Healthy Homes Barometer 2015

European Survey by the VELUX Group

An annual study of European citizens' attitudes and behaviour regarding home comfort, energy consumption and environmental impact

The Healthy Homes Barometer is accompanied academically by Prof. Dr. Dr. h. c. Bernd Wegener, Humboldt University Berlin

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Foreword

Welcome to the Healthy Homes Barometer 2015

There are things we know, and things we do not know.

Today, we are certain that our homes have a huge impact on our health and wellbeing. We live 90 % of our lives inside buildings. Yet, an estimated 80 million Europeans live in homes that suffer from damp, which almost doubles the risk of developing asthma. Indoor air quality is a major health concern for Europe.

We are equally certain that our homes have a huge impact on the future of our planet. Energy used in buildings accounts for 40 % of the total energy consumption by society. Better construction of buildings in the EU would influence the use of half of all extracted materials, and could help us save up to one-third of all water for consumption.

However, we are less certain when it comes to the behaviour and thinking of those actually living their lives inside the buildings, affecting the indoor climate and energy use through their actions, choosing how to – or how not to – improve their homes and what to demand when moving into or building new homes: the European citizens.

Do Europeans think of their homes as a key to being healthy? Do they act according to their beliefs? Do they know what to expect from a healthy home? Can society expect them to demand more energy efficient and environmentally friendly buildings?

Filling the knowledge gap

Our ambition is to fill this knowledge gap with the Healthy Homes Barometer. We have examined whether European citizens support what experts have long called the buildings of the future: Homes that create healthier and more comfortable lives for their occupants without impacting negatively on the climate and the environment; homes that move us towards a cleaner, healthier and safer world.

This year's barometer shows that Europeans consider that their homes are of huge importance to their health and wellbeing. However, in general Europeans are far too optimistic when it comes to the actual state of their home indoor climate, thinking that everything is good. They are also far too reluctant to behave according to their beliefs and let in fresh air and daylight.

We can already expect Europeans to demand healthy and energy efficient building solutions today and, if awareness is raised, even more tomorrow. This is a clear message from the Healthy Homes Barometer 2015, which should inspire everybody concerned with the quality of modern lives indoors, politicians as well as the building industry.

Europeans do not want homes that simply perform well on energy. They want homes that perform well on energy while also providing comfortable surroundings in a healthy life. They want healthy homes.

I sincerely hope that the Healthy Homes Barometer will spark a transition, not only in the way buildings are built, but also in the way we think and communicate about our homes and the role they play in modern lives, cities and society at large.

Michael K. Rasmussen
Chief Marketing Officer of the VELUX Group

About the Healthy Homes Barometer

The Healthy Homes Barometer is an analysis presenting key findings from a pan-European study investigating European citizens' attitudes and behaviour regarding home comfort, energy consumption and environmental impact.

Barometer methodology
During October 2014 a questionnaire was answered by 12,000 Europeans in Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, the Netherlands, Norway, Poland and the UK. The questionnaire and analysis were carried out by independent consultancies, Operate A/S and Wilke.

We would like to thank Prof. Dr. Dr. h.c. Bernd Wegener, Humboldt University, Berlin for his continuous expert advice and support in the realization of the Healthy Homes Barometer.

The number of respondents from each country was set to ensure statistical representation. This has been achieved.

The twelve countries surveyed represent more than 375 million Europeans, accounting for more than 70 % of the total European population[1]. Furthermore, the selected countries represent a variety of sizes and geographic locations. When concluding on a pan-European level, responses have been weighted according to a specific country's share of the population of the twelve European countries surveyed as a whole. For example: Since the German population is 21 % of the total population of the twelve European countries surveyed, responses from Germany account for a similar percentage of the pan-European total.

How to read the barometer indicators
The barometer measures scores for nine indicators, each addressing a key aspect of European citizens' attitudes and behaviour related to their life at home in terms of comfort, energy consumption and environmental impact.

The indicators are:

1. What does healthy living mean to Europeans?
2. How concerned are Europeans about an unhealthy home?
3. Who are responsible for ensuring healthy buildings?
4. How important is daylight at home to Europeans?
5. How important is indoor air quality to Europeans?
6. How do Europeans experience the quality of their sleep?
7. Do Europeans link indoor climate to health?
8. How important are home energy costs to Europeans?
9. How important is the environmental impact of the home to Europeans?

When translating responses into index numbers, responses have been given numbers from 1 to 7, where 7 is the highest score, e.g. "Very important", and 1 is the lowest score, e.g. "Not important". A score above 4 is a score above average.

Once a year, changes in these indicators will be measured and reported in a Healthy Homes Barometer publication.

Focus on comfort, energy, and the environment
The home has a huge impact on human health and well-being, society's energy consumption and sustainable development in terms of material use and reuse.

The barometer's underlying thesis is derived from the Active House Vision as formulated by the Active House Alliance[2]. In this understanding, a healthy home is a home which has as little environmental impact as possible and is as energy efficient as possible, while providing healthy and comfortable surroundings for its occupants.

Along these lines, the barometer focuses on the three dimensions of the Active House Principles when reporting on European citizens' attitudes and behaviour towards healthy homes: Comfort, Energy and Environment:

- Indicator 4 gives an indication of European citizens' attitudes and behaviour towards energy efficiency at home.
- Indicators 5-8 give indications of European citizens' attitudes and behaviour towards comfort at home, including easy access to plenty of daylight and fresh air, making it possible to sleep well.
- Indicator 9 gives an indication of European citizens' attitudes and behaviour towards the home's environmental footprint.

[1] Europe is defined as the 28 Member States of the EU plus Norway and Switzerland. [2] Activehouse.info

Contents

Summary

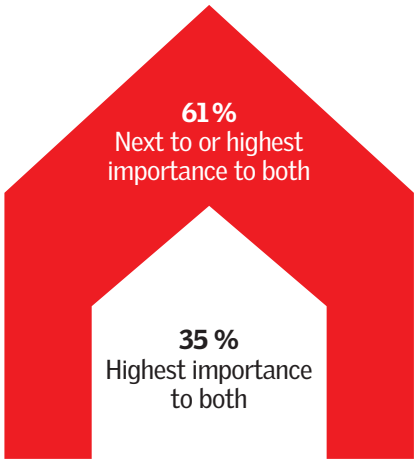
Five key findings in the Healthy Homes Barometer 2015

The Healthy Homes Barometer 2015 consists of nine indicators providing insights into the state of the indoor climate, behaviour and attitudes towards healthy homes in 12 European countries. Across these nine indicators, five key findings stand out.

Europeans desire healthy homes

People take more than 20,000 breaths a day[3], and we live an estimated 90 % of our lives indoors[4]. Good daylight conditions improve health, wellbeing and performance[5] in general, and children's learning abilities rise by up to 15 % if they are in a good indoor climate[6]. Thus, living a healthy life is closely related to living in a healthy indoor environment.

How many Europeans give the highest importance to both fresh air and daylight when asked what is important to their health?



A number of scientific studies point out that a healthy and comfortable indoor environment is one which is ventilated, and that lets in daylight. Science and citizens agree. The Healthy Homes Barometer 2015 reveals one noteworthy fact, Europeans link healthy living very closely to the home arena.

Sleeping well at night is the most important health factor according to Europeans. More surprisingly, Europeans consider fresh air and daylight even more important to their health than avoiding tobacco or avoiding chemicals from consumer products in the home. Europeans even put greater emphasis on fresh air indoors than on eating plenty of fruit and vegetables.

Obviously, ventilating to let in fresh air may score high because it is a behaviour with multiple benefits: It increases comfort while making the indoor climate healthier by letting out particles from tobacco or consumer products.

However, the most likely explanation for Europeans' great emphasis on the importance of fresh air and daylight is that these two factors are closely linked to creating a comfortable home environment, which the barometer clearly indicates is important to Europeans. Furthermore, being comfortable is an absolute necessity for sleeping well at night.

1

Read more on page 11

[3]American Lung Association: www.lung.org/your-lungs/. [4]NEST project, Technical University of Berlin, European Commission 2004. [5]L. Heschong: "Daylighting and Human Performance", ASHRAE Journal, vol. 44, no. 6, pp. 65-67, 2002. [6]"Indoor Environment and Learning in Schools", International Centre for Indoor Environment and Energy (ICIEE), Technical University of Denmark, 2013.

35 %

of Europeans rank both indoor air quality and the amount of daylight of the highest importance if moving to a new house

2

Europeans need fresh air and daylight to feel at home

While Europeans in general consider that the home arena is an important enabler to a healthy life, there is less understanding about why the home arena is so important.

The barometer shows that Europeans make no strong link between daylight and fresh air on the one hand, and health issues such as illness, fatigue, asthma and allergies on the other.

Even though science shows that lack of fresh air increases the risk of developing allergies by 42 %[7], and that lack of daylight indoors indoors hampers children's learning abilities, these are not the main reasons why Europeans consider fresh air and daylight in their homes important. Instead fresh air and daylight is connected to "feeling at home", feeling fit and comfortable.

This suggests that Europeans strive to achieve a healthy indoor environment because it intuitively feels right, not necessarily because they know how important it is to family health.

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29 %

of European males rank both indoor air quality and the amount of daylight of the highest importance if moving to a new house

41 %

of European females rank both indoor air quality and the amount of daylight of the highest importance if moving to a new house

[7] Hägerhed-Engman, L. Bornehag, C. G., Sundell, J.: "How valid are parents' questionnaire responses regarding building characteristics. Mouldy odour and signs of moisture problems in Swedish homes?", Scandinavian Journal of Public Health, p. 35 (2007).

Having healthy homes is an underestimated and unacknowledged public health factor

Despite more than seven years of financial crisis and high unemployment rates across Europe, living in a building with unhealthy indoor air quality is as serious to Europeans as losing their jobs, and only of slightly less concern than being unable to pay the mortgage/rent.

Having a high quality indoor climate is simply of great concern to Europeans.

It should be. Recent studies show that 80 million Europeans live in homes that are damp[8]. Damp homes have an unhealthy indoor climate which almost doubles the risk of developing asthma[9]. According to the Global Initiative for Asthma, 30.7 million Europeans had asthma in 2004[10].

However, despite the general concern, 65 % of all Europeans dry clothes indoors at least once a week, and only 28 % air out more than once a day during winter, which is needed to obtain optimal indoor air quality. Nevertheless, 78 % of all Europeans express above average satisfaction with the air quality in their current home.

Thus, there is a clear paradox between perception and reality, and there is a knowledge gap that has to be bridged. The European self-assessment is far too optimistic.

Even more noteworthy is that Europeans living in households with one or more persons suffering from asthma or allergies are only marginally more concerned about living in a building with unhealthy indoor air quality. In homes without asthma or allergies, 22 % are very concerned about their indoor climate, while 37 % of Europeans living in households with four or more persons suffering from these diseases are very concerned. What is more, surprisingly, living in a household with asthma and allergies does not make people air out more frequently than others during winter.

Europeans are satisfied with their indoor climate beyond reason, and this satisfaction leads to inaction. One explanation may be that there is a lack of knowledge about how much fresh air and daylight it is fair to expect and possible to have in everyday life at home.

Since a number of scientific studies show that lack of ventilation and daylight may ultimately lead to illness and fatigue[11], it is fair to say that there is an untapped health potential in more societal debate about the importance of healthy homes and how to live a healthy life indoors.

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There is little coherence between concern and action

While Europeans are very concerned about the indoor climate in their homes, this concern only has a very limited effect on behaviour.

All Europeans ventilate their homes. But homes are ventilated much more during summer, when ventilation prevents overheating, than during winter, when wellbeing becomes a trade-off between fresh air, temperature and energy costs. The drop in airing out during the wintertime is substantial, even in homes where the occupants are very concerned with a healthy indoor climate.

These facts imply two things.

First, the right behaviour might not be directed by a deep understanding of the actual benefits of a healthy home. The primary motivation for airing out may be the immediate feeling of wellbeing, not a concern about health. This may also explain the widespread practice of drying clothes indoors, as this can take place in a remote part of the house or behind closed doors, where the negative impact on wellbeing is incorrectly believed to be eliminated. The overall risk for developing asthma is approximately twice as high for people living in homes with mould or damp, even if this is in a clothes-drying area in the basement and far from the living room[11].

Second, as long as the cognitive link between poor indoor environment and illness, fatigue, asthma and allergies etc. is weak, Europeans will only act when costs are low. As soon as it becomes difficult or costly to obtain a good indoor environment, e.g. during winter, behaviour changes.

Better indoor environment in European homes depends on increased knowledge and awareness about the importance of occupants' behaviour and solutions from the building industry and architects to make it easy to ventilate and get daylight.

4

Read more on page 14

[8]Grün, G. & Urlaub, S.: "Towards an identification of European indoor environment's impact on health and performance", White Paper, (2014), Frauenhofer-Institut für Bauphysik. [9]Mendell, M. J., Mirer, A. G., Cheung, K., Tong, M. Douwes, J.: "Respiratory and allergic health effects of dampness, mould and dampness-related agents: a review of the epidemiologic evidence." Environmental Health Perspectives, p. 119 (2011). [10]Global Initiative for Asthma, "Global Burden of Asthma", 2004. [11]E.g.: Hägerhed-Engman, L., Bornehag, C. G., Sundell, J.: "How valid are parents' questionnaire responses regarding building characteristics. Mouldy odour and signs of moisture problems in Swedish homes?", Scandinavian Journal of Public Health, p. 35 (2007). And: Foster, R. G.: "Body Clocks, Light, Sleep and Health", Daylight & Architecture, p. 15 (spring 2011).

5

Europeans are willing to act – if it pays off

Europeans take responsibility for making their homes healthy. They look for daylight and fresh air when relocating and they are even willing to invest in making their homes healthy. Owners of buildings expected to take primary responsibility for ensuring that their buildings are healthy.

The personal responsibility of homeowners is limited to areas where taking action results in immediate personal benefits such as reduced energy costs and improved home comfort.

Energy used in buildings accounts for 40 % of the total energy consumption by society[12]. In general Europeans are not too impressed with the energy costs of their current home, and they are willing to invest in improving energy efficiency and the indoor climate, i.e. fresh air and daylight.

The home owners' responsibility is a strong driver in the transition towards healthy homes. But there are limits.

One is legislation. While the EU Energy Performance of Buildings Directive (EPBD, 2010/31/EU) clearly states that minimum energy performance requirements "shall take account of general indoor climate conditions, in order to avoid possible negative effects such as inadequate ventilation"[13], there is no clear requirement describing how this can be achieved[14]. There is a clear legislative gap in guidance for home owners and property developers towards more healthy homes.

Another limit is clearly documented by the Healthy Homes Barometer 2015: Despite the fact that building materials have a huge environmental footprint, and that better construction and use of buildings in the EU would influence more than 50 % of all extracted materials and could help us save up to 30 % of current water consumption[15], environmental concerns are not top of mind when Europeans renovate or move to a new house.

Homeowners have little, if any, incentive to demand environmentally friendly buildings, since the environmental impact from building materials is decided when building materials are at the cradle or at their end of life – two phases in building materials' life cycle that most home owners do not feel responsible for.

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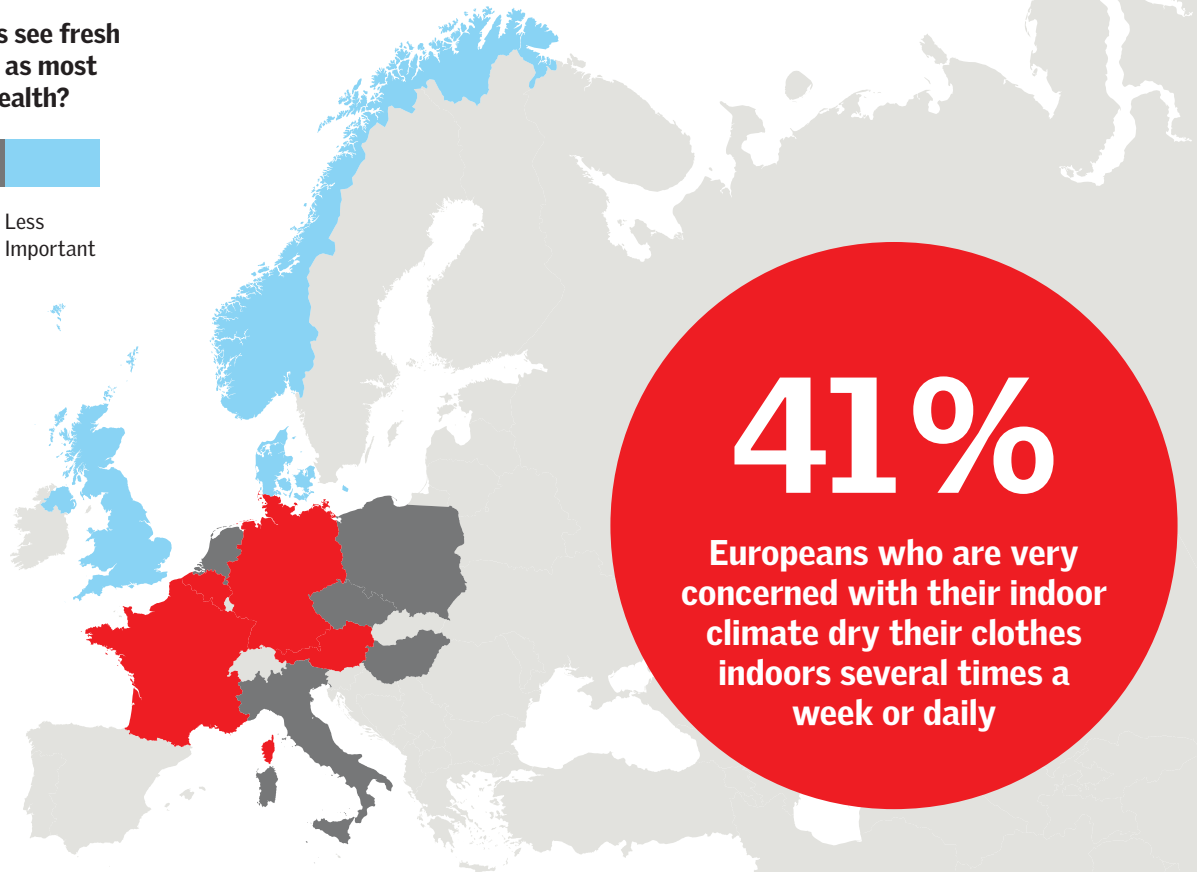
Which countries see fresh air and daylight as most important for health?

Very Important — Less Important



41%

Europeans who are very concerned with their indoor climate dry their clothes indoors several times a week or daily

[12]"Energy Performance in Buildings", International Energy Agency (IEA), 2010. [13]Article 4 of the EPBD, 2010/31/EU. [14]"Indoor Air Quality, Thermal Comfort and Daylight in the European residential buildings", Buildings Performance Institute Europe, 2015. [15]"Roadmap to a Resource Efficient Europe", European Commission, 2011.

A healthy life starts at home

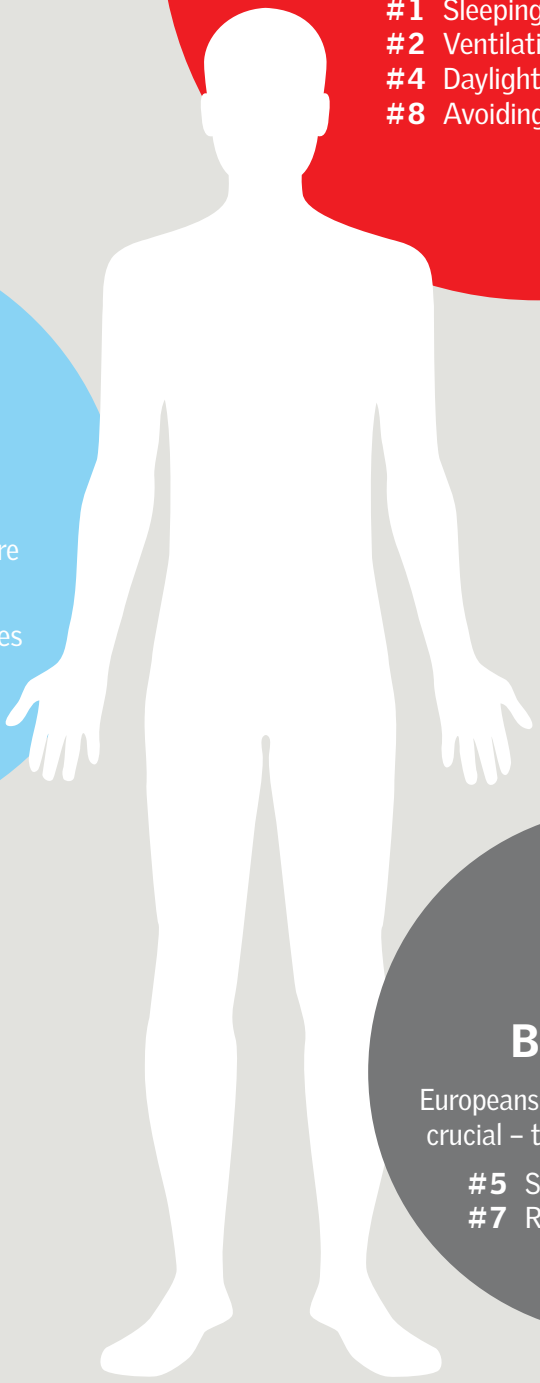
Europeans have been asked how important nine factors are to their health. When ranking according to importance the order is:

#1 Sleeping well at night
#2 Ventilating my home
#3 Eating fruit and vegetables
#4 Daylight in my home
#5 Spending time outdoors
#6 Avoiding tobacco
#7 Regular exercise
#8 Avoiding chemicals
#9 Dietary supplements

The Home Arena

Three out of four factors clearly related to home life are top-rated according to Europeans.

#1 Sleeping well at night
#2 Ventilating my home
#4 Daylight in my home
#8 Avoiding chemicals



Our intake

Europeans put how our bodies are fueled in second place.

#3 Eating fruit and vegetables
#6 Avoiding tobacco
#9 Dietary supplements

Being active

Europeans find it important – but not crucial – to their health to be active.

#5 Spending time outdoors
#7 Regular exercise

Health and the home arena

The home is a key health driver, according to Europeans

If we are to remain healthy, we are deeply dependent on the qualities offered by our homes. Europeans rank the home arena above exercise and tobacco in terms of importance for their health.

Avoid tobacco. Do some exercise. And eat plenty of fruit and vegetables. Years of campaigning have made Europeans keenly aware of these important guidelines to staying healthy.

Even though indoor air quality is a major health concern for Europe[16], the home arena has not enjoyed anything that comes close to this level of attention in public campaigning. Europeans nevertheless attribute equal or greater importance to quality sleep, fresh air and daylight when asked what they find important in order to stay healthy.

Fresh air and daylight are two key attributes of the healthy home. They help prevent adverse conditions like humidity, mould growth and concentration of unhealthy chemicals from consumer products or the surroundings. They also contribute directly to the vital biological processes that sustain us as human beings.

In fact, the home has even greater significance due to its impact on those same biological processes. According to Europeans, sleeping well at night is the most important for their health of the nine indicators surveyed (see indicator I). Among the factors that has a strong influence on the quality of our sleep is controlling the light in order to sleep in complete darkness and enjoying a healthy indoor climate at night with comfortable temperatures and good air quality. The healthy home, in other words, directly contributes to sleep quality.

86 %

of all Europeans attribute plenty of daylight above average importance

[16]Health & Consumer Protection Directorate-General: "Opinion on risk assessment on indoor air quality", 2007.

Indicator 1: What does healthy living mean to Europeans?

A healthy home is of primary importance for healthy living in the eyes of Europeans.

51 % of Europeans assign the highest importance to ventilating their home to let in fresh air. Specifically, they assign the score 7 on a scale ranging from 1 to 7. 90 % see it as being of above average importance by assigning either score 5, 6 or 7.

42 % of Europeans assign the highest importance to having plenty of daylight in the home. 86 % see it as being of above average importance.

In comparison, 88 % assign above average importance to eating plenty of fruit and vegetables, 76 % assign above average importance to avoiding tobacco, and 76 % assign above average importance to exercising regularly.

Women play a larger role compared to men in driving the focus on the healthy home. Fresh air and daylight together with eating fruit and vegetables and – to a lesser extent – sleep constitute a cluster where the gender difference is largest.

59 %

of all Europeans express above average concern for unhealthy indoor air quality

Indicator 1

To which extent do you find the following important for your health?

The Home arena is of primary importance for healthy living in the eyes of Europeans. Europeans have been asked to score nine health factors from 1 to 7, where 1 is "Not important" and 7 is "Very important". All factors have a score above average (4). Three of the four top drivers relate directly to the home arena: sleeping well, ventilating for fresh air and plenty of daylight. All four factors related to the home arena have been given the colour red. Three are related to people's intake and are marked with the colour blue, while two are related to being active have been given the colour grey.

Indicator 2: How concerned are Europeans about an unhealthy home?

Unhealthy indoor air quality is a concern for Europeans. 24 % of Europeans are very concerned, and 59 % have above average concern. They rank this concern at the same level as financial and job insecurity.

Seen in terms of the healthy home, it is just as significant to note the top three concerns of the Europeans: becoming ill, feeling stress or fatigue, and one's own children becoming ill. These are the highest scorers of the seven options surveyed. All of these can be undesirable side effects of living in an unhealthy home[17].

Indicator 2

How concerned are Europeans about an unhealthy home?

Unhealthy indoor air quality is a concern for Europeans. They rank this concern below their concern for illness, stress and fatigue but at the same level as financial and job insecurity.

4.7

Europeans' concern about living with unhealthy indoor air quality on a scale from 1 to 7

Indicator 3: Who are responsible for ensuring healthy buildings?

Healthy buildings are seen first and foremost as a private responsibility related to ownership and role in the house construction value chain. 42 % of Europeans assign owners the highest level of responsibility.

Several assumptions can underlie this assessment. First, that the idea of healthy buildings is primarily understood in relation to the design, construction and operation of the individual building rather than to overall social and political goals and conceptions of the common good.

Ultimately, this may lead to a situation where only issues managed by the occupant changing behaviour and/or immediate benefits – e.g. comfort improvements and energy renovation – are handled, while issues that can only be addressed through industry collaboration, legislation or structural changes – e.g. reducing the environmental impact of the entire building life cycle or ensuring that the indoor climate is not only perceived as good, but is in fact good – are left unaddressed.

The second assumption underlying the assessment is that responsibility is not tied strongly to occupancy as tenants are ranked significantly lower. Interestingly, current owners and tenants are fully aligned when it comes to assigning responsibility between the two groups.

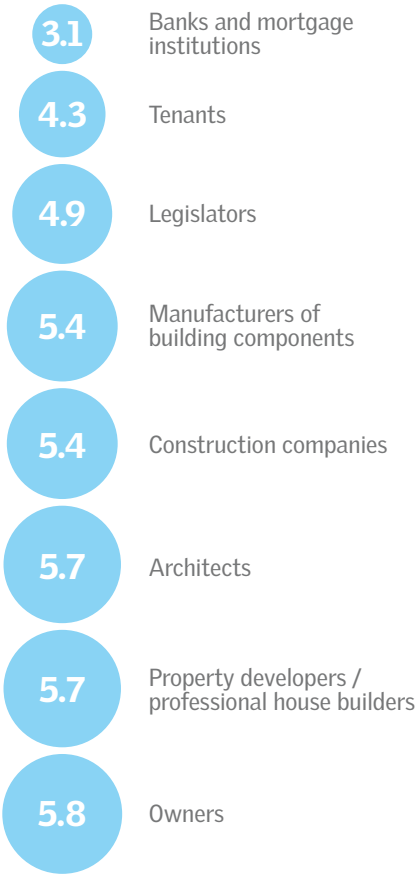
Finally, there seems to be a way to go before the possible dynamics are clear to Europeans in terms of the role banks and mortgage institutions can play. These are known to take a keen interest in the quality of the homes they finance including assessing home improvement projects before deciding to extend credit. However, this wider institutional dynamic is not strongly appreciated by Europeans.

This all points toward a health potential hidden in ensuring healthy buildings and healthy home behaviour regarding indoor air quality and access to daylight. Unlocking this potential will require political awareness as well as attention from the building industry.

Indicator 3

Who of the following are responsible for ensuring that the buildings we live in are healthy?

Healthy buildings are seen as a private responsibility related to ownership and role in the house construction value chain.

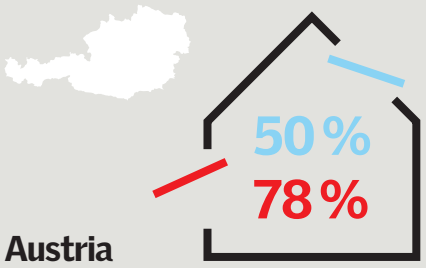


[17]Mendell, M. J., Mirer, A. G., Cheung, K., Tong, M. Douwes, J.: "Respiratory and allergic health effects of dampness, mould and dampness-related agents: a review of the epidemiologic evidence." Environmental Health Perspectives, p. 119 (2011). And: E.g.: Hägerhed-Engman, L., Bornehag, C. G., Sundell, J.: "How valid are parents' questionnaire responses regarding building characteristics. Mouldy odour and signs of moisture problems in Swedish homes?", Scandinavian Journal of Public Health, p. 35 (2007). And: Foster, R. G.: "Body Clocks, Light, Sleep and Health", Daylight & Architecture, p. 15 (spring 2011).

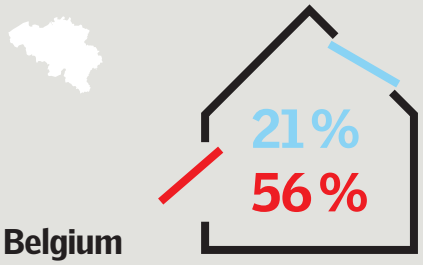
Which countries air out their homes the most?

All Europeans ventilate their homes significantly more during summer than during winther, but there are huge differencies between countries, with Czechs being the ventilation champions of Europe. Figures show how many air out several times a day in at least one room.

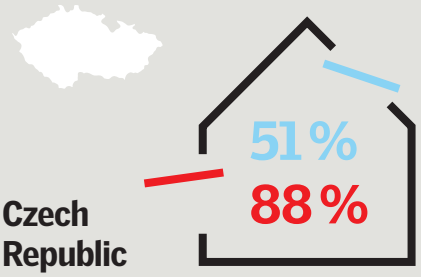
Winter
Summer



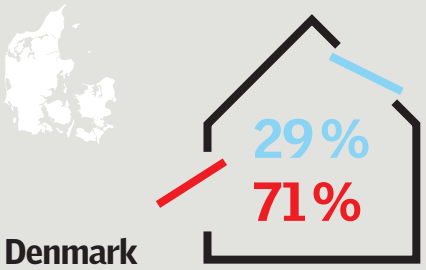
Austria



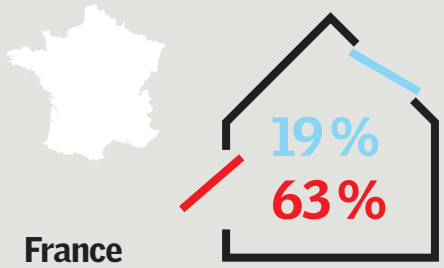
Belgium



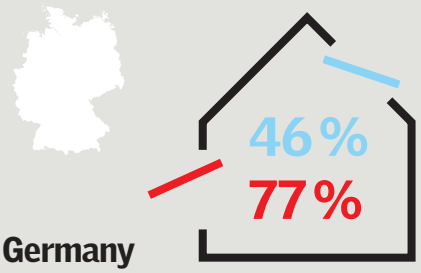
Czech Republic



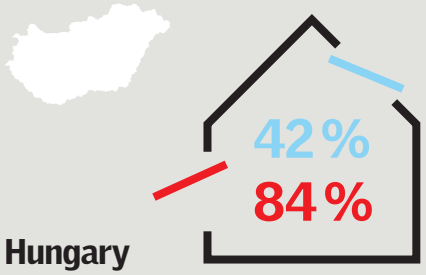
Denmark



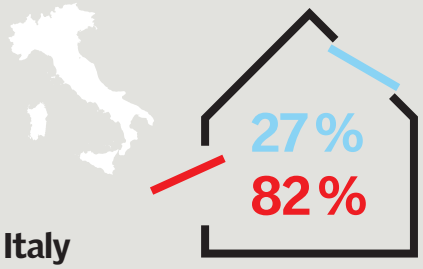
France



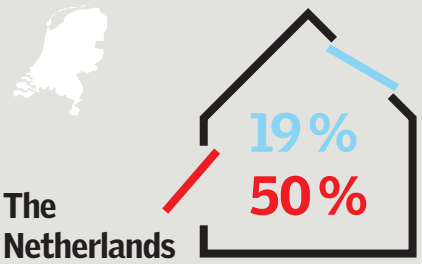
Germany



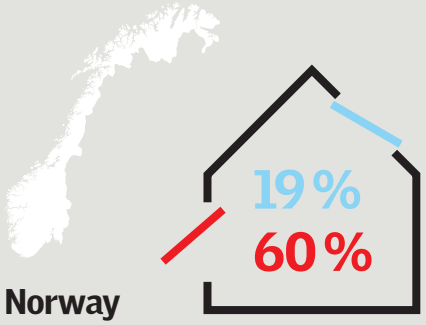
Hungary



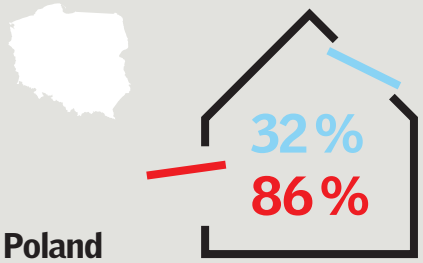
Italy



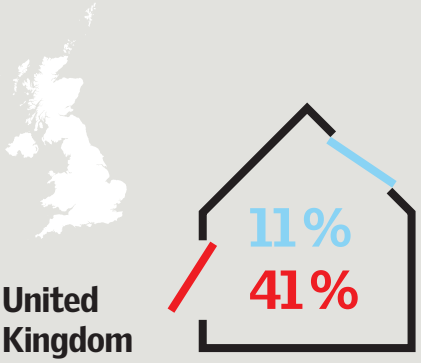
The Netherlands



Norway



Poland



United Kingdom

Comfort at home

Europeans: Comfort is king

A good home is a comfortable home. Comfort is at the top of the list of what Europeans look for in a new home. Better comfort is the main reason for making changes to the home. What is more, a comfortable home is also a healthy home.

What makes a good home? There are, unsurprisingly, many answers to this question. However, the Healthy Homes Barometer 2015 gives a clear indication that comfort is at the top of the list.

Europeans value comfort the most when choosing a new home. 53 % attribute it the highest importance. 95 % attribute it above average importance.

Overall satisfaction with the current home also seems to relate to comfort.

Comfort and health are closely related. Lack of fresh air and daylight may cause illness and fatigue, and these two health indicators – fresh air and daylight – prove to be strong comfort indicators as well. According to the Healthy Homes Barometer 2015, the more satisfied Europeans are with daylight and fresh air in their home, the more they are also satisfied with the comfort of their homes.

The four indicators below shed further light on how Europeans view four of the basic tenets of healthy, comfortable living in the home: Daylight, fresh air, sleep and good health.

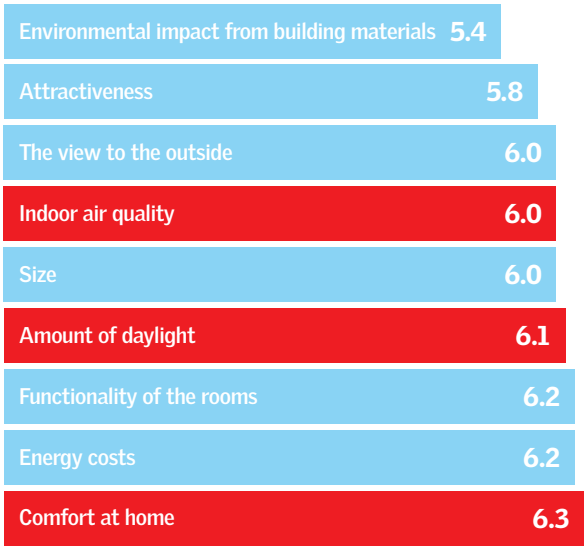
Overall, Europeans express high levels of satisfaction with these indicators. However, this does not mean there are no challenges. Since 80 million Europeans live in homes that are unhealthy to live in, it is more likely, that Europeans are unaware of the problems they experience at home and the comfort levels that are actually possible.

Indicators 4+5

If you were to move into a new house, how important would you consider...?

Comfort is the number one priority of the nine factors surveyed. Daylight and fresh air are middle scorers but at a high level. Environmental impact is lowest.

Read about indicators 4 and 5 on next page.



Indicator 4: How important is daylight to Europeans?

Europeans value daylight in the home. If they were to choose a new home, 47 % would give highest importance to the amount of daylight. 92 % would give it above average importance, resulting in an indicator score of 6.1 out of 7. Daylight comes in at fourth place after comfort, energy costs and functionality, but ahead of size, outside view and attractiveness.

Women attribute significantly higher importance to the amount of daylight in a new home. 55 % of women assign it the highest importance compared to 39 % of men.

With greater age comes greater appreciation of daylight in the home. 58 % of Europeans aged 60 to 65 assign it the highest importance, compared to 36 % of the 18-to-29 year-olds.

Europeans also invest in improving daylight. More than one in four Europeans – 27 % – have made changes within the last five years aimed at improving the amount of daylight in their home.

These improvement efforts do not arise from an overall dissatisfaction with the amount of daylight in the home. On the contrary, 31 % of Europeans are fully satisfied, and more than 4 in 5 express above average satisfaction with the amount of daylight in their home. Of the nine drivers for home satisfaction surveyed, the amount of daylight is the top performer.

However, room for improvement does exist. The average satisfaction score across countries is 5.6 out of 7, which leaves a gap between the very high level of importance assigned and the current level of satisfaction.

Furthermore, there are variations when it comes to how much daylight at home is appreciated. It is appreciated most in Hungary, Italy and Austria, whereas daylight is attributed the lowest importance in Norway, Denmark and the UK.

Access to daylight at home is equally beneficial to all human beings, no matter where they live, so a likely explanation is that people value health drivers that are easily accessible and that they have become accustomed to. This would also be a possible explanation for why the residents of Norway, the Netherlands and Denmark have made the least changes to improve daylight in the home within the last five years.

Optimal sleep requires:

fresh air
thermal comfort
lack of noise
complete darkness

Indicator 5: How important is indoor air quality to Europeans?

Indoor air quality is a major health concern for Europe. Nevertheless, Europeans are satisfied with the indoor air quality in their current home. Satisfaction is in the upper regions of the scale, with an average score of 5.4. They value indoor air quality and would have it as a priority if moving to a new house, and they invest in improving it. In other words, they view indoor air quality in much the same way as they do daylight.

If they were to choose a new home, 42 % would give highest importance to the indoor air. 89 % would give it above average importance, resulting in an indicator score of 6. 28 % have made changes within the last five years to improve indoor air quality.

Women attribute more importance to indoor air quality, but the gender gap is smaller compared to the view on daylight. 47 % of women assign it the highest importance compared to 37 % of men.

Higher age also means greater appreciation of the importance of indoor air quality. 55 % of Europeans aged 60 to 65 assign indoor air quality the highest importance, compared to 31 % of the 18 to 29 year olds.

However, room for improvement exists.

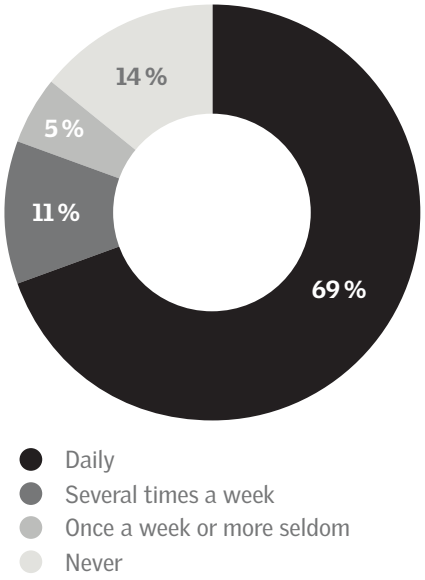
That Europeans do value good indoor air quality is evidenced in their behaviour – to some extent. In the summer, 68 % air out at least one room in their home more than once a day, and another 22 % air out once a day. Less than 4 % air out less frequently than once a week. However, these figures drop significantly in the wintertime. Only 28 % air out more than once a day, and 48 % air out once a day. Almost one quarter of all Europeans neglect the daily change of the indoor air in the wintertime.

Also, drying clothes indoors is a bad habit that Europeans apparently do not seem to be able to shake off. 65 % of all Europeans dry clothes indoors a least once a week, even though the overall risk for developing asthma is approximately twice as high for people living in homes with mould or damp. Only 13 % can boast never to fall prey to this temptation.

Culture and climate both seem to influence behaviour to a very significant degree. Czechs, Poles, Hungarians and Italians take the lead when it comes to airing out several times a day in the summer, with more than 80 % doing so, while half of the people or less living in the UK and the Netherlands do this.

Indicator 6

How often do you sleep in complete darkness?



Indicator 6: How do Europeans experience the quality of their sleep?

According the Healthy Homes Barometer 2015, Europeans find that sleep is vital for good health. Yet, it is estimated that between 16 % and 30 % of the working population suffer from insomnia[18]. Insomnia lays the foundation for health problems including poor cognitive function, stress, depression, poor social interaction, metabolic and cardiovascular diseases, and an increased susceptibility to infection or even cancer[19].

It is difficult to sleep well unless the indoor environment is comfortable. This includes fresh air, thermal comfort[20], lack of noise, and complete darkness in the bedroom[21].

To a large extent Europeans have taken heed of this good advice, as more than 2 in 3 sleep in complete darkness daily, making for an indicator score of 69 %. However, almost one in five Europeans rarely, if ever, sleep in complete darkness, even though it is well established that healthy light is inextricably linked to healthy darkness[22].

Surprisingly, there is only a very limited relationship between seeing sleep as important for ones' health and sleeping in complete darkness. For instance, 14 % of Europeans who view quality sleep as very important for their health never sleep in complete darkness. Rather, there seems to be cultural differences in Europe with regard to sleeping habits. 79 % of Poles sleep in complete darkness every day. This is significantly more than many other Europeans. In Germany and Italy only a little more than 60 % sleep in complete darkness every night, while normal behaviour in the northern countries of Denmark, Norway and the UK seems to be to sleep in complete darkness most often.

Another important factor for high quality sleep is good indoor air quality, although again, no strong relationship seems to exist between valuing a good night's sleep and airing out the home. The problem is most apparent in wintertime, where almost one in five Europeans who view high quality sleep as very important for their health do not air out their home at least once a day. For Europeans who value sleep lower in terms of health, the number is closer to one in three who do not air out daily in the wintertime.

These findings suggest that not all Europeans are sufficiently aware of what is required of the home environment for a good night's sleep, or are unable to live by these guidelines.

Indicator 7: Do Europeans link indoor climate to health?

An unhealthy indoor climate can have many negative consequences. Inflicting residents with asthma or allergies is one of the most common[23]. According to the Healthy Homes Barometer 2015, more than onethird of all European households have one or more people with asthma or allergies.

However, the link between these illnesses and the indoor climate does not appear to be wellknown amongst Europeans, neither does the importance of correct behaviour.

In households with one or more people suffering from asthma or allergies, between onequarter and onethird of all express only a medium or low level of concern about unhealthy indoor air quality.

Furthermore, people in households with asthma or allergies do not air out more than Europeans in general, and they dry their clothes indoor as much as people in other households. The importance of avoiding chemicals in products in the home seems to be perceived as only marginally related to these diseases, and no special thought is given to emissions to the indoor air when choosing building materials.

Only in households with four or more people suffering from asthma or allergies is there slightly more concern about an unhealthy indoor climate. 37 % from these households are very concerned, whereas 22 % from households without asthma or allergy are very concerned.

Of course, an explanation for lack of coherence between illness, concern and behaviour could be that families where one or more members suffer from asthma or allergy have already moved to houses with a better indoor climate. However, this is unlikely, as members of these families would not put significantly greater emphasis on indoor air quality if they were to move to a new house.

A more likely explanation is that there is a knowledge gap. Health issues do not lead to concern and changed behaviour because Europeans do not see a strong link between fresh air indoors and being healthy. Instead, a good indoor climate is linked to a feeling of wellbeing and comfort.

A knowledge gap causing inaction may to some extent be bridged by more public conversation, leading to increased awareness, more knowledge and ultimately changed behaviour – in this case about the health benefits of a good indoor climate. However, legislation and fiscal incentives are also important tools when trying to ignite change in consumption and production patterns[24], leaving the EU with a problem: While legislation is strong on buildings´ energy performance, it is vague on indoor climate[25].

Indicator 7

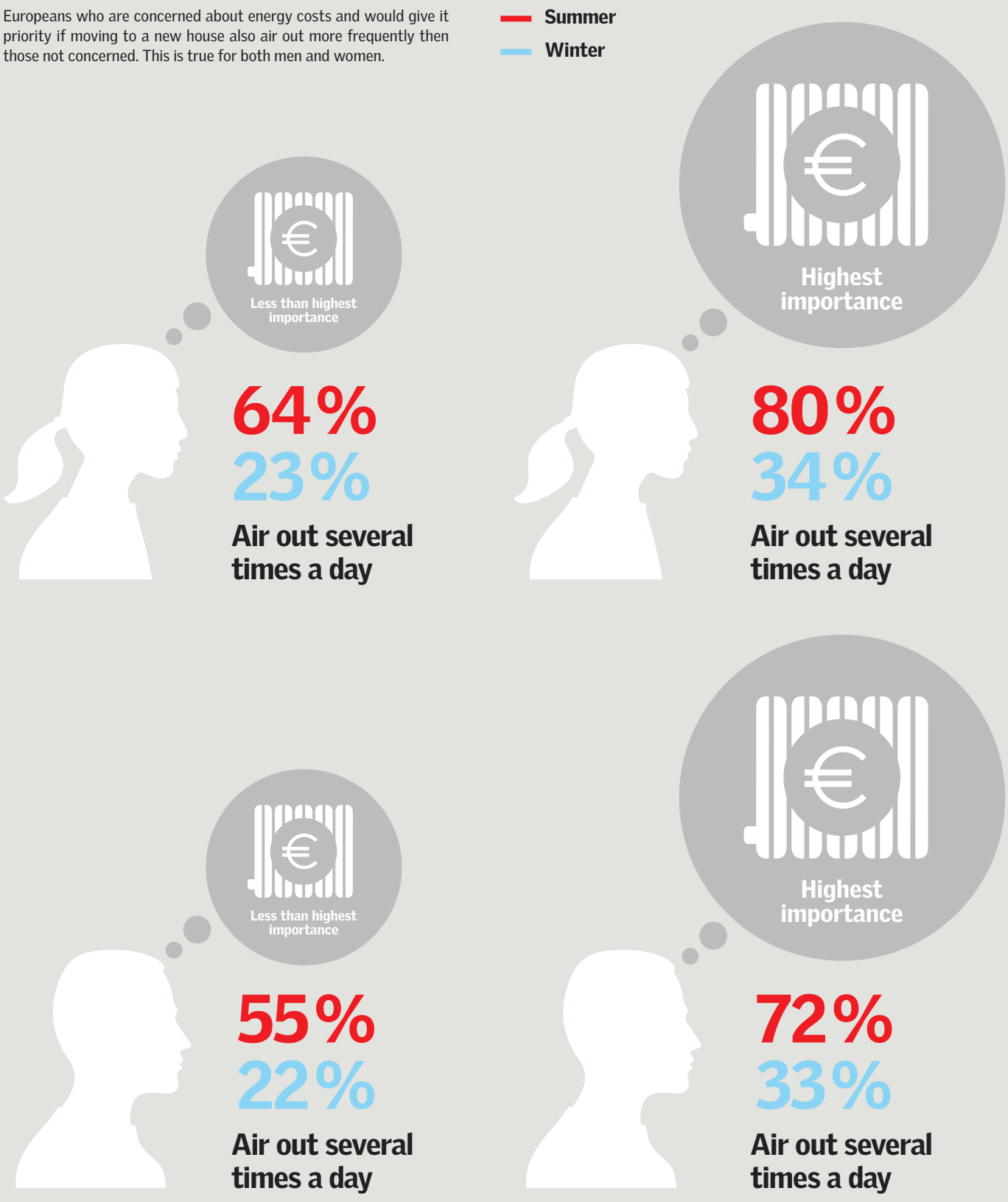
36 %

Europeans who are very concered about an unhealthy indoor climate air out more than once a day in the winter

[18]"Sleep, Work, Live", Daylight & Architecture (22), autumn 2014. [19]Circadian House Report (2013): "Circadian House – Principles and Guidelines for Healthy Homes", VELUX report. [20]Haskell, E.H., Palca, J.W., Walker, J.M., Berger, R.J., Heller, H.C.: "The effects of high and low ambient temperatures on human sleep stages". Electroencephalography and Clinical Neurophysiology, p. 51 (1981a). [21]Veitch, J.A. & Galasiu, A.D. "The physiological and psychological effects of windows, daylight, and view at home: Review and research agenda.", NRC Institute for Research in Construction, 2012. [22]The International Commission on Illumination (CIE), 2004/2009. [23]"Towards an identification of European indoor environment's impact on health and performance", White Paper, Grün, G. & Urlaub, S. (2014), Frauenhofer-Institut für Bauphysik. [24]The World Bank: "Inclusive Green Growth: The Pathway to Sustainable Development", May 2012. [25]"Indoor Air Quality, Thermal Comfort and Daylight in the European residential buildings", Buildings Performance Institute Europe, 2015.

Hand in hand: Energy and health awareness go together

Europeans who are concerned about energy costs and would give it priority if moving to a new house also air out more frequently then those not concerned. This is true for both men and women.



Energy at home

Energy costs are a concern – and cause for action

Europeans are less than satisfied with the cost of energy consumed at home, but more than that, they act accordingly. More than half of the European homes have undergone changes to reduce energy costs within the last five years.

The desire to conserve energy and reduce energy costs is strong among Europeans. Years of deliberate public policy, public debate and the economic crisis have put energy high on the agenda in European homes. The Healthy Homes Barometer 2015 finds evidence of high energy concern in both attitudes, desires and actions.

Today, satisfaction with energy costs is low among Europeans. Out of nine drivers for home satisfaction, Europeans are by far least satisfied with the cost of energy consumed at their current home.

Of course, one could always argue that it is hard to love a cost, but there is clear evidence that Europeans' focus on energy is anything but shallow: Europeans simply have high expectations when the issue is energy performance.

They should have. Energy used in buildings accounts for 40 % of the total energy consumption by society.

Energy costs are important when moving

When asked about their priorities when moving to a new home, energy costs come in second place among the same nine drivers, ahead of size, attractiveness and the view to the outside. This gives an indicator score of 6.2 for priority given to energy costs.

Also, 51 % of Europeans have made changes to their home to address energy costs within the last five years. Four out of five times the home owner has paid for the change. As a result, energy consumption and costs stand out as the primary drivers behind development of the European building mass today.

Similarly, even though Europeans who feel well informed about the environment have made significantly more changes to save energy. A total of 43 % of Europeans who do not feel it important for them personally to protect the environment have also made changes to their home to reduce energy costs. In three out of four instances, they have paid for the changes themselves.

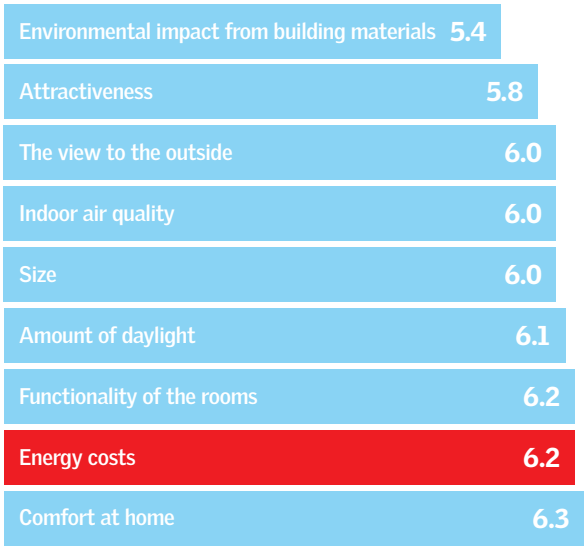
Energy concern does not compromise home comfort

High concern for energy costs does not seem to imply compromising on home comfort. Those highly concerned with energy costs ventilate their homes even more, and put greater emphasis on daylight and other home comfort factors, as those not concerned with energy costs.

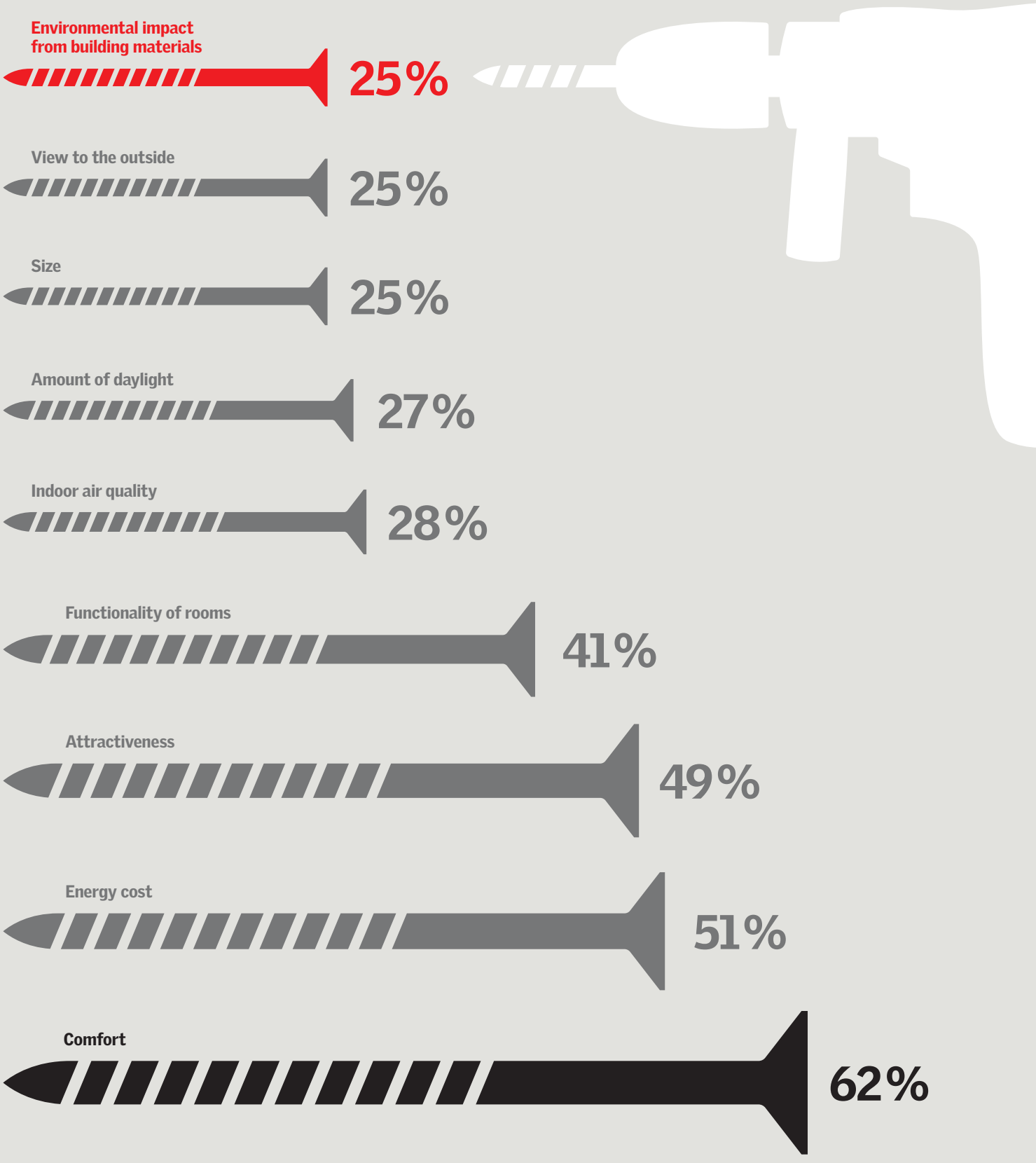
Indicator 8

How important are home energy costs to Europeans?
If you were to move into a new house, how important would you consider...?

Energy costs are the second highest priority for Europeans when moving to a new house. The indicator score is 6.2.



Reasons Europeans renovate



Environmental concern in the home

Environmental impact has low interest and is hard to act upon

From a societal perspective, viewed across a building's entire life cycle, the environmental impact from our buildings is significant, but the environment is low on Europeans' list of priorities.

Building a new home is a complex issue, with many decisions to make. After deciding on the size, layout, comfort, look and design, and all the economic implications, there might not be much willingness to also weight environmental considerations. After all, in most cases the consumer will not pay more for building materials leaving a heavy impact on the environment, and since somebody else will probably be demolishing the house and worrying about reuse of materials at the end of its life time, there is really no reason to worry about the environment.

Even so, the issue is even more challenging when it comes to buying an existing house. How do you factor in the environmental impact of a house already built? Does it matter?

These structural difficulties probably go a long way towards explaining why Europeans express relatively low interest in the environmental impact from the building materials in their home. Even though the indicator score at 5.4 is a good way above medium interest, this indicator is by far the lowest scoring of the nine surveyed. Only 29 % of all Europeans would give it the highest importance.

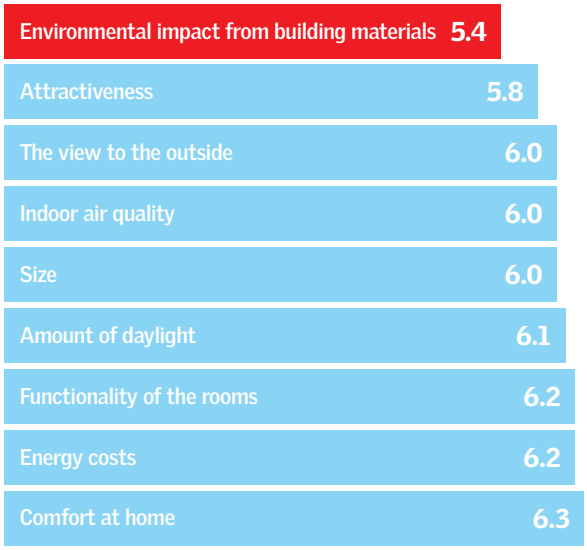
There is a strong connection between the general attitude towards the environment and how important people find their home's environmental performance. Europeans who are most environmentally conscious place significantly more importance on environmental impact from building materials. Of the nine factors, this is by far the factor that most clearly separates the environmentally conscious from the population in general.

Caring about the environmental impact of the home is not driven by personal benefits, but by beliefs.

One in four has made changes to their house with environmental impact of building materials in focus, and when buying building materials for the home, Europeans do indicate that they take the environment into consideration. One in four gives it highest priority and another one in four next to highest priority.

However, the environment is still near the bottom of the list of things to consider, and it is surpassed by price, durability, ease of use and look and feel. Only brand considerations score lower. This could pose a societal problem. Preservation of scarce resources, reuse of materials, waste prevention etc. seem to lose the battle for attention amongst European consumers.

¼ of all Europeans give the environment highest priority when buying building materials



Indicator 9

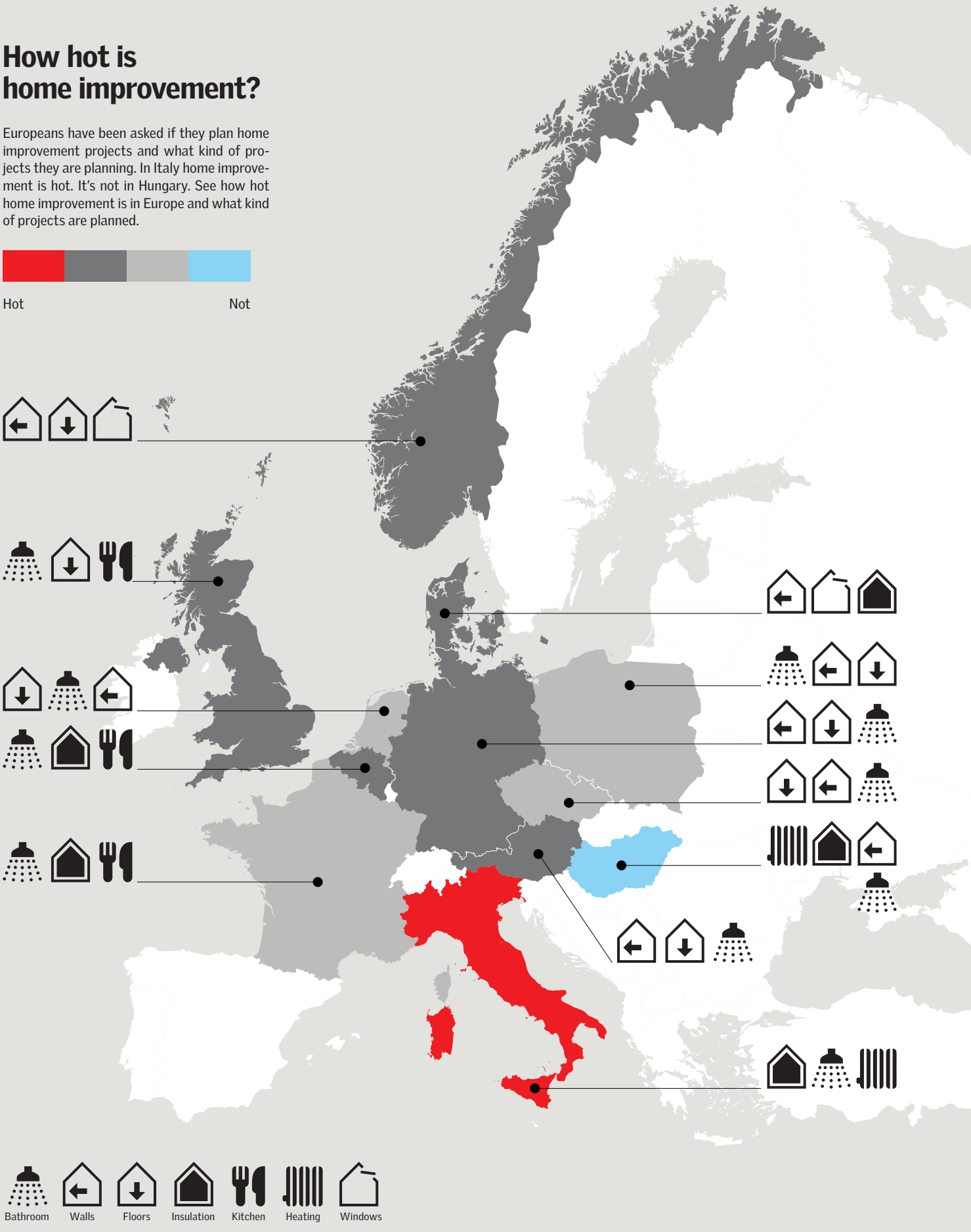
How important is the environmental impact of the home to Europeans?
If you were to move into a new house, how important would you consider...?

Environmental impact from building materials is the lowest scoring of the nine drivers for the future home surveyed. The indicator score is 5.4.

How hot is home improvement?

Europeans have been asked if they plan home improvement projects and what kind of projects they are planning. In Italy home improvement is hot. It's not in Hungary. See how hot home improvement is in Europe and what kind of projects are planned.

Hot Not



Bathroom Walls Floors Insulation Kitchen Heating Windows

Annual theme: Home improvement

Home improvement – a favourite European pastime

Europeans spend large amounts of time and money each year on improving their homes. The amount of money spent varies significantly between the European countries and so do the favourite improvement projects.

A lot of new bathrooms and kitchens will see the light of day in Europe in 2015. Among Europe's house owners, 44 % are considering installing a new bathroom or modifying or repairing their existing bathroom within the 12 month period. However, the list of projected European home improvement projects is long.

There are great variations between countries when looking at what projects are "hot".

In Poland, one in three expects to improve their bathroom. Better bathrooms are also high on the agenda in the UK, Germany, France, Czech Republic, Italy and Hungary. In comparison, only 9 % of the Danes have plans for their bathrooms, and they are also in low demand in Norway, Netherlands, and Austria. The picture is similar when it comes to new kitchens.

When it comes to heating, Hungary, Poland and Italy lead the pack. Insulation is in highest demand in Italy, France, Hungary and Poland, whereas windows are most in demand in Hungary, Italy, Norway and the UK.

In terms of the amount home owners plan to spend within the next 12 months, there are indications of a slight increase in spending. 35 % are planning to spend more on building materials compared to the preceding 12 months, 37 % plan to spend the same, whereas 29 % will be spending less. The biggest spending increases are expected in Hungary, where 46 % will increase their spending, followed by Poland and Norway, then Italy and Austria.

Although the need for home improvement could be expected to follow the age of the building, this does not seem to be the case. There is no relationship between the age of the building and how much money will be spent on building materials in the year to come. Similarly, there is no significant correlation between the age of the building and different home improvement projects such as installing new windows, heating, insulation, kitchen or bathroom.

It may be no surprise, but the strongest driver for planning to spend money on home improvement is dissatisfaction with the current home. Among those Europeans who are more or less dissatisfied with their current home, almost half plan to spend more on building materials. Among those most satisfied, only 29 % plan to spend more. However, spending continues even among those most satisfied, with 61 % spending either more or the same amount as in the previous 12-month period.

What will be the most popular home improvement projects in 2015?

Which of the following changes to your home are you expecting to make within the next 12 months. Changes include installing new, replacing, repairing or modifying:

	Yes	Maybe	Total
Bathroom	21 %	23 %	44 %
Floors	18 %	21 %	39 %
Kitchen	17 %	22 %	39 %
Insulation	16 %	22 %	38 %
Walls	19 %	19 %	38 %
Heating	14 %	20 %	34 %
Windows	14 %	20 %	34 %
Extension	8 %	12 %	20 %
Air conditioning	6 %	13 %	19 %

The nine indicators

The Healthy Homes Barometer is built on data generated from questions answered by 12,000 Europeans in 12 countries. On this spread is data showing variations by countries related to a selection of the indicators.

Indicator 1

To which extent do you find the following important for your health?

Ventilating my home to let in fresh air regularly

		UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1	Not important	0.7%	0.5%	0.3%	0.6%	0.9%	0.4%	0.7%	0.0%	0.0%	0.5%	0.5%	0.3%	0.4%
2		1.3%	0.8%	0.5%	1.0%	0.9%	0.7%	2.1%	0.7%	0.6%	1.1%	0.9%	1.3%	0.9%
3		3.9%	2.1%	0.9%	1.5%	2.1%	1.9%	6.0%	0.9%	1.4%	2.0%	1.7%	3.5%	2.0%
4		9.6%	5.4%	5.3%	6.6%	6.4%	4.2%	15.2%	4.6%	3.8%	5.6%	6.4%	12.8%	6.3%
5		19.7%	12.3%	13.7%	15.0%	11.6%	12.4%	26.4%	10.0%	8.4%	13.5%	12.4%	25.7%	13.9%
6		24.9%	26.0%	27.1%	32.8%	22.2%	26.8%	24.3%	23.1%	17.2%	20.1%	23.6%	26.4%	25.1%
7	Very important	39.2%	51.9%	51.7%	42.1%	55.1%	53.3%	24.2%	60.6%	68.4%	56.9%	54.3%	29.7%	50.9%
	Don't know	0.8%	0.8%	0.6%	0.4%	0.7%	0.3%	1.2%	0.2%	0.3%	0.2%	0.3%	0.5%	0.6%
	Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 1

To which extent do you find the following important for your health?

Having plenty of daylight in my home

		UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1	Not important	1.2%	1.3%	0.9%	0.6%	2.3%	0.7%	1.3%	0.5%	0.3%	0.8%	0.6%	1.0%	1.0%
2		1.4%	1.2%	1.1%	1.5%	2.4%	1.6%	5.0%	0.4%	0.9%	1.1%	1.3%	2.2%	1.2%
3		3.2%	2.9%	2.4%	2.3%	4.2%	2.6%	6.5%	2.0%	2.0%	2.7%	3.2%	6.8%	2.8%
4		12.0%	6.9%	8.8%	9.1%	9.8%	6.8%	19.4%	6.6%	6.1%	7.3%	7.5%	15.8%	8.6%
5		20.6%	16.6%	17.3%	21.8%	19.0%	15.3%	23.9%	16.2%	12.0%	16.2%	15.9%	24.8%	17.6%
6		23.9%	26.5%	27.6%	31.9%	23.5%	26.4%	22.1%	23.3%	24.0%	24.1%	25.8%	25.9%	25.6%
7	Very important	36.5%	44.1%	40.9%	32.5%	37.0%	46.3%	20.3%	50.7%	54.5%	47.5%	45.2%	22.6%	42.5%
	Don't know	1.2%	0.5%	0.9%	0.3%	1.8%	0.3%	1.5%	0.3%	0.1%	0.3%	0.7%	0.8%	0.7%
	Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 2

How concerned are you about the following?

Living in a building with an unhealthy indoor air quality

		UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1	Not concerned	12.6%	12.4%	4.5%	21.4%	2.7%	8.2%	17.7%	7.2%	56.6%	16.9%	9.6%	18.8%	11.4%
2		8.1%	10.0%	2.1%	11.8%	3.0%	5.2%	12.3%	4.1%	15.2%	8.4%	7.1%	13.3%	7.0%
3		8.8%	9.9%	3.8%	12.9%	4.0%	7.5%	12.5%	5.3%	9.0%	10.8%	6.5%	13.2%	7.5%
4		15.7%	16.0%	10.2%	15.5%	7.5%	11.6%	19.3%	12.8%	7.7%	14.6%	15.4%	18.0%	13.8%
5		17.3%	18.6%	17.9%	13.5%	15.4%	15.6%	16.0%	20.6%	4.9%	16.4%	17.0%	14.6%	17.5%
6		15.3%	16.1%	21.5%	12.1%	22.8%	19.3%	10.4%	20.5%	2.8%	14.1%	18.7%	9.7%	17.4%
7	Very concerned	19.9%	16.4%	36.6%	10.6%	43.8%	30.2%	9.2%	29.5%	2.5%	17.8%	23.9%	10.7%	23.8%
	Don't know	2.4%	0.6%	3.3%	2.2%	0.7%	2.5%	2.5%	0.1%	1.1%	1.1%	1.8%	1.7%	1.6%
	Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 4

If you were to move into a new house, how important would you consider each of the aspects of the house listed below?

Amount of daylight

		UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1	Not important	0.5%	0.3%	0.1%	0.6%	0.5%	0.6%	0.6%	0.1%	0.2%	0.5%	0.3%	0.4%	0.3%
2		0.4%	0.5%	0.4%	0.6%	0.7%	0.3%	1.0%	0.1%	0.1%	0.3%	0.6%	0.4%	0.4%
3		2.8%	2.0%	0.8%	0.7%	0.4%	1.4%	3.4%	1.2%	0.6%	1.0%	1.0%	1.2%	1.5%
4		7.0%	4.5%	4.2%	5.9%	4.8%	3.8%	12.3%	4.0%	3.9%	3.3%	5.1%	7.2%	5.0%
5		20.6%	16.0%	13.0%	18.3%	12.7%	12.8%	24.6%	12.2%	11.0%	12.2%	11.5%	22.3%	15.1%
6		31.7%	33.2%	30.9%	35.6%	27.5%	28.5%	30.4%	25.1%	21.4%	28.1%	26.9%	35.7%	30.0%
7	Very important	36.4%	42.7%	49.5%	37.3%	53.0%	52.3%	26.4%	57.0%	62.5%	54.0%	54.2%	32.0%	47.0%
	Don't know	0.6%	0.8%	1.1%	1.0%	0.5%	0.3%	1.4%	0.1%	0.2%	0.6%	0.3%	0.9%	0.6%
	Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 5

If you were to move into a new house, how important would you consider each of the aspects of the house listed below?

Indoor air quality

	UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1 Not important	1.1%	0.5%	0.7%	0.8%	0.7%	0.3%	0.5%	0.3%	0.1%	0.4%	0.4%	0.2%	0.6%
2	1.3%	0.6%	0.6%	0.4%	0.8%	0.4%	0.6%	0.3%	0.3%	0.5%	0.3%	0.0%	0.6%
3	3.8%	2.7%	1.3%	2.7%	1.2%	1.6%	2.3%	0.8%	0.6%	1.9%	2.0%	2.1%	2.1%
4	10.2%	6.8%	6.5%	7.7%	6.5%	6.0%	10.7%	3.6%	2.5%	5.8%	7.0%	9.4%	6.8%
5	22.0%	18.3%	17.9%	21.2%	11.7%	19.0%	20.9%	13.4%	8.5%	14.0%	14.1%	21.0%	17.3%
6	28.8%	30.8%	33.2%	31.3%	24.8%	28.8%	33.6%	25.5%	21.7%	30.0%	27.2%	32.2%	29.3%
7 Very important	32.1%	39.1%	38.4%	33.7%	53.7%	43.2%	29.4%	55.8%	66.0%	46.4%	48.2%	34.0%	42.4%
Don't know	0.7%	1.1%	1.5%	2.2%	0.7%	0.8%	2.1%	0.2%	0.3%	1.1%	0.8%	1.1%	0.9%
Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 6

How often do you sleep in complete darkness?

	UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
Daily	74.1%	62.8%	71.9%	72.3%	60.9%	70.5%	78.7%	60.6%	68.6%	67.5%	79.2%	74.0%	68.9%
Several times a week	8.1%	12.8%	9.6%	7.9%	13.1%	7.4%	10.4%	13.1%	11.1%	12.7%	8.3%	8.6%	10.5%
Once a week	1.5%	2.0%	2.1%	0.9%	1.9%	1.9%	1.6%	1.6%	1.2%	0.8%	1.1%	0.4%	1.6%
Two or three times a month	1.2%	1.3%	1.1%	0.8%	1.5%	0.5%	0.6%	1.8%	1.9%	0.6%	0.9%	0.9%	1.2%
Once a month	0.5%	0.4%	0.2%	0.4%	0.8%	0.6%	0.9%	0.7%	0.5%	0.5%	0.4%	0.1%	0.5%
Less than once a month	2.0%	2.2%	1.6%	1.2%	1.9%	1.4%	0.8%	0.6%	2.6%	1.8%	1.2%	2.3%	1.6%
Never	11.2%	17.4%	12.2%	14.2%	16.8%	16.3%	5.2%	20.9%	13.3%	14.3%	7.0%	11.4%	14.3%
Don't know	1.4%	1.1%	1.4%	2.2%	3.1%	1.4%	1.8%	0.8%	0.8%	1.8%	1.9%	2.3%	1.4%
Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12.000**

Indicator 7

In the winter, how often do you air out at least one room in your home?

	UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
Several times a day	10.9%	45.6%	18.6%	19.5%	50.6%	21.1%	19.1%	27.5%	42.5%	49.6%	32.3%	29.3%	28.4%
Once a day	32.0%	45.7%	57.9%	45.3%	39.3%	51.2%	41.0%	60.1%	45.6%	40.1%	50.4%	45.5%	48.1%
Several times a week	19.6%	5.8%	12.5%	17.4%	7.0%	14.6%	16.7%	8.6%	9.0%	7.3%	10.6%	16.0%	11.5%
Once a week	16.3%	1.4%	6.5%	8.8%	1.6%	7.2%	10.1%	2.8%	1.8%	1.3%	3.9%	5.6%	6.0%
Two or three times a month	6.2%	0.7%	1.8%	3.4%	0.7%	3.0%	4.8%	0.4%	0.6%	0.3%	1.1%	1.8%	2.1%
Once a month	3.6%	0.0%	0.5%	1.0%	0.0%	0.7%	1.7%	0.3%	0.2%	0.2%	0.3%	0.8%	0.9%
Less than once a month	4.6%	0.1%	0.7%	1.9%	0.2%	0.7%	1.1%	0.1%	0.4%	0.3%	0.5%	0.3%	1.1%
Never	3.9%	0.1%	0.6%	0.8%	0.2%	0.6%	1.3%	0.2%	0.0%	0.2%	0.4%	0.2%	0.9%
Don't know	3.0%	0.6%	0.9%	1.9%	0.3%	0.9%	4.2%	0.1%	0.1%	0.6%	0.5%	0.6%	1.1%
Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 8

If you were to move into a new house, how important would you consider each of the aspects of the house listed below?

Energy costs

	UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1 Not important	0.6%	0.1%	0.2%	0.7%	0.3%	0.2%	0.8%	0.3%	0.1%	0.3%	0.3%	0.1%	0.3%
2	0.3%	0.3%	0.3%	0.8%	0.7%	0.6%	0.9%	0.5%	0.3%	0.6%	0.7%	0.2%	0.4%
3	2.3%	1.1%	0.7%	1.9%	1.2%	0.7%	3.0%	1.0%	0.6%	0.8%	0.7%	2.0%	1.2%
4	6.3%	4.0%	5.5%	8.4%	2.4%	3.1%	10.8%	3.4%	1.9%	3.3%	3.9%	5.6%	4.7%
5	17.2%	12.1%	12.6%	18.7%	6.3%	11.6%	20.9%	11.0%	5.3%	10.9%	7.5%	18.8%	12.5%
6	28.7%	27.9%	28.6%	31.2%	20.1%	26.3%	31.5%	24.2%	12.6%	24.4%	19.0%	33.9%	26.2%
7 Very important	43.8%	53.0%	50.8%	36.6%	68.6%	56.6%	30.0%	59.3%	78.8%	58.8%	67.4%	37.6%	53.6%
Don't know	0.7%	1.4%	1.4%	1.7%	0.5%	1.0%	2.0%	0.4%	0.4%	0.9%	0.4%	1.9%	1.0%
Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

Indicator 9

If you were to move into a new house, how important would you consider each of the aspects of the house listed below?

Environmental impact from building materials

	UK	DE	F	NL	CZ	BE	NO	IT	HU	AT	PL	DK	Total
1 Not important	4.4%	2.7%	3.3%	4.5%	2.4%	2.2%	2.4%	0.7%	0.4%	2.5%	2.6%	3.7%	2.8%
2	3.9%	2.4%	1.8%	4.3%	2.9%	3.7%	3.6%	1.4%	0.9%	3.8%	3.0%	2.7%	2.6%
3	7.1%	6.2%	4.8%	8.9%	4.2%	6.7%	5.6%	3.0%	3.6%	5.1%	5.2%	8.7%	5.5%
4	14.4%	11.5%	12.6%	17.5%	15.6%	14.7%	17.8%	9.8%	7.3%	10.5%	13.0%	15.2%	12.6%
5	21.2%	17.9%	22.4%	21.3%	17.7%	21.1%	21.8%	20.1%	16.8%	18.1%	19.2%	19.5%	20.0%
6	22.9%	25.5%	24.5%	20.2%	21.4%	22.1%	21.5%	26.6%	25.0%	25.4%	18.6%	20.8%	23.8%
7 Very important	21.9%	29.2%	26.3%	15.6%	32.3%	25.6%	18.9%	37.0%	43.8%	31.2%	35.7%	20.9%	28.9%
Don't know	4.1%	4.7%	4.2%	7.8%	3.6%	3.9%	8.4%	1.3%	2.1%	3.3%	2.7%	8.4%	3.9%
Count	**2,042**	**2,564**	**2,092**	**534**	**334**	**356**	**162**	**1,930**	**314**	**270**	**1,223**	**179**	**12,000**

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Healthy Homes Barometer 2015

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"Our ambition is to fill this knowledge gap with the Healthy Homes Barometer. We have examined whether European citizens support what experts have long called the buildings of the future: Homes that create healthier and more comfortable lives for their occupants without impacting negatively on the climate and the environment; homes that move us towards a cleaner, healthier and safer world.

This year's barometer shows that Europeans consider that their homes are of huge importance to their health and wellbeing. However, in general Europeans are far too optimistic when it comes to the actual state of their home indoor climate, thinking that everything is good. They are also far too reluctant to behave according to their beliefs and let in fresh air and daylight.

I sincerely hope that the Healthy Homes Barometer will spark a transition, not only in the way buildings are built, but also in the way we think and communicate about our homes and the role they play in modern lives, cities and society at large."

Michael K. Rasmussen, Chief Marketing Officer of the VELUX Group, on why the VELUX Group has asked 12,000 Europeans what they think and how they act regarding home comfort, energy consumption and environmental impact.

VELUX®