

A survey of private landlords in Karlsruhe and their perception of deep energy retrofit

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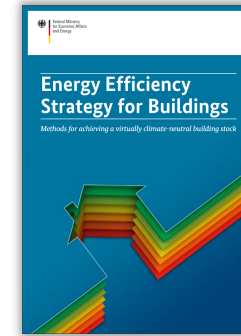


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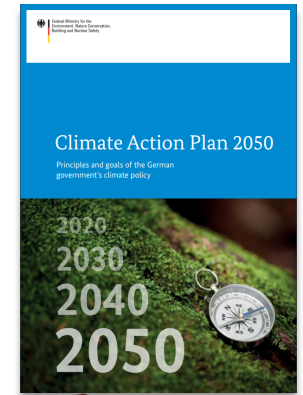
- Motivation and introduction
- State of the art
- Concept design and approach
- Selected survey results
- Discussion and conclusion
- Outlook

Motivation and Introduction

- 30% of the in/direct greenhouse gas emissions in Germany are caused by the heat supply of buildings^[1,2]
- 70% of the energy consumption in residential buildings is used for space heating and there is a large potential for improvement ^[1,2]
- In 2050 Germany wants to have a nearly climate neutral building stock, but the building owners must act ^[1,2]



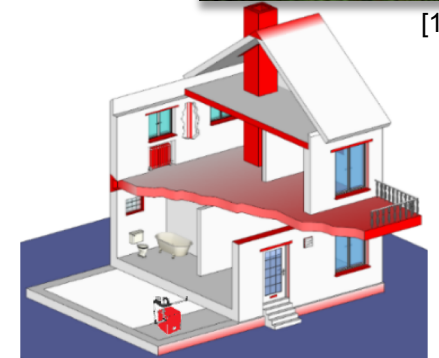
[2]



[1]

Ownership structure in Germany

- 54% of the 40.5 million apartments are rented and a total of 15 million are let by “amateur” landlords^[8,16]
- 74% of the rented residential building stock was built before thermal and heating system regulations came into force. This is about 10% more than owner-occupied.^[8,16]



How much do we know about private landlords in the residential building stock?

- There are many studies on decision-making of deep energy retrofit (DER)_[7,17,18]
- Much of the scientific literature either focuses on owner-occupiers or neglects the point of view of the building owners
- The perception of private landlords in Germany is little known
- Only few survey-based scientific studies of private landlords in Germany exist:

Authors	Survey type and sample size
Schätz et al. ^[22]	survey among 1,354 landlords (2005-2006)
Testorf et al. ^[31]	survey among participants of subsidy programs, n=5,546 of which 13.2% were private landlords (2009-2010)
Renz & Hacke ^[24]	interview of 18 private landlords (2016)
Steven März ^[25]	interview of 18 private landlords (2018)

- Investigation of the perception of deep energy retrofit (DER) of private “amateur” landlords
- In-depth survey of private “amateur” landlords with consideration of real estate market and local context
- Identification of motives and barriers concerning DER
- Recommendations for increasing DER activity within the target group



Approach

- Use of multiple methods:
Face2Face interviews,
conventional questionnaire,
preference experiment
- Survey in a defined area and with target group-specific sampling strategy

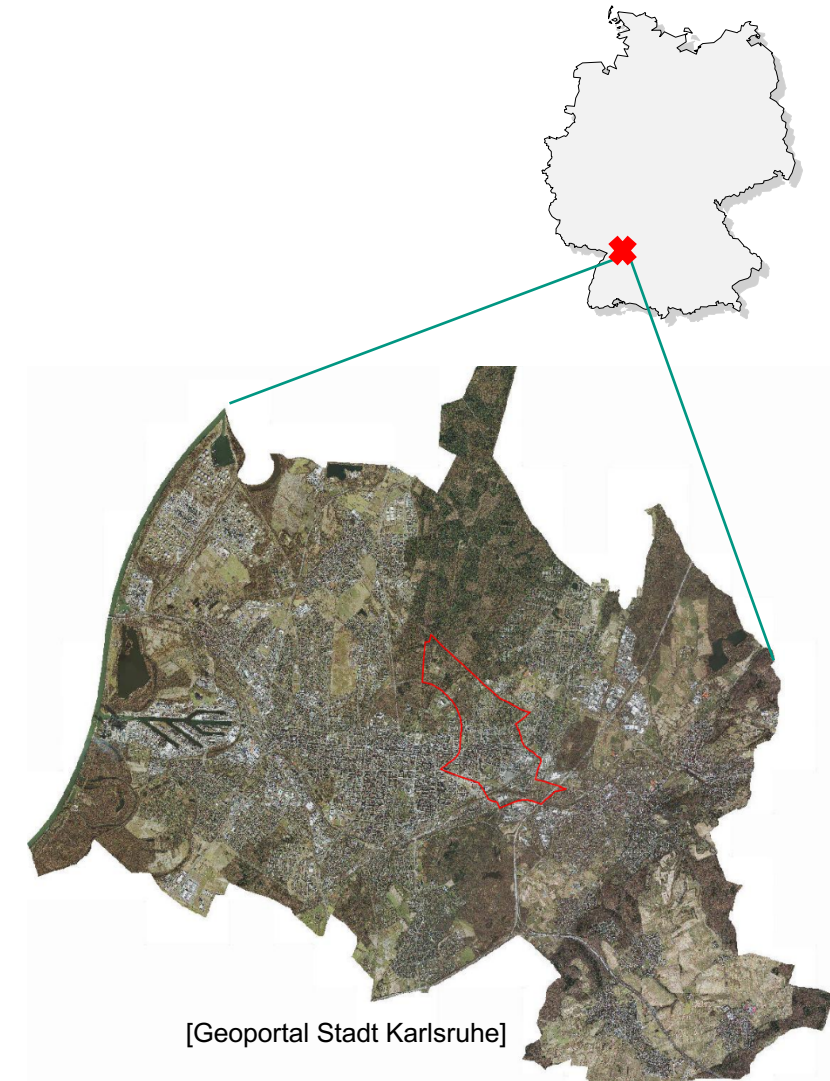
Investigation Area: Karlsruhe

Urban Transition Lab 131 (Research project)

- Parts of this contribution originate from this project (ended 2018)
- Oststadt is the lab district (red)
- Mixed use areas with a high share of residential buildings

District facts: [8,11]

- Above-average demand-driven real estate market
- Population ~21,000
- More than 10,000 apartments in 1,255 residential buildings
- 83% of the apartments are rented
- 85% of the residential buildings were built before 1978



Survey and approach

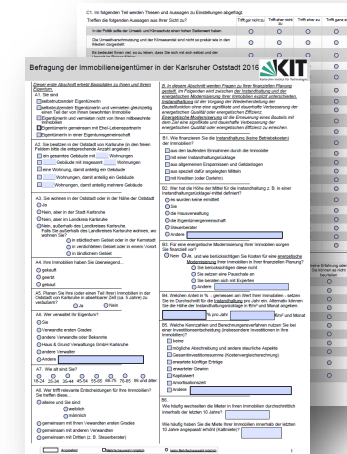
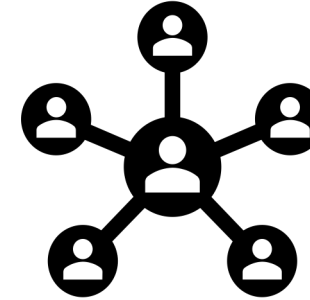
- Face2Face interviews,
- **Conventional questionnaire (2016),**
- Preference experiment

The conventional questionnaire comprises

- A variant of snowball and convenience sampling
- 85 individual complete responses from N ~450
- Online participants quit rate of about 77%

Topics

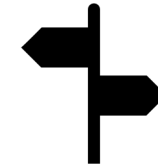
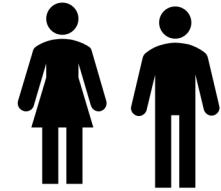
- Motives
- Barriers
- Occasions
- Experiences with DER and information channels



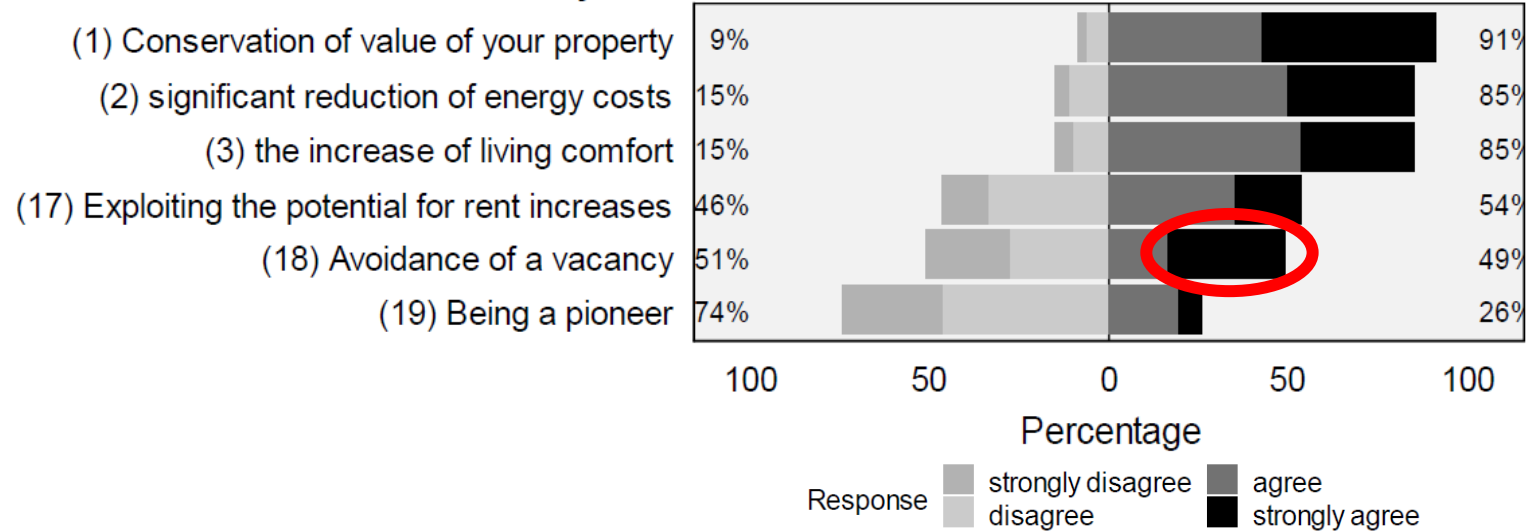
Further content and more detailed results can be read in the proceedings contribution

Basic data of the respondents

- 70% are older than 55, gender is mixed
- 60% of the respondents do not dedicate any funds to DER
- Concerning investment planning two groups were identified
 - focus on tax-based evaluation of investments
 - focus on amortization assessment
- Concerning information on DER, no direct information channel is used, most chosen channel is technical press/the internet
- For finance and legal advice landlords have specialized information channels with professional advisors



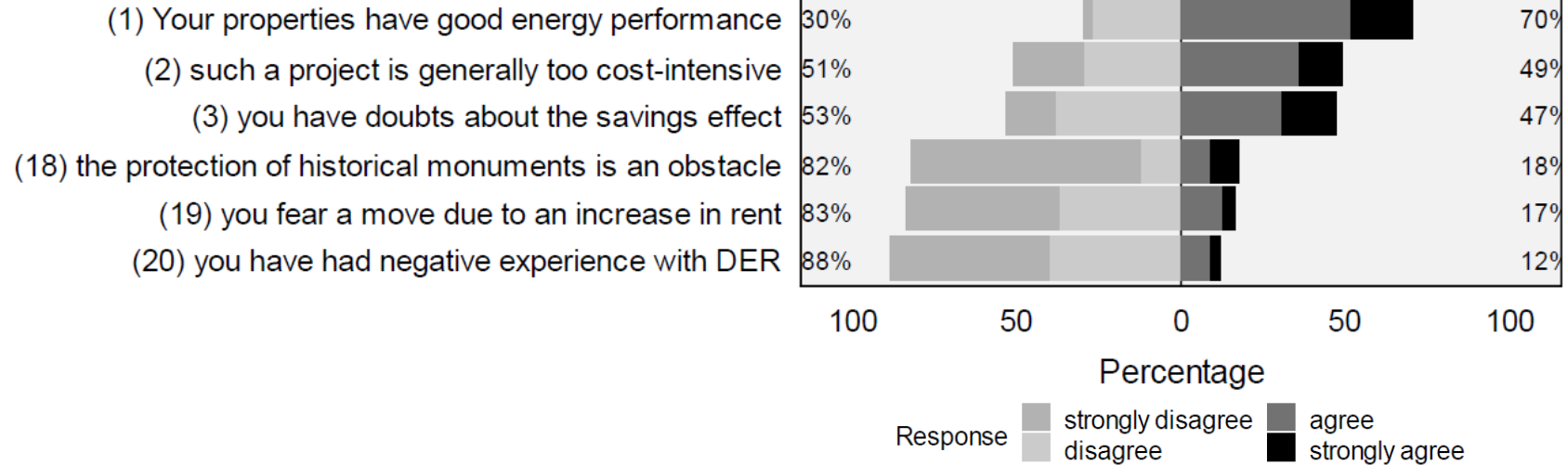
Motives of DER of your assets in the Oststadt of the city of Karlsruhe are...



Likert scale question with total 19 items, the 3 highest and lowest approvals are presented

- The ecofriendly attitude of the respondents has limited transferability to decision making behavior of not self-occupied buildings as ecological criteria play a minor role in DER decisions
- DER is not explicitly regarded as a rent increase instrument, but avoiding vacancies has a strong approval amongst a large group, apart from that it is a split field

You hesitate or refuse a DER, because...

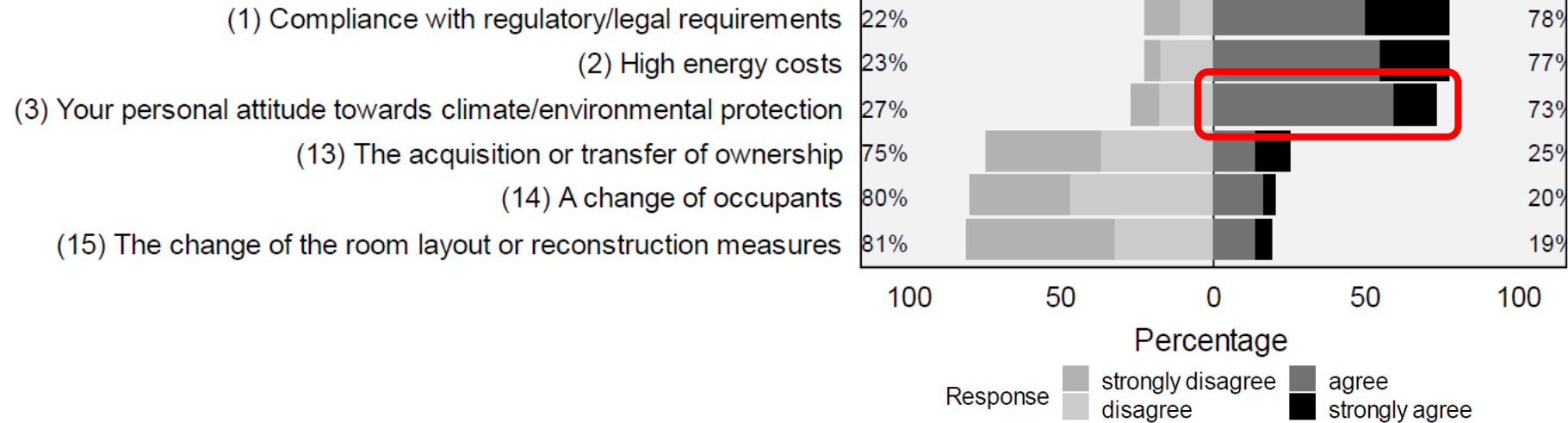


Likert scale question with total 20 items, the 3 highest and lowest approvals are presented:

- It seems private landlords overestimate the buildings' energy performance (based on reply and the analysis of the supplied Energy performance certificates(EPC)-data)
- Barriers are mainly related to doubts about DER effectivity and costs
- Technical implementation, monument protection, rents change and previous experience seem not to pose barriers

Occasions, causes and windows of opportunity

....is an occasion or cause for a (accompanying) DER

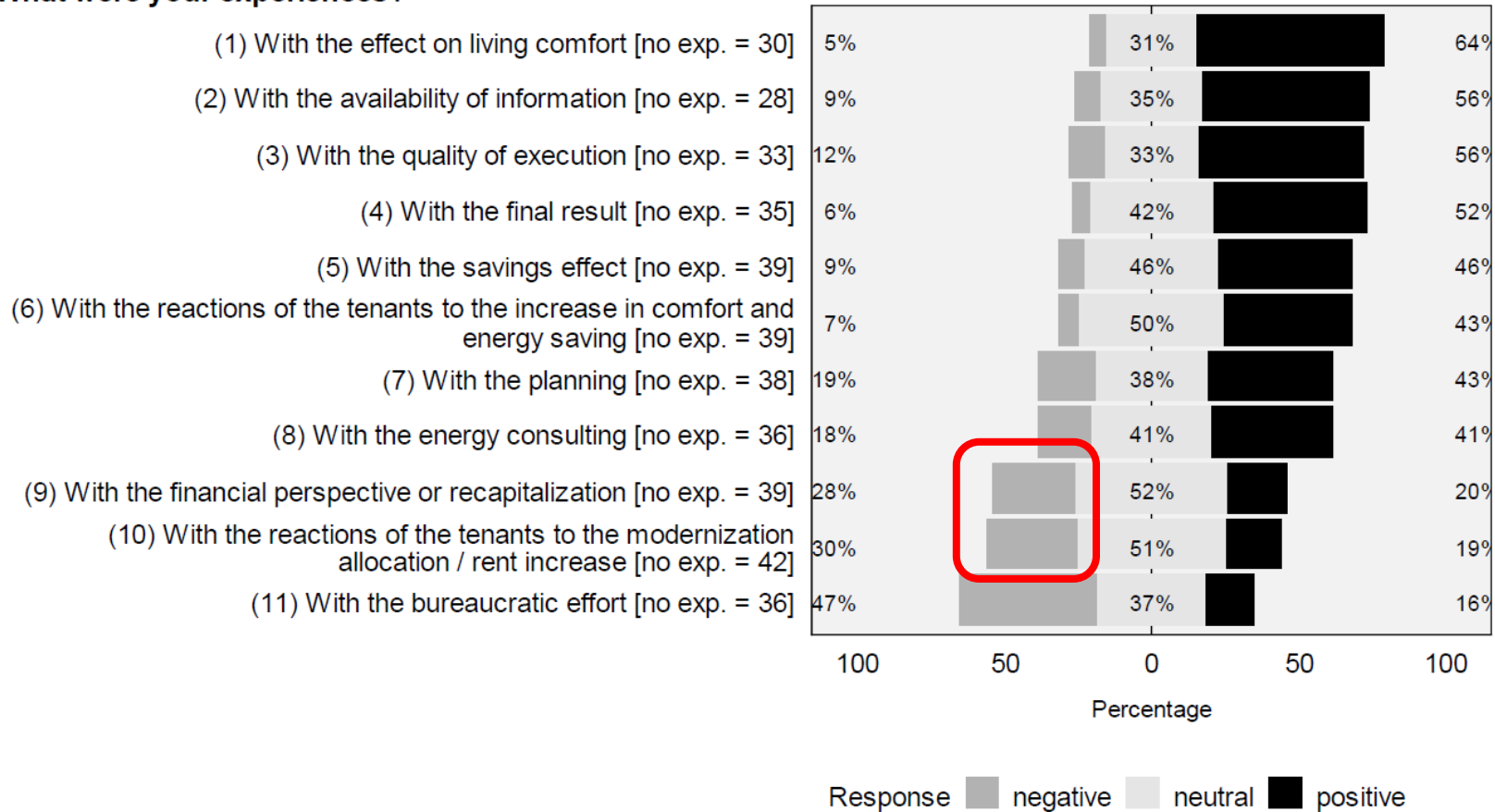


Likert scale question with total 15 items, the 3 highest and lowest approvals are presented:

- Regulation and legal requirements are important triggers of DER
- Maintenance comes on 4th
- The own sense of eco-friendliness and awareness does not correlate with past or planed DER activities or with EPC values
- Synergistic relationship of DER and e.g. reconstruction measures are not associated with each other and are not perceived as window of opportunity

Experiences with DER

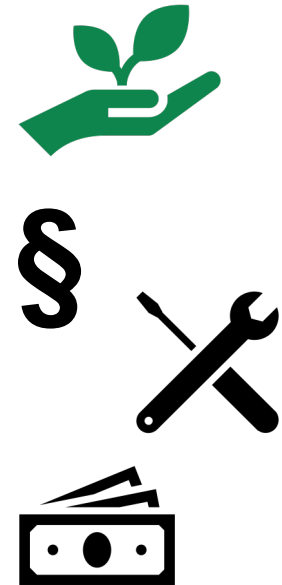
What were your experiences?



- Experiences are mainly neutral or positive and promise to invalidate some of the commonly believed barriers
- Dealing with the principal-agent dilemma seems to cause negative experiences

Conclusion

- The importance of considering private landlords is evident
- Many studies assume business-like and total rational behavior of private landlords which cannot be fully backed by the survey
- For organized private landlords in demand-driven rental markets we could conclude:
 - Private landlords are motivated to save energy and convinced of the ecological advantages of DER, but doubt the promised energy savings
 - Building performance is often overestimated
 - The main strategy for investments is conservation of property value and compliance with legal requirements
 - Despite an ecofriendly attitude, ecological criteria have a minor part in the DER decision
 - Financial subsidies are the preferred type of financial incentives
- Sample size is rather small and could be biased



■ Economic incentives

- private landlords prefer grants more than subsidized loans

■ Markets

- Real estate markets are not reflecting the energy performance sufficiently. EPC fail their informative purpose. Adequate access to data about prices, rent levels and energy performance could improve this.

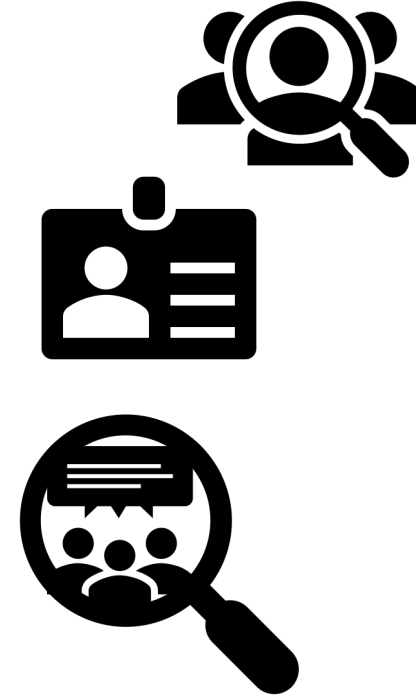
■ Enforcement

- Some DER measures are mandatory. However, these requirements are merely enforced. A stricter enforcement would raise awareness, responsibility and place DER higher on the agenda of legal and financial advice

■ Lack of knowledge and awareness

- Better access to DER roadmaps/EPC information could yield significant improvements. A higher focus of campaigns on landlords' and tenants' perspectives could raise awareness and mitigate the landlord-tenant dilemma

- Further results and data from the survey will be published
- Our different preference experiments enable modeling individual landlords (n=42)
- Group/cluster judgements can be computed, as well as group/cluster utility/preference functions can be modeled



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Baden-Württemberg

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Thank you.

Q&A

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