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Annex 1 to

COMMUNICATION STAFF WORKING DOCUMENT

Accompanying document to the

**PROPOSAL FOR A RECAST OF THE
ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE (2002/91/EC)**

IMPACT ASSESSMENT

{COM(2008) 780 final}
{SEC(2008) 2865}



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT

DIRECTORATE D - New and Renewable Energy Sources, Energy Efficiency & Innovation
Energy Efficiency

ANNEX I

Results of the Public Consultation on the Recast of the Energy Performance of Buildings Directive (EPBD) (2002/91/EC)

**European Commission
Directorate-General Transport and Energy
Directorate D – New and Renewable Energy Sources, Energy Efficiency &
Innovation
Unit D4 - Energy Efficiency**

http://ec.europa.eu/dgs/energy_transport/home/consultation/energy_en.htm

1. INTRODUCTION

The Public Consultation exercise on the recasting of the Energy Performance of Buildings Directive (EPBD) 2002/91/EC was organised by the Directorate General for Energy and Transport (DG TREN) of the European Commission in the second trimester of 2008. A background document (Appendix I) and a questionnaire (Appendix II) were made available for comments for a period of 8 weeks, starting from 25th of April 2008. The summarized comments are presented at the end of this document (Appendix III). The questionnaire was published on the Commission's webpage 'Your voice in Europe', as well as on the webpage of DG TREN.

In addition to the website, announcements about this public consultation were made during the Commission's European Sustainable Energy Week (EUSEW) in Brussels in January 2008, in the EPBD Energy Demand Management Committee meeting in March 2008, and at the meetings of the EPBD Concerted Action, on the Commission's Buildings Platform information service (www.buildingsplatform.eu) and several other stakeholders' conferences and workshops in spring 2008.

2. STATISTICS

A total of 274 responses were received from this online consultation exercise. Due to double submissions (i.e. when different branches of a company sent identical inputs), the actual number amounted to 246. The opinions of a further number of organisations (7) which sent their positions without using the online questionnaire, i.e. in paper copy, have also been evaluated and taken into account, but have not been considered in the following figures. As shown in *Figure 1*, 175 responses originated from 22 different Member States (MS). There were 48 responses registered from EU-wide organisations; 9 responses recorded from organisations covering only some Member States, and 14 responses from other countries outside of EU-27 or which were not further specified (marked as "others" in Figure 1).

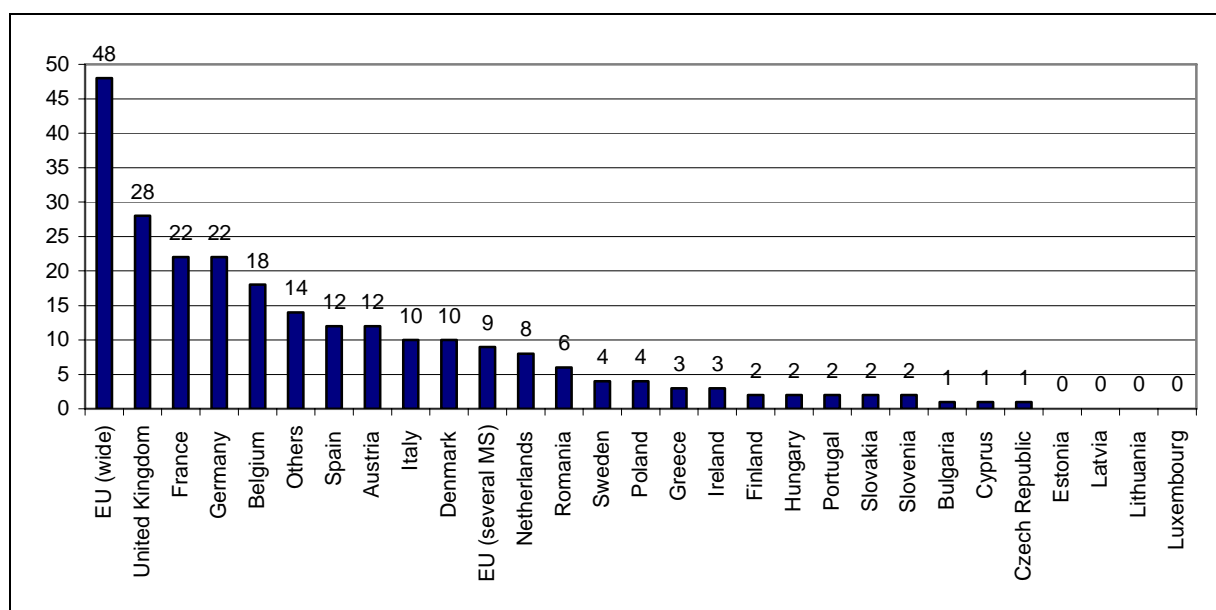


Figure 1: Breakdown of the responses per country of origin

Of these responses, 94% (232) came from EU Member States and 6% were from either outside of EU-27 or were not further specified. 11% of all responses originated from the United Kingdom, whilst an equal share of 9% came from France and Germany, followed by Belgium with 7%. An equal share of 5% each can be reported from Spain and Austria and 4% each from Italy and Denmark, followed by the Netherlands (3%), Romania, Sweden and Poland (with 2% each). An equal share of 1% came from Greece, Finland, Hungary, Portugal, Slovakia and Slovenia. One response each was recorded from Bulgaria, Cyprus, and the Czech Republic.

It is noted that the breakdown of responses, i.e. the share of responses between citizens and organisations, differs from one country to another. For both Portugal and Slovakia all the responses came from citizens. In France, Germany, Spain, Greece, Italy, the Netherlands, Sweden, United Kingdom, Austria, Belgium, Denmark, Poland and other countries outside of EU-27, or which were not further specified, the majority of responses come from organisations.

As previously said the highest proportion of responses came from EU-wide organisations. It should be noted that most of these organisations desire a recast of the Directive and therefore had a certain interest to participate in the public consultation. The number of individual citizens can be explained by the fact that every single house owner in the EU could be affected by national legislation implemented due to a recast of the Directive and that many issues concerning energy efficiency for buildings have been published in a significant number of press releases in the past (e.g. about Energy Performance Certificates). Most of the responses came from Member States which have already introduced standards for the energy performance of buildings in the past and count amongst the most developed countries in Europe regarding their energy policy for buildings. Some of these countries already have practical experience on the implementation of the EPBD and new ideas to change and improve it. Quite a few responses have been received from new Member States, acceding countries or countries outside the EU-27 (as e.g. Norway or Switzerland).

Respond category	Number	Sub-category	Total Number
Citizens	44	Citizens	44
Institutions/Member States	7	Government (nat/reg/loc)	24
	1	European institution or body	
	2	International organisations	
		Parliament	
		Press/publishing	
	4	Public sector body	
	5	Scientific/Research Institutes	
	1	Educational establishment	
	2	University	
	2	Energy Agency (national, regional, local)	
Non-profit associations	57	NGO's	90
	33	Associations	
Industry/private sector	30	Private Company	83
	2	Trade union	
	41	Industry and business	
	3	Employers' organisation	
	3	Consultancy/Lobbying	
	4	Chamber of Commerce	
Other	5	Other	5
Total			246

Table 2: Breakdown of responses per type of organisation/legal status

As shown in *Table 2*, and as previously indicated, roughly 18% of the responses originated from EU-citizens, whilst the remaining 82% came from organisations. Responses from institutions/Member States amounted to 10%, whilst non-profit associations, which includes the following sectors: energy supply, construction products, policy and legislation, building services and engineering equipment / maintenance, real estate, public housing and other non profit-associations accounted for about 37%. Industry and the private sector accounted for about 34% and others for 2%.

Responses originating from NGOs and other non-profit associations accounted for 23% and 13%, respectively. These aside, 17% came from Industry/business, a further 12% came from private companies, 3% from governments and 2% from Scientific/research Institutes, Public sector bodies and Chambers of Commerce. Around 1% each was recorded from European institutions or bodies, international organisations, educational establishments, universities, energy agencies, trade unions, employers' organisations or consultancy/lobbying.

Even if a considerable number of citizens responded (44), it is evident that this group does not represent the average opinion in the EU-Member States. Nevertheless, some citizens from very different parts of Europe, with very different backgrounds, raised some interesting ideas and practical hints for a possible recast of the Directive. Per type of organisation/legal status, the highest proportion of responses came from NGOs and non-profit associations (90). Many of them are linked with the building sector, but there are also organisations that have broader social-economic or environmental objectives.

The aforementioned result is followed by the industry/private sector (83). The large number of industry and business or private companies which participated could certainly be attributed to the specific interest of this sector on higher standards and further investment in buildings. Furthermore, it must be specifically taken into account that

tenants and consumer organisations are highly underrepresented in the figures and statistics. It is evident that this group does not have a clearly organized structure and of course faces challenges to speak "with one voice".

It is in the nature of a public consultation that the positions of consumer organisations are proportionally of a small number. The analysis of the responses is, therefore, neither considered as a representative average "European" opinion, nor should it be transposed one-to-one in the recast of the Directive. Nevertheless, it gives an indication of possible directions towards a recast, whilst highlighting where a clear accordence of opinions exists and where positions differ. Hence the analysis has been limited to the evaluation of the overarching and most relevant items and cannot show further details.

3. CONTENT ANALYSIS

This section details the comments and recommendations on the specific questions posed in the consultation. *Figure 3* shows the breakdown of the respondents per field of activity declared.

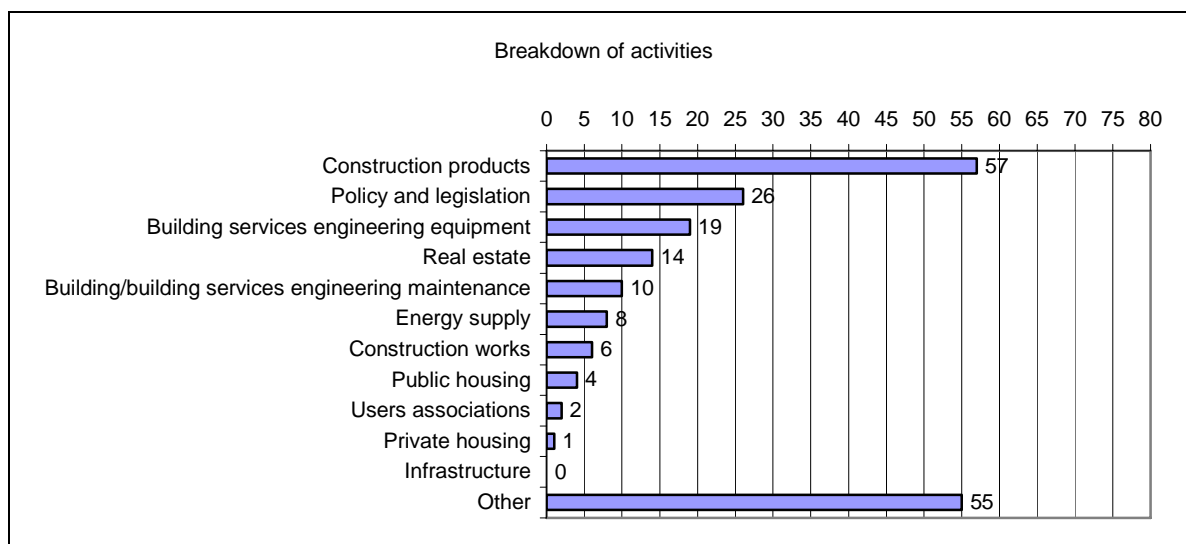


Figure 3: Breakdown of activities of the respondents.

Nearly 78% (191/246) of all respondents specified their activities. The breakdown of respondents per field of operation shows that about 23% declared activities related to construction products, 11% on policy/legislation, 8% on building services engineering equipment, 6% on real estate activities, 4% on building services engineering maintenance, 2% on construction works and public housing, around 1% each on private housing and users associations, whilst 22% (55/246) declared other activities¹.

¹ Other includes a wide range of activities and fields, e.g: Environmental; Energy; Engineering; Renewable and sustainable energy; Energy efficiency auditing and certification; Lightning; Insulation; Research; Ventilation systems, Heating systems; Architecture; Consultancy; Products production and trade, etc.

3.1. CLARIFICATION and SIMPLIFICATION ASPECTS

Full realization of the objective of the Directive to reduce energy consumption in the buildings sector could fail due to unclear, imprecise or excessively complex definitions and requirements in the current text.

Question 1. Which of the definition(s) or requirement(s) of the existing Directive should be clarified or simplified? Please choose the part(s) of the Directive you refer to: (compulsory)

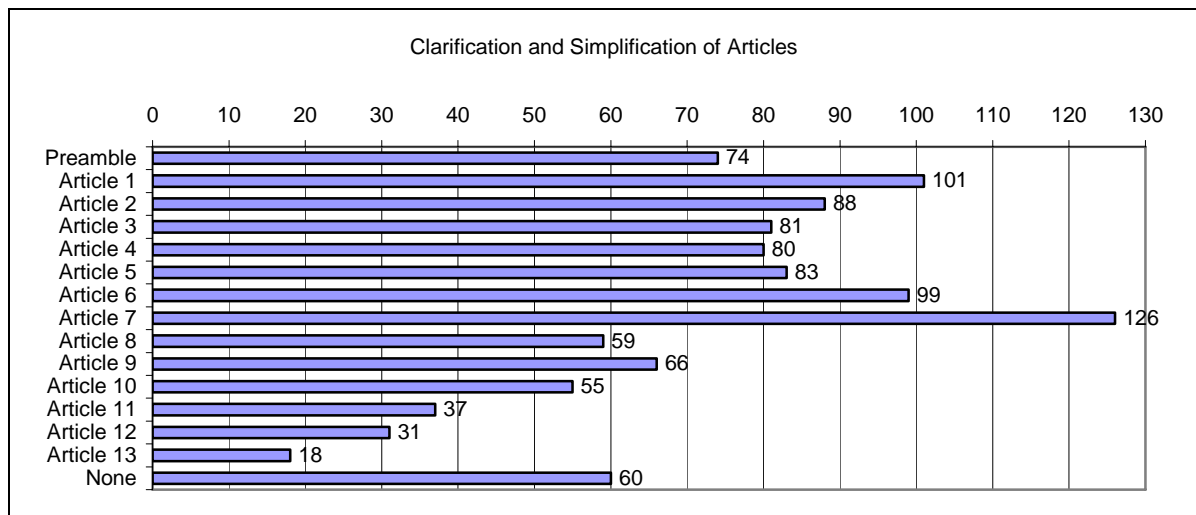


Figure 4: Clarification and Simplification

Clarification or simplification of one or more Articles is desired by a majority of 76% (186/246) of the respondents, whereas 26% (60/246) stated that none of the definition(s) or requirement(s) of the existing Directive should be clarified or simplified.

A vast majority of the organisations (163/202) and most citizens (23/44) wish a simplification or clarification of one or more Articles. A reason for this option could be seen in the fear of citizens that this could lead to stronger regulations linked with more bureaucracy and costs. The large support of the organisations for simplification or clarification of the EPBD could be explained due to the positive aspects which will probably occur through new investments and the connection to a rising economy in the buildings sector. Even if there were 21 citizens and 39 organisations which did not urge for clarification or simplification of any Article, some of them anyhow support a change/strengthening of the Directive. Only a few (<10) did not wish for a change at all.

For further information, refer to the table at the end of this document (Appendix III), which summarizes the basic points of the respondents' proposals for simplification and clarification, insofar as these relate to the preamble and each individual Article. For each of these, the percentage of respondents who answered each question is shown, together with the number of citizens or organizations who commented.

3.2. THRESHOLDS WITHIN THE DIRECTIVE

The obligations of the current Directive on minimum energy performance requirements and inspections respectively cover existing buildings above 1000 m² total useful floor area that undergo major renovation, and all new buildings, as well as boilers and air-

conditioning systems above a certain rated output (in kW) respectively.

Please provide an answer to each of the following questions and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal.

Question 2.1. Do you propose that the 1000 m² total useful floor area threshold for existing buildings that undergo **major renovation** (article 6 of the Directive) be changed or eliminated? (compulsory)

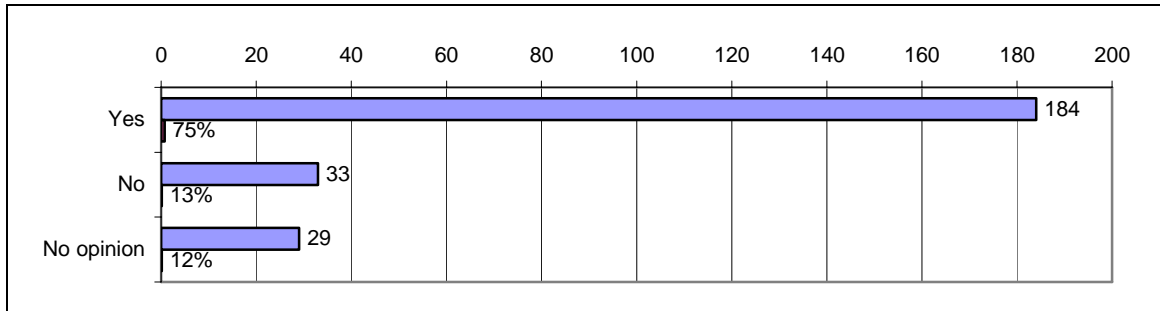


Figure 5: Changing of the 1000m²-threshold (Art. 6)

A vast majority and most of the respondents, 75%, voted for a change or abolishment of the threshold. 12% of the respondents opposed a change and about 13% of them had no opinion. Support comes from both citizens and organisations. A vast majority of EU-wide organisations (85%) voted for a change to this threshold.

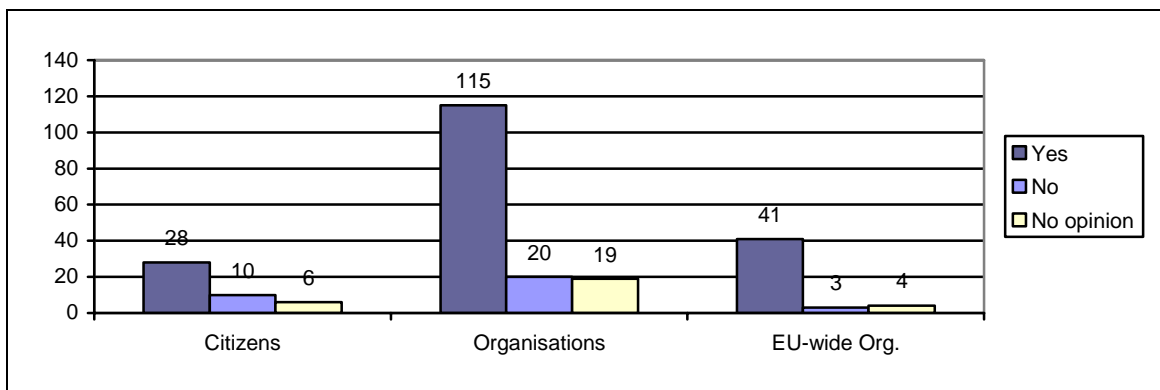


Figure 5a: Spreading on citizens, organisations and EU-wide organisations

Looking at the differences between the three categories (on Figure 5a), one could mention a wide accordance between all groups to lower or abolish the threshold and an eye-catching support from a vast majority of most EU-wide organisations.

Which threshold do you propose and why?
(Max. 1000 characters) (compulsory)

Most of the respondents suggest abolishing the threshold due to the fact that the current EPBD does not tackle a significant amount of existing buildings and, in relation to the aims for CO₂ emission reductions, because its scope should be extended as far as possible. Besides that, it is seen as not being technically justified to retain this threshold. The energy saving potential in the building stock is considered enormous, and the right

moment to invest in efficiency is seen during renovation. There are several proposals of thresholds. The proposed thresholds per respondent are shown in Figure 5b.

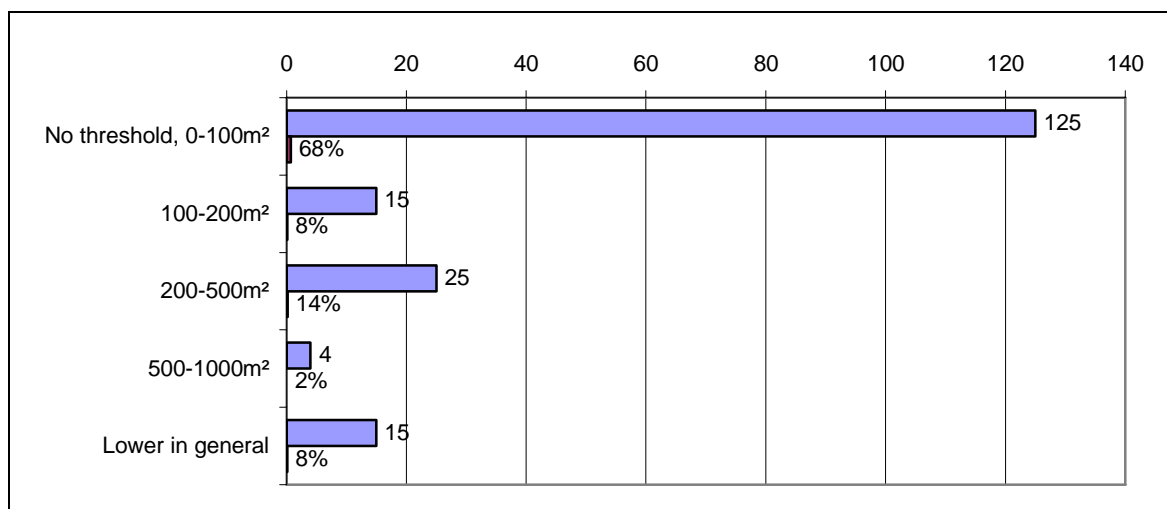


Figure 5b: Spreading of the different proposed thresholds

By far the majority, nearly 68%, of these proponents wish to abolish the threshold completely and 21 of the 125 proponents wish to include all relevant existing buildings, proposing a threshold between 50 and 100m². Approximately 8% proposed a threshold of 100m²-200m², which would include most single family houses or at least the bigger ones, 14% between 200m²-500m², which would mean that single family houses were mostly excluded, 2% between 500m²-1000m² and 8% wished to lower the threshold in general without quantifying their proposal. Under these proponents nearly 85% are organisations and 15% citizens. The complete abolishment is also favoured by a vast majority of the EU-wide organisations. It should be mentioned that most of these organisations represent mainly industrial interests.

Question 2.2. Do you propose that the 1000 m² total useful floor area threshold for the requirements on **'alternative systems'** (article 5 of the Directive) and/or on the display of the energy performance certificate (article 7(3) of the Directive) be changed or eliminated? (compulsory)

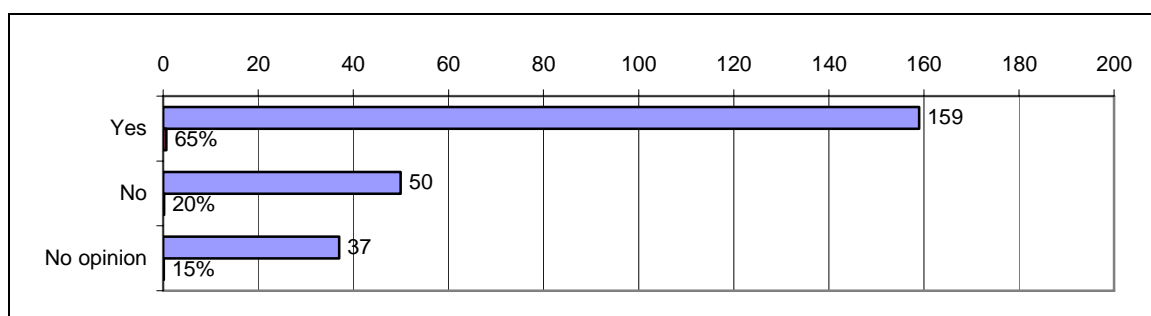


Figure 6: Changing of the 1000m²-threshold (Art. 5 and 7(3))

A vast majority of the respondents, 65%, voted for a change or an abolishment of the threshold, whilst 20% of the answers opposed a change or abolishment. About 15% of the respondents had no opinion. The voting for changing/elimination of the threshold of the articles 5 and 7 (3) was similar to that for the threshold of Article 6.

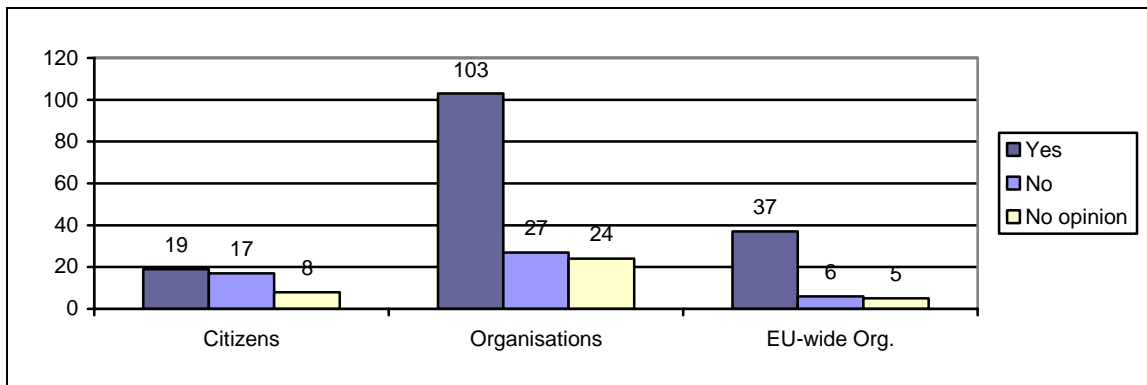


Figure 6a: Spreading on citizens, organisations and EU-wide organisations

Looking at the differences between the three categories (on the Figure 6a), one could mention a wide accordance between organisations and EU-wide organisations to change or abolish the threshold. Citizens have no clear affirmation for or against a change.

Which threshold do you propose and why?
(Max. 1000 characters) (compulsory)

Most of the respondents suggest abolishing or changing the threshold. A few of the responses expressed the wish for a lowering of the threshold to 500m² or even 300 m², 250m² or 200m² in order to increase the number of buildings falling within the scope of the Directive. A few respondents wish to lower the threshold for public buildings beyond that for other buildings. Some respondents consider making "alternative systems" mandatory for existing buildings when refurbished and adequate incentives could stimulate the development of alternative systems. It is mentioned that it should be ensured that the technical, environmental and economic feasibility is taken into account before the construction of new buildings starts. Some of the organisations expressed the opinion that that EPBD should simply demand a CO₂- and primary energy target.

The proposed thresholds:

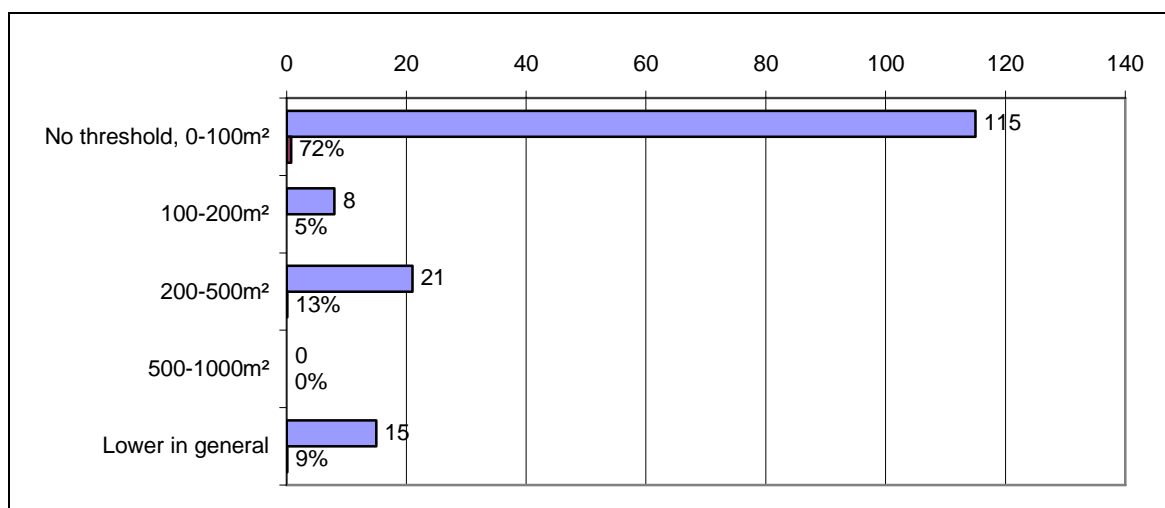


Figure 6b: Spreading of the different thresholds

By far the majority, nearly 72%, of the proponents wish to abolish the threshold completely and 9 of the 115 proponents wish to include all relevant existing buildings, proposing a threshold between 50 and 100m². Approximately 5% of respondents

proposed a threshold of 100m²-200m², 13% between 200m²-500m², 0% between 500m²-1000m² and 9% expressed a wish for a lowering of the threshold in general without quantifying their proposal. Under these proponents nearly 85% are organisations and 15% citizens.

Question 2.3. Do you propose that the thresholds on the rated output of boilers and/or air-conditioning systems subject to regular inspections (article 8 and article 9 of the Directive) be changed or eliminated? (compulsory)

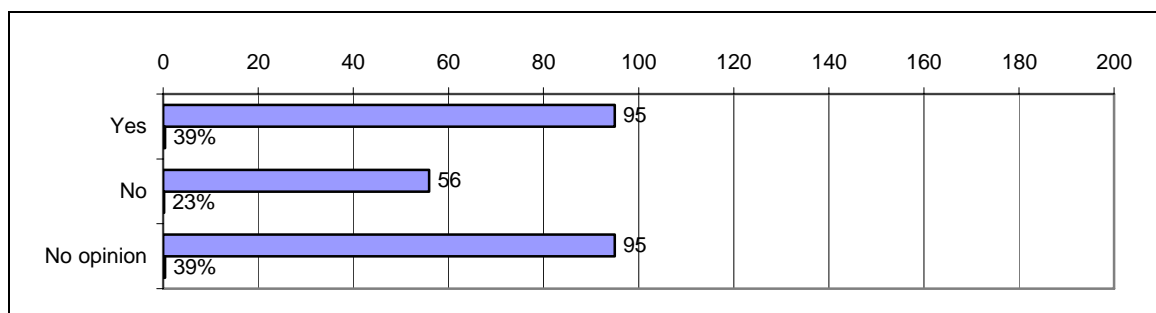


Figure 7: Thresholds on boilers and/or air-conditioning systems (Art. 8/9)

The respondents' vote to lower or abolish the threshold for the inspection of heating and air-conditioning systems (articles 8 and 9) indicates clearly opposing preferences. There was an equal share between affirmative responses and those expressing no opinion (39% each), but also a large number of respondents which disagree to a change of the threshold (23%). There is no definite preference to be seen.

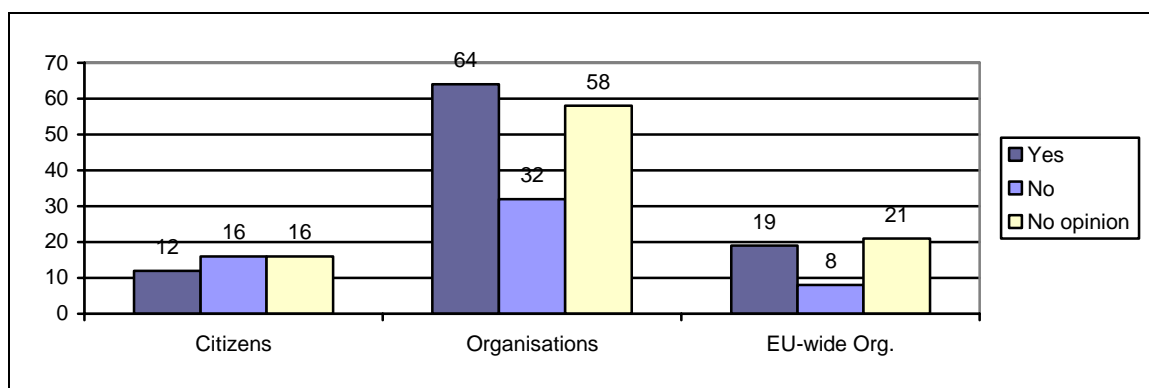


Figure 7a: Spreading on citizens, organisations and EU-wide organisations

Looking at the differences between the three categories (on the Figure 7a), one could mention a wide accord across the different groups. However, it is also conspicuous that in every group there is no clear agreement or negative response, but a great expression of uncertainty is evident ("no opinion"), even for the EU-wide organisations.

Which threshold do you propose and why?
(Max. 1000 characters) (compulsory)

The responses which indicated a wish for a change to, or the abolishment of, the threshold indicated different underlying reasons. Most of the respondents stated that the system, rather than the product, should be considered. There is a wish to add new technologies, while others suggest lowering the threshold according to the best practice and update it regularly. Some of the responses proposed the introduction of binding, regular inspections on systems (independent of size), whilst a request to abolish the

threshold for air-conditioning systems is expressed by some of the respondents. From a few responses it can be seen that some believe there is overregulation in this field.

4. STRENGTHENING OF REQUIREMENTS

The existing Directive gives room for implementation at national/regional levels. Some national, regional or local authorities have laid down requirements which go beyond the Directive's requirements, e.g. on control schemes, link to financial incentives or on the realization of energy efficiency improvement measures.

Please provide an answer to each of the following questions and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal.

Question 3.1. Which new/changed requirement(s) or content concerning the energy performance certificate (article 7 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector? (Max. 2000 characters) (optional)

Concerning the energy performance certificate (EPC), most of the national/regional organisations (78%), and an even higher proportion of EU-wide organisations (85%), consider that a change in article 7 could have a high impact on realizing energy savings in the buildings sector.

The energy performance certificate is seen as a strong tool of the EPBD and should be used as an important instrument. Property owner organisations see the certification as a crucial driver in energy efficiency improvement, but find it too early to make a final judgement (deadline of implementation in January 2009).

Some respondents have concern about how well the certificates will be working and they doubt the feasibility of making cost-effective recommendations compulsory in the certificates. Many companies and property owner organizations support a European wide harmonisation of the EPC and its calculation method in order to enable comparisons between Member States. It was also mentioned very often that the recommendations on certificates should be ranked according to the estimated savings potential and cost-effectiveness, and that there should be just one calculation method for both new and existing buildings.

It was also often mentioned that EPCs should be displayed in more buildings, renewed more often and should show a longer period of the past performance. In addition, the position has also been stated that the monitoring of real energy consumption in kWh/m² year is considered to have more impact than only theoretical asset rating.

Furthermore, the EPC should be used as a better instrument to inform tenant and owner on the performance of the building. Various organisations defend the position that the EPC should focus on the calculated primary energy demand and include a CO₂-indicator (this is also supported from property owner organisations).

Some respondents asked for a mandatory introduction of a benchmarking system both for cross-country comparisons of certificates and for minimum energy performance

requirements. Several respondents propose an integrated approach of recommendations and incentives (e.g. subventions, state aid, reduced VAT rate etc.).

Question 3.2. Which new/changed requirement(s) concerning the inspection of boilers (article 8 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector?
(Max. 2000 characters) (optional)

It was mentioned by most of the EU-wide organisations participating in the consultation that Article 8 should not only refer to certain components of a system, but to the entire system in general and that inspections should control this issue better.

The article on inspection of boilers seems to present some problems to the respondents. According to many of the organisations which responded, there is still insufficient control on the replacement of old boilers. Furthermore, many of the organisations stated that minimum standards for heating and cooling should be developed keeping in mind other Directives (e.g. EuP¹). Organisations also propose that inspections should be held more often and should be binding, whilst some respondents propose mandatory installation of best technology of boilers.

Question 3.3. Which new/changed requirement(s) concerning the inspection of air-conditioning systems (article 9 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector?
(Max. 2000 characters) (optional)

Some of the answers to this question state that air-conditioning systems are increasing in southern parts of Europe and that the air-conditioning system control and inspection are very important. Some of the answers request a clarification on whether or not ventilation systems are addressed, because these impact both indoor air quality and energy. It was mentioned by a few respondents that in terms of sustainability, new buildings should be designed and built completely without cooling equipment.

Question 3.4. Due to the complexity and variation of boundary conditions in the 27 Member States (e.g. with regard to the existing building stock, outdoor climate conditions, costs of energy, labour and material, taxes, etc.), minimum energy performance requirements are not stipulated at EU level in the existing Directive. They are left for the Member States to define as regards both their definition and parameters instead. What type of approach do you consider feasible and effective which could be laid down at EU level with regard to minimum energy performance requirements for buildings? (Max. 2000 characters) (optional)

Setting minimum requirements at low energy, passive-house (or even plus-energy) level, was mentioned by many responding organisations, whilst property owner organisations doubt the feasibility of covering minimum requirements in the Directive. It was mentioned in some responses that the main objective of the minimum energy performance standards should be to allow an EU-wide comparison between the various national systems, taking into account e.g. a definition of a "very low energy" house. Insurance of a level playing field set by national or European Standards for thermal insulation, lighting, ventilation and heating/cooling is also mentioned rather often. It is also frequently mentioned, that minimum requirements should depend on their economic (e.g. cost-optimal) level and, hence, be set only if economically feasible. One option

could be to define a "global scale" taking into account the different areas with different minimal targets. It is mentioned by some respondents that cooling, as well as heating consumption, should be taken into account.

A further proposal was that users should be forced to report the actual energy consumption and be requested to reduce this consumption annually by a specific percentage. One proposal defends the position that the requirements should be based on primary energy demand, but be technologically neutral. Minimum standards should be expressed in absolute as well as in relative values and should be in line with other Directives (e.g. EuP²). It is very often mentioned that there should be a single harmonised calculation method. Some responses mention that an obligation should be introduced to organisations in order to benchmark the requirements to the requirements of neighbouring countries.

Question 3.5. Which other requirement(s) do you consider to need strengthening, and in which way?

(Max. 2000 characters) (optional)

Many of the responses propose the introduction of a CO₂-emission indicator on the EPC or a harmonised calculation standard on EU-level. Official training for inspectors is another point mentioned quite often. Some respondents suggested the harmonisation of training programmes and accreditation to implement the mentioned recommendations (to allow professionals to work across countries), as well as the existence of mandatory information about Energy Efficiency recommendations to be shown to the tenants. It was also mentioned that users play an important role in energy efficiency, and for that they need to be better educated and informed about how to correctly use the HVAC-systems. It has been stated that there remains potential for further studies on the comparison of theoretical energy performance and practical implementation and use. A few respondents suggested that it should be a requirement for public sector and non-residential buildings to be upgraded with the recommendations indicated on the EPC. It was also mentioned that financial incentives, in order to improve the existing buildings, could be a solution to ensure implementation of the recommendations. It was also mentioned that requirements should be set at the level of primary energy requirement (including winter and summer behaviour) and that mobility and recycling of buildings should be considered.

5. THE ROLE OF THE PUBLIC SECTOR

The public sector is often seen as an important actor to raise broad awareness on energy efficiency in buildings and which can therefore also contribute to stimulating energy savings by acting as a leading example.

Please, if possible, justify your answer by quantifying the environmental, social and economic impact of your proposal.

Besides the current requirement of the Energy Performance of Buildings Directive for the public sector to display the energy performance certificate in a prominent place: Do you consider the public sector should play a stronger role to act as a leading example for energy savings in buildings? (compulsory)

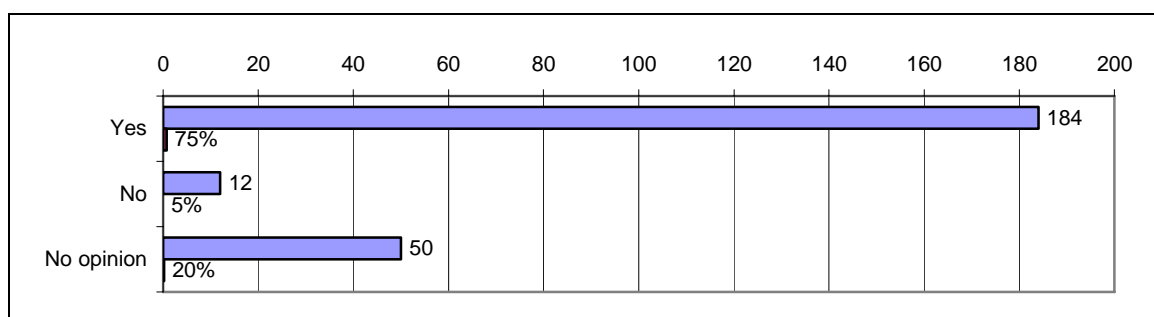


Figure 8: Stronger role of the public sector

A vast majority and most of the respondents, 75%, voted for a stronger role of the public sector to act as a leading example. Only 5% denied and did not see the public sector in such a responsibility. A notable amount of about 20% of the respondents had no opinion.

It is clearly seen from Figure 8, that the general opinion was that the role of the public sector should be intensified and that it should be much more prominent as a leading example.

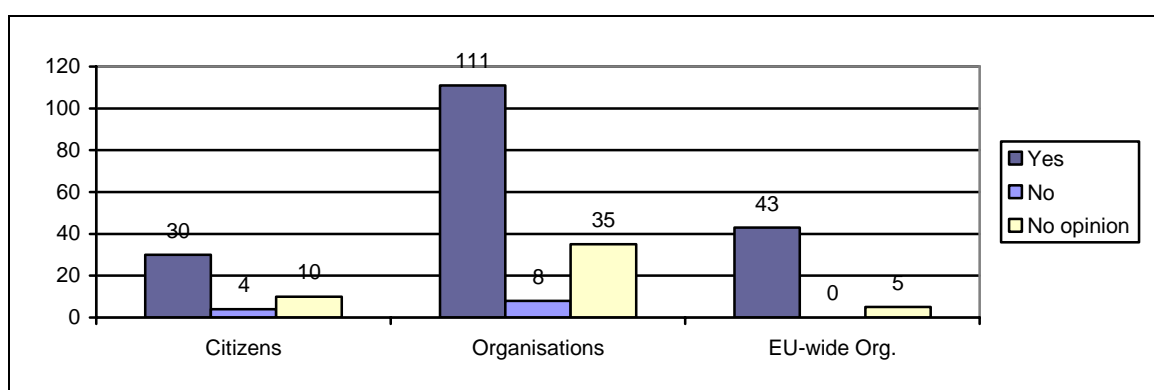


Figure 8a: Spreading on citizens, organisations and EU-wide organisations

What further requirement(s) would you propose to include in the Directive for the public sector in order to act as a leading example for energy savings in buildings? (Max. 1000 characters) (compulsory)

A vast majority of the respondents voted for a stronger role of the public sector to act as a leading example. Most of these respondents state that public buildings should introduce higher energy performance standards and should have to display the energy performance certificate at a prominent place in the building in more cases. It is mentioned from several large EU-wide organisations that it could be an obligation for public buildings to implement some of the recommended measures listed in the energy performance certificate within a certain timeframe. Energy Performance Certificates for public buildings should include estimates of pay-back periods for investments in energy efficiency to enforce the investment and, hence, implementation of the measure. It was also mentioned that national targets should be set towards "very low energy buildings" to make them the default standard and introduce investments in renewable energy technologies. Only 5% opposed the stronger role of the public sector and 20% had no opinion on that question.

6. OTHER

Question 5.1. Do you consider that climate adaptation should significantly influence the level of requirements laid down by buildings regulation? (compulsory)

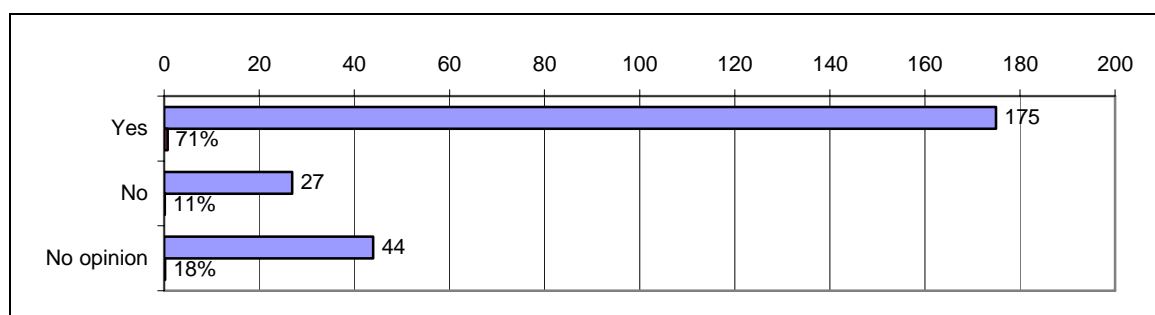


Figure 9: Level of requirements should be influenced by climate adaptation

A vast majority of the responses, 71%, stated that the level of requirements should significantly be influenced by climate adaptation. 11% of the responses opposed this approach, whilst about 18% of the respondents had no opinion.

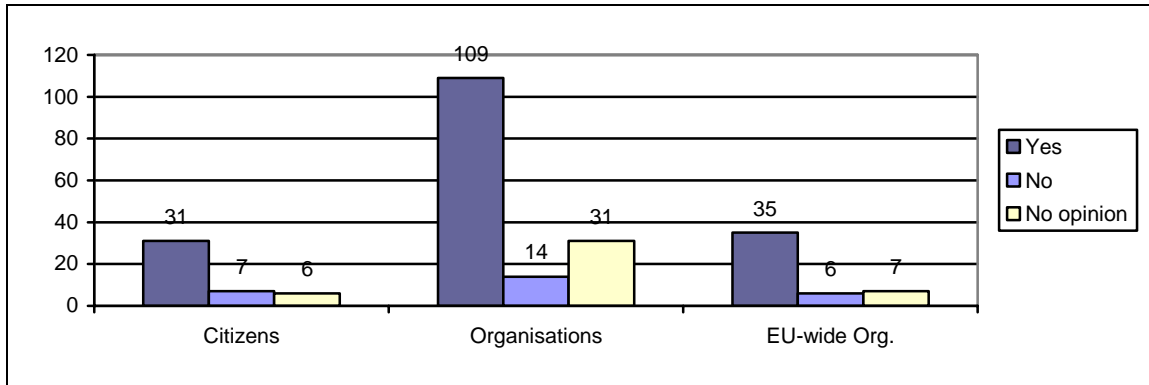
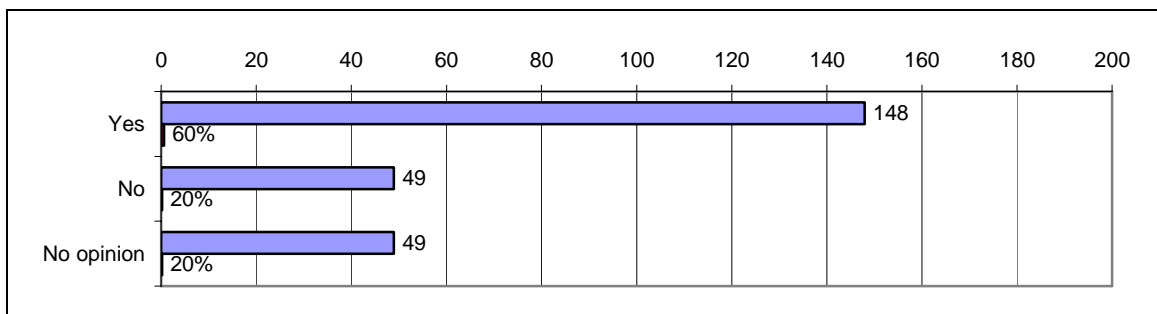


Figure 9a: Spreading on citizens, organisations and EU-wide organisations

Question 5.2. Do you propose other aspects/ideas than the aforementioned to be included in the recasting of the Energy Performance of Buildings Directive? (compulsory)

Figure 10: Proposal of other aspects/ideas to be included



Most of the respondents, 60%, propose other aspects/ideas. 20% of the respondents opposed this, whilst about 20% of the respondents had no opinion on this question.

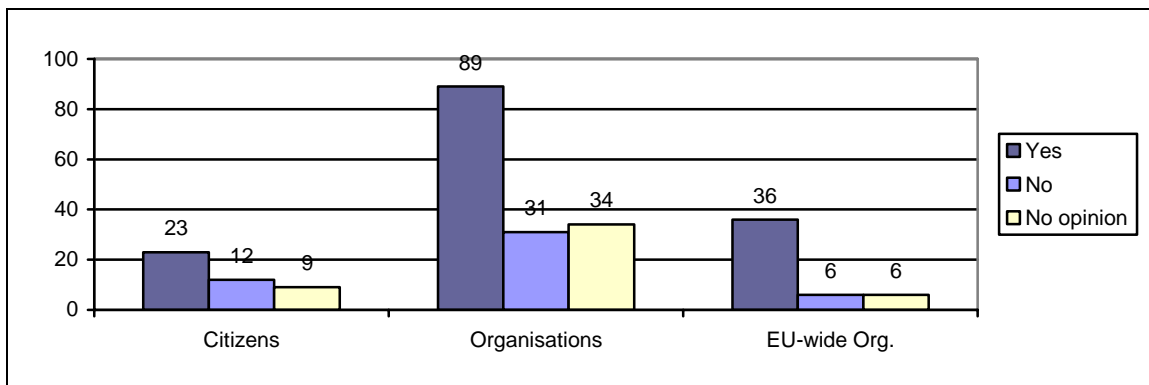


Figure 10a: Spreading on citizens, organisations and EU-wide organisations

What other requirement(s) do you propose? (Max. 1000 characters)
Please provide an answer and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal. (compulsory)

A majority of the respondents (71%) stated that climate adaptation should significantly influence the level of energy performance requirements laid down by building regulations. 11% disagreed with this and about 18% had no opinion. Some (about 5%) of

the answers mentioned the remaining lack of systematic comparison and check of (i) theoretical energy performance and (ii) actual energy use of buildings.

Some (about 5%) of the responses from organisation mentioned that it should be stated that Member States should authorise the EPBD CEN standards as optional calculation methods in the building codes, because this will lead to a higher benefit e.g. for European industry. Some more respondents (5-10%) asked the independence criteria for experts issuing the energy performance certificates and carrying out inspections for heating and air-conditioning systems (Article 10) to be defined more clearly.

7. CONCLUSIONS

The huge interest in the online consultation of the possible recast of the EPBD, with contributions from all over Europe, is a further indication of the important role that buildings play in the field of energy savings and energy efficiency. Naturally Member States being more experienced in this field lead with their interest in this sector, but still it should be noted that awareness on "energy saving" has increased significantly, that it is a popular issue of public concern and is now becoming higher on the agenda, playing a decisive role in the policy of all European countries. Not least due to oil prices increases and their high volatility, energy savings are the best way of saving exhaustible raw materials, saving money for the homeowners, enterprises and administrations alike, and avoiding greenhouse gas emissions. Besides, new investments in this sector will work as a motor for jobs and produce new technologies for building a sustainable future for our future generations. The Directive 2002/91/EC has already shown that it is one supporting pillar in this context.

It is somehow also clear, that the Commission must play the leading role and with its policy be well prepared for the future. Therefore, taking into account the impact of the buildings sector in relation to the quality of life of citizens, the economy and the energy and environmental impact, it is not astonishing that a clear majority of responses to the public consultation on the EPBD recast, from across the board, want the Commission to enhance and strengthen this Directive with a vision for an energy efficient and climate-friendly future.

It is about time to balance the positive and negative effects in a very long lasting and sustainable way and introduce the changes at those points where it is necessary and future oriented.



EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT

DIRECTORATE D - New and Renewable Energy Sources, Energy Efficiency & Innovation
Energy Efficiency

**Background Information Paper for the
Public Consultation on the
Recasting of the Energy Performance of Buildings Directive
(EPBD) (2002/91/EC)**

Note:

This background paper is being circulated for consultation to all parties concerned by the recasting of the EPBD.

The sole purpose of the consultation is to contribute to the debate, collect relevant information and help the Commission develop its thinking in this area.

This document does not necessarily reflect the views of the Commission of the European Communities, and should not be interpreted as a commitment by the Commission to any official initiative in this area.

**Parties concerned are invited to submit their comments no later than
20 June 2008 by means of the online questionnaire, available at:**

http://ec.europa.eu/dgs/energy_transport/home/consultation/energy_en.htm

1. EU BUILDINGS SECTOR

Energy use in the buildings sector (residential and commercial) is responsible for about 40% of final energy consumption in the EU. The cost efficient energy savings potential is estimated at 28% by 2020, which in turn can reduce total EU final energy consumption by around 11%².

According to the last IPCC report³, about 30% of the projected greenhouse gas emissions worldwide in the buildings sector can be avoided with net economic benefit by 2030. In addition, the measures in the buildings sector are those with the lowest abatement cost for greenhouse gas reduction⁴.

Therefore the buildings sector is key in addressing the challenges of increasing EU energy dependence and growing CO₂ emissions, but also provides additional employment and business opportunities and cost-effectively supports local development and thus the EU Lisbon objectives.

The share of buildings in EU wealth in terms of capital but also social, cultural and historic value and business opportunities is enormous. Once constructed nearly all buildings remain for decades, and therefore all measures undertaken by EPBD and its recasting will have a very long-term impact and thus need careful consideration.

2. THE BUILDINGS SECTOR AND EU POLICY OBJECTIVES

The buildings sector can offer significant reductions in energy consumption and therefore addressing the potential in this sector is essential for achieving the ambitious 20/20/20% targets for energy consumption and greenhouse gas emission reductions, and the increased share of renewables by 2020, as endorsed by the Heads of State and Governments during the spring 2007 European Council⁵.

Reaping the energy savings potential in the buildings sector will lead to achieving in a cost-effective manner:

- (i) increased independence from energy imports which will contribute to the EU security of supply objectives;
- (ii) contribute to EU economic growth and job creation;
- (iii) contribute to the reduction of greenhouse gas emissions and of the harmful impact of energy generation on the environment; and
- (iv) improved living conditions and comfort for citizens.

Therefore the sector is of prime importance for realizing strategic objectives of European Energy Policy, as outlined in the Commission Communication *An Energy Policy for Europe*⁶.

² The data are for 2005. Due to the increase of fossil fuel prices the reduction may have been even greater.

³ IPCC 2007

⁴ McKinsey for Vattenfall 2007

⁵ 7224/1/07, REV 1

⁶ COM (2007) 1

3. MAIN PROVISIONS OF THE CURRENT EPBD

A holistic and innovative approach towards the energy performance of buildings has been adopted through the Energy Performance of Buildings Directive 2002/91/EC (EPBD)⁷. The main objective of the EPBD is to promote improvement of the energy performance of buildings within the Community, taking into account outdoor climatic and other local conditions, as well as indoor climate requirements and cost-effectiveness.

The main provisions of the current EPBD are:

- Establishing a methodology for calculating the energy performance of a building, taking account of local climatic conditions, inter alia;
- Minimum standards for energy quality to be determined by Member States and applied to all new buildings and – mostly on a different level - to major refurbishments of existing large buildings (above 1000m²);
- Development of certification for buildings to make energy consumption levels visible to owners, tenants and users, and to raise awareness, whenever a building is constructed, sold or newly rented out;
- Inspection of boilers and air-conditioning systems above minimum sizes to reduce their energy consumption and greenhouse gas emissions.

The deadline for the implementation of the first two provisions was January 4, 2006 and for the last two - due to the challenges facing Member States as regards training and accreditation of experts to carry out the certifications and inspections - a further grace period of up to three years (i.e. until January 4, 2009) was allowed.

4. CURRENT IMPLEMENTATION OF THE EPBD

The EPBD is complex in nature and requires substantial efforts by Member States and a large number of legislative measures to be adopted by them for its full transposition. A number of countries have transposed the Directive, but a large number are still lagging behind. As of April 2008, the Commission has initiated 17 infringement cases against Member States that have failed completely or partially to notify national implementing measures or properly to implement the EPBD. Of these, two countries have been referred to the Court of Justice, and against one there has been already a ruling in favour of the Commission.

Despite the slow progress on transposition and implementation of the EPBD in a considerable number of Member States, there are good examples of successful policy approaches to be found across the Union.

⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0091:EN:NOT>

5. WHY EPBD NEEDS RECASTING?

The EU buildings sector can play a key role in achieving EU policy objectives, while contributing to an improved level of comfort for citizens (as mentioned in Section 2).

However, a large part of the cost-efficient energy efficiency measures available in the sector are not realised in practice. The narrowing of the gap between the realisable potential of the buildings sector and its real utilisation is the Commission's main motivation for recasting the EPBD.

There are various factors that limit utilisation of this potential. Some come from the present wording and level of ambition in implementing the EPBD. Others stem from general challenges in the sector.

The first group includes challenges arising from:

- (i) Vague formulation of some articles and insufficiently clear definitions;
- (ii) Limited scope of the EPBD in relation to existing buildings which undergo major renovation;
- (iii) The only partially realised potential of those of its requirements which can lead to improvement of energy efficiency in the buildings sector;
- (iv) Insufficient realisation of the potential in public buildings, which can serve as a leading example.

These issues might be tackled in the recasting.

The second group is related to challenges which are well-acknowledged but difficult to solve, such as the tenant-owner problem, lack of financing for energy efficiency improvements of buildings, and the fragmented and heterogeneous nature of both building stock and ownership, which require very different instruments. Although solutions for these problems are needed, they may not be possible through the recasting of the EPBD. The Commission has taken and is going on with a number of additional steps in the area of financing in order to support Member States in addressing these problems.

5.1. Simplification and clarification

5.1.1. Choice of legal instrument

The choice of the legal procedure to be used for the revision will aim at simplification and clarification. The main difference between recasting and amendment is that in the recasting, the new text of the Directive will be a consolidation, in other words it will be a single new legal document, and not a second one that includes only the revised parts, as in the case of amendment. This will improve readability and will facilitate comprehension for implementing authorities as for affected stakeholders.

As the principles of the current EPBD will be kept, and the new EPBD will build on it, the recasting will be an opportunity to develop further EU and national policies and measures

related to the energy efficiency in the buildings sector based on what has been learnt by implementation of the current EPBD, and on the ambitions implied by the EU and national targets. Therefore, it is crucial that the current EPBD be properly implemented and on time. The forthcoming recasting should not be an excuse for delay in implementing of the current Directive.

5.1.2. Definitions and wording

Some of the definition and wording of the existing text are not clear enough, and create confusion and differences in implementation. A number of issues have been identified based on the implementation of the current EPBD. For example, there is room for improvement of several definitions (such as public buildings, air-conditioning systems) and for clarification of certain provisions (such as the provision of recommendations for the energy performance certificate, when the certificate is to be made available).

5.2. Scope of the current EPBD

At present, the EPBD provisions call on Member States to set minimum energy performance requirements for all newly constructed buildings, and for those with a floor area of above 1000m² and which undergo a major renovation (Art. 6).

Because of the 1000m² threshold for existing buildings the EPBD now covers only about 30% of the EU buildings stock⁸. Taking into account that introducing energy efficiency measures when retrofitting costs on average between two and three times less than if when done separately, this in general means that with every renovation below 1000m² a unique opportunity for cost-efficient energy savings for the owner might be lost. However, in a number of Member States the 1000m² threshold has not been introduced, so that all buildings that undergo major renovation have to fulfil certain energy performance requirements.

Other thresholds that are included in the EPBD are those which require feasibility of alternative systems to be considered for new buildings above 1000m² (Art. 5) and the minimum effective rated output requirements for inspections of boilers (Art. 8) and of air-conditioning systems (Art. 9).

5.3. Need for strengthening of certain requirements

Based on observations from implementation of the current EPBD, and according to a number of studies, there is a potential for strengthening of several requirements of the EPBD.

5.3.1. Energy performance certificates

One of the main reasons for market imperfections as regards investment in energy efficiency on the rental market is the fact that the owner and tenant of a building, dwelling or office have different interests. As the tenant normally pays the energy bill the incentive for the owner to

⁸ Ecofys for Eurima VII study 2007

invest in energy efficiency is weak. The seller of a house is not interested to provide information that the property's energy performance is mediocre.

The best way to make energy efficiency investments more attractive is to provide clear and reliable information to prospective tenants and buyers. It should be made clear to all actors involved that failure to act on cost-effective energy efficiency improvements recommended in the energy performance certificate is a waste of money. Therefore, the energy performance certificates required by the Directive (Art. 7) can be a powerful tool to inform citizens about energy saving options, including information on the economic impact, and to create a demand-driven market for energy efficient buildings and services regarding energy efficiency.

Some of the observations show that some certificates issued in Member States are not of satisfactory quality, or that there is not enough bottom-up to ensure that they are systematically made available during property transactions. In some countries, the recommendations with a finite payback time are mandatory either for some parts of the buildings sector or throughout.

5.3.2. Requirements on boilers and air-conditioning systems

As for the energy performance certificate, the requirements on inspection of boilers and air-conditioning systems or for equivalent publicity measures for boilers, can be an effective way for informing EU citizens about the opportunities for energy efficiency improvements, and for savings on their energy bill. However, based on experience some of the currently required inspections of boilers and air-conditioning systems have limited impact on energy performance improvement. One of the reasons for this is missing specifications, requirements and objectives for the inspections in the Directive itself.

5.3.3. Minimum energy performance requirements

Setting optimal cost-effective energy performance requirements is of crucial importance, as they have an impact over the whole building lifetime. Once buildings are constructed or renovated, changes become more expensive, and thus the opportunity for low cost improvements is much more limited.

At present, EU Member States are required to ensure that energy performance requirements be set (Art. 4), and methodology for their calculation developed (Art. 3). A limited number of Member States have announced commitments to introduce passive house or low energy house requirements in the future.

There are differences between the values for energy performance requirements for the different Member States and regions. However, cross-border comparison between the different values is difficult because of the different underlying calculation methodologies, definitions and reference values (as demonstrated in the ASIEPI project). Some studies demonstrate that certain existing requirements for the building shell are not cost-optimal. However, fixing performance requirements is very complex and challenging if it is to be done at the EU level.

A benchmarking system which can provide common ground for comparison of various requirements in the Member States might be a useful tool for improved transparency and a

good opportunity for public authorities from different Member States to make comparisons and to share experience.

5.4. Leading role of the public sector

The public sector can and should have an exemplary role motivating other property owners to carry out energy efficiency improvements. At present, there is a requirement that buildings above 1000m² occupied by public authorities, and to institutions providing public service to a large number of persons, and therefore are frequently visited by these persons should have an energy performance certificate displayed in a clearly visible place. The role of the public sector could be further strengthened beyond this information stage.

5.5. EU support measures

The Commission is working on a number of other instruments to support implementation of the EPBD and of its revised version. These cannot be included in the recasting, but are activities to provide support for the process.

To accelerate implementation of the Directive, the European Commission is continuing to support the transformation process with several measures:

- Continuation of the Concerted Action – a forum where Member States' representatives can meet and exchange their experience with the implementation with as well as best practices;
- Initiating and financing an extensive package of 31 CEN standards for calculation and rating methodologies for the energy performance of buildings;
- The EPBD Buildings Platform⁹ – an information service on the Directive for practitioners and consultants, experts in energy agencies, interest groups, and national policy makers on the state of play, lessons learnt and best practice examples;
- Intelligent Energy Europe Programme¹⁰ – a number of projects are dedicated to aspects concerning the EPBD.

The main actions addressing the problem of insufficient financing are:

- Energy efficiency investments are now eligible for state aid;
- Member States are allowed to apply a reduced VAT rate to a specific list of labour-intensive services, incl. renovation of private dwellings (this expires on 31/12/2010 but extension under consideration);
- The Commission has suggested that Member States should use some of the revenues generated by the Emission Trading Scheme (ETS) auctions for energy efficiency purposes;
- The Commission is considering revision of Cohesion policy guidelines to offer the opportunity to all Member States to use Community co-financing for energy efficiency;

⁹ <http://www.buildingsplatform.eu/cms/>

¹⁰ http://ec.europa.eu/energy/intelligent/index_en.html

- The Commission is in constant dialogue with financing organizations and Member States to discuss better coordination of energy efficiency financing activities and increased support for them.

6. POSSIBLE ISSUES FOR CONSIDERATION FOR THE RECASTING

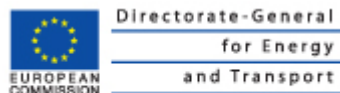
A brief, but not exhaustive overview, of some of the challenges arising out of implementation of the current EPBD and identified in a number of studies and by various stakeholders, were set out in the previous section. In general, the options considered can broadly be grouped into three main categories:

- Simplifying and clarifying the text to facilitate implementation;
- Extending the scope to cover a larger proportion of EU buildings (when they undergo major renovation);
- Strengthening certain requirements.

More specific questions related to these areas are included in the online questionnaire, available at: http://ec.europa.eu/yourvoice/index_en.htm

Online Questionnaire for the Public Consultation on the Recasting of the Energy Performance of Buildings Directive (EPBD) 2002/91/EC:

Recasting of the Energy Performance of Buildings Directive 2002/91/EC



► Useful links - Background documents

The EU has committed itself at highest level on targets of 20 % energy efficiency improvement, 20 % greenhouse gas emission reductions, and 20 % share of renewables by 2020. These targets aim at ensuring the security of energy supply, improving competitiveness and counteracting climate change at the same time.

The buildings sector is responsible for 40 % of the EU's energy consumption. It is commonly seen as one of the most important ones to contribute to the aforementioned targets. The sector's cost-effective energy saving potential is estimated at 28 % by 2020. Further activities on energy savings in this area could have multiple benefits: boosting the industry and the service sector and creating new jobs at national, regional and municipal level; improving the comfort and quality of buildings while reducing their operational costs; achieving the energy and climate change targets at lowest macro-economic costs possible;

EU buildings regulations affect governments at all levels, various industries and, in the end, all EU citizens. The Commission therefore seeks the views of stakeholders at an early stage in the context of the development of new or adjusted legislation, which have to be put in place in order to realize the targets of the Energy and Climate Change Package.

The Energy Performance of Buildings Directive of December 2002 is one such legal instrument. Although it already brought considerable energy efficiency improvements, further opportunities for strengthening the impact of the Directive have been identified by the Commission, the Member States and the stakeholders. This potential for improving the impact of the Energy Performance of Buildings Directive will be the basis for a recasting. The Commission's proposal for recasting the Directive is planned to be adopted at the end of 2008.

This internet consultation will support preparation of the recasting and aims to collect views from interested parties on how best the EU may contribute to improving the energy performance of buildings. Your answers will remain confidential and, be used only for the preparation of the recasting of the Energy Performance of Buildings Directive by the European Commission. Only the summary results of this internet consultation, including an analysis of all the replies, will be published.

The public consultation will last 8 weeks. The closing date is thus 20 June 2008.

Please note that:

- Replies in free text questions are limited to maximum 1000 and 2000 characters (spaces included) respectively.
- The session time is limited to 1 hour 30 min, which means that you should submit your reply within this allotted time. If you exceed this timeframe, your replies will unfortunately be lost.
- If your replies need to be co-ordinated internally, we suggest that you print the blank questionnaire, circulate it among your colleagues/ departments and draft your reply off-line (e.g. in a word processor of your choice). A designated person should then enter the answers online (you can of course simply "copy/paste" text already prepared).
- After you have clicked on "submit", you should see a confirmation page stating that your reply has been recorded. If this is not the case, and if the survey page is re-loaded instead, please check that you have filled in all compulsory questions correctly and you have not exceeded the maximum number of characters for free text questions. In this case, an error message appears next to the question for which something is wrong or missing.

GENERAL INFORMATION

Your profile (compulsory)



Citizen



Organisation

Region (compulsory)



European Union



Europe outside European Union



Other



Which European Union country? (optional)



Austria



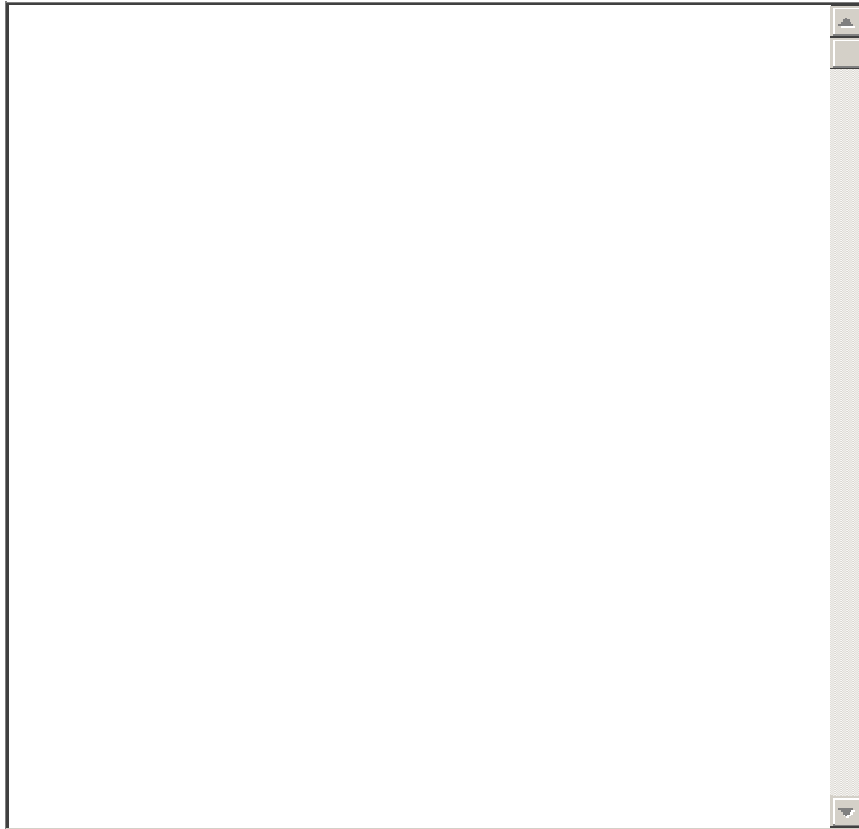
Greece





Portugal

- Belgium
- Hungary
- Romania
- Bulgaria
- Ireland
- Slovakia
- Cyprus
- Italy
- Slovenia
- Czech Republic
- Latvia
- Spain
- Denmark
- Lithuania
- Sweden
- Estonia
- Luxembourg
- United Kingdom
- Finland
- Malta
- EU as a whole (for organisations only)
- France
- Netherlands
- Some EU Member States (for organisations only)
- Germany
- Poland

- Albania
- Georgia
- San Marino
- Andorra
- Iceland
- Serbia
- Armenia
- Liechtenstein
- Switzerland
- Azerbaijan
- Moldova
- Turkey
- Belarus
- Monaco
- Ukraine
- Bosnia and Herzegovina
- Montenegro
- Vatican City State
- Croatia
- Norway
- Former Yugoslav Republic of Macedonia
- Russia



 Organisation name (optional)

 Organisation type (compulsory)

- | | | |
|--|--|--|
| <input type="checkbox"/> Association/Non-governmental organisation (NGO) | <input type="checkbox"/> Chamber of commerce | <input type="checkbox"/> Consultancy/Lobbying |
| <input type="checkbox"/> Educational establishment | <input type="checkbox"/> Employers' organisation | <input type="checkbox"/> Energy Agency (national, regional, local) |

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Error! Objects cannot be created from editing field codes. Government, Ministry
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company sector body from editing field codes.Publishing

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 Main field of activity (compulsory)

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Error! Objects cannot be created from editing field codes.Building engineering equipment Error! Objects cannot be created from editing field codes.Energy supply Error! Objects cannot be created from editing field codes.Private housing Error! Objects cannot be created from editing field codes.Users associations

Error! Objects cannot be created from editing field codes.Construction products Error! Objects cannot be created from editing field codes.Infrastructure Error! Objects cannot be created from editing field codes.PUBLIC HOUSING Error! Objects cannot be created from editing field codes.OTHER

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1. CLARIFICATION and SIMPLIFICATION ASPECTS

Full realization of the Directive's objective to reduce energy consumption in the buildings sector could fail due to unclear, imprecise or excessively complex definitions and requirements in the current text.

1. Which of the definition(s) or requirement(s) of the existing Directive should be clarified or simplified? Please choose the part(s) of the Directive you refer to: (compulsory)

Error! Objects cannot be created from editing field codes.None Error! Objects cannot be created from editing field codes.Article 4 Error! Objects cannot be created from editing field codes.Article 9

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from editing field codes.Preamble from editing field codes.Article 5 from editing field codes.Article 10

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Error! Objects cannot be created from editing field codes.Article 2 Error! Objects cannot be created from editing field codes.Article 7 Error! Objects cannot be created from editing field codes.Article 12

Error! Objects cannot be created from editing field codes.Article 3 Error! Objects cannot be created from editing field codes.Article 8 Error! Objects cannot be created from editing field codes.Article 13



What do you propose to clarify or simplify in the preamble of the Directive?

Please structure your answer by recital(s) of the preamble you refer to. (Max. 2000 characters) (compulsory)

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2. THRESHOLDS WITHIN THE DIRECTIVE

The obligations of the current Directive on minimum energy performance requirements and inspections respectively cover existing buildings above 1000 m² total useful floor area that undergo major renovation, and all new buildings, as well as boilers and air-conditioning systems above a certain rated output (in kW) respectively.

Please provide an answer to each of the following questions and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal.

2.1. Do you propose that the 1000 m2 total useful floor area threshold for existing buildings that undergo major renovation (article 6 of the Directive) be changed or eliminated? (compulsory)

Error! Objects cannot be created from editing field codes.Yes Error! Objects cannot be created from editing field codes.No Error! Objects cannot be created from editing field codes.No opinion


 Which threshold do you propose and why?

(Max. 1000 characters) (compulsory)

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2.2. Do you propose that the 1000 m2 total useful floor area threshold for the requirements on 'alternative systems' (article 5 of the Directive) and/or on the display of the energy performance certificate (article 7(3) of the Directive) be changed or eliminated? (compulsory)

Error! Objects cannot be created from editing field codes.Yes Error! Objects cannot be created from editing field codes.No Error! Objects cannot be created from editing field codes.No opinion


 Which threshold do you propose and why?

(Max. 1000 characters) (compulsory)

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2.3. Do you propose that the thresholds on the rated output of boilers and/or air-conditioning systems subject to regular inspections (article 8 and article 9 of the Directive) be changed or eliminated? (compulsory)

Error! Objects cannot be created from editing field codes.Yes Error! Objects cannot be created from editing field codes.No Error! Objects cannot be created from editing field codes.No opinion

 Which threshold do you propose and why?

(Max. 1000 characters) (compulsory)

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3. STRENGTHENING OF REQUIREMENTS

The existing Directive gives room for implementation at national/regional levels. Some national, regional or local authorities have laid down requirements which go beyond the Directive's requirements, e.g. on control schemes, link to financial incentives or on the realization of energy efficiency improvement measures.

Please provide an answer to each of the following questions and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal.

3.1. Which new/changed requirement(s) or content concerning the energy performance certificate (article 7 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector?

(Max. 2000 characters) (optional)

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3.2. Which new/changed requirement(s) concerning the inspection of boilers (article 8 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector?

(Max. 2000 characters) (optional)

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3.3. Which new/changed requirement(s) concerning the inspection of air-conditioning systems (article 9 of the Directive) do you consider to have a high impact on realizing energy savings in the buildings sector?

(Max. 2000 characters) (optional)

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3.4. Due to the complexity and variation of boundary conditions in the 27 Member States (e.g. with regard to the existing buildings stock, outdoor climate conditions, costs of energy, labour and material, taxes, etc.), minimum energy performance requirements are not stipulated at EU level in the existing Directive. They are left for the Member States to define as regards both their definition and parameters instead.

What type of approach do you consider feasible and effective which could be laid down at EU level with regard to minimum energy performance requirements for buildings?

(Max. 2000 characters) (optional)

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3.5. Which other requirement(s) do you consider to need strengthening, and in which way? (Max. 2000 characters) (optional)

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4. THE ROLE OF THE PUBLIC SECTOR


The public sector is often seen as an important actor to raise broad awareness on energy efficiency in buildings and which can therefore also contribute to stimulating energy savings by acting as a leading example.

Please, if possible, justify your answer by quantifying the environmental, social and economic impact of your proposal.

Besides the current requirement of the Energy Performance of Buildings Directive for the public sector to display the energy performance certificate in a prominent place:

Do you consider the public sector should play a stronger role to act as a leading example for energy savings in buildings? (compulsory)

Error! Objects cannot be created from editing field codes.Yes Error! Objects cannot be created from editing field codes.No Error! Objects cannot be created from editing field codes.No opinion

 What further requirement(s) would you propose to include in the Directive for the public sector in order to act as a leading example for energy savings in buildings? (Max. 1000 characters) (compulsory)

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5. OTHER

5.1. Do you consider that climate adaptation should significantly influence the level of requirements laid down by buildings regulation? (compulsory)

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5.2. Do you propose other aspects/ideas than the aforementioned to be included in the recasting of the Energy Performance of Buildings Directive? (compulsory)

Error! Objects cannot be created from editing field codes. Yes Error! Objects cannot be created from editing field codes. No Error! Objects cannot be created from editing field codes. No opinion

 What other requirement(s) do you propose? (Max. 1000 characters)

Please provide an answer and, if possible, justify it by quantifying the environmental, social and economic impact of your proposal. (compulsory)

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APPENDIX III

Table 3 – Summary of the proposals for simplification and clarification according to the responses to the questionnaire, related to the preamble and each article.

	Proposal	Response rate (%)	Respondents
Preamble	<ul style="list-style-type: none"> • Clarification of definitions such as "major renovation", "public building", "design" or "value of the building"; • Requirements for new buildings/renovations should also take into account the technical, environmental and economic feasibility; • Calculation methods should be defined at European level (primary energy or CO₂); • Common software should be established; • The certificate should better describe the actual performance situation (i.e. actual consumption); • Promote 'education' of the user, e.g. by monitoring of the energy performance; • Ventilation should be a separate subject. 	40	<p>9 citizens</p> <p>65 organisations</p>
Article 1	<ul style="list-style-type: none"> • Clarify expressions such as "large building"; • Directive should apply to ALL buildings which are subject of "major renovations" (also existing buildings); • There should be a direct focus on "indoor air quality"; • All systems (not only boilers) should be controlled regularly. 	54	<p>10 citizens</p> <p>91 organisations</p>
Article 2	<ul style="list-style-type: none"> • Clarify at what level the energy performance of a building is defined either estimated (calculated) or actually consumed; • Definitions should be in line with international and/or European standards; • The "standard methodology" should be clearly defined; • Add a definition to "ventilation", to provide an acceptable indoor climate and protect against humidity damage; • Add some other definitions - e.g. "total useful floor area", "renewables"; • Lighting should be taken into account. 	47	<p>7 citizen</p> <p>81 organisations</p>

Article 3	<ul style="list-style-type: none"> • Set a standard methodology of calculation at a European level taking the different climate zones into account and based on the CEN standards; • Consider the building usage within the methodology; • Include a CO₂-indicator (in the certificate) and bind primary energy requirements; • Establish detailed guidelines; • Replace or reinforce the Annex; • Remove the reference to the Member States legislation. 	44	<p>7 citizens</p> <p>74 organisations</p>
Article 4	<ul style="list-style-type: none"> • Set the Energy performance requirements (based on cost-effectiveness) similar in all Member States at European level to make them comparable; • The minimum requirements should be coordinated with other initiatives/Directives such as the Energy Using Products Directive (EUP)¹¹ especially concerning controls; • Create a level of "passive houses standards" for new buildings by 2015; • Member States MUST differentiate (not "may") between new and existing buildings and different categories; • Reinforce taking into account indoor climate conditions; • Real energy consumption and ventilation rates should be rated instead of theoretical calculations; • Clarify what is excluded from the scope in general. 	43	<p>9 citizen</p> <p>71 organisations</p>
Article 5	<ul style="list-style-type: none"> • Abolish or lower the threshold (relative to Option B3/B4 of the Impact Assessment document); • Create minimum requirements for all new buildings; • Clarify some definitions (such as "economic feasibility"); • Introduce a national strategic plan to ensure all new buildings as "very low energy buildings" (e.g. by setting guidelines); • Create an integrated approach (e.g. energy concept as a whole based on a calculated heat and cooling load). 	45	<p>7 citizens</p> <p>76 organisations</p>

¹¹ Directive 2006/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council, *OJ L 191*, 22/07/2005 p. 29 -58

Article 6	<ul style="list-style-type: none"> • Abolish or lower the threshold; • Clarify the minimum performance requirements (if economically feasible) for "major renovations" and "renovation of individual components/systems"; • The level of a "major renovation" should be better defined; • Indoor air quality should be taken into account. 	53	<p>8 citizen</p> <p>91 organisations</p>
Article 7	<ul style="list-style-type: none"> • Mandatory introduction of a benchmarking system for cross-country comparisons of certificates, as well as for an integrated approach on incentives; • Each certificate should have an operational and asset rating and shall be expressed in terms of theoretical energy demand based on primary energy and quantified CO₂-emissions; • Lower or abolish the threshold; • The certificate should be a shared responsibility of the owner and tenant, and mandatory for owners to inform tenants about the recommendations; • The ranking of the recommendations should be according to estimated savings potential and the cost-effectiveness of measures; • The quality of the recommendations should be ensured; • The certification of the software used for calculation should be on the basis of objective criteria; • Public sector and non-residential buildings should be upgraded in line with the recommendations received; • Clarify the Certificate for big apartment blocks (certification for the whole building or for each apartment); • Renew and display the certificate more often; • The moment of presentation of the certificate should be clearly defined; • A statistical feedback should be collected at national level by national authorities; • Indoor air quality should be taken into account. 	68	<p>15 citizens</p> <p>111 organisations</p>
Article 8	<ul style="list-style-type: none"> • Inspections should take into account the whole system and not only components; • Art. 8 should be coherent with Art. 9 and vice versa; • According to the respondents' vote to lower or abolish the threshold for the inspection of heating and air-conditioning systems (articles 8 and 9) a large number of responses disagree to a change of the threshold; • The alternative contained in paragraph (b) should be deleted. 	32	<p>3 citizens</p> <p>56 organisations</p>

Article 9	<ul style="list-style-type: none"> • According to the respondents' vote to lower or abolish the threshold for the inspection of heating and air-conditioning systems (articles 8 and 9) a large number of responses disagree to change the threshold; • Make energy audits of the system more complete and effective; • Inspections should take into account the whole system and not only components; • Make improved and more effective control (compliance) systems; • Clarify and lower the 12kW limit; • Clarify the relationship between ventilation and air-conditioning; • Indoor air quality should be taken into account. 	35	<p>6 citizen</p> <p>60 organisations</p>
Article 10	<ul style="list-style-type: none"> • Clarify and strengthen the qualification and the independency of experts and put in place comprehensive support mechanisms (training/education); • Energy Performance Certificates should be as cost-effective as possible; • Experts of all Member States should have the same expertise to allow cross-border exchange. 	30	<p>7 citizens</p> <p>48 organisations</p>
Article 11	<ul style="list-style-type: none"> • Accelerate the implementation in practice; • Remove barriers to market entry for energy efficient solutions and providers; • Oblige Member States to introduce fiscal incentives (not supported by all organisations); 	20	<p>5 citizens</p> <p>32 organisations</p>
Article 12	<ul style="list-style-type: none"> • Improve public information campaigns; • Accelerate the implementation in practice (e.g. by introduction of guidelines); • Clarify some expressions and strengthening (e.g. change "may" into "shall") 	17	<p>2 citizens</p> <p>29 organisations</p>
Article 13	<ul style="list-style-type: none"> • Improve public information campaigns; • Accelerate the implementation in practice (e.g. by introduction of guidelines); 	10	<p>2 citizens</p> <p>16 organisations</p>