



End-user perspectives on the next-generation Energy Performance Certificates:

Findings from the X-tendo survey

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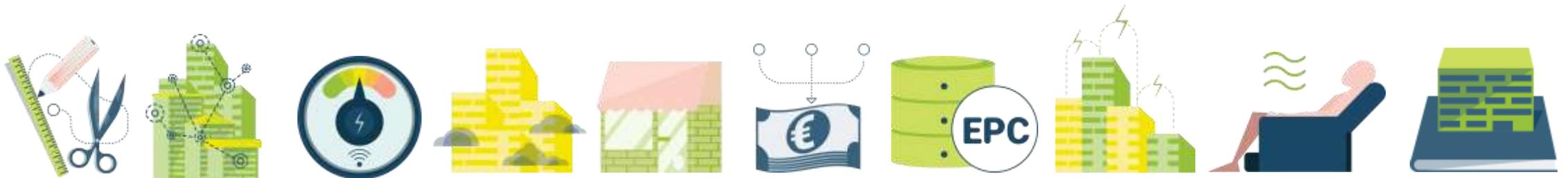
X-tendo consortium



- ⦿ 13 partners
- ⦿ 10 countries
- ⦿ 9 implementing partners
 - Austria
 - Denmark
 - Estonia
 - Greece
 - Italy
 - Poland
 - Portugal
 - Romania
 - United Kingdom (Scotland)

X-tendo objectives

- ① **Support public authorities** to properly implement, well manage and organise next EPC generations
- ① **Demonstrate and encourage** the roll out of next-generation EPC
- ① **Improve** reliability, usability and convergence of practices and tools related to next generation EPCs
- ① **Develop a toolbox of innovative features** to support the implementation



X-tendo features



- ① 2 categories:
 - innovative indicators
 - innovative data handling
- ② 10 features
- ③ 4 cross cutting criteria

Survey methodology

Goal:

find out about **knowledge of end-users on different features** and **needs of end-users for different features**

Target group:

residential end-users of EPCs - (potential future) building owners and occupants

Online survey:

20 minutes, ~500 participants each from five countries:

Denmark, Poland, Greece, Portugal and Romania



Survey structure

Dimensions looked more closely:

- ⊙ **Demographics** (age, location, family composition etc.)
- ⊙ **Location** (urban, rural etc.)
- ⊙ **Tenure status** (owner-occupied/rented)
- ⊙ **Type of building** (detached, semi-detached etc.)
- ⊙ **Countries**

A total of **2,563** end-users took part in the survey that covered homeowners, landlords and tenants (18 years or older) who had:

- ⊙ **Bought, rented, sold, let or renovated property** in the past five years (2015 - 2020)
- ⊙ **Attempted to buy, rent, sell, let or renovate property** in the past five years (2015 - 2020)
- ⊙ **Taken first steps to buy, rent, sell, let or renovate property.**



Respondents' profile

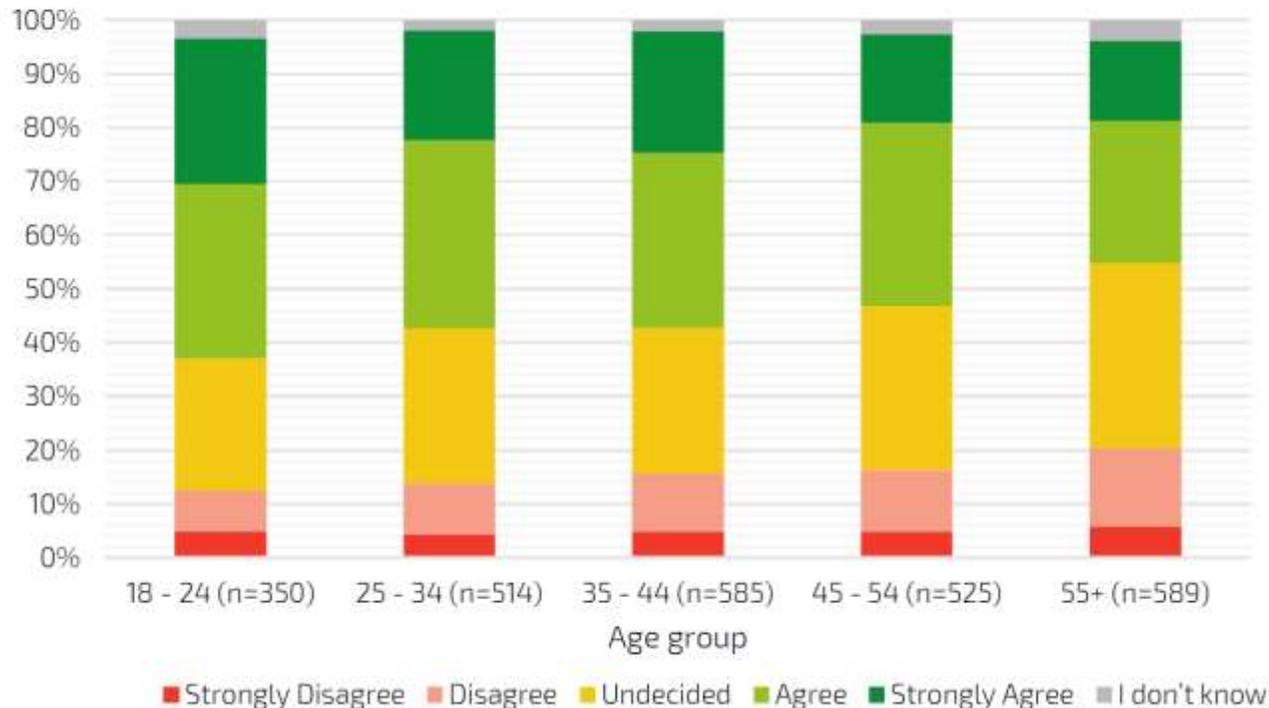
- ⦿ The vast majority of respondents were homeowners themselves (**69%**). Almost one-third (**30%**) owned at least one rental property.
- ⦿ Among the respondents that bought a property or had attempted/started to do so, the majority (**58%**) used or intended to use the property as their primary residence; only **8%** planned to rent it out.
- ⦿ Half (**52%**) of respondents had planned or thought about renovating in the near future, while **29%** were not thinking about renovations.
- ⦿ Two-thirds (**67%**) strongly agreed that renovations could reduce their household's energy use.



Feature 1: Smart Readiness



I am familiar with smart technology

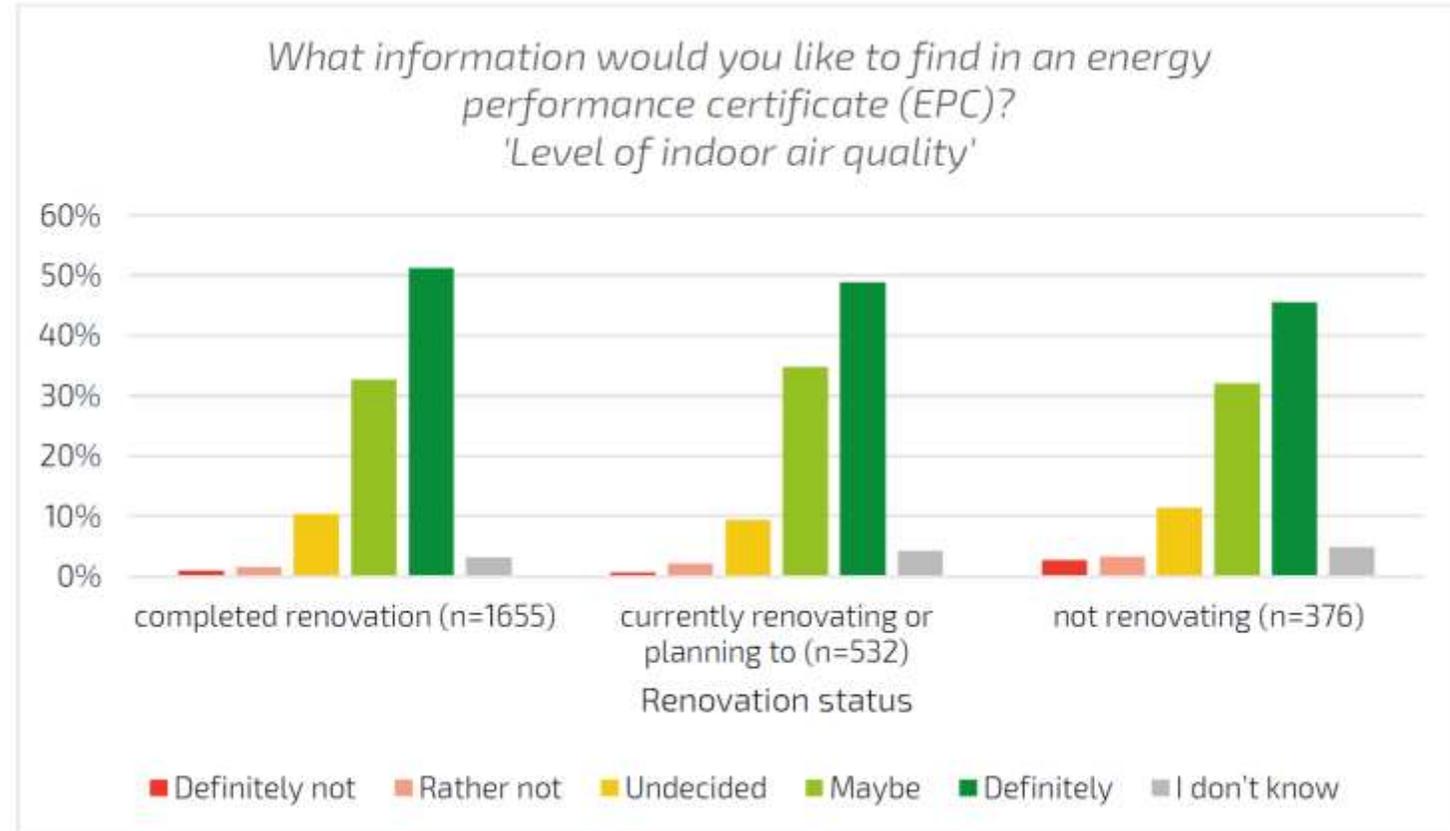


- Smart homes increase the comfort of their occupants
- Smart homes help to save energy
- Smart homes might raise security issues
- Respondents overall lack knowledge about smart technologies
- Inserting a smart readiness indicator in the EPC could be a positive way to improve citizen knowledge about these new technologies

Feature 2: Comfort



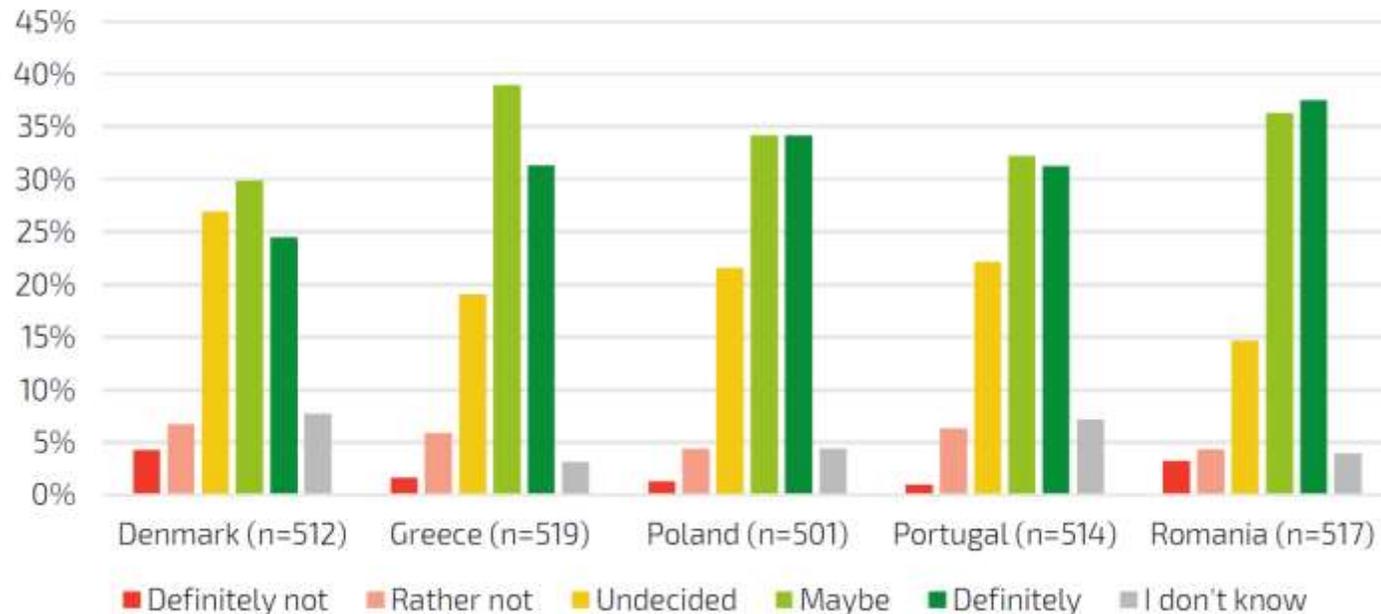
- End-users give priority to comfort when buying or renting a property.
- There is a great interest in seeing information on the EPC about comfort levels of a property
- Indoor air quality and thermal comfort are seen as the most important elements of comfort at home
- Adding information about comfort would give a better comparison with energy savings in buildings and help in planning.



Feature 3: Outdoor air pollution



What information would you like to find in an energy performance certificate (EPC)?
'Impact of outdoor air pollution on indoor air quality'

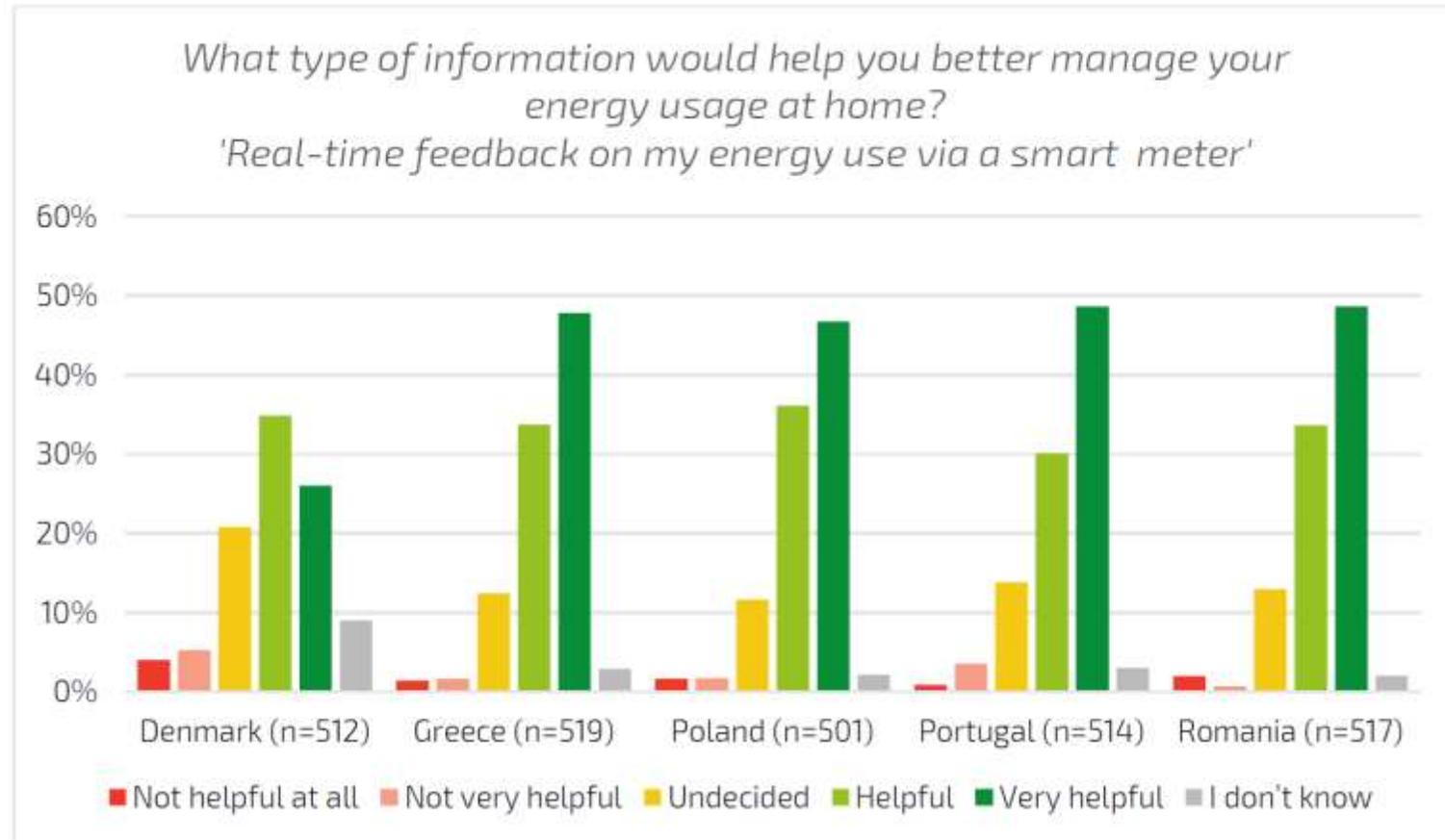


- ⊙ In Poland and Romania the interest in buildings' impact on outdoor air pollution and the impact of outdoor air pollution on indoor air quality is high
- ⊙ Indoor air quality, which has an impact on health is very important in all countries regardless of age, financial situation or tenure

Feature 4: Real energy consumption



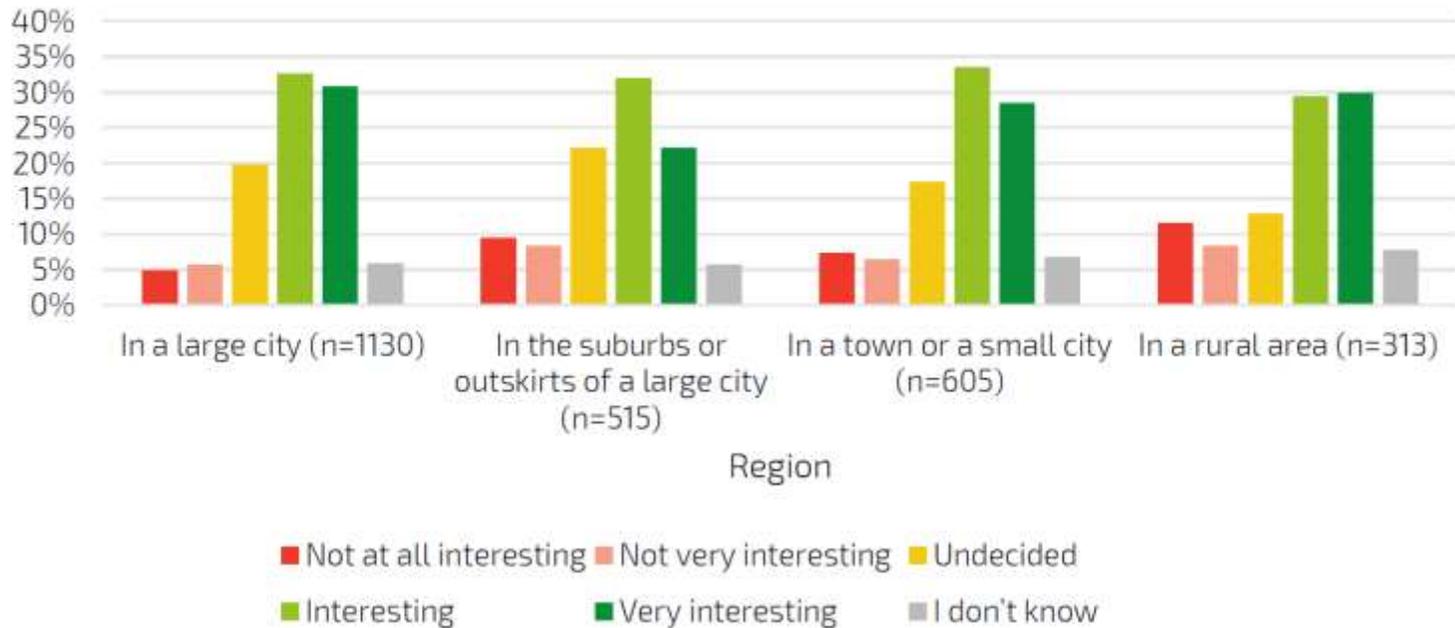
- ⦿ The majority of respondents find information concerning real energy consumption helpful and would like to see it added in the EPC
- ⦿ The majority of respondents find the inclusion in EPCs of information on previous users' energy use and costs relevant especially in Romania and Poland
- ⦿ Danish respondents showed less interest in receiving real energy consumption information in EPCs



Feature 5: District energy



In your opinion, how interesting is the following information related to district heating?
'Distance of my building to the existing district heating grid'

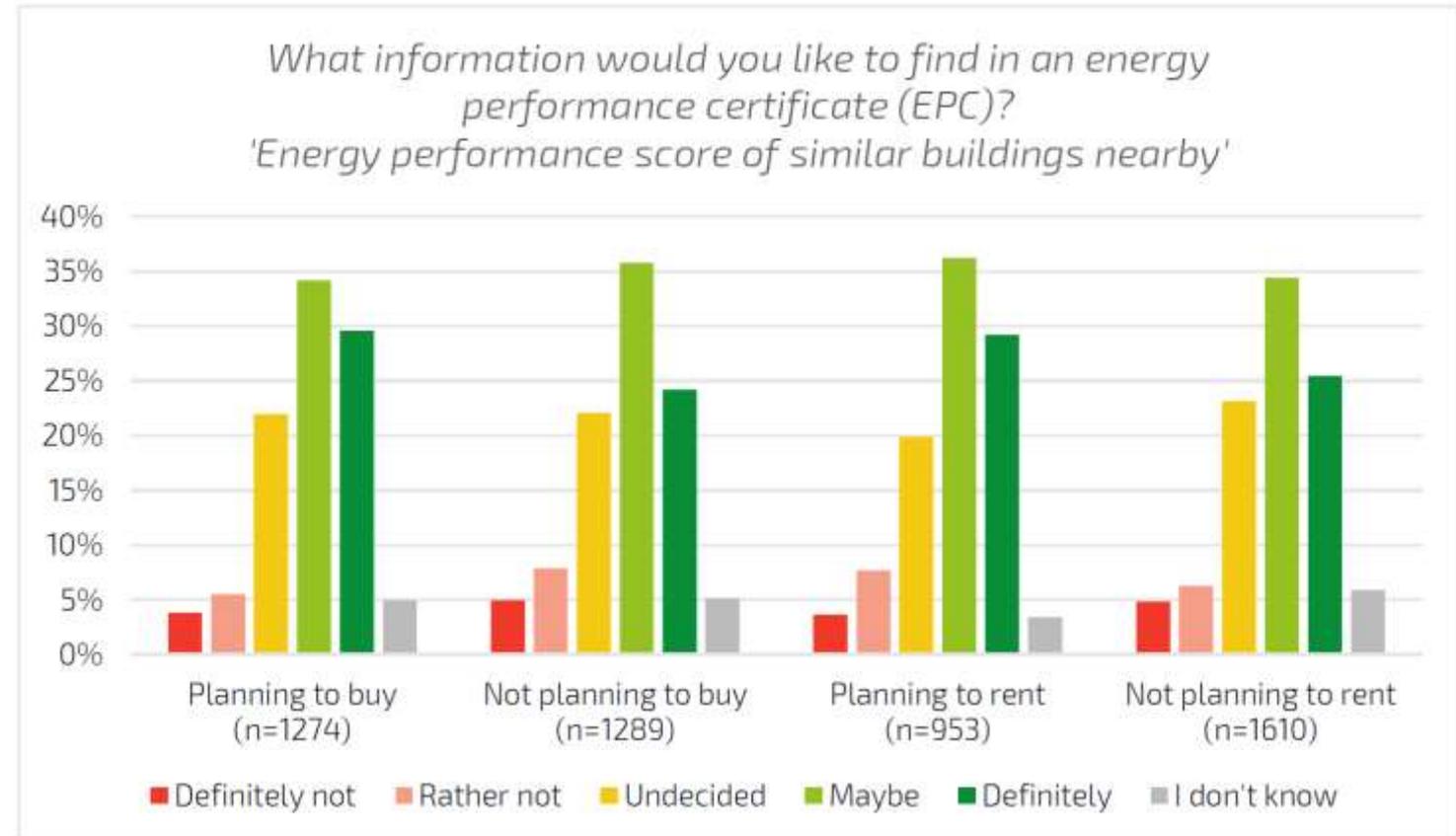


- ◉ District heating more interesting for homeowners than tenants, especially in denser areas such as cities
- ◉ Interest is greater in countries with less experience of district heating
- ◉ Full-time employees and full-time parents/homemakers are significantly more interested in district heating information
- ◉ Portugal has no district heating, therefore, it was not surveyed

Feature 6: EPC databases



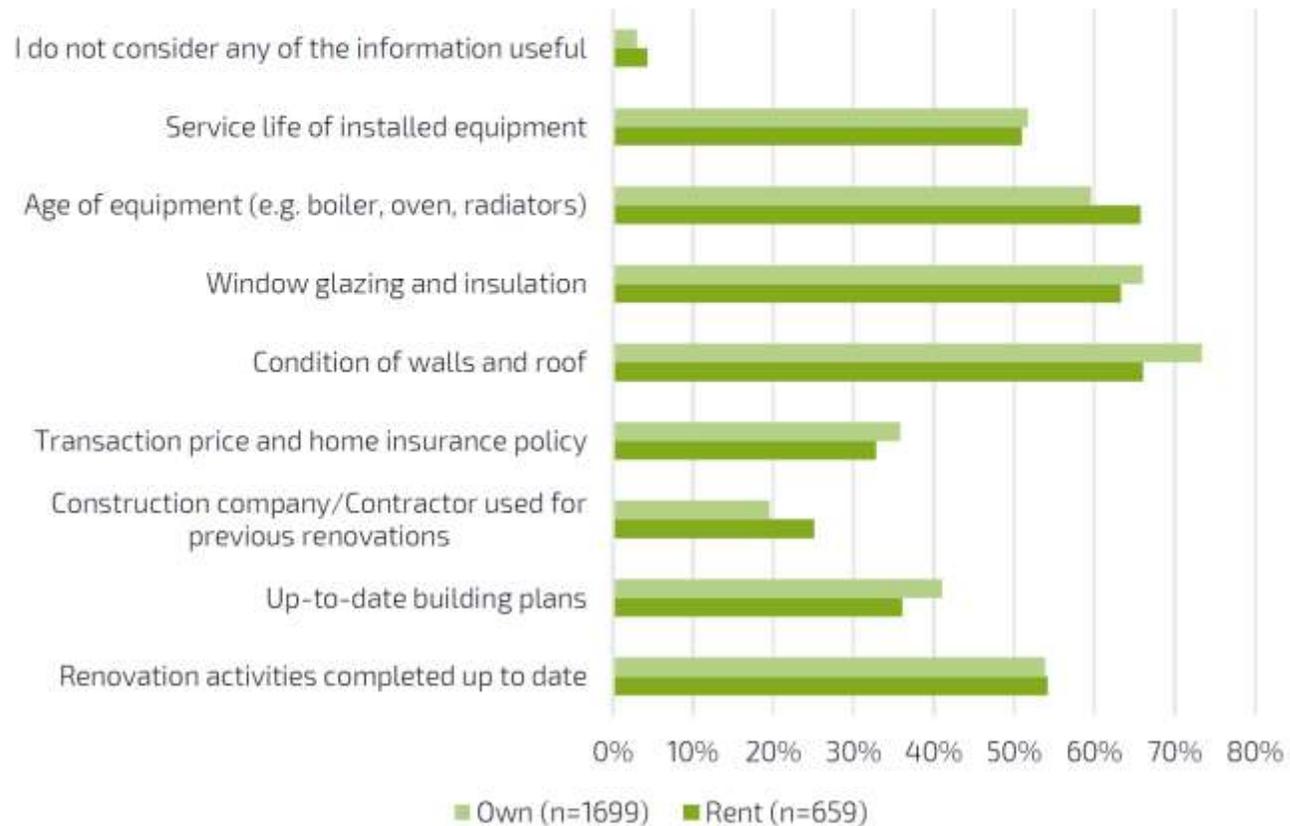
- High interest in information on similar buildings across all groups
- Information needs to be presented in an easily accessible format, and linked to information on the specific building, potentially by means of the building logbook



Feature 7: Building logbooks



Let's imagine that, for each home, a document or folder with all the building-related documents (dwelling's condition, maintenance activities etc.) would be available. What information would you find most useful to be included in this document or folder?



- Availability and accessibility of building-related information is useful
- Differences between countries regarding availability of building logbook

Feature 8: Tailored recommendations



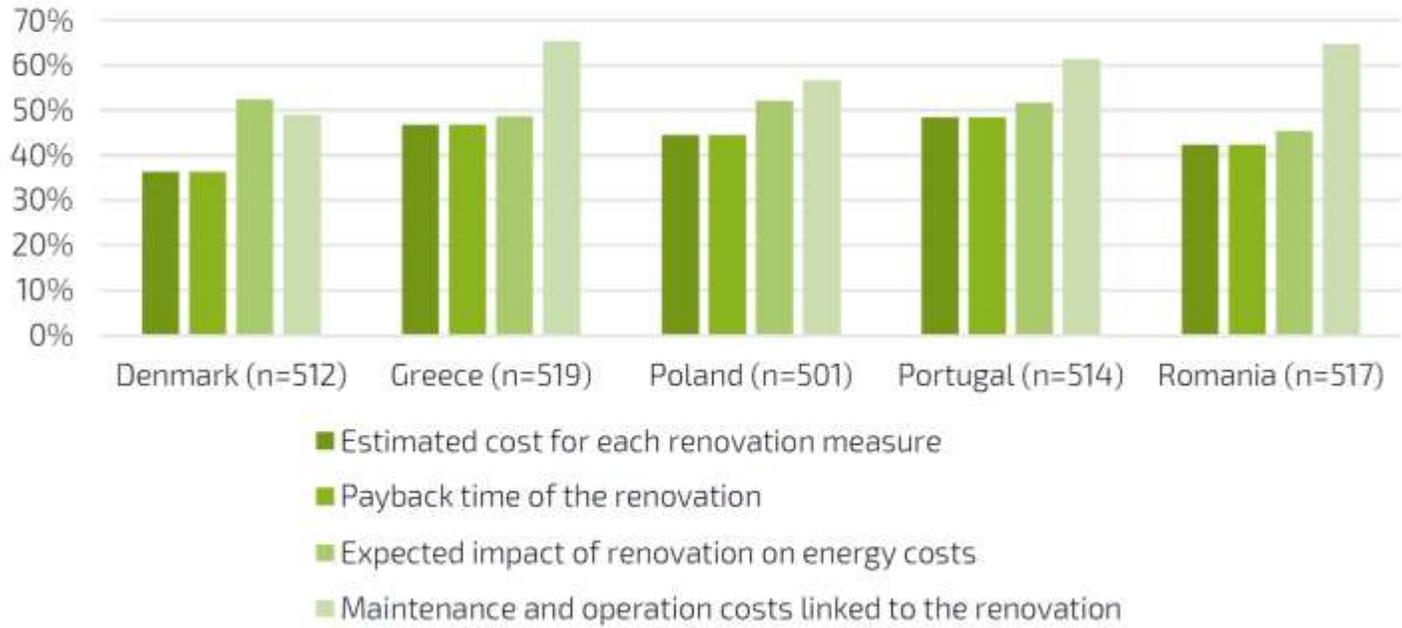
- ⦿ EPC end-users are mostly interested in cost-related information
- ⦿ Tenants expressed higher interest than owners in tailored recommendations despite in most cases not being able to carry out renovations

	Denmark (n=512)	Greece (n=519)	Poland (n=501)	Portugal (n=514)	Romania (n=517)
Technical information for each renovation measure	31%	38%	29%	34%	39%
Estimated cost for each renovation measure	58%	64%	63%	63%	71%
Payback time of the renovation	36%	47%	45%	48%	42%
Expected impact of renovation on energy performance	40%	42%	40%	49%	47%
Expected impact of renovation on energy costs	53%	49%	52%	52%	45%
Expected benefit of renovation on CO ₂ emissions	36%	32%	35%	34%	27%
Expected benefit of renovation on indoor comfort	41%	45%	40%	55%	48%
Time required to complete each renovation measure	32%	45%	36%	34%	51%
How to prioritise the renovation measures	37%	25%	21%	25%	31%
Recommended order to implement the renovation measures	29%	30%	32%	18%	33%
Information on maintenance requirements for the renovation	35%	43%	28%	30%	29%
Maintenance and operation costs linked to the renovation	49%	65%	57%	61%	65%
None of the above	9%	3%	5%	3%	2%

Feature 9: Financing options



If you were to make your home more energy efficient, what type of information and recommendations would you find useful to receive?

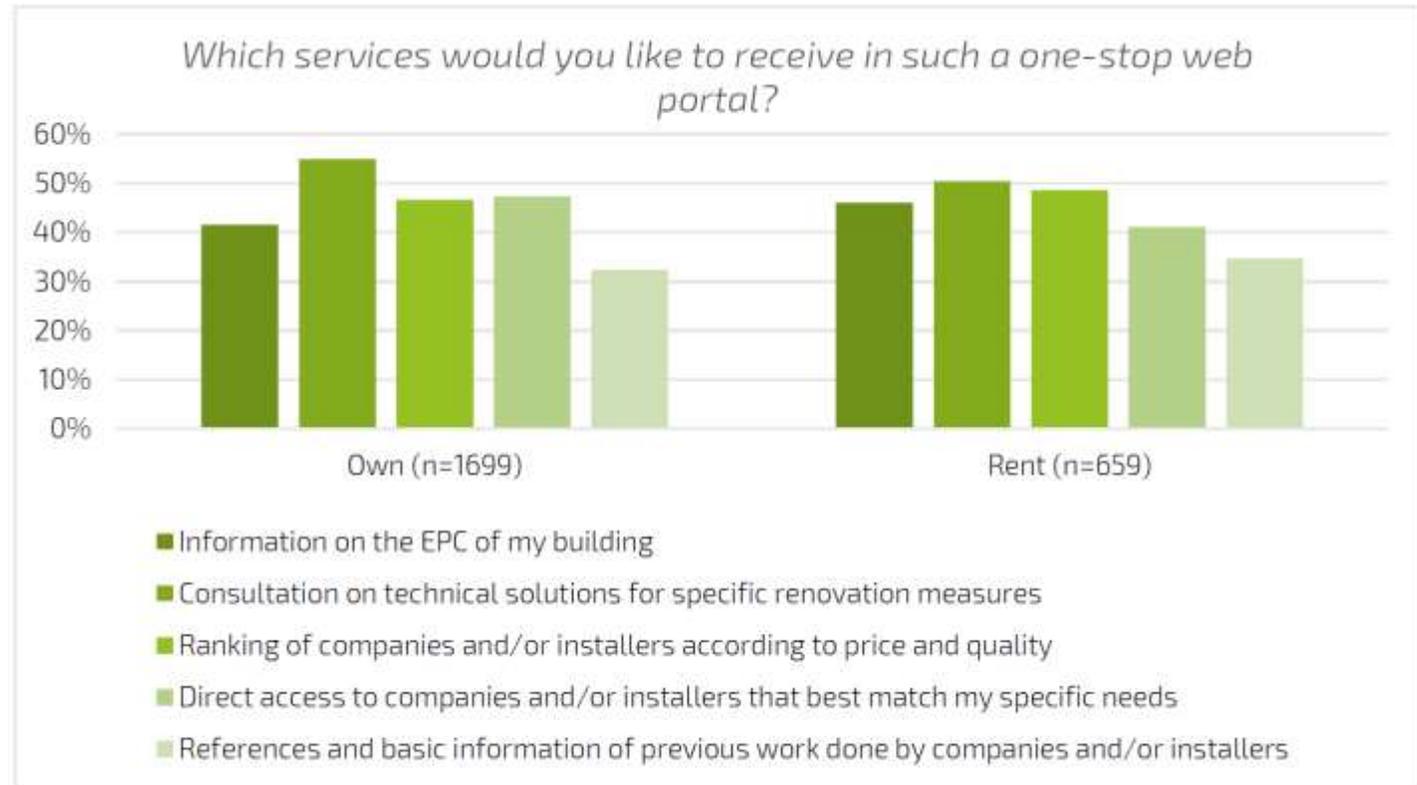


- ⊙ Financing options are a key support measure or driver needed to proceed with and increase the number of renovations
- ⊙ Those aged 35+ are most interested in renovations, but also have lower financial capacity
- ⊙ Greece and Romania showed the highest interest in maintenance and operation costs. Portugal and Greece show the most interest in receiving information on the estimated cost of renovations

Feature 10: One-stop-shops



- ⦿ OSS have a direct link with EPC databases, building logbooks and financing schemes
- ⦿ With 82% of respondents expressing an interest in using OSS services, there is huge potential and acceptance for implementing this concept/service in the Member States
- ⦿ Highest interest in consultation on technical solutions for renovation





Poll time



Conclusions

Age groups:

- Younger people more interested in smart technologies and good indoor air quality (especially families with children).
- Older people more interested in comfort, real energy consumption, building logbook and renovation information in general.

Tenure status:

- Differences between owners' and tenants' responses not that large.
- Tenants do not always pay the cost for renovation, but useful to include them in the planning, thereby, partially overcoming the split-incentive dilemma.

Location:

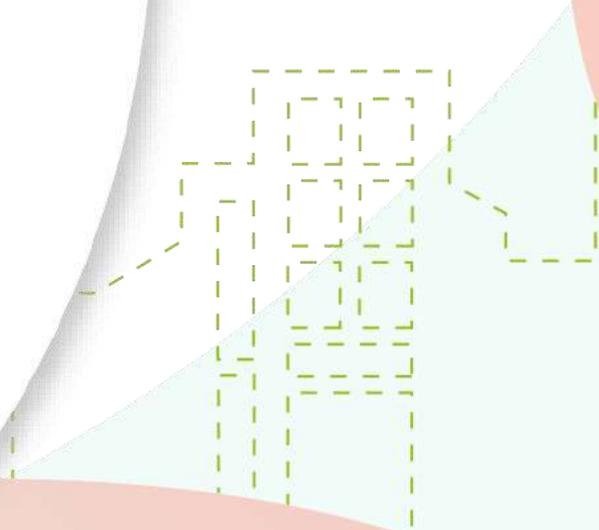
- Little difference for location.
- People in rural areas more interested in outdoor air pollution.
- People in high density areas more interested in district heating.

EPC status:

- Homeowners who have an EPC and those who have completed a renovation project tend to be more interested in features such as smart readiness, comfort and building logbooks.



Q & A





Thank you!



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