

Intelligent Energy Europe

Development and marketing of integrated concepts for energy efficient and sustainable retrofitting of social housing
www.rosh-project.eu

Regional Report on training needs for tenants

Definition of training needs and training concepts for the tenants involvement

Country: Ireland

Company: Codema

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<Dublin>, <May 2008>

The project ROSH is supported by the European Commission

Imprint

Publisher: Ambiente Italia srl

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Producer: Ambiente Italia srl

Location of publication and production: Milano

Reprint allowed in parts and with detailed reference only.

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ROSH – Retrofitting of Social Housing – is a European co-operation project for the development and marketing of integrated concepts for energy efficient and sustainable retrofitting of social housing. For further information on the project or on products of the project see:

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The project ROSH is supported by the Intelligent Energy – Europe (IEE) program of the European Union promoting energy efficiency and renewables. More details on the IEE program can be found on:

http://ec.europa.eu/energy/intelligent/index_en.html

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1.The survey: introduction

Energy-saving is becoming an increasingly important issue for policy-makers and the residential and construction sector. However, without changes in the way consumers use energy, a sustainable management of our energy resources is not possible. In fact, spreading sustainable energy use across Europe is no longer a question of major research efforts, but, above all, of raising awareness. There is an urgent need to convince consumers about the benefits of sustainable energy production and use (Sustainable Energy Europe, EC 2005).

The survey carried out by ROSH thus interviewed tenants residing in the buildings taking part in the project, in order to understand the structural characteristics of the buildings, as well as tenants' level of awareness on issues such as energy efficiency, energy consumption and production. Findings serve as background information to develop a training and communication programme for tenants on sustainable energy use and retrofitting measures. As for the expected retrofitting measures to be carried out within the ROSH project, tenants have the right to be involved in issues concerning them. The idea is that awareness-raising and education can help stimulate active and informed involvement. This in turn strengthens co-operation between the various stakeholders involved in refurbishment and leads to better results.

The involved tenants aren't a representative of the social housing tenants neither of the inhabitants of their country.

Ultimate aim of WP4 is to influence attitudes and social norms of social housing communities in such a way as to promote a behaviour which is compliant with an efficient and environment-friendly use of energy resources and to stimulate social pressure towards sound and sustainable policies. The interviews were made from the partner of the ROSH consortium, and in some cases there is more than one interviewing entity in the same country. As the locations are quite different, we preferred to let the sample separated.

Tenants from the partner countries of Austria, Germany, Italy, Poland, Bulgaria and Ireland participated in the survey. This document reports on the results of the Irish Survey, however, the graphs within the document are provided by Ambiente Italia srl who conducted the cross country analysis of the survey.

partner	country
target Gmbh	Germany
AKNDS	Germany
IFB	Germany
BAPE	Poland
ATC-Asti	Italy
ATC-Novara	Italy
CODEMA	Ireland
GEA	Austria

2. Information on target groups involved

Codema interviewed residents of a senior citizen complex. The residents are living in one-bed room flats which are adequate for their needs, however, would be smaller than the typical social housing flat. The flat complex is well maintained and the senior citizens have a close relationship with the management. Residents here are mainly concerned with the cost of heating rather than environmental issues. In saying this however, they understand that to be energy efficient in their home they can save energy. However, senior citizens have a requirement for higher indoor temperatures and therefore they are unsure on how to maintain their thermal comfort but be energy efficient.

Codema also interviewed residents from another complex which was refurbished recently. Again the flats here are in good condition and many residents conveyed that they found their homes easy to heat. There was an estate office on site which is run by the local authority and while the relation between the residents and the estate office appear good, the relationship is not as trusting as the senior citizen complex. Again, their main concern for residents was cost of heating. There was a mixture of opinion between residents as to the importance of environmental issues and it appears that some residents do not give priority to environmental issues due to other stresses or factors in their lives.

A second survey was carried out to identify the tenants' priorities and to gain a better understanding of their requirements. The priorities listed below are the result of the Dublin Survey, no.1 is the main priority and no. 18 the least.

Priorities

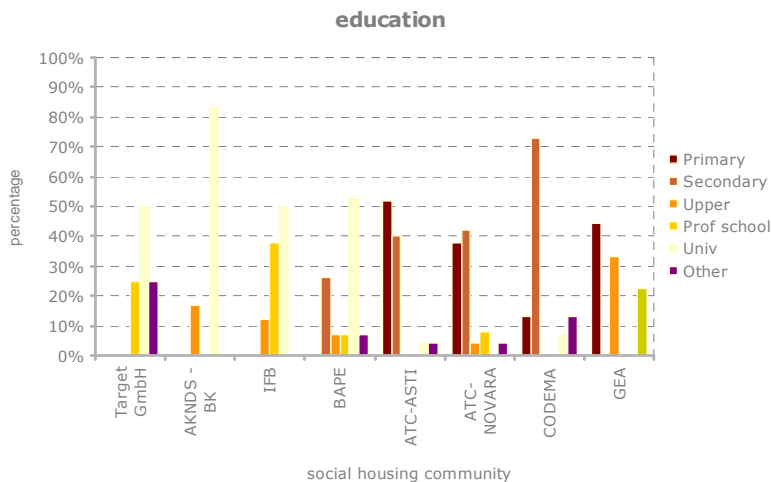
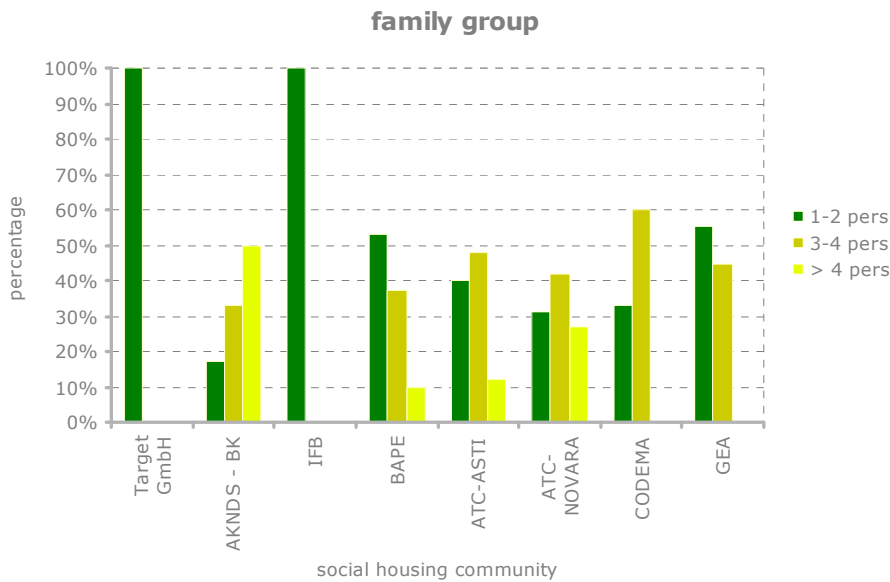
1. More living space per person
2. Use of safe & non toxic material
3. More energy efficiency
4. Improved security against burglary
5. Less structural damage
6. Extra comfortable indoor climate
7. More equipment: ventilation systems
8. Improved noise insulation
9. More ambitious aesthetics
10. More equipment: parking spaces
11. More equipment: balcony or terrace
12. More equipment: private garden
13. More barrier free for elderly & children
14. Improved fire protection
15. Optimized official lighting
16. Better locality in place of
17. More ecological & water management
18. Better private environment, living near friends

3. Tenants background

In Ireland, case studies register a higher number of family groups made of 3-4 persons, followed by family groups of 1-2 persons.

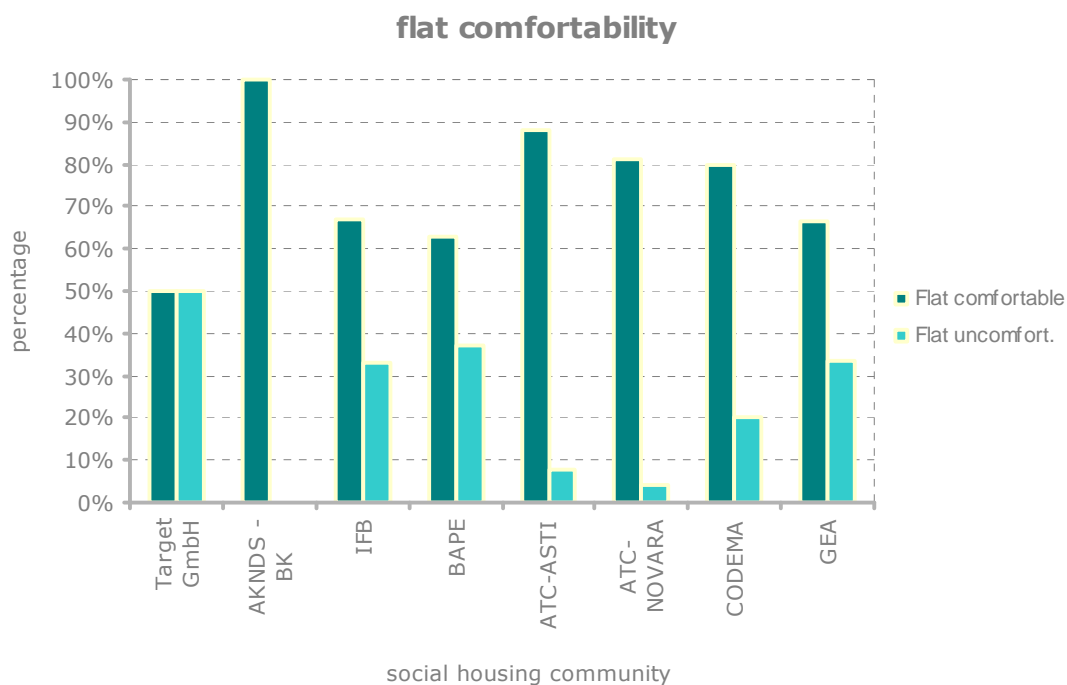
The main educational level is primary and/or secondary school.

The graphs below demonstrate the tenants background in comparison to those interviewed in the other regions.



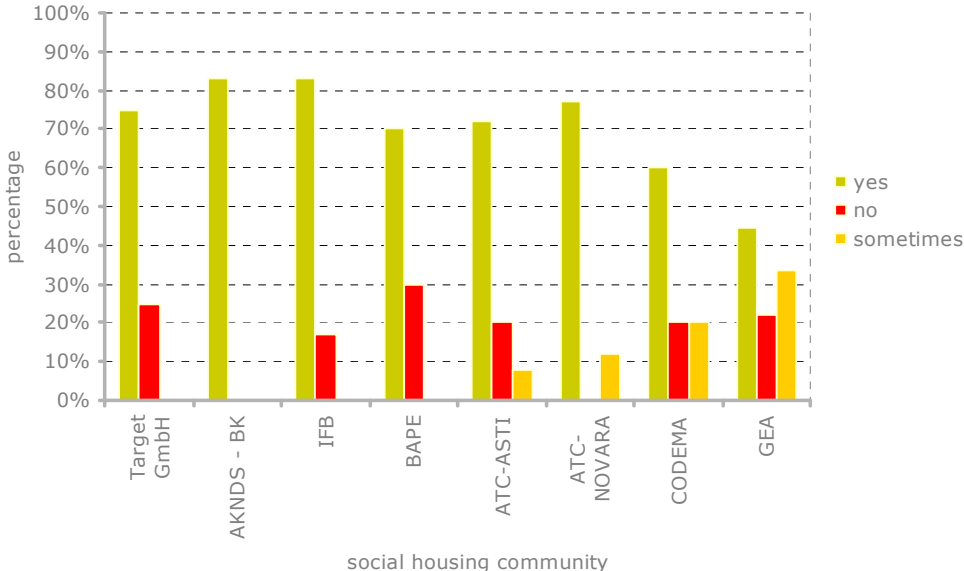
4. Home comfort

Overall, tenants interviewed for this survey are rather satisfied with their homes: the majority of them states that their flat is adequate. Nevertheless, home comfort is such an essential component of daily life quality that negative comments received from tenants cannot be underestimated. Dampness & draftiness were provided as reasons provided from those tenants who judge their flat as uncomfortable. Recommendations provided include better insulation, acoustic sound proofing and lifts. Comments made reflect both structural problems of the buildings (e.g. thermal insulation, condensation, air drafts) and social aspects (e.g. noisy neighbourhood).

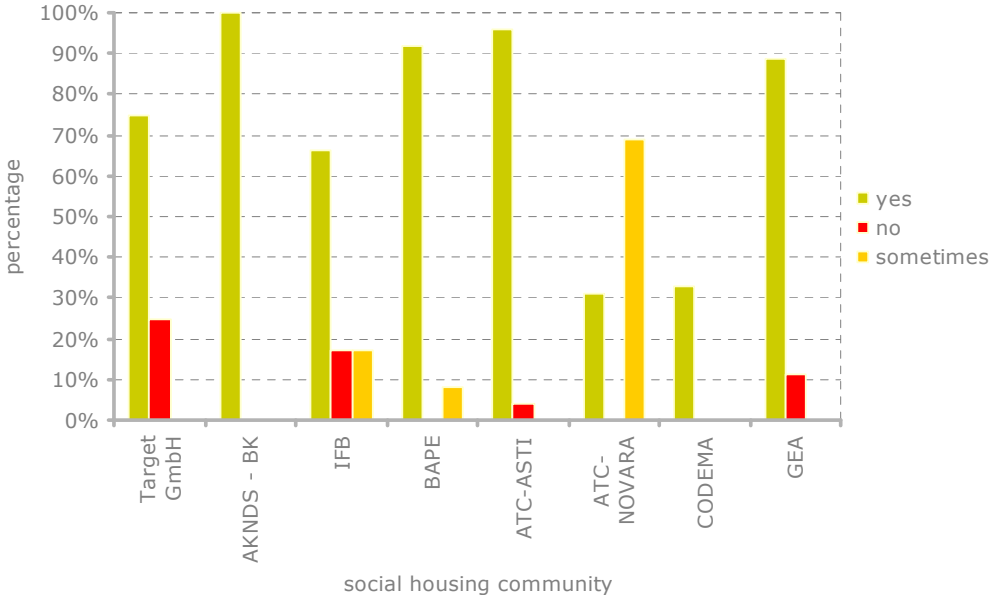


At this point, tenants were also asked whether temperatures of their dwellings were adequate respectively in winter and summer, and whether they make use of an air conditioning system. In regards to winter temperatures, most tenants seem to be satisfied. Those complaining, however, mainly list problems of thermal insulation, no air tightness and bad functioning of the heating system. As for temperatures in summer, again, only a minority of tenants responded to this question. 33% of those interviewed responded and all of these said they were satisfied. It is unclear why the remaining 67% of those surveys did not respond and it may be concluded that the tenants did not understand this question. Air conditioning is not commonly used in Ireland.

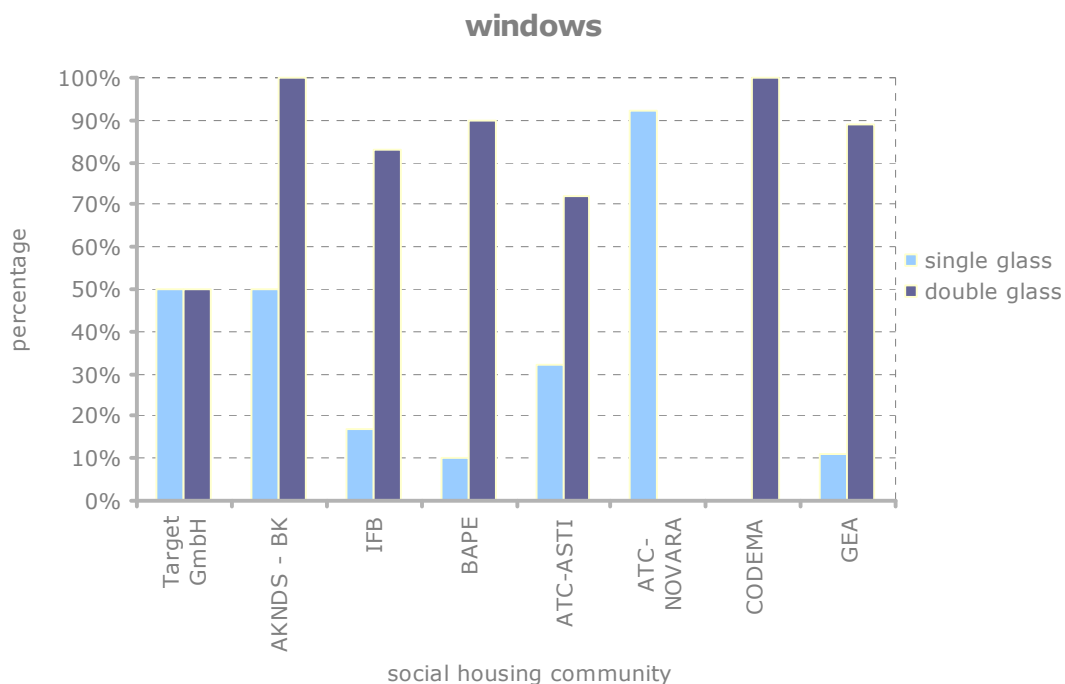
adequate winter temperature



adequate summer temperature



All flats are equipped with double glass windows.



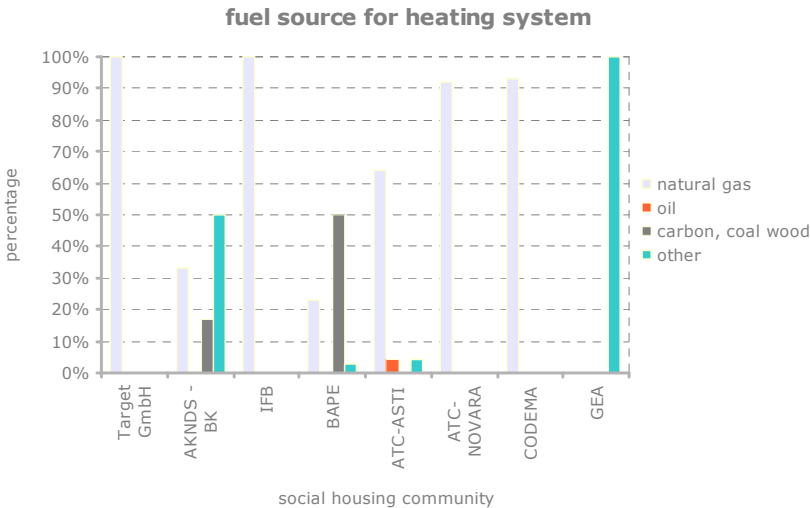
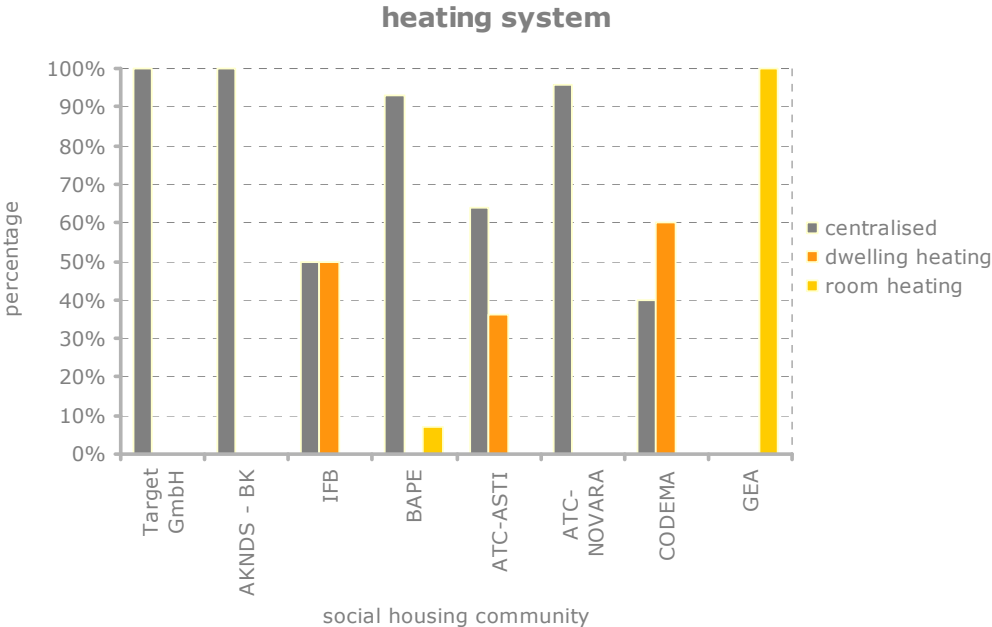
Conclusions

- Ensure a mixed training session, where end-users (tenants), decision-makers (social welfare office), public and private interest groups (installers, architects etc.) “learn together”: organise a “Forum” in which all stakeholders involved participate (tenants, Social Housing organisation, installers, architects, energy companies, local authorities).
- Introduce tenants to retrofitting measures and provide good practice examples in refurbishment
- Important to adapt training to suit the requirements of the audience. E.g. senior citizens versus family have different priorities. Also training should be at a level that is understood by the audience and is relevant and practical to them.

5. Heating system

Buildings waste a lot of energy and the biggest component of energy consumption is represented by heating and cooling. Much energy could be saved through efficient heating systems and a more sustainable behaviour of consumers.

The Irish case study registers a higher use of dwelling heating than centralised heating systems.



Fuel Source

As for familiarity with the fuel source used to supply heating systems, the majority of tenants are well informed (93%). However, when questioned, the tenants were not confident in their response. Still, a number of tenants interviewed are unaware of it – an aspect which needs to be considered when structuring training activities on energy and energy-efficiency.

Maintenance Checks

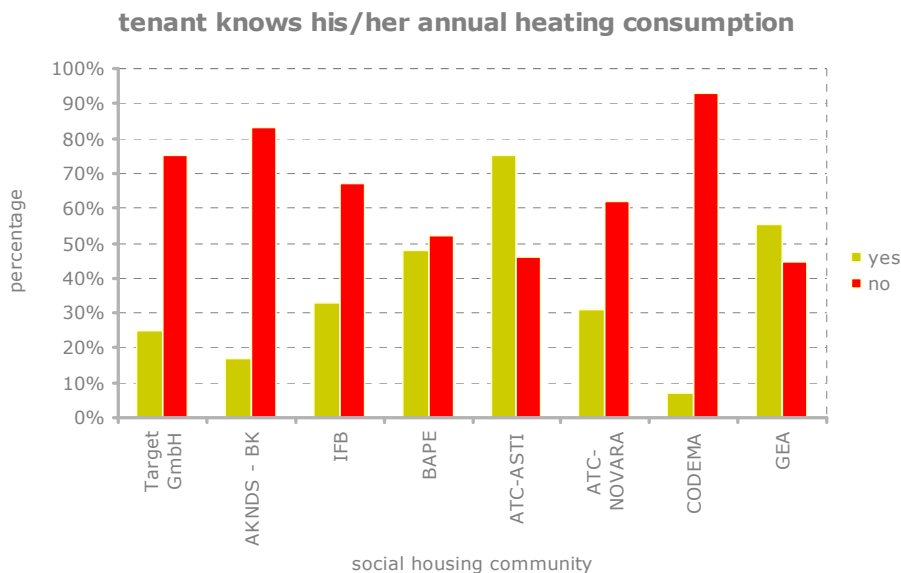
ROSH also surveyed whether tenants are provided with regular information on maintenance checks of their heating system. Of course, informing tenants is a current practice. However, findings show that it is not a uniform and regular procedure. Many tenants declare that no information is available, others point out that they take the initiative and inform themselves. There are, however, also tenants stating that they are not interested in such issues.

Annual Heating Consumption

Related to this, a very interesting finding is the fact, that the majority (93%) of tenants interviewed do not know their annual heating consumption. A quite plausible explanation could be the fact that consumers only perceive consumption in economic terms, when it comes to paying bills. However, the fact of not knowing annual heating consumption probably also means not knowing annual heating expenditures. Thus, tenants may miss the logical step of relating energy-saving with money-saving.

Energy Performance of their heating system

However, when asked whether they think the energy performance of their heating system could be enhanced through improvements to the heating system and/or through behavioural changes, all social housing communities interviewed agree on the fact that improvements need both system maintenance and behavioural changes. In most cases, however, behaviour receives more percentages. Thus, some kind of awareness on having to change consumption behaviour is actually present in tenants. Probably this awareness derives from the fact that society as a whole is starting to realise that our production and consumption model is unsustainable. However, this type of awareness does not guarantee the passage from theory and practice.



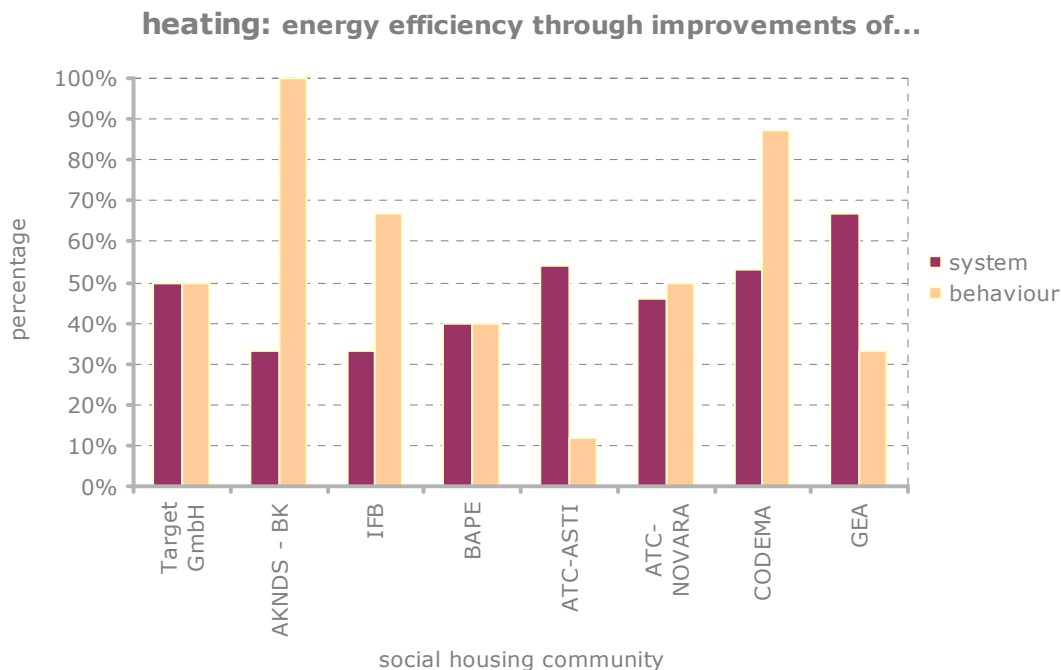


Table 3.3: improving heating performance and energy efficiency

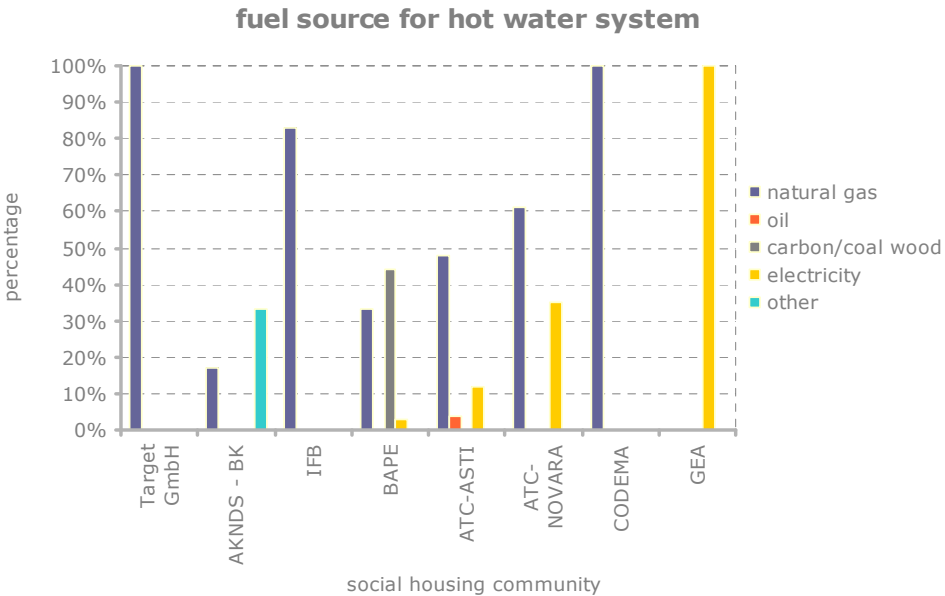
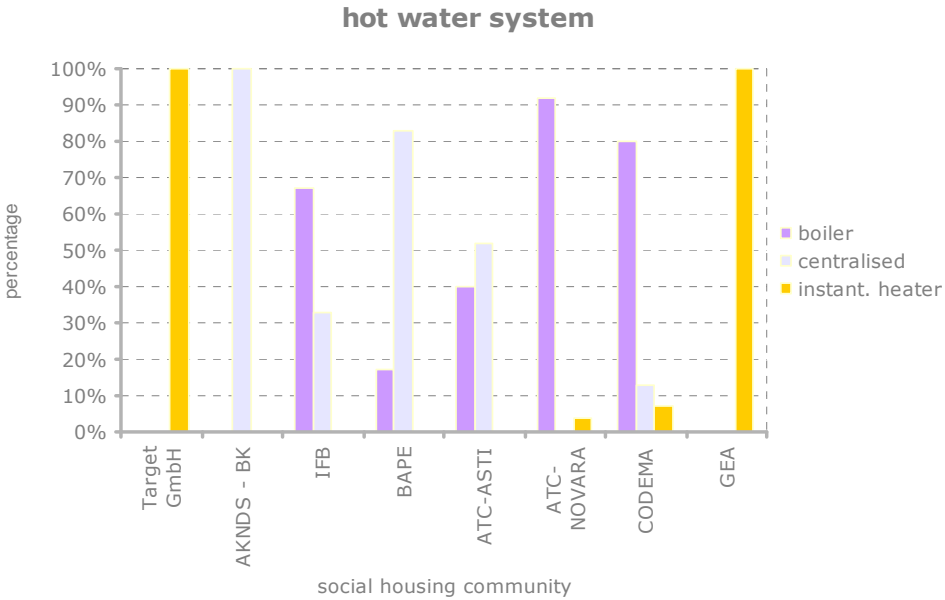
Typically of our consumerist society, people are often not aware of their consumption patterns but take supplies as a granted and infinite resource. Most people do not even question whether their use of resources is sustainable or not. However, such a change in attitude implies cultural and social changes – aspects which are slow and difficult to set in motion. In Dublin, some of the people interviewed realised that behavioural changes can help reduce their energy consumption, however, they do not feel that the corresponding reduction is of any great significance. The economical benefits are definately attractive for the residents and the training should focus on this aspect. In Dublin there is not a great opportunity for residents to carry our refurbishment themselves and to keep the audience focused the training should be adapted to the needs of the audience.

Many tenants claimed that they do not have thermostatic radiator valves, in fact they may have but do not know what they are or what they do.

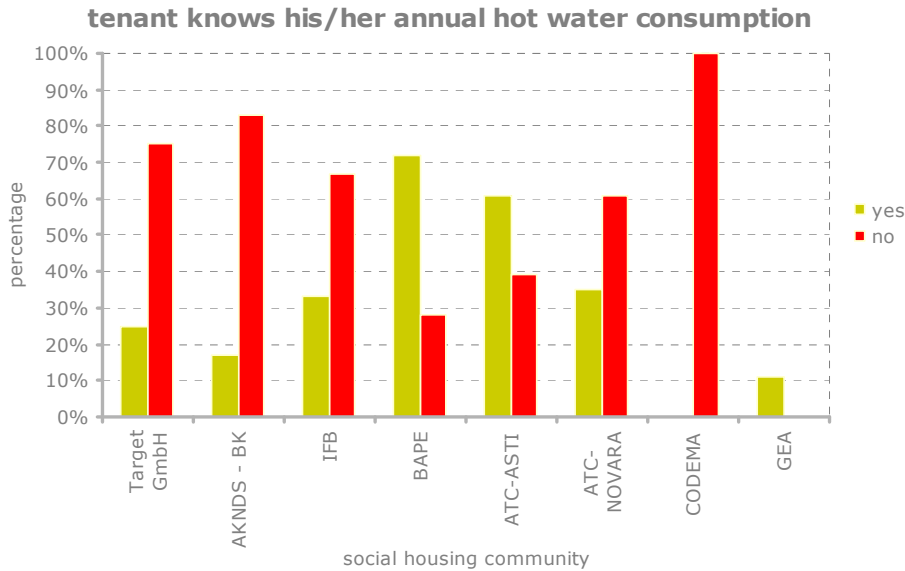
6. Hot water system

In order to develop an adequate training programme on energy efficiency, some information on the hot water system of the buildings involved in the ROSH project is needed.

The majority of hot water systems are either centralised or use a boiler and the graphs shows that the fuel source for the Dublin results is 100% natural gas, however it should be noted that electricity may also be used.

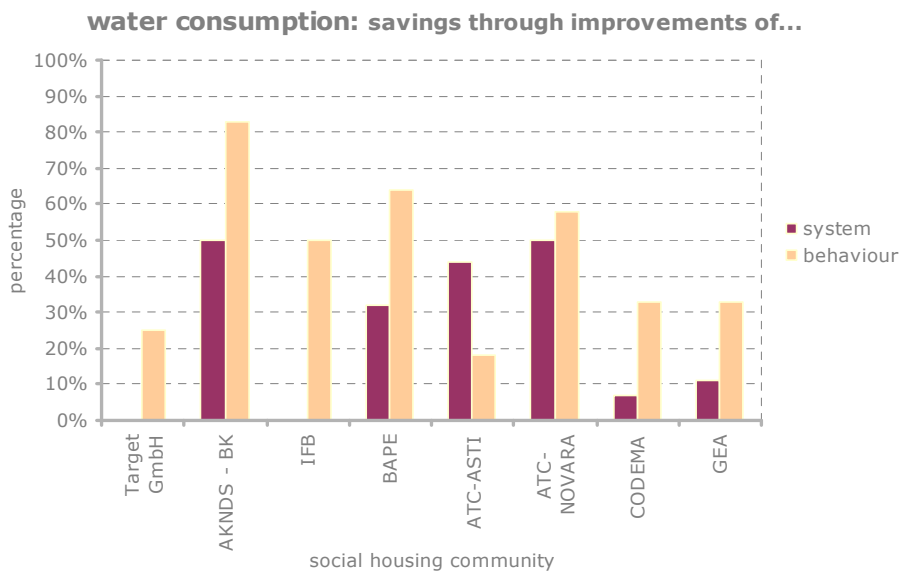


Most tenants do not know their annual hot water consumption. The pattern stays the same



When asked whether they think their hot water consumption could be diminished through improvements to the system and/or behavioural changes, most tenants believe in enhancement through behaviour.

Some tenants interviewed by ATC Asti, ATC Novara, CODEMA, GEA and AKNDS though, also emphasize the option of improving the system in order to improve efficiency. This kind of response might somehow indicate that the system is inefficient and/or obsolete. Although tenants interviewed were living in good quality accommodation with a good standard of heating some tenants feel that their accommodation is not as good quality as their neighbours or as those living in private sector. Although, this is not the case therefore some suggest that the system



could be improved. This should be taken into consideration when evaluating the results.

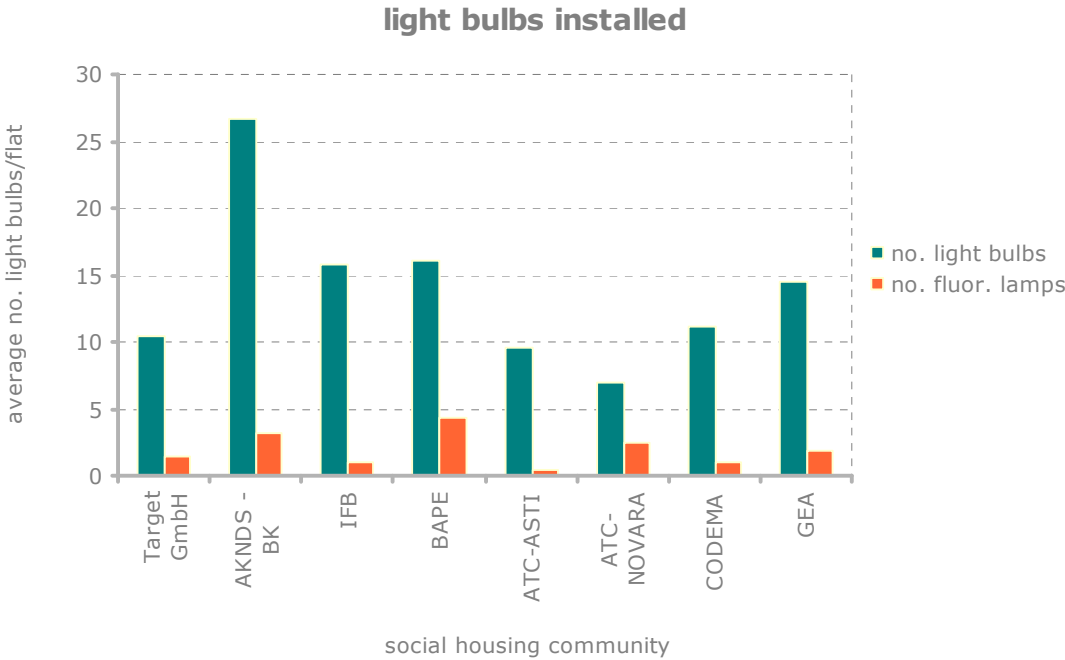
It is therefore difficult to interpret answers given by tenants which see behavioural changes as the main option for improving efficiency. It might be due to the fact that they are actually satisfied with the current hot water system or else, disillusioned, because too old

From the answers given by tenants on how they think their hot water system could be improved and what behavioural changes could help increase efficiency, Answers, however, are rather limited. No suggestions were provided on how to improve the hot water system and the only suggestion that came back from a number of those interviewed regarding behavioural changes was to take a shower rather than a bath.

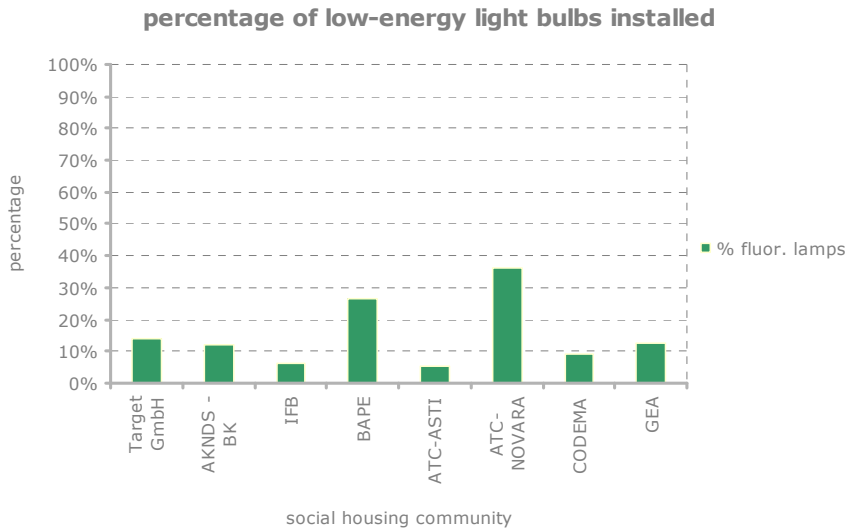
7. Sustainable energy in lighting systems

Lighting represents a significant and rising share of energy use in buildings. However, on the market energy efficient technologies and products exist, which can substitute traditional lighting systems and contribute to significant energy-saving. ROSH therefore asked tenants a few questions on the issue.

11 is the average number of light bulbs installed in tenants' flats, according to the tenants interviewed. Of course, factors influencing the number of light-bulbs installed are numerous: the number of people living in the flat, the size of the flat, the incidence of sunlight/daylight (size and number of windows, location and exposure of the building/flat). Light levels are also subject to individual perception and preference, and thus enter the private sphere. Therefore, it is extremely difficult to state the ideal number of light-bulbs per flat, according to sustainability and energy-saving criteria.

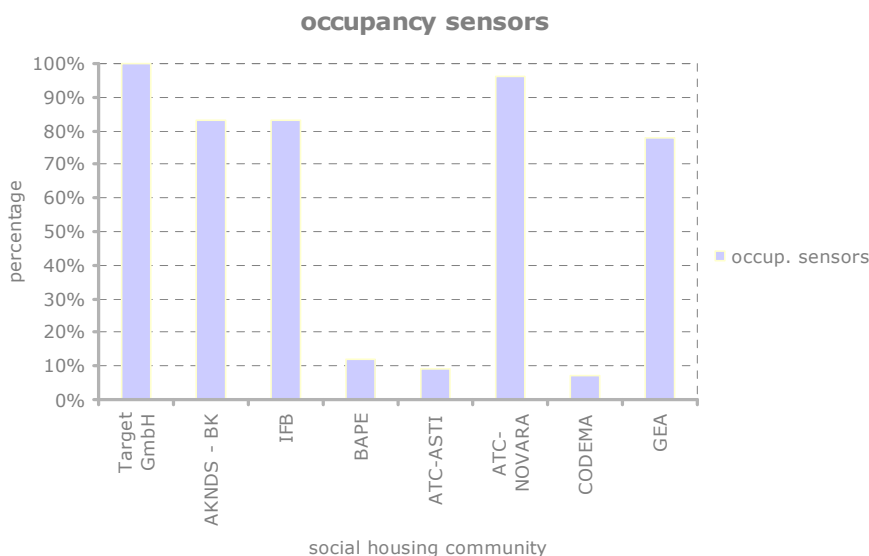


However, one can directly act on energy efficiency by substituting traditional light-bulbs with low energy light-bulbs. Unfortunately, this practice has not yet become the norm. It is spreading, but conventional light-bulbs remain the main source of lighting with only 7% of low-energy light-bulbs installed.



The presence of occupancy sensors would have a visible and practical impact on tenants. It represents a communication potential: it would pass on a message of commitment and coherence to tenants. But tenants can play their part, too. Awareness-raising of tenants can help create the right social pressure on housing administrations towards more sustainable practices, such as equipping all buildings with occupancy sensors. Thus, one of the aims of the ROSH training courses should be to raise both tenants' and housing administrations' awareness on the importance of equipping all buildings with occupancy sensors.

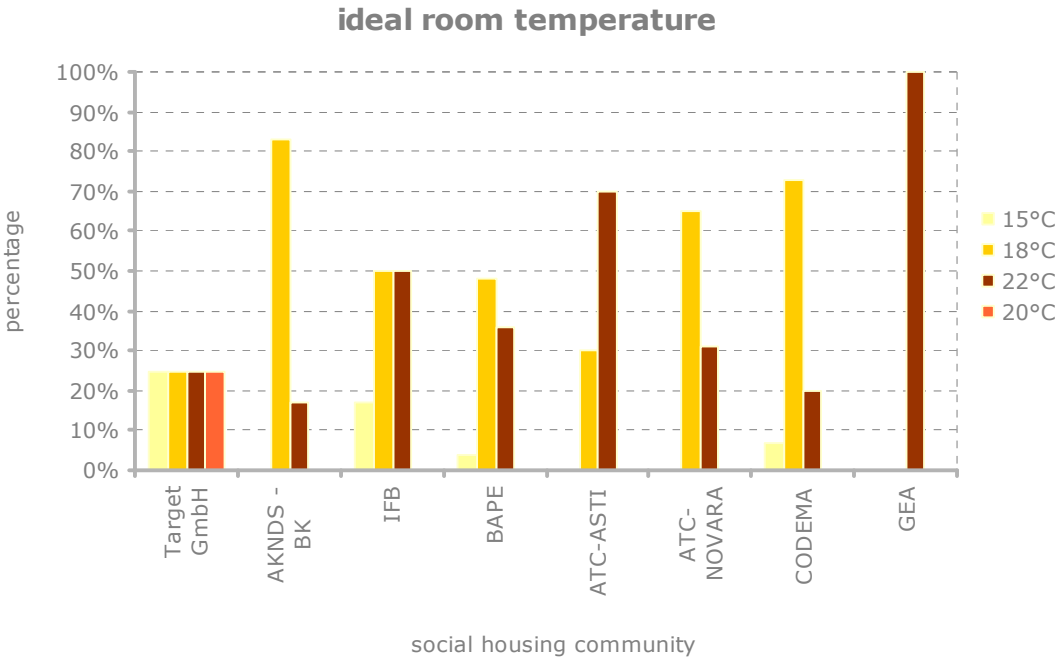
As the graph illustrates occupancy sensors are practically non-existent.



There is a strong need to raise consumers' awareness of the economic and environmental benefits of energy efficient technology and products and adequate information can effectively contribute to the greening of the market. At the same time, however, energy-saving is very much about personal behaviour. As such, training courses proposed by ROSH represent a great opportunity for spreading useful information on such issues and for educating people towards more sustainable individual behaviour

8. Ideal room temperature

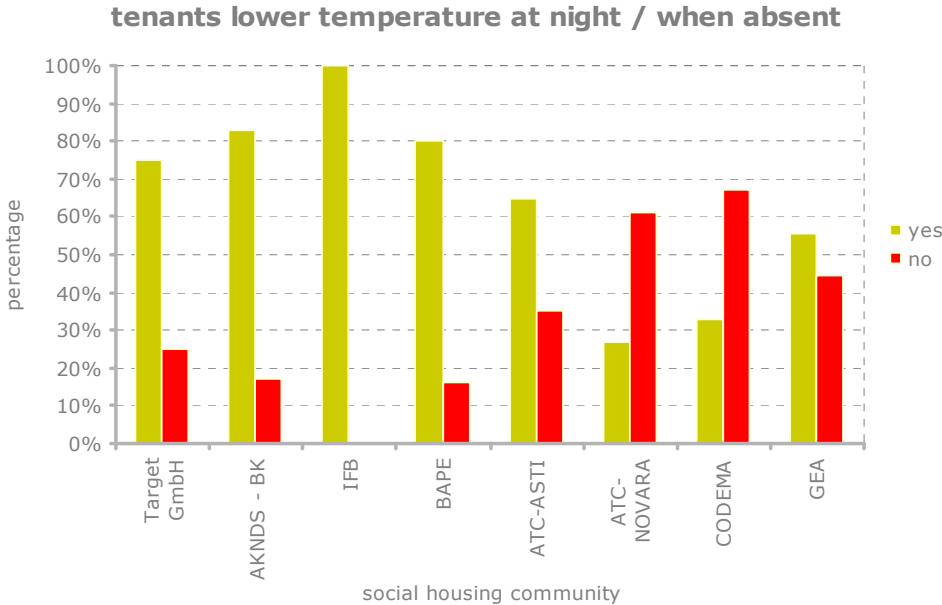
Temperature and comfort are subject to individual perception. Each person has a specific level of “thermal wellbeing”. In fact, when tenants were asked to indicate their ideal room temperature, we got disparate answers. Most tenants opted for 18°C (73%), probably as it represents a middle value. However, the tendency is to prefer warm living environments. Some tenants (20%) prefer 22°C. Age might also play an important role in the choices made: elderly people might tend to prefer warmer environments.



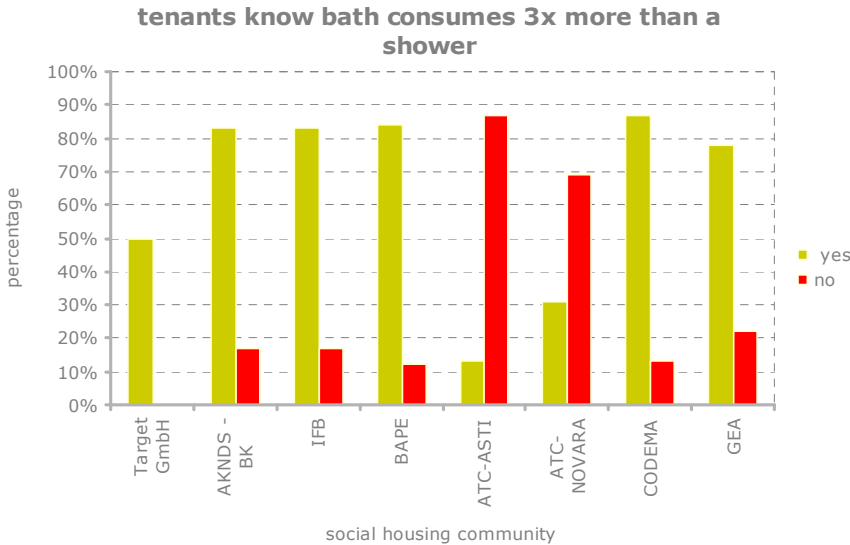
Surely, a range of “thermal wellbeing” exists, in which we all feel well. In order to be able to achieve energy-saving goals in this field, individuals must learn to select the “minimum” interval range. Furthermore, lower room temperatures are considered healthier for the human body anyway. The message which needs to be passed on to tenants therefore is: “the lower I set my ‘thermal wellbeing’, the healthier it is, the less I consume, the less I pollute, the less money I spend”.

9. Tenants awareness

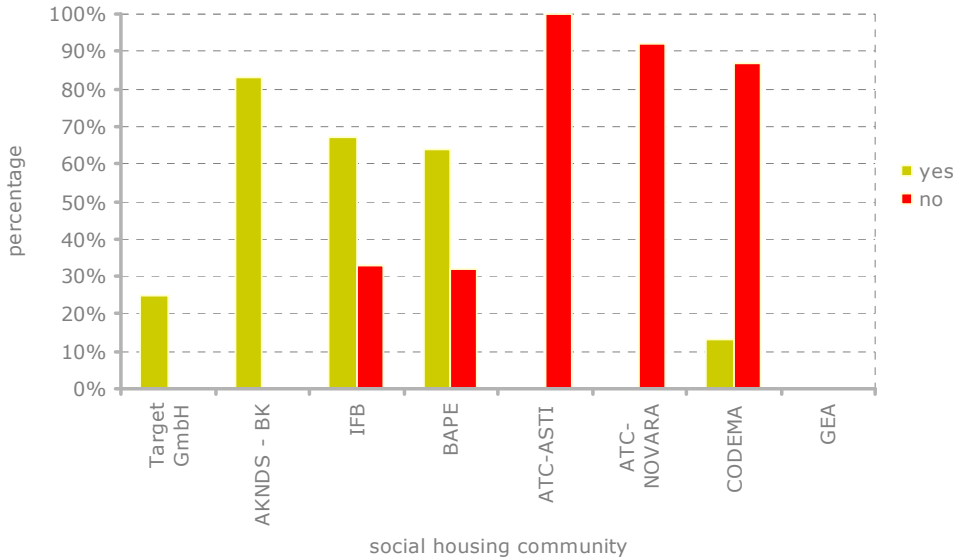
Tenants were asked some questions on energy and water-saving technologies and behaviour in order to evaluate their level of awareness on such issues. Turning down the room temperature of the radiators at night-time or when leaving the flat is not commonly practiced among the interviewees: only 33% of tenants declare to do so.



With regards to water conservation, tenants were asked whether they knew that a bath consumes 3 times more water than a shower, as well as whether they had heard of water flow reducers for showers and aerators for taps. While tenants can somehow deduct higher water consumption in taking a bath, information on water flow reducers aerators requires a more specific knowledge. And in fact, this latter question made tenants' unawareness emerge better.

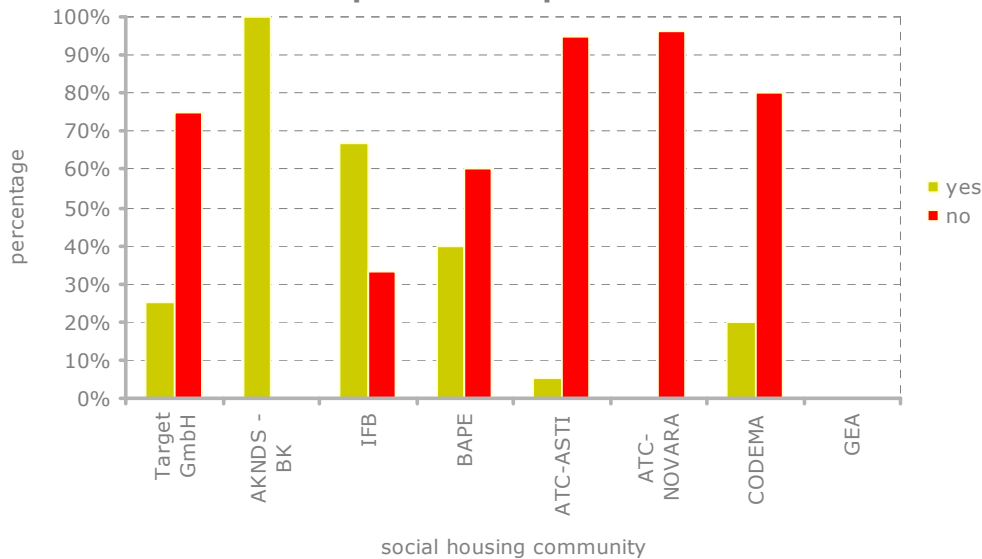


tenants know water reducers / aerators



The majority of tenants do not understand the difference between a solar and a photovoltaic panel. This is understandable as solar panels or photovoltaic panels were absent in Ireland until recently. And indeed photovoltaic is not common seen in Ireland while solar panels are slowly entering the Irish market.

tenants know difference between solar and photovoltaic panels



In the overall findings of the European questionnaire, findings confirm the fact that socio-cultural norms have an impact on individual behaviour. Education can raise people's understanding and awareness of water- and energy-saving issues and can positively influence attitudes and social norms towards more sustainable practices.

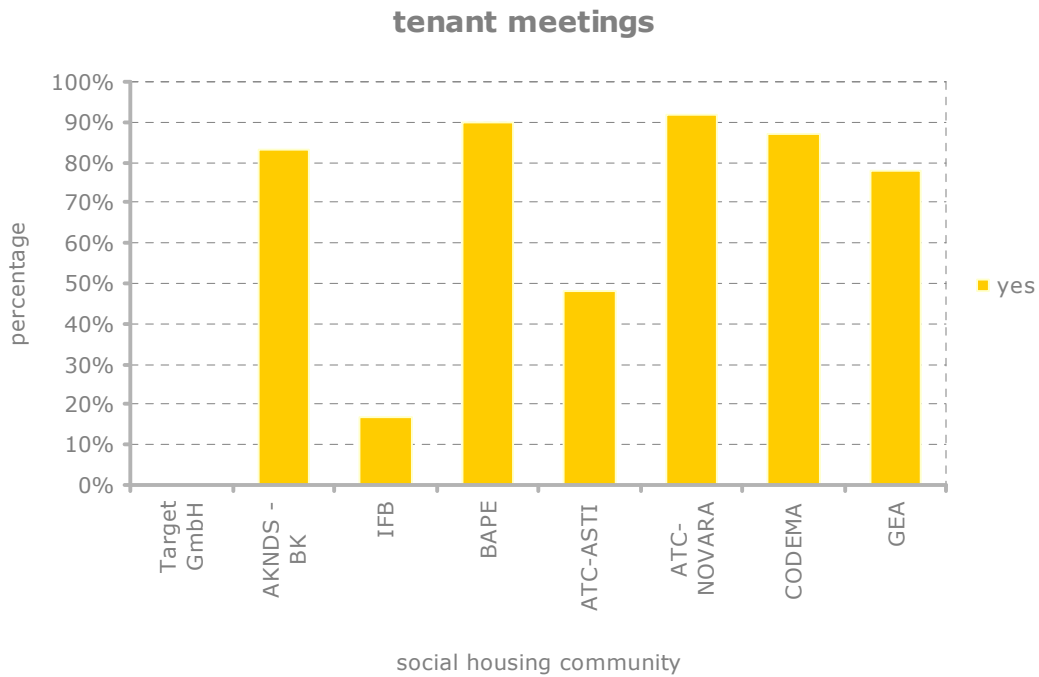
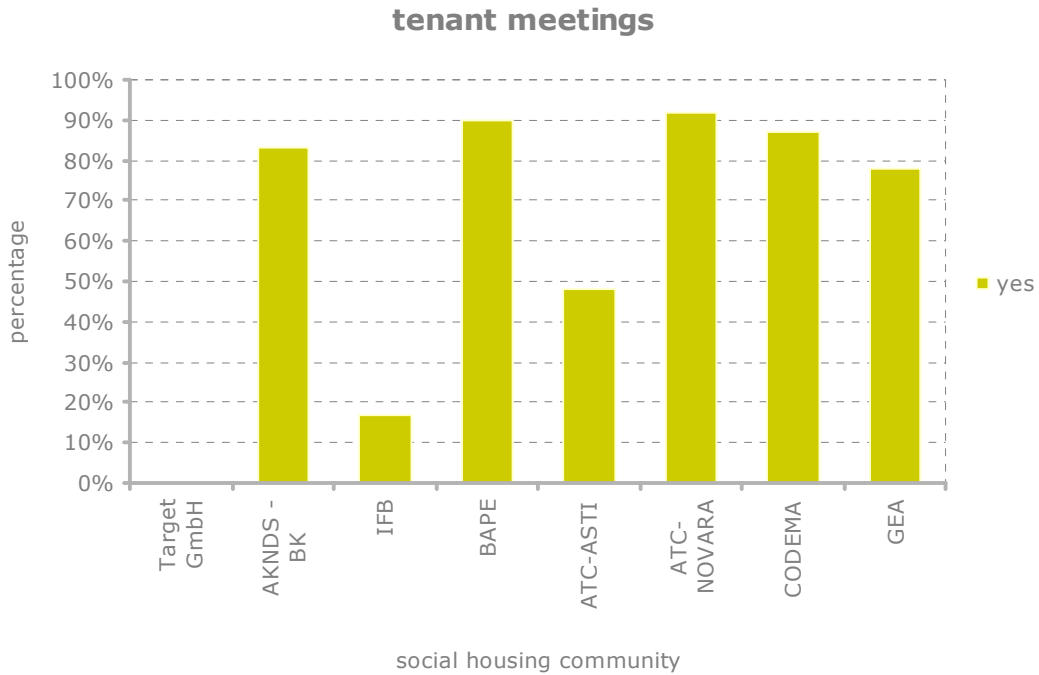
Thus, the training course will have to deal with issues on water- and energy-saving technologies and behaviour. In Ireland, water is a free commodity in that there is no charges for water use in domestic homes. As water is freely available and due to high precipitation rates in the country, water conservation measures are relatively new concept for many tenants. Courses will have to start at the heart of the matter, addressing above all, the urgency for a more sustainable management of water and energy resources. Courses will also have to be context-specific, taking into account age and background of participants: elderly people are generally less acquainted with new technologies, independently from their level of environmental awareness.

Conclusions

- Involve tenants into a constructive dialogue on energy optimisation and renewable energy technologies
- Elderly people might be less acquainted to new technologies – an aspect that needs to be taken into account when structuring training courses for tenants.
- Focus on money saving, climate change issues, CO₂ emission reduction etc.
- Friendly, positive language, eye catching posters/notices, active lessons and awareness-raising activities

10. Tenant meetings

Tenant meetings seem to be a rather well-established practice; 87% state that such meetings are organised to discuss housing concerns which is very positive and reflects an active community.



Equally, tenant meetings, when organised, do not automatically imply tenants' participation, although the results of the survey reflects a good participation. Surely time constrains can be a decisive factor in lowering tenants' participation. Even bad communication might hinder the taking place of such initiatives. Some kind of indifference towards issues concerning the housing community, too, might lower participation.

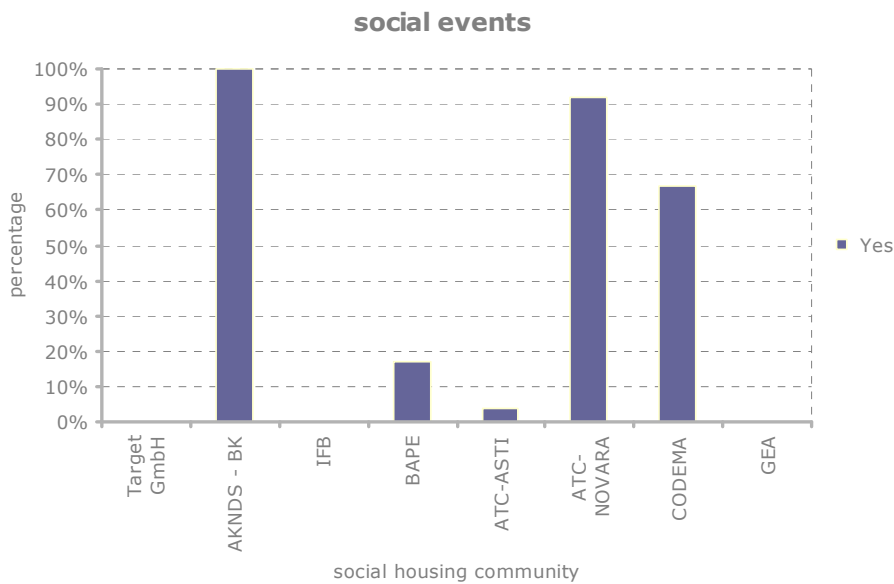
However, adverse factors that need to be taken into account when planning and setting-up training courses for tenants, and which should not be underestimated, are: a possibly non-pro-active attitude, indifference, time constrains and weak communication/organisational skills. Thus, in order to guarantee a positive response to the ROSH initiative, it is important to work towards raising a sense of community and responsibility of tenants in the first place. in order to guarantee a positive response to the ROSH initiative, it is important to work towards raising a sense of community and responsibility of tenants in the first place organized training in parallel with community groups sessions.

11. Social events

67% of those interviewed stated that there were social events organised, which is positive as social events represent an opportunity for neighbours to mingle and to grow a sense of community.



The majority of tenants of those interviewed say that they attend such meetings.



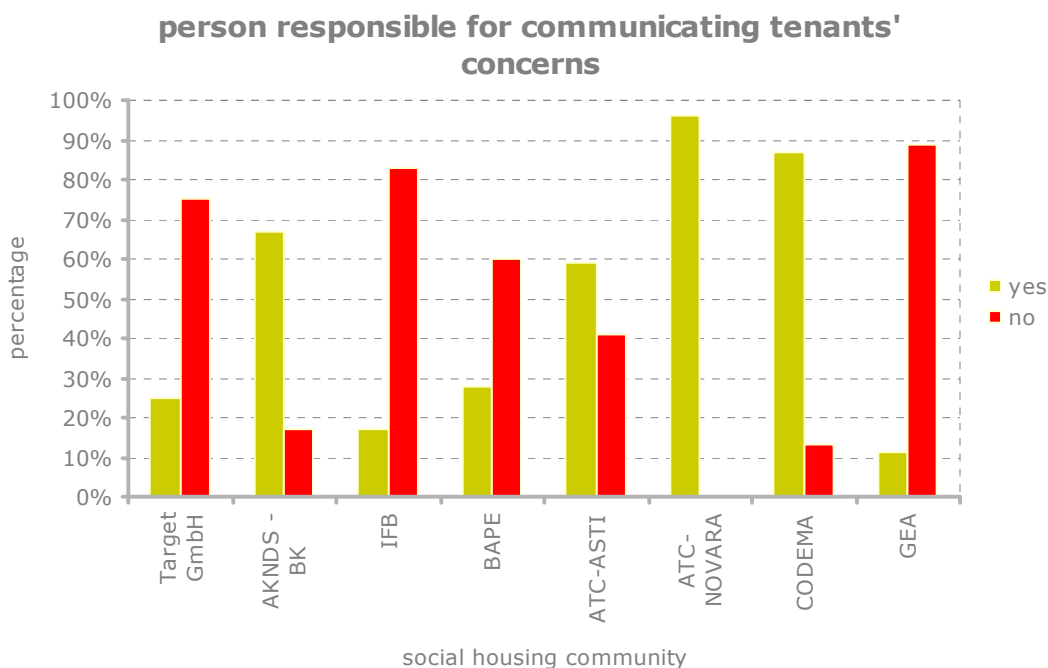
Of course, time constraints of tenants also play a decisive role and need to be taken into account. ROSH will have to work hard on advertising future training programmes in a way as to catch tenants' attention and raise their (currently missing) curiosity. It will be of crucial importance to provide tenants with a positive experience, as this occasion might represent the one opportunity to launch tenants' engagement in community initiatives for the future. For instance, participative methods and consultation during training courses could guarantee a more direct involvement of tenants and raise their interest.

12. Bottom-up communication

The information gathered in relation to the presence (or not) of a person responsible for communicating/supporting any actions dwellers decide to take on, is rather confusing. Indeed, this kind of a figure is either incorrect or else, is weak: answers seem contradictory and one gets the impression that tenants are simply not very well informed on the matter.

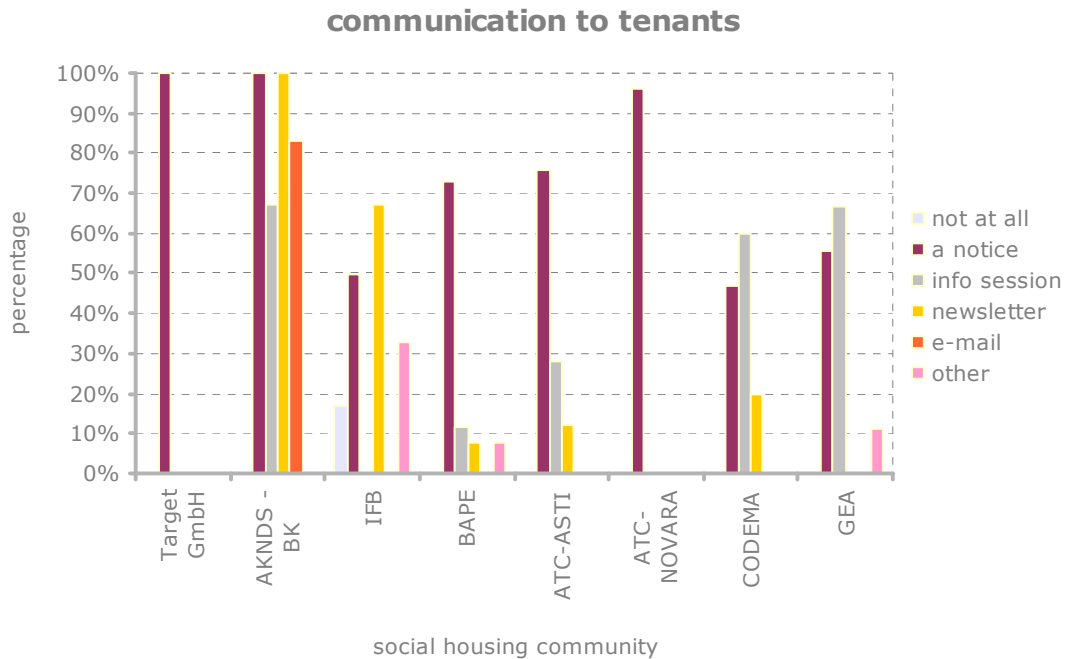
However, ROSH being an innovative project, it inevitably requires the presence of such a figure. Tenants are the ultimate energy end-users and as such, represent an essential interest group. Being directly involved in the outcomes of the project, tenants work both as a guard and a resource of ideas inside the project. It is essential to ensure that correct information reaches tenants, and, above all, it is important that tenants express eventual problems, ideas, successes and add new input to the project.

The person who will be appointed the role of collecting and communicating tenants' needs and interests must be a motivated and committed person, interested in energy efficiency issues. He/she must pass on information to tenants and collect and refer tenants' needs and ideas to the housing organisation.



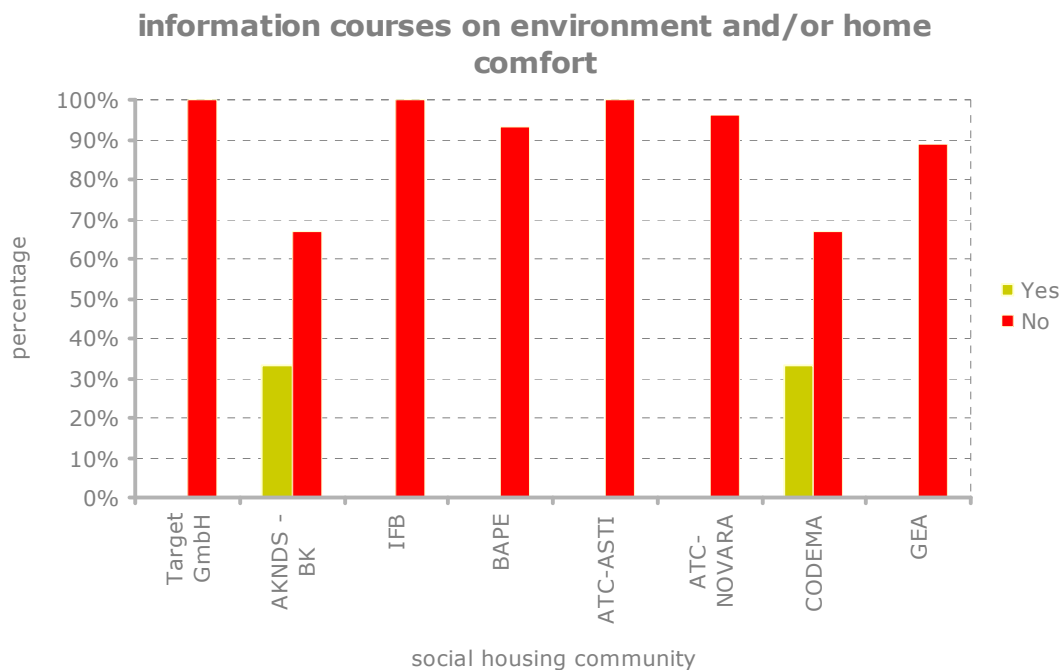
13. Top-down communication

Active and close involvement of tenants in energy decisions is central to achieving an efficient use of energy and energy-saving. Thus, commitment towards sustainable energy must be first of all passed on to the tenants by the housing organisation. Good communication is essential and can act positively on tenants. How do housing organisations currently communicate with tenants? Putting out “a notice” seems to be the most popular, direct and effective way of communicating housing concerns to tenants. ROSH should keep and privilege this channel. Communication with residents through a flyer that is distributed by the staff of the estate officer seems a good approach. Contact details for training providers on the leaflet but also contact details for the estate officer. We found it useful that tenants have someone who they are familiar with to contact.



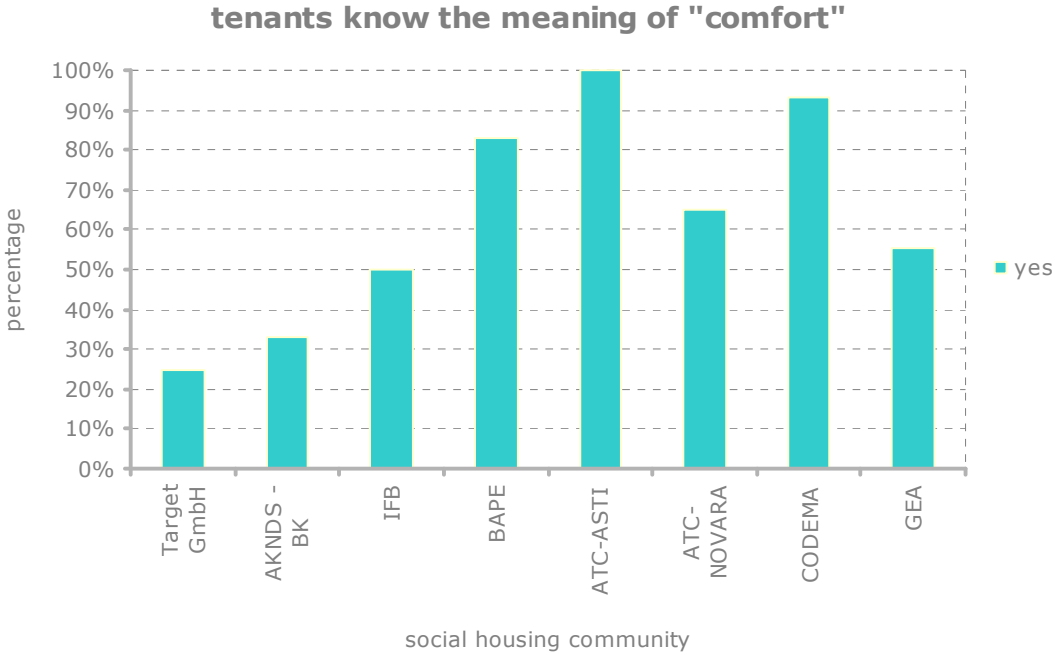
14. Information courses

In the past, few information courses on energy efficiency and home comfort have been held. However, tenants' answers on whether they are interested in such courses seem to be rather mixed. 64% state that they are interested in such attending such courses. Often people find it hard to commit themselves towards initiatives which address the community and not the private sphere, as everybody seems to be always running out of time to manage even their private life – let alone their social life and leisure time. These points need to be taken into account when planning future training courses for tenants on energy efficiency and retrofitting measures. According to tenants (not many answered!), possible courses should be held in the evening and should last 1-2 hours. Some tenants indicated the weekend as more suitable.



Courses should be kept to 1-2 hours and should be kept informal.. gives the residents time to talk about issues that important to them.. also useful for residents to give their own tips and to share with their neighbours

As a matter of fact, many tenants declare that they do know the meaning of "comfort" related to housing. However, this statement might be deceiving, since the majority of them has never attended some courses or has been actively informed on such issues.

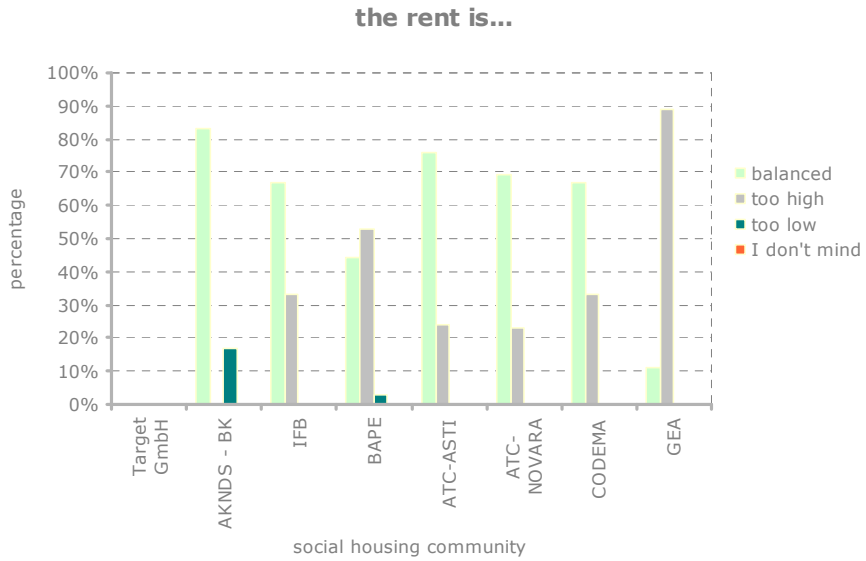
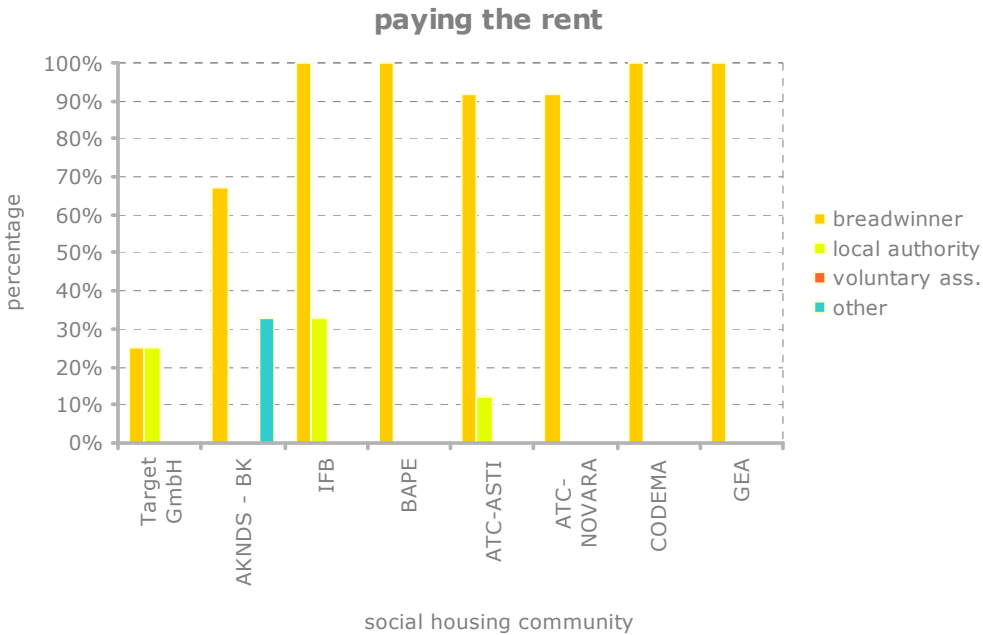


Awareness and being motivated to change are essential in participatory interventions. Participation is based on the idea that people have the right to be involved in issues concerning them and awareness-raising and education can help stimulate active and informed involvement.

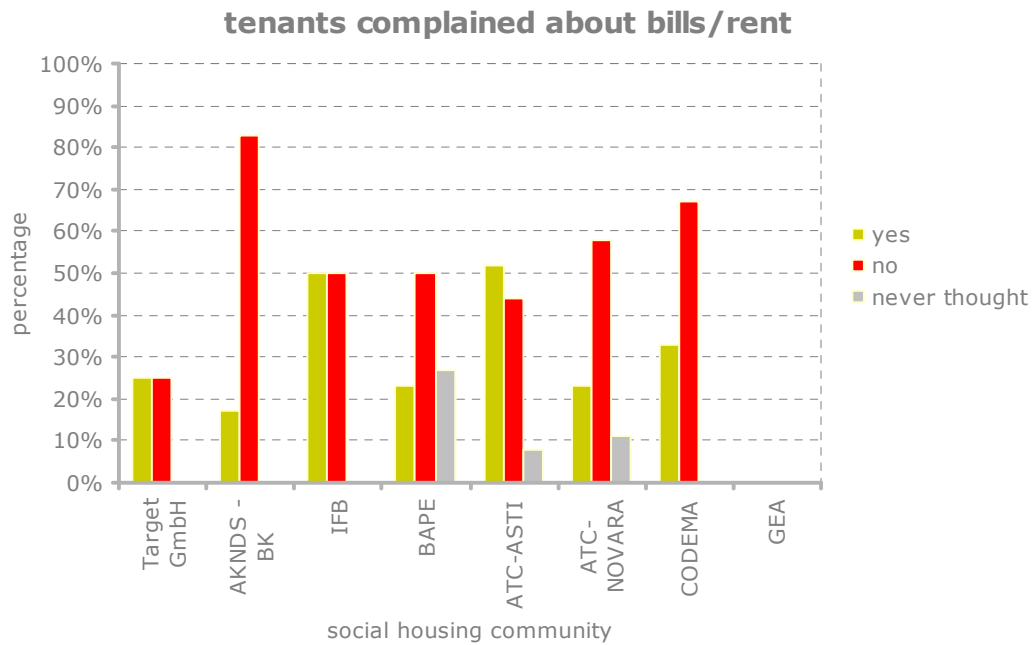
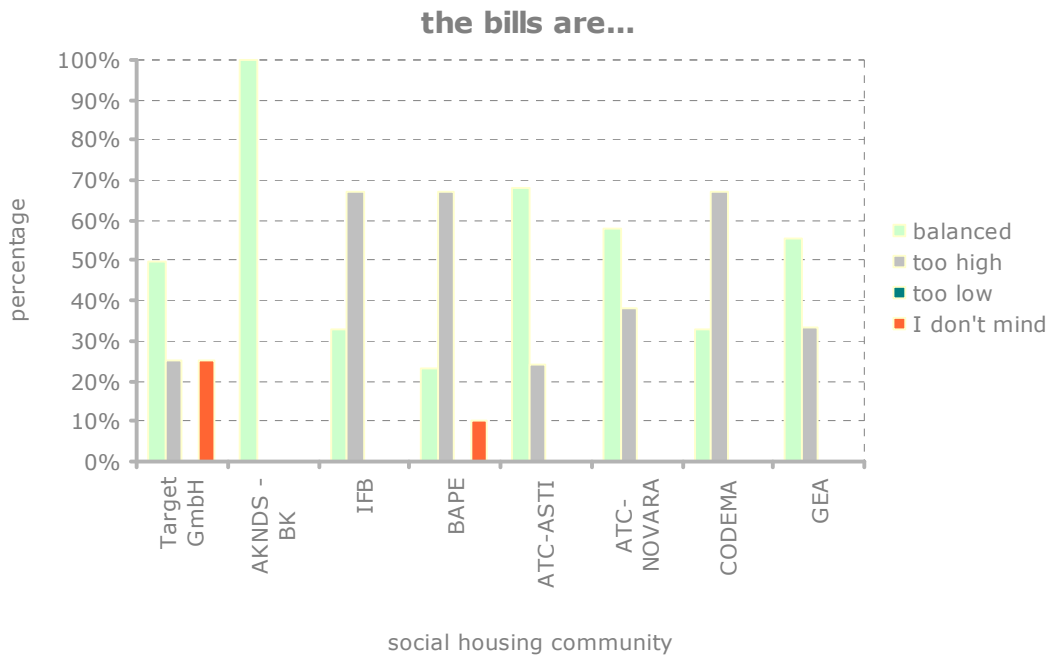
15. Expenses

In all cases for those interviewed the breadwinner pays both the rent and bill. However, for local authority flats, the rent is means based and depends on the occupants income therefore the tenant does not necessarily pays rent at regional market prices.

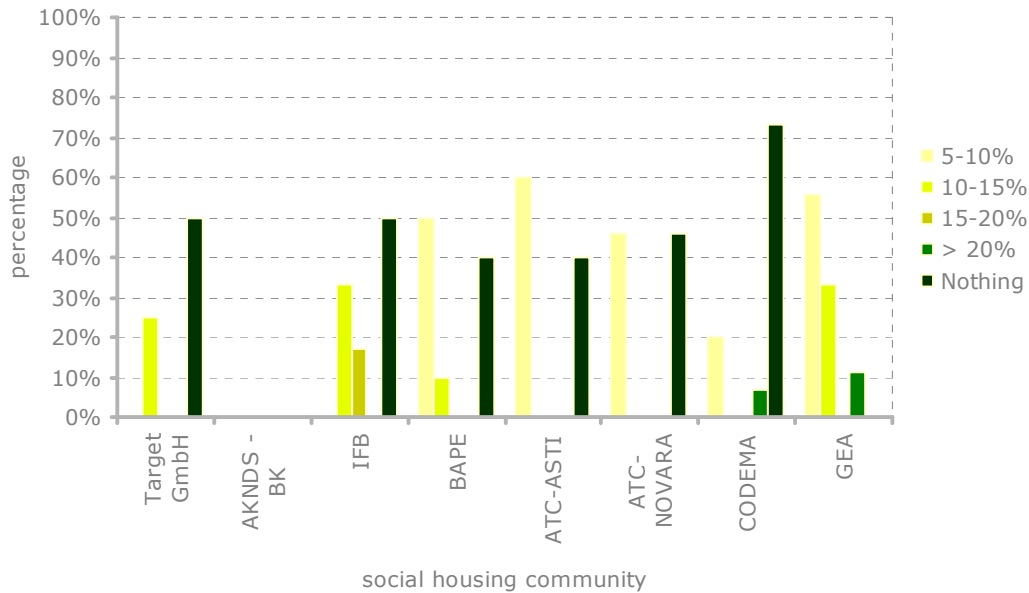
64% of tenants feel that the rent they are paying is balanced, while the same percentage of those surveyed consider the bills in many cases too high. Here, we need to understand whether bills are actually high and represent an additional cost for poor families. If the buildings are of low quality and dissipate energy, energy demands and costs will automatically be high. Bad thermal insulation and high energy costs can both lower the quality of life of tenants. In order to cover energy costs, families will have to save on other goods.



As a matter of fact, the majority of tenants in the end do not complain officially about these fixed charges.

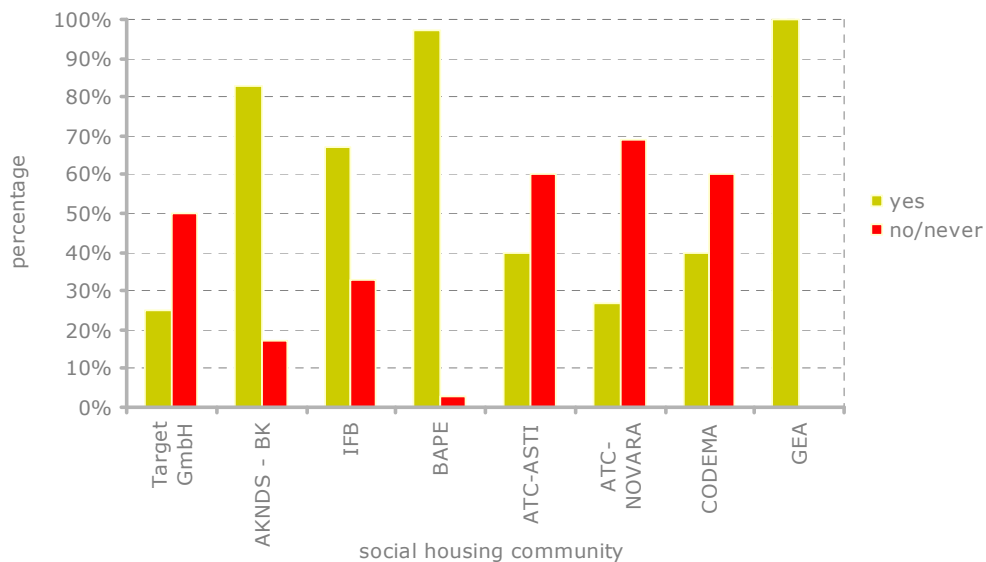


comfort: tenants willing to pay additionally to the rent

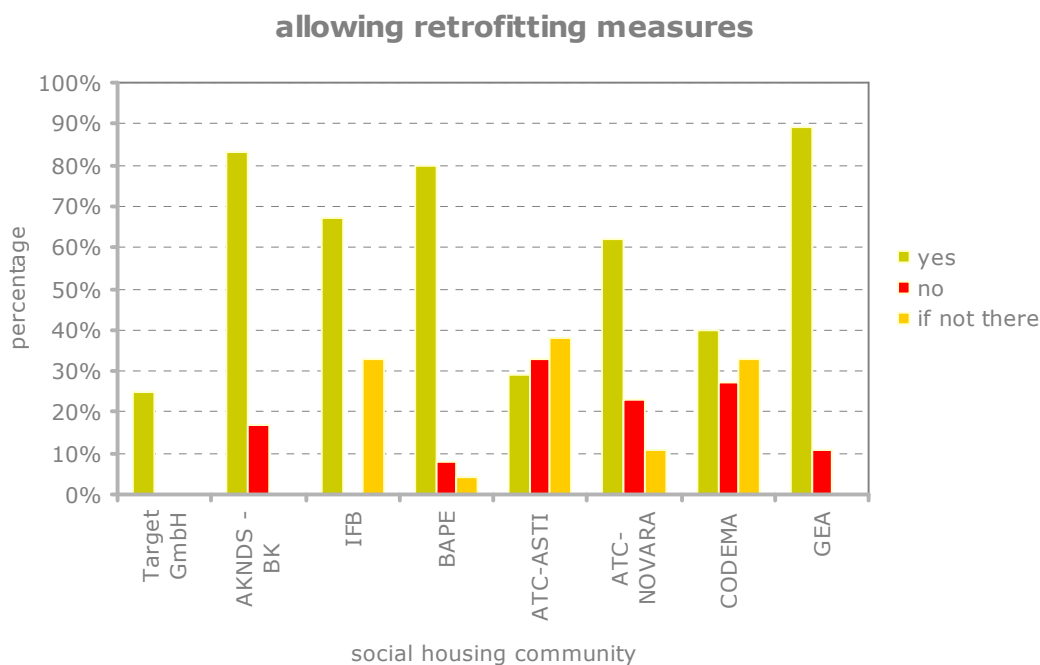


However, most of them are not willing to pay any extra money for refurbishment (73%). 20% are willing to pay a minimum tribute (5-10%). In some rare cases, tenants are willing to spend up to 20% additionally to his/her rent (7%). Many tenants have thought about improving autonomously their “home comfort” (40%).

tenants thought of improving autonomously the flat



73% of tenants would allow retrofitting measures, however almost half of these (45%) would not like to live in the flats at the time of refurbishment ROSH will have to take into account these findings. The training course should help involve tenants and raise their sensitivity towards the benefits and importance of carrying out retrofitting measures: in the long run, energy efficiency and retrofitting measures help reduce electricity and heating bills and contribute overall to a higher quality of life. This is the message that needs to be passed on to tenants through training courses.



16. Services

In all cases an office exists, where tenants can go and complain about housing concerns. Usually it seems to be managed by the social housing office. In some cases it is run by tenants' associations. However, all tenants agreed on the fact that it is a useful service, which should be granted.

Consequently, in order to guarantee a smooth running of ROSH and its continuous improvement even in the future, a service where tenants can complain or propose ideas *must* be provided.

