

**This document serves as Supplementary Material to the paper “Exploring residential space use pattern: Findings from a multi-country survey” (Bagheri et al. 2024) published in the Journal of *Energy Efficiency*.**

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## Survey Questions

Language options

Bitte wählen Sie eine Sprache. Välj ett språk. Proszę wybrać język.  
Escolha um idioma.

- Deutsch
- English
- Polski
- Svenska
- Português

Do you agree to the privacy policy and consent to the collection and processing of your responses?

- Yes
- No

How old are you?

- Under 18
- Between 18-24
- Between 25-35
- Between 36-45
- Between 46-55
- Between 56-65
- Older than 65

In which country do you live?

- Germany
- Sweden
- Portugal
- Poland
- Others

## **Gender**

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to say

How many people live in your household?

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Which of the following best describes your household composition?

- Single adult with children
- Single adult without children
- Couple with children
- Couple without children
- Other type of household

## **Location**

Where is your primary residence located?

- Directly in a larger city (more than 50,000 inhabitants)
- In the surrounding area of a larger city (more than 50,000 inhabitants)
- In the country side

Please enter your postal code:

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## Building Type

In which type of residence do you live?

- Single family house (e.g. detached house, semi-detached house or row house, with one household living in it)
- Multi-family house (e.g. flats in buildings with more than one residence)
- Others, please indicate: \_\_\_\_\_

## Ownership

What is the tenure status in your current residence?

- My household owns the residence in which I live
- My household rents the residence in which I live
- Other, please specify: \_\_\_\_\_

## Income (Germany)

What is your household's approximate net monthly income after tax (in €)?

- Less than 2100 €
- 2101 € - 2800 €
- 2801 € - 3500 €
- 3501 € - 4700 €
- More than 4700 €
- Prefer not to say

## Income (Sweden)

What is your household's approximate net monthly income after tax (in kr)?

- Less than 21900 kr
- 21901 kr - 30300 kr
- 30301 kr - 38300 kr
- 38301 kr - 48700 kr

- More than 48700 kr
- Prefer not to say

### **Income (Portugal)**

What is your household's approximate net monthly income after tax (in €)?

- Less than 900 €
- 901 € - 1200 €
- 1201 € - 1600 €
- 1601 € - 2100 €
- More than 2100 €
- Prefer not to say

### **Income (Poland)**

What is your household's approximate net monthly income after tax (in zł)? PL

- Less than 3500 zł
- 3501 zł - 4600 zł
- 4601 zł - 5700 zł
- 5701 zł - 7400 zł
- More than 7400 zł
- Prefer not to say

### **Rent for tenants**

How much is your monthly rent (only the amount you pay to your landlord)?

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What is included in the rent that you pay to your landlord?

- Basic rent for the residence
- Cold water
- Warm water

- Electricity
- Heating
- Waste disposal
- Internet
- Furniture
- Others, please specify: \_\_\_\_\_

Excluding yourself, how many people of each age group live in your household?

Children under 6 years old: \_\_\_\_\_

Children between 6 and 17 years old: \_\_\_\_\_

Adults 18-24 years old: \_\_\_\_\_

Adults 25-35 years old: \_\_\_\_\_

Adults 36-45 years old: \_\_\_\_\_

Adults of 46-55 years old: \_\_\_\_\_

Adults of 56-65 years old: \_\_\_\_\_

Adults older than 65 years old: \_\_\_\_\_

What is the highest level of education you have completed?

- No school completed
- Primary education
- Secondary education
- Vocational/technical training or education
- Academic degree
- Other, please specify: \_\_\_\_\_

Have you moved before?

- No, this residence has been my residence since I was born.
- Yes, I have moved.

Thinking about the last time you moved, what was the reason for moving out of the previous residence?

- Need for more space due to the birth of a child
- Need for more space as a result of care of family member

- Need for less space since the children moved out
- Need for less space due to death of the partner
- Divorce/separation
- Moving from a rented to an owned residence
- Moving in with the partner (we found a new residence together)
- Moving in with the partner (moving into the partner's existing residence)
- Expiration of the rental contract or asked by the owner
- To have elderly-friendly options
- To have other facilities (e.g. elevator, garage, parking)
- Wanted to live in another area
- Due to studying/training
- Career/changing a job
- Economic reasons
- Other, please specify: \_\_\_\_\_

What were the main reason(s) for choosing your current residence?

- Location (e.g. close to the working place, nice neighborhood, close to parents/ family members, close to nature, transportation option such as station)
- Design and layout (e.g. area, rooms, garden...)
- Economic reasons
- Only available option
- Inherited (e.g. from parents)
- Some benefits since the landlord/previous owner is a relative/friend/family member
- Other, please specify: \_\_\_\_\_

**Please answer the following questions for your current primary residence.**

Do you live in an alternative form of housing?

- Yes, a tiny house
- Yes, a shared flat/house
- Yes, cohousing
- Yes, an ecovillage

- No
- Other, please specify: \_\_\_\_\_

How long have you lived in your current residence?

- Less than one year
- Between 1 to 5 years
- Between 6 to 10 years
- More than 10 years

What is the size of your current residence (in m<sup>2</sup>)?

\_\_\_\_\_

How many of the following indoor spaces do you have in your residence?

Kitchen: \_\_\_\_\_

Bathroom (incl. separate toilets, shower room, etc.):

\_\_\_\_\_

Other rooms (e.g. bedroom, living room, hobby room): \_\_\_\_\_

Which of the following additional areas do you have in your residence?

- Garage
- Balcony, terrace or veranda
- Backyard and/or garden
- Storage area (basement, attic, shed)
- None of the above

Do you have facilities for accommodating a guest?

- Yes, we have a guest room
- Yes, we have sleeping facilities (e.g. pull-out couch) in one room that is usually used for other purposes (e.g. an office), so if necessary, we can use the room to host a guest
- No

Other, please specify:

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On average, how often do guests (partner, family members, friends, etc.) stay over in your residence?

- Never
- A few times a year
- A few times a month
- A few times a week

On average, how often do you host social activities in your residence (e.g. inviting friends for dinner, organizing an event)?

- Never
- A few times a year
- A few times a month
- A few times a week

## **Transport**

What is your main means of transport for commuting to work?

- Walking
- Bike
- Motorcycle
- Private car
- Public transport (tram, train, etc.)
- I do not work/ I do not commute to work
- Other, please specify: \_\_\_\_\_

What is your main means of transport for daily activities (e.g. shopping, visiting friends)?

- Walking
- Bike
- Motorcycle
- Private car



- Public transport (tram, train, etc.)
- Other, please specify: \_\_\_\_\_

Does your household own a private car?

- Yes
- No

Does your household use the car sharing concept?

- Yes, my household has a membership with a car-sharing company
- Yes, my household does not have a fixed membership but do sometimes use car sharing
- No, my household has does not use car sharing at all

Do you have a second residence?

- No
- Yes, in the same country
- Yes, in a different country

Which of the following categories best describes your current working situation?

- Full time employed
- Part time employed
- Self employed
- In training/education
- House wife/house husband
- Looking for work/currently unemployed
- Retired
- Other, please specify: \_\_\_\_\_

If first adult is employed:

In which sector do you work?

- Agriculture, forestry and fishing
- Mining and quarrying
- Manufacturing industry
- Electricity, Gas, Steam, and Air Conditioning Supply
- Water supply; sewage, waste management and remediation activities
- Construction
- Commercial Service
- Research, Technical, and Information activities
- Finance
- Social service
- Education
- Health
- Other, please specify: \_\_\_\_\_

How far is your central working location from your residence?

- 0-5 km
- 6-10 km
- 11-15 km
- 16-30 km
- 31-50 km
- >50 km

How many days do you usually work per week (regardless if you work part time or full time)?

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Is it theoretically feasible in your current job to work from home (home-office)?

Yes

No

If no:

Does your current job require some preparations which you have to do at home?

Yes

No

If yes:

Are you allowed to work from home in your current job?

Yes

No

If yes: how many days per week?

1

2

3

4

5

6

7

Which is the main area usually used to conduct work from home?

Separate office room

Dining room

Living room

Bedroom

Kitchen

Other, please specify: \_\_\_\_\_

If you could freely decide, how many days per week would you like to work from home?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7

If a second adult in the household:

You indicated that a second adult lives in your household. Please answer the following questions about the second adult. Which of the following categories describes their current working situation best?

- Full time employed
- Part time employed
- Self employed
- In training/education
- House wife/house husband
- Looking for work/currently unemployed
- Retired
- Other, please specify: \_\_\_\_\_

In which sector do they work?

- Agriculture, forestry and fishing
- Mining and quarrying
- Manufacturing industry
- Electricity, Gas, Steam, and Air Conditioning Supply
- Water supply; sewage, waste management and remediation activities
- Construction
- Commercial Service
- Research, Technical, and Information activities
- Finance

- Social service
- Education
- Health
- Other, please specify: \_\_\_\_\_

How far is their central working location from your residence?

- 0-5 km
- 6-10 km
- 11-15 km
- 16-30 km
- 31-50 km
- >50 km

How many days do they usually work per week (regardless if they work part time or full time)?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- I don't know

Is it theoretically feasible in their current job to work from home?

- Yes
- No
- I don't know

Does their current job require some preparations that they have to do at home?

- Yes
- No
- I don't know

Are they allowed to work from home in their current job?

- Yes
- No
- I don't know

On average, how many days per week do they work from home currently?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- I don't know

**In this section you will be asked about your perception of your current residence, for example, how you find the size of your residence, the number of the rooms and the design.**

How happy are you with your current residence?

- Very happy
- Happy
- Neither happy nor unhappy
- Unhappy
- Very unhappy

How do you perceive the size of your residence (in m<sup>2</sup>)?

- The residence is too small for my household and its activities
- The size of the residence is just right for the needs of my household
- The residence is too large for my household and its activities

What would be the ideal size of your residence (m<sup>2</sup>)?

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For which of the following activities do you have no space or would you need more space in your residence?

- Daily activities (e.g. eating, sleeping)
  - Free time activities (e.g. art, music, sport, reading)
  - Laundry
  - Storage
  - Working and/or studying
  - Receiving/Accommodating guests
  - Socializing activities
  - Workshop (e.g. for repairing stuff)
  - Caring for a child
  - Caring for the elderly
  - Other, please specify:
- 

Would your residence size be enough if you didn't need to work from home/didn't need the space for the preparations for your job?

- Yes
- No
- I don't know

How do you perceive the number of rooms in your residence?

- My household would like to have more rooms
- The residence has enough rooms for my household
- The residence has more rooms than my household needs

How do you perceive the spatial arrangement and design of your residence (i.e. location and size of each room)?

- The layout meets the needs of my household
- The layout of the residence does not completely meet the needs of my household and could be improved

How strongly do you agree with the following statements?

Through my lifestyle I want to use as little resources as possible

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

There are rooms in the residence which are rarely used

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

I can always find an appropriate space in my residence for the activities that I want to do

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree



I am the type of person that likes to share space with others (or family or household members)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

I do not need a separate room for each activity and can use the available spaces flexibly

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Over time and through experience I have learnt to use as little space as possible

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Assuming there are some common/shared spaces in your building/neighbourhood, would you be willing to use these shared spaces (e.g. communal office, leisure/community room) to compensate your (potential) need for more space?

- Yes, I would be willing to
- Yes, I am already using some shared spaces
- No, if possible I would prefer to move and have my own private space
- No, I would not be willing to

For which of the following purposes would you be willing to share these common spaces with other people outside of your household?

- Home office/studying
  - Cooking
  - Eating
  - Hobbies (e.g. sports/gym, art, woodworking)
  - Socializing activities
  - Accommodating guests
  - Laundry (e.g. sharing the laundry room and/or the washing machine)
  - Other, please specify:
- 

What would incentivise you to use the common spaces?

- Attractive prices
  - Easiness of organisation
  - Guaranteed availability
  - Trust in the organisation and in users
  - Possibility of social interactions
  - Cleanliness and comfort, equipment available/included
  - Nothing can change my mind
  - Other, please specify:
- 

Would you consider renting out a room or a part of your residence that you're not using (e.g. basement apartment)?

- Yes, renting out a room/part of the dwelling could be an option
  - No, I am just a tenant and not allowed to sublease rooms
  - No, it is not possible to find someone who wants to rent out a room
  - No, I do not want strangers to live in my home
  - Other, please specify:
- 

Would you be willing to share some of the spaces in your residence with people outside of your household?

- Yes
- No

Which of the following spaces would you be willing to share?

- Workspace
  - Kitchen
  - Living room
  - Dining room
  - Garden
  - Hobby room
  - Guest room
  - Laundry
  - Garage
  - Basement
  - Other, please specify:
- 

What would incentivise you to share some spaces with others?

- Financial benefits
  - Easiness of organisation
  - Some guarantee of availability of use
  - Trust in the other users
  - Possibility of terminating the sharing of the space if desired
  - Nothing can change my mind
  - Other, please specify:
- 

Have you already considered some rearrangements in your residence to gain more space or more rooms?

- Yes, some changes have been considered but no decision has been made yet
- Yes, changes have been planned and they will be carried out soon
- Yes, changes were considered but were not made in the end
- No, changes have not been considered

Why have you not considered making any changes, or why did you end up deciding not to make the changes?

- I am just a tenant and cannot make such decisions
  - Cannot afford the costs of such changes
  - The organisational process for such changes is too complicated
  - Have no time for doing it
  - The gained space is not worth the costs
  - The idea has never occurred to my household
  - There are no possibilities for such changes
  - Other, please specify:
- 

Would renting an additional room in the same building or in a neighbouring building close to your residence be an option for you to compensate the lack of space in your current residence?

- Yes, renting an additional room could be an option
  - No, cannot afford the costs of an additional room
  - No, will not find a room to rent
  - No, it is not convenient to have a room outside the residence
  - Other, please specify:
- 

Have you already considered some rearrangements/adjustments in your residence to make a separate living space which could be rented out/sold?

- Yes, I have considered some changes but have not made the final decision yet
- Yes, I have already planned the changes and will carry out the changes
- Yes, I have considered such changes but decided to not carry them out
- No, I have not considered making any changes to the residence

Why have you not considered making the changes, or why did you decide not to go through with proposed changes?

- I am just a tenant and cannot make such decisions
  - Cannot afford the costs of such changes
  - The process for such changes is too complicated
  - Have no time for taking care of that
  - The gained space is not worth the costs
  - The idea has never occurred to my household
  - There are no possibilities for such changes
  - Other, please specify:
- 

Have you already considered moving to another residence that would better meet your needs?

- Yes, I started looking for another place but still have not find a suitable one
- Yes, I already found another place and will move soon (in the next 1-2 years)
- Yes, I found another place but decided not to move
- No, I have not considered moving to another place

Have you already considered moving to another residence that would better meet your needs?

- Yes, I started looking for another place but still have not find a suitable one
- Yes, I already found another place and will move soon (in the next 1-2 years)
- Yes, I found another place but decided not to move
- No, I have not considered moving to another place

Why are you planning to move?

- More space is needed
- More space is needed particularly for home office
- Less space is needed

- To have elderly-friendly options
  - To have other facilities (e.g. elevator, garage, parking, etc.)
  - To live in a more attractive area
  - To be closer to preferred facilities (e.g. for sports, nature, mobility)
  - Other, please specify:
- 

How far from your central working location would you be prepared to move to?

- I want to be closer to my working location
- I want to keep the same distance to my working location as now
- I would be willing to move up to 5 km further
- I would be willing to move up to 10 km further
- I would be willing to move up to 15 km further
- I would be willing to move up to 30 km further
- I would be willing to move up to 50 km further
- I would be willing to move further than 50 km away

If you have found a place to move:

What are the characteristics of the place that you are planning to move to?

Size (in m<sup>2</sup>): \_\_\_\_\_ Postal code: \_\_\_\_\_

How many of each of the following indoor spaces will be in your new residence?

Kitchen: \_\_\_\_\_

Bathroom (incl. separate toilets, shower rooms, etc.): \_\_\_\_\_

Other rooms (e.g. bedroom, living room, hobby room): \_\_\_\_\_

Why have you not considered moving or why did you decide not to move?

- Cannot afford a different place to live at the moment
- Moving costs are high
- There is no chance to find a suitable place

- Don't want to the leave the current residence/neighbourhood
- No consensus in the household (if living with others)
- Other, please specify: \_\_\_\_\_

Have you ever considered moving to other forms of housing (e.g. tiny houses, shared flats/houses, cohousing, ecovillages)?

- Yes, I started looking for other forms of housing, but did not find anything suitable yet
- Yes, I already found another form of housing and will move soon
- Yes, I already found a place in other forms of housing but decided not to move
- No, I have not considered moving to other forms of housing, although I am aware of these
- No, I have not considered moving to other forms of housing because I am not aware of such housing forms

Why have you not considered moving?

- Cannot afford a different place to live at the moment
- Moving costs are high
- There is no chance to find a suitable place
- Don't want to leave the current residence/neighborhood
- Other, please specify: \_\_\_\_\_

What kind of alternative housing are you planning on moving to?

- Tiny house
- Shared flat
- Co-housing
- Ecovillage
- Other, please specify: \_\_\_\_\_

## **Policy questions**

Policies for renting out an existing room/space in your residence

**Policy 1:**

If someone **rents out an existing room/space** in their own home on a long-term basis and not for tourist purposes, the person receives **financial benefits** such as tax reductions on the rental income.

To which extent do you support policy 1?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

Can you make use of policy 1 (i.e. do you have unused rooms/space in your residence which you could rent out for a long-term basis)?

- Yes
- No

What factors may limit you in renting out an existing room/space in your home?

- Financial constraints
- Legal requirements
- Organisational effort
- Lack of time
- Others, please specify: \_\_\_\_\_

Policies for extending the living space and renting out the extra space

**Policy 2:**

If someone **extends their living spaces** (e.g. new construction in the roof or in the basement, or adding an extra story), the person receives **financial supports** such as subsidies or (higher) tax returns on condition that they **rent out** the extra space.

To which extent do you support policy 2?

- Strongly support
- Support
- Neutral



- Oppose
- Strongly oppose

**Policy 3:**

If someone **extends their living space** (e.g. new construction in the roof or in the basement, or adding an extra story), the person receives **support with organization issues** such as application and approval of construction on condition that they **rent out** the extra space.

To which extent do you support policy 3?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

**Policy 4:**

If someone **extends their living space** (e.g. new construction in the roof or in the basement, or adding an extra story), the person will be **exempted from certain legal requirements** (e.g. no approval procedure, no lift required) on condition that they **rent out** the extra space.

To which extent do you support policy 4?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

Can you make use of policies 2-4 (i.e. does the residence you live in have the potential to be extended e.g. by new construction in the roof or in the basement ...)?

- Yes
- No

What factors may limit you in extending your living space?

- Financial constraints
- Legal requirements
- Organisational effort
- Lack of time
- Others, please specify: \_\_\_\_\_

## Policies relating to moving to another residence

### Policy 5:

If someone **voluntarily moves to a smaller residence**, the person will receive **financial support** such as bonuses or reimbursement of the moving costs.

To which extent do you support policy 5?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

### Policy 6:

If someone **voluntarily moves to a smaller residence**, the person will receive **organizational support** such as help in finding another residence or for organizing the move.

To which extent do you support policy 6?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

**Policy 7:**

If someone voluntarily decides to **move to alternative forms of housing such as tiny houses, ecovillages or cohousing**, the person will receive **financial support** such as bonuses or reimbursement of the moving costs or **organizational support** such as help in finding the housing or for organizing the move.

To which extent do you support policy 7?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

Can you make use of policies 5-7 (i.e. would it be an option for you to voluntarily move to a smaller residence or to one of these forms of housing, e.g. tiny house, ecovillage, cohousing)?

- Yes
- No

What factors may limit you in moving to a smaller residence or alternative forms of housing?

- Financial constraints
- Legal requirements
- Organisational effort
- Lack of time
- Others, please specify: \_\_\_\_\_

Policies relating to structural and architectural changes in the residence

**Policy 8:**

If someone **divides their residence and creates a separate dwelling** (e.g. adding a door and separating the upper floor, separating the basement), that person will receive **financial support** for the construction, on the condition that they **rent out** the separate dwelling.

To which extent do you support policy 8?

- Strongly support
- Support

- Neutral
- Oppose
- Strongly oppose

**Policy 9:**

If someone **divides their residence and creates a separate dwelling** (e.g. adding a door and separating the upper floor, separating the basement), that person will receive **support on organization issues**, on the condition that they **rent out** the separate dwelling.

To which extent do you support policy 9?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

**Policy 10:**

If someone **divides their residence and creates a separate dwelling** (e.g. adding a door and separating the upper floor, separating the basement), the person will be **exempted from certain legal requirements**, on the condition that they **rent out** the separate dwelling.

To which extent do you support policy 10?

- Strongly support
- Support
- Neutral
- Oppose
- Strongly oppose

Can you make use of policies 8-10 (i.e. does the residence you live in have the potential to be divided, e.g. by separating the upper floor, to create a separate dwelling)?

- Yes
- No

What factors may limit you in dividing your residence and creating a separate dwelling?

- Financial constraints
- Legal requirements
- Organisational effort
- Lack of time
- Others, please specify: \_\_\_\_\_

## Childhood

You are almost at the end of the survey. Please answer the following few questions for the residence in which you spent most of your childhood.

How would you best describe the residence in which you spent most of your childhood?

- A flat in a multi-family house in the city
- A flat in a multi-family house in the country side
- A single family house in the city
- A single family house in the country side
- Others, please specify: \_\_\_\_\_

How did you perceive the size of the residence in which you spent most of your childhood?

- The residence was too small for my household and its activities
- The size of the residence was just right for the needs of my household
- The residence was too large for my household and its activities

How many people lived in the residence in which you spent most of your childhood?

\_\_\_\_\_

How large was the residence in which you spent most of your childhood?  
(in m<sup>2</sup>)

\_\_\_\_\_

To which extent did you have to share (e.g. bedroom, toys or clothes) while you grew up?

- I had to share everything (e.g. bedroom, toys, clothes)
- I had to share some things (e.g. some toys, some clothes)
- I had to share only a few things (e.g. a toy once in a while)
- I didn't have to share anything at all, I had all my own things

Thank you!