

# Smart small living?

Saving energy in senior citizen's households by reducing floor space – drivers and obstacles

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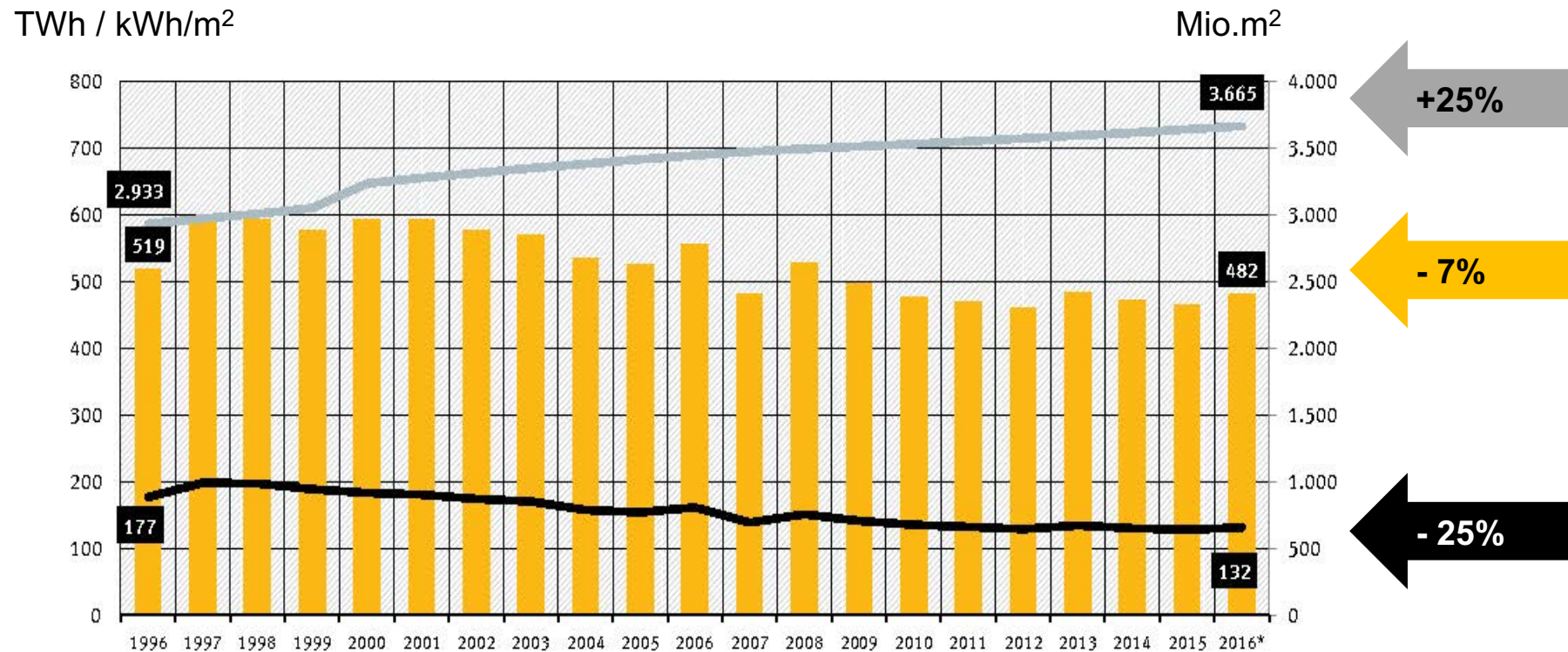
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# Increasing living space: a challenge for energy transition

## Evolution of heat energy consumption and living space in Germany



- Living space (Mio. m<sup>2</sup>)
- Heat energy consumption (TWh)
- Heat energy need of buildings (kWh/m<sup>2</sup>)

Source: Federal Environmental Agency

# Senior citizens in Single Family Homes: a relevant group

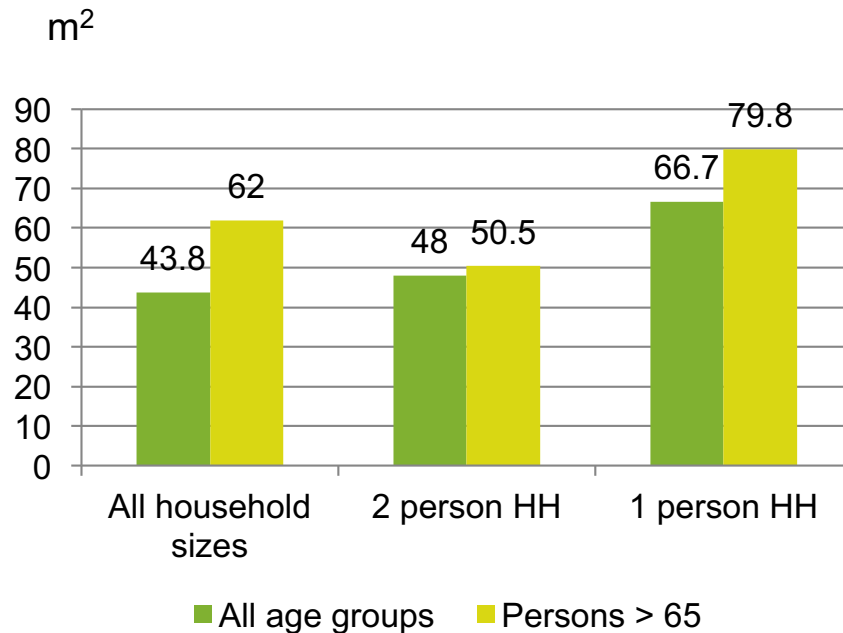


Source: Silke Wesselmann, Kreis Steinfurt

- When grown-up children leave home, senior citizens remain alone in large dwellings
- Homes are often badly insulated and not barrier-free
- High energy consumption and heating cost
- High maintenance

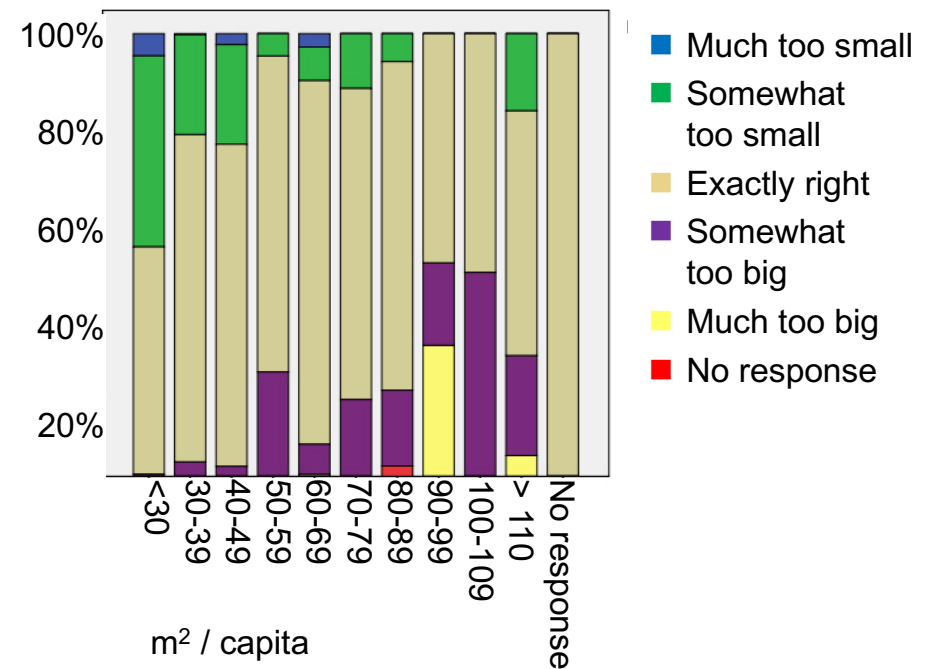
## Some data: Germany

### ■ Per capita living space in Germany



Source: Federal statistical office

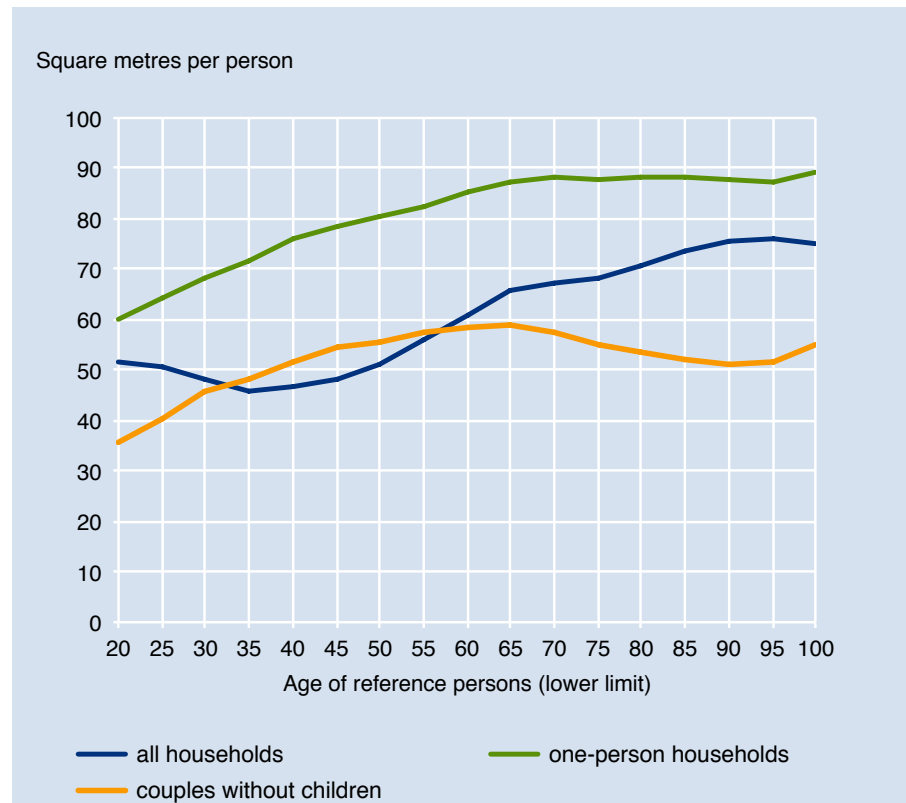
### ■ Survey results: How people feel about the size of their home (601 respondents)



Source: Wuppertal Institut, / ifeu, „Energiesuffizienz“ 2016

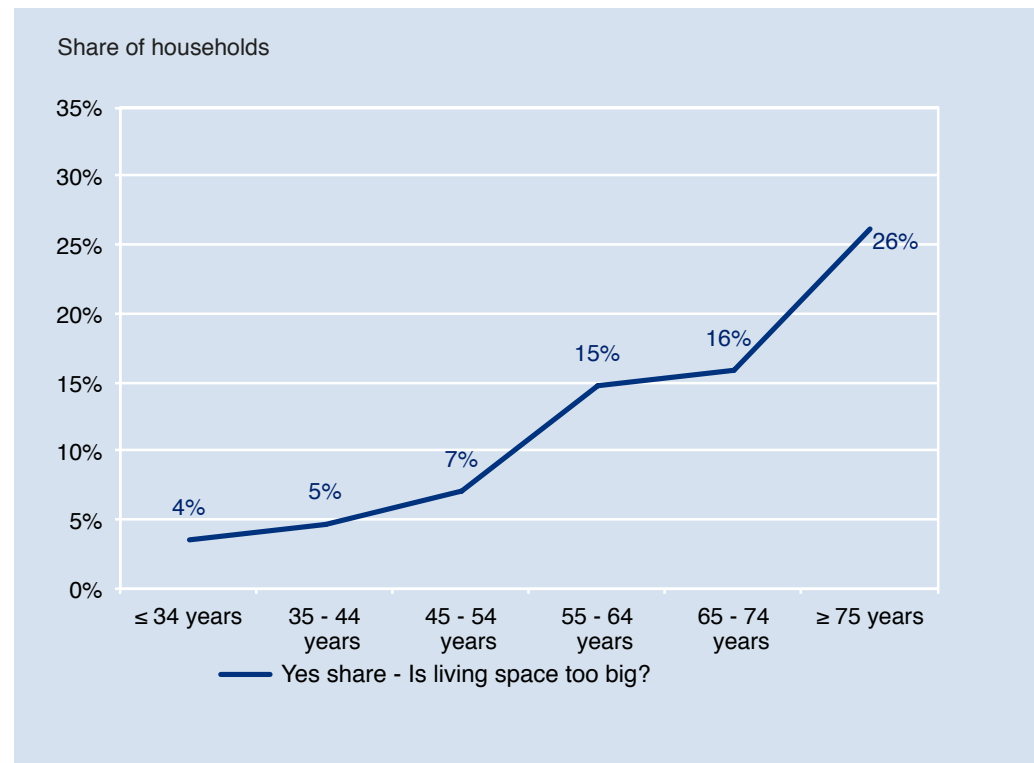
## Some data: Switzerland

### ■ Household space requirements by age group, Switzerland



Source: FSO, BDS / STATPOP, 2013; Rütter Soceco, own calculations

### ■ At the same time, one's own apartment/ SFH is often considered too large...



Source: Swiss Household Panel SHP I & II, 2013; Rütter Soceco, own calculations.

# The need for social innovation

- Improved efficiency of the homes is not enough – per capita living space needs to come down
- There is no easy technological fix!
- Instead, **social innovation** is needed
- For the group of senior citizens, this could mean e.g.:
  - ▶ **new lifestyles:**
    - revision of the idea of the family home as a home for life;
    - moving more often;
    - new forms of sharing living space such as subletting, co-habitation;
    - adapting equipment and activities to space restrictions
  - ▶ **new forms of organisation:** creation of support networks to help people implement such changes
  - ▶ **new regulations:** e.g. with respect to building codes, designation of building ground; development schemes that allow for different building types
- Many actors involved: architects, (local) policymakers, real estate developers...

## Transdisciplinary research projects

- „LivingSpaces – Instruments for a needs-orientated usage of SFH
  - ▶ Develop an integrated toolset, motivating seniors to consider alternative living arrangements
  - ▶ Improving availability of dwellings for larger households
  - ▶ Options to redensify SFH settlements
- Partners: District of Steinfurt; Öko-Institut, ISOE, ifeu
- 2017-2020
- Funding: German Federal Ministry of Education and Research
  - ➔ Transdisciplinary research approaches, linking social empirical analysis to developing and testing of interventions
- „Energy reduction potentials of elderly people's households“
  - ▶ Reduction of the living space and energy consumption
  - ▶ Overcoming the renovation backlog at SFH
  - ▶ Long-term, continuous and sustainable interventions
- Partners: Rütter Soceco AG, hässig sustech gmbh, HEV Swiss
- 2014-2018
- Funding: NRP "Managing Energy Consumption" (NRP 71), HEV Swiss

## Housing perspectives for elderly SFH owners

Activities	Remaining in one's home	Moving	
	Doing nothing	New dwelling	Actual dwelling
		Apartment (purchase)	Renting to the family
	<ul style="list-style-type: none"> <li>• Barrier-free refurbishment</li> <li>• Energy efficient refurbishment</li> </ul>	Apartment for rent	Renting to others
	Separation of a lodger flat	SFH (rent or purchase)	Transfer within the family
	Enlargement, extension, creating a second flat	Collaborative, e.g. multi-generational housing (rent or purchase)	Selling to others
	Replacing, densification		



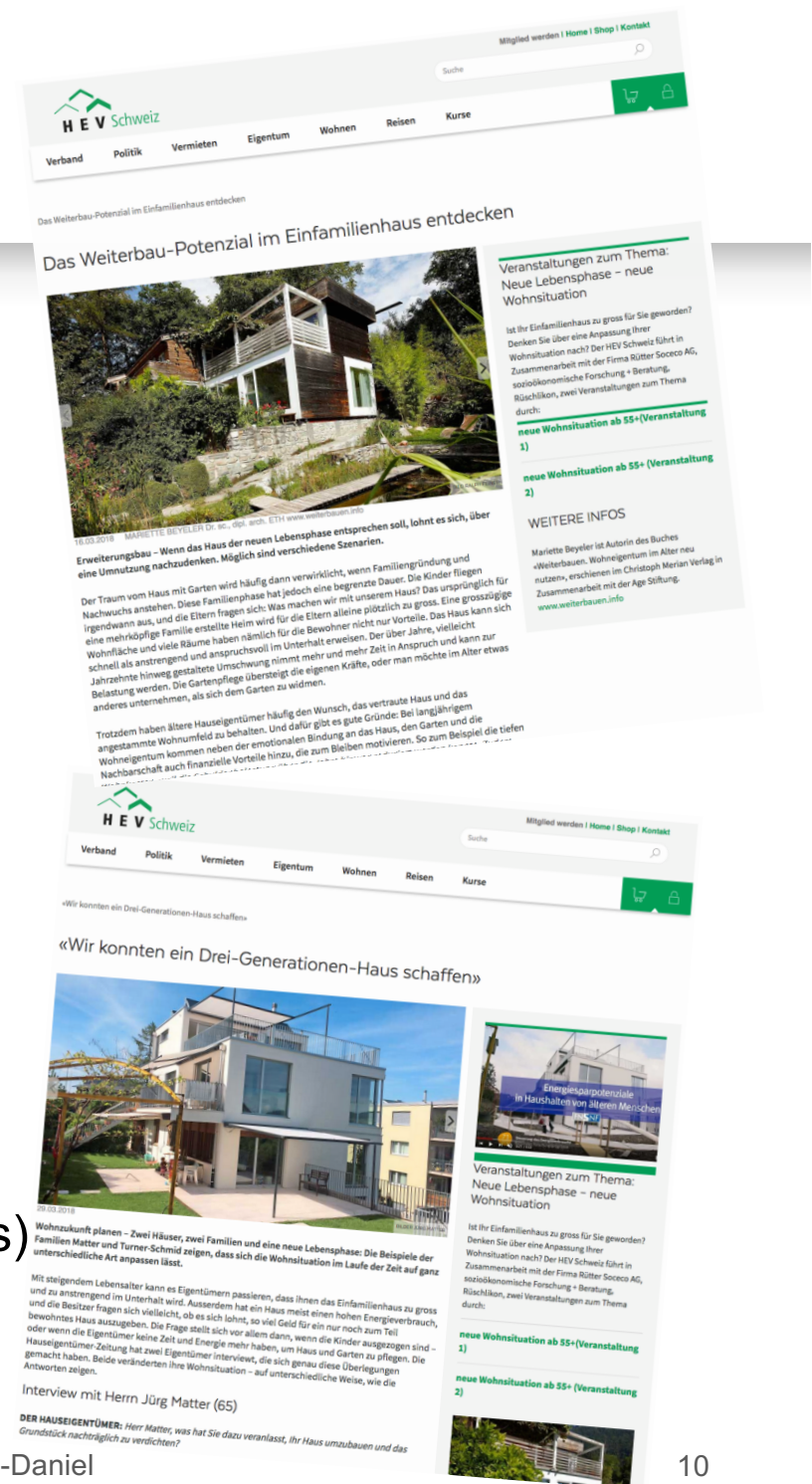
## Drivers and Obstacles

- General uncertainty regarding future residential/life situation,
- Issues around «living in old age» are difficult to address
- Strong emotional ties towards the own house
- Conflicting priorities: Reducing barriers, increasing comfort vs. reduction of living space
- Desire to keep options open
- SFH funding schemes promote life long housing in the SFH
- Reducing efforts for management and upkeep (garden, house)
- Desire for not living alone
- In Germany and CH: many SFH owners could imagine to move
  - ▶ ...if there were appropriate options available
  - ▶ Intergenerational housing is highly appreciated
- Reconstruction, splitting up a lodger rent, or renting an empty apartment are less familiar and / or appear less appealing

# Example for an intervention format: Motivation workshops for homeowners

## Pilot events with members of Swiss Home Owner's Association (HEV)

- 2 workshops in Zurich (May 2018)
  - WS 1: focus on structural densification
  - WS 2: focus on moving into a smaller appartement
- Contents: Professional inputs, experience reports (identification), confidential exchange and discussion in small groups with the experts
- In advance: Publication of 3 articles in newspaper of the HEV (creation of awareness)



# Results

- Great interest of the target group, 70 participants, average age: 65
- Many questions / lively discussions; positive feedback from participants
- Survey immediately following the two events:
  - Participants liked the format and content of the workshops, especially the practical example and the exchange in small group; 90% / 100% would recommend the event to friends
  - About half of the participants stated that they had received new resp. useful information
  - 50% (WS1) / 1/3 (WS2) of the participants stated that the event encouraged them to change their living situation
  - The events encouraged i.a. ...
    - to continue to deal with the topic / to concretise plans or to adapt the procedures
    - to have architects analyse the living situation and the potential for further construction
    - to plan more / plan for the long term, to think about the future of the property
    - to clarify one's own wishes with the children
    - to sell the house and buy a condominium or to continue the discussion about changing from SFH to flat

## Conclusions - homeowners

- Precondition for change: Active engagement with future housing situation and development of a personal residential vision
  - ▶ Dealing with uncertainty about the future of one's property
  - ▶ New social norm: Dealing with one's own ageing => positive process
  - ▶ Need to receive information on options and experiences
  - ▶ A value-oriented approach is needed
- A possible pathway to support social innovation:
  - ▶ Sensitizing / raising awareness by presenting the topic in the media
  - ▶ Pick up the target group 55+ where it is and via their usual channels
  - ▶ Strong partners with access to the target group
  - ▶ Combination of expert knowledge and peer credibility
    - Professional experts and attractive design of tools / formats
    - Role Models + personal, confidential exchange > inspire and give impulses

## Conclusions – framework conditions

- Policy and framework conditions need to be reconsidered
  - Need for new models of financing (affordability of mortgages) of structural consolidations and energy retrofit for people over 60 years of age .
  - Additional incentives within the framework of the building laws needed
- Further challenge: To activate the other relevant actors (e.g. local policymakers)

# Contacts & links

## LebensRäume project:

<https://kommunen-innovativ.de/lebensraeume>

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- The NRP 71 project "Energy reduction potentials of elderly people's households" and the implementation project "Activating the energy-saving potential of single-family houses" are supported by the Swiss National Science Foundation, National Research Programme 71 "Managing Energy Consumption" and the Swiss Homeowners Association (HEV).
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