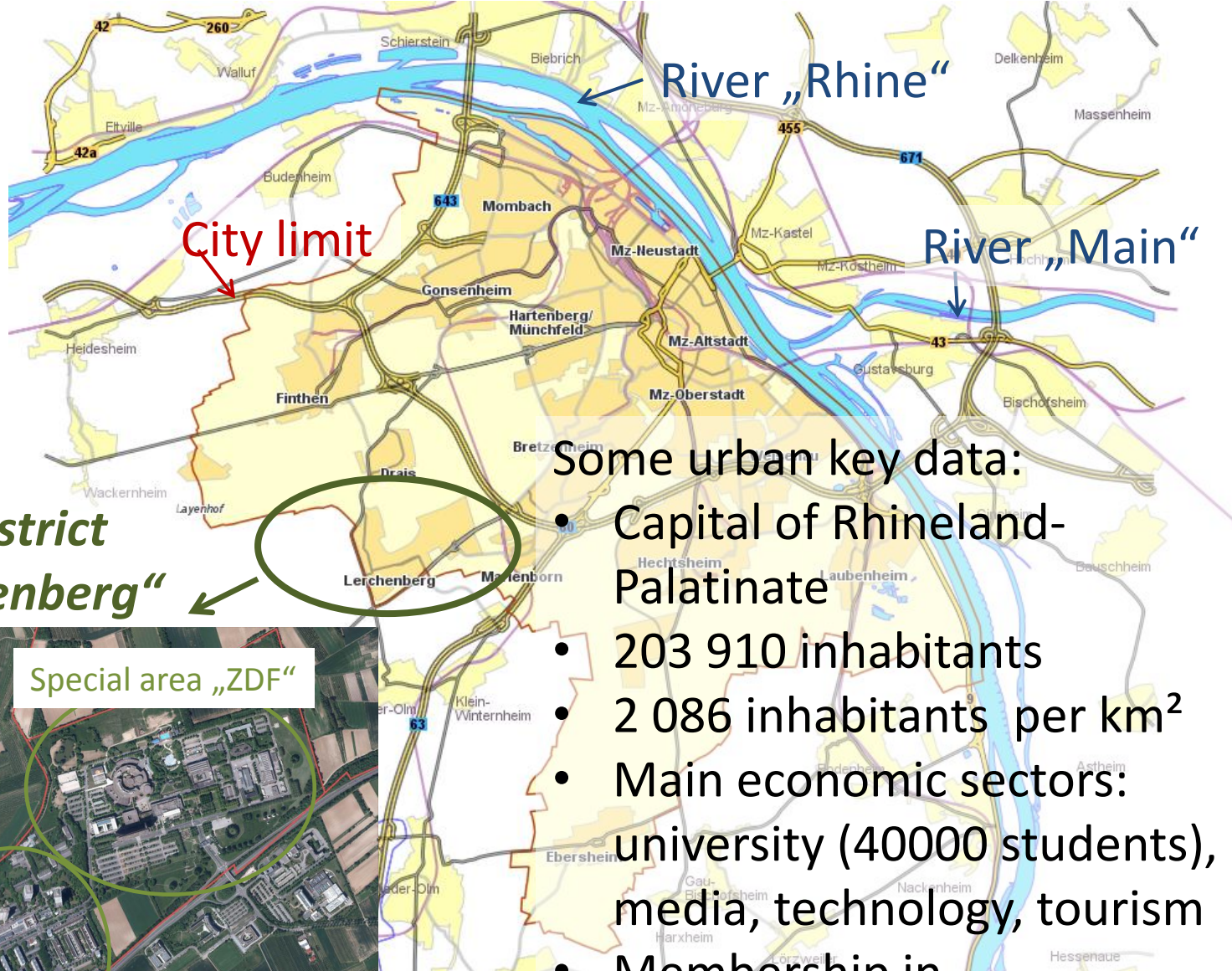


# City of Mainz:

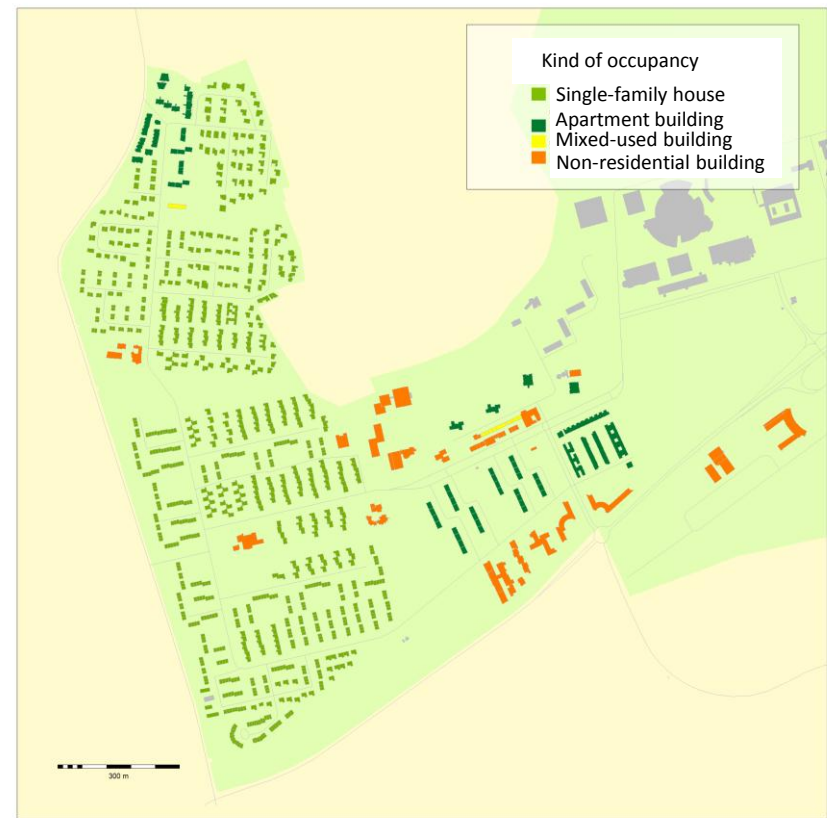


*Researched district  
„Mainz-Lerchenberg“*



# Basic situation:

- 6 000 inhabitants, 1060 residential buildings, 2763 housing units
- Youngest district of Mainz:  
94 % of the buildings are build between 1967-1974
- Residential buildings dominate
- District heating supply with obliged use and connection (40-60 % CHP)
- Possibility to change the conditions of the heating supply in 2016



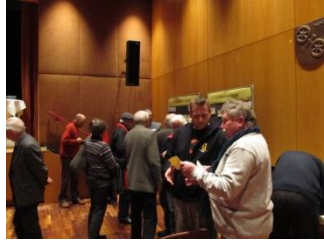
*Aid programme for energetic district projects, 85 % funded*







*Fora for discussion with the inhabitants of the district*



Fotos: Stadt Mainz

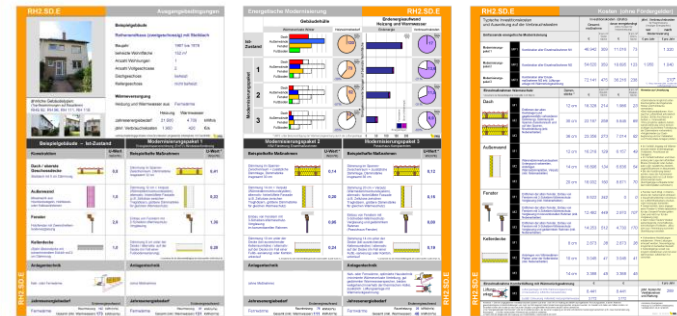


# Approach:

- Analysis of the existing and the future heat demand
- Work out actions to improve and to adapt the heating supply
- Practical suggestions of modernising insulation of buildings for 9 representative buildings

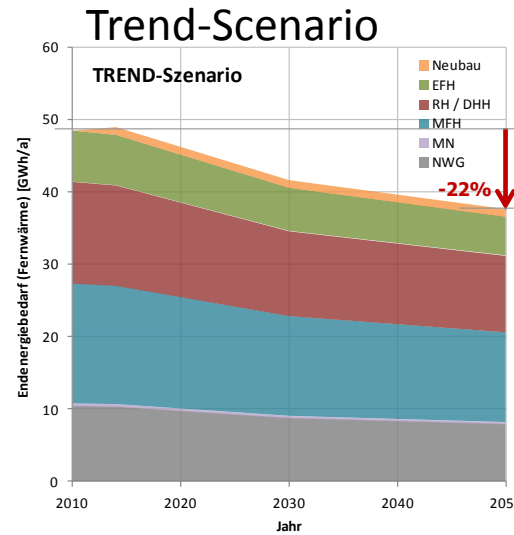
## Questions:

- Development of the heat demand in the district?
- Possible energy savings?
- Improvement and adaption of the heating supply to the future heat demand?

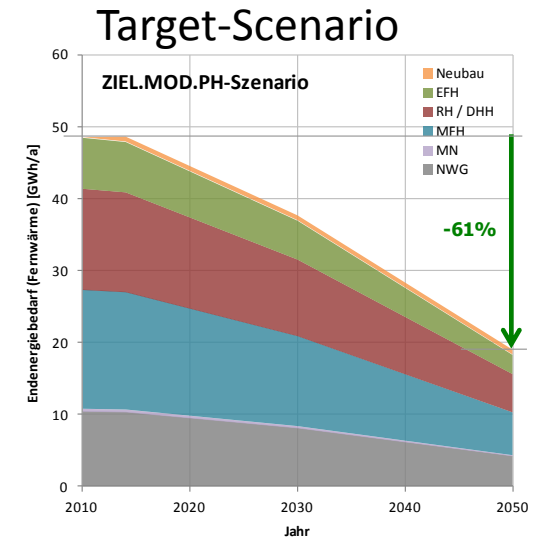


# Results (1):

- Heat demand according to modernisation rates and insulation standard

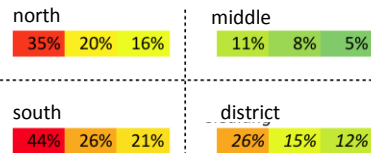


*Usual rate of building modernisations with standard insulation*

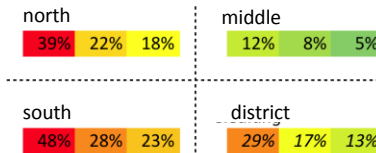


*Doubled rate of building modernisations with ambitious insulation*

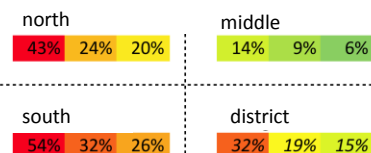
## existing buildings



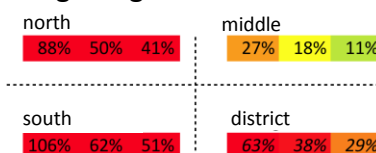
## buildings Trend 2030



## buildings Trend 2050/Target 2030



## buildings Target 2050



heating network with ambitious modernisation  
 heating network with standard modernisation  
 existing heating network

- Lossings of the district heating network according to the future heat demands and to different modernisation measures of the pipes

# Results (2):

- *Energy saving potentials:*  
Ambitious insulations of the buildings have the major contribution

- *Valuation of investments:*  
Cost effectiveness of ambitious insulation measures in case of linking with other modernisation measures and in case of getting funds



Foto: Björn Appel / Wikimedia Commons

- *Fora of discussion:*  
houseowners are interested, they need help and information
- *Heating supply:*  
An ambitious modernisation of the heating network is necessary. In case of ambitious insulated buildings, decentralised heating supplies can compete with the modernised district heating.



Foto: IWU

# Actions:

- Improvement of consultation and information about insulation measures
- Cooperations with other involved groups
- Preparation of energy efficiency measures at the district heating network and the heat production



Foto: Stadt Mainz

*Installed information center in the district  
since march 2014  
(2nd part of the aid programme)*

# Experiences so far:

- Great efforts are necessary to reach climate protection targets in built-up districts
- The research of the heat demand development is necessary to evaluate heating supplies
- Public participation/ information and fundings = factors of success