1. THE STAKEHOLDER CONSULTATION – EXECUTIVE SUMMARY

1.1. Context

The EU2020 strategy from 2010 sets the course for the European economy for the following ten years and beyond by focusing on three main priorities; smart, sustainable and inclusive growth. As a follow up of this, the Resource Efficiency Roadmap[1] was adopted by the European Commission in September 2011. It concludes that existing policies, mainly linked to energy efficiency, need to be complemented with policies for resource efficiency looking at a wider range of resource use and environmental impacts, across the life-cycle of buildings. Such policies would "contribute to a competitive construction sector and to the development of a resource efficient building stock". The Roadmap foresees adoption of a Communication on Sustainable Buildings in 2013.

Meanwhile, the Communication "Strategy for the sustainable competitiveness of the construction sector and its enterprises"[2] of 31st July 2012 points to the main challenges that the sector faces up to 2020 in order to grow stronger and more viable in the future. This includes improving resource efficiency, environmental performance and related business opportunities. It identifies some of the problems in relation to resource use but does not elaborate on them. It instead refers to the future Communication on Sustainable Buildings and, in particular, highlights areas for future development, such as the need for "methods to assess the environmental performance of buildings".

The public consultation on sustainable buildings was launched on 9 July 2013 via the EUROPA web page. The consultation ran 12 weeks and ended on 1 October 2013. By means of an on-line questionnaire, the consultation offered an opportunity to all interested parties to express their views and give their opinion on the possible policy options. The questionnaire was structured in 3 sections:

- Concept of sustainable buildings;
- Problems to tackle;
- Policy options.

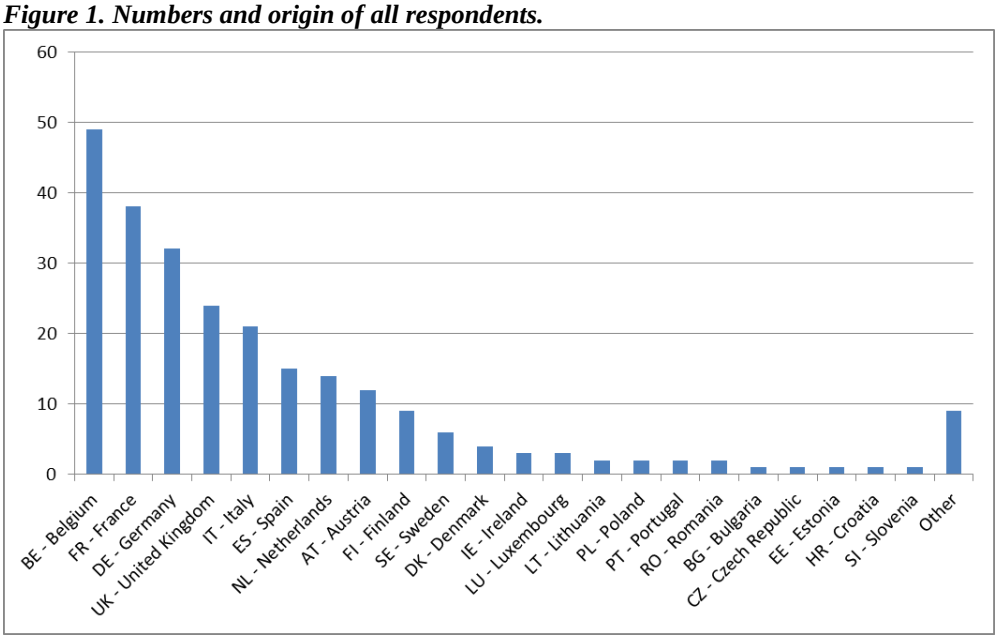
253 stakeholders filled in the on-line questionnaire. Respondents can be broken down in three broad categories:

- 55 individual persons;
- 178 private companies, industry associations, non-governmental organisations and research institutions;
- 20 public authorities.

244 respondents are from 22 Member States. The remaining nine are from USA (3), Switzerland (2), Norway (2), Andorra and Turkey. Below are graphics which are representing the origin of all respondents (Figure 1). Belgium is particularly well represented (49 respondents), mostly due to the presence of EU wide associations.

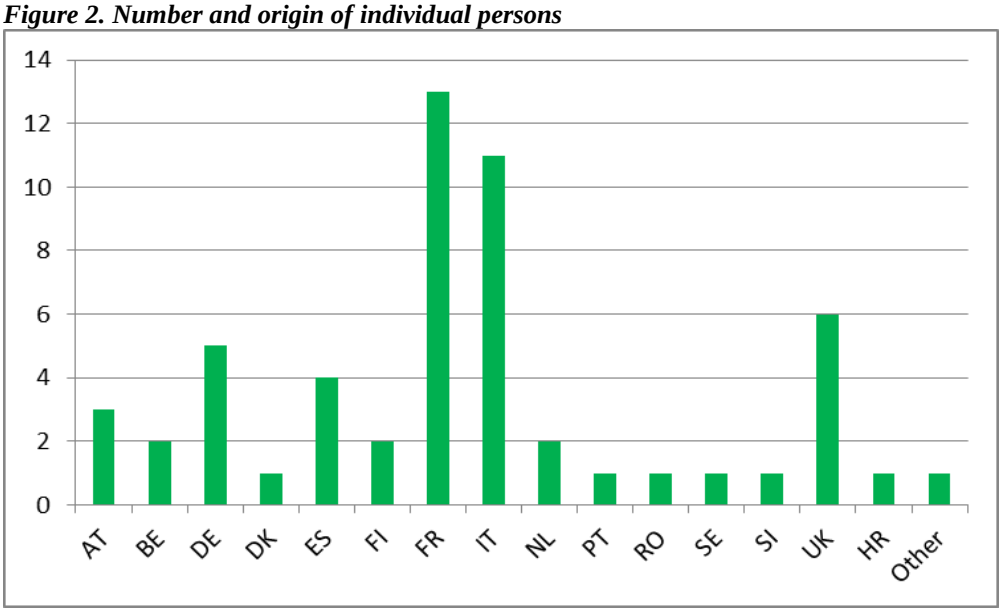
[1] COM(2011)571 of 20.09.2011
[2] COM(2012)433 of 31.07.2012

Figure 1. Numbers and origin of all respondents.



The following shows origin of individual persons:

Figure 2. Number and origin of individual persons



The following shows the origin of public authorities:

Table 1. Number and origin of public authorities

National	*Regional*	*Local*	*Technical Institute*
Denmark (1) Estonia (1) Finland (1) Germany (1) Netherlands (1) Norway (1) Sweden (2)	Austria (1) Belgium (5) Italy (1) Spain (2)	United Kingdom (1) France (1)	France (1)

Public authorities can moreover be divided by their main activity, the number of respondents linked to each of these is listed below:
Economics (3);
Energy (3);
Environment (6);
Construction sector (4);
Other (4).

Beside the on-line replies, 30 position papers or additional contributions (e.g. articles, brochures) were sent by stakeholders in connection with the public consultation. A summary of the position papers and other contributions is presented in Chapter 4 of this Annex.

1.2. Methodology

Each stakeholder could fill in the questionnaire. A background document explaining the scope and content of the questions was annexed to the questionnaire.

The majority of the questions presented a "multiple choice" approach, requesting opinions on a graduated scale, usually a 4–5 point-scale representing the level of importance, level of agreement and/or expected effectiveness of the policy options. Answers are presented using tables or histograms where "I don't know" answers are considered as well.

Each table is followed by an analysis of the results, which in relevant cases also assesses whether respondents are supporting the policy option considered. For instance, considering a 4 point-scale indicating the level of expected effectiveness of a policy option (i.e. effective, somewhat effective, not effective and I don't know) we assume that a stakeholder has positively evaluated the proposed policy if he/she answered that it is "effective" or "somewhat effective". On the contrary, a stakeholder has not positively evaluated the proposed policy if he/she answered that it is "not effective" or "I don't know".

The questionnaire also includes some open questions to allow stakeholders to better clarify his/her opinion on specific questions as well as on the whole consultation.

Where relevant, replies are further analysed by disaggregating the type of respondent according to the following categories: individuals, companies, NGOs, research institutions, public authorities and industry associations. Companies can furthermore be divided according to size. In group of "Others" are undertakings, institutions or organisations which have not described their organisation. The responses from SMEs have been studied in particular, by looking at the responses from SMEs as well as from associations whose members are largely SMEs. It can be concluded that the opinions of the SMEs largely coincide with those of other companies and, similarly, that the views of the associations representing mainly SME are generally in line with the views of other associations. However, whenever differences have been noted, this is indicated in the text.

1.3. Issues to address

1.3.1 . Concept of sustainable buildings

This chapter reflects what kind of aspects and their related environmental impacts, according to respondents, should be in focus to improve the environmental performance of buildings. The main outcomes of this first part of the consultation can be summarised as follows:

Table 2. Answers to the question: Apart from energy consumption in the use phase, in your view, which of the following aspects and their related environmental impacts should be in focus to improve the environmental performance of buildings?

	Individuals		Companies		Associations		Research		NGOs		Others		Public Authorities	
Ranking	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)
Material use for producing construction products														
Important	47	85%	45	69%	39	54%	15	83%	9	69%	7	70%	19	95%
Somewhat important	6	11%	16	25%	29	40%	3	17%	4	31%	3	30%	1	5%
Not important at all	2	4%	3	5%	3	4%	0	0%	0	0%	0	0%	0	0%
I do not know	0	0%	1	2%	1	1%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Material use on the construction site														
Important	27	49%	25	38%	26	36%	7	39%	4	31%	7	70%	18	90%
Somewhat important	25	45%	35	54%	37	51%	10	56%	9	69%	3	30%	2	10%
Not important at all	2	4%	4	6%	7	10%	1	6%	0	0%	0	0%	0	0%
I do not know	1	2%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Material use in the use stage of the buildings (maintenance, replacement)														
Important	33	60%	30	46%	35	49%	11	61%	6	46%	7	70%	14	70%
Somewhat important	20	36%	30	46%	34	47%	7	39%	6	46%	3	30%	6	30%
Not important at all	2	4%	4	6%	2	3%	0	0%	1	8%	0	0%	0	0%
I do not know	0	0%	1	2%	1	1%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

There is a broad consensus on the importance of materials; all types of respondents see its use as either important or somewhat important, in particular material use for production of construction products. Public authorities, research institutes and private citizens find this even more important than the other groups of respondents.

Table 2. (cont.)

	Individuals		Companies		Associations		Research		NGOs		Others		Public Authorities	
Ranking	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)
Durability of construction products and components														
Important	49	89%	52	80%	63	88%	13	72%	10	77%	9	90%	18	90%
Somewhat important	5	9%	11	17%	6	8%	5	28%	2	15%	1	10%	2	10%
Not important at all	1	2%	2	3%	2	3%	0	0%	1	8%	0	0%	0	0%
I do not know	0	0%	0	0%	1	1%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Flexibility of the building design, i.e. being able to use the building for different /changing functions and needs														
Important	32	58%	42	65%	47	65%	13	72%	9	69%	6	60%	14	70%
Somewhat important	18	33%	18	28%	19	26%	5	28%	4	31%	3	30%	5	25%
Not important at all	5	9%	4	6%	5	7%	0	0%	0	0%	0	0%	0	0%
I do not know	0	0%	1	2%	1	1%	0	0%	0	0%	1	10%	1	5%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Deconstruction and recyclability, i.e. assuring that material can be recycled at the end of its lifetime in the building														
Important	43	78%	47	72%	44	61%	14	78%	8	62%	7	70%	19	95%
Somewhat important	9	16%	15	23%	21	29%	4	22%	5	38%	3	30%	0	0%
Not important at all	3	5%	3	5%	5	7%	0	0%	0	0%	0	0%	1	5%
I do not know	0	0%	0	0%	2	3%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Use of recycled material in the construction product/building														
Important	35	64%	36	55%	30	42%	12	67%	6	46%	6	60%	16	80%
Somewhat important	16	29%	24	37%	33	46%	6	33%	6	46%	3	30%	3	15%
Not important at all	4	7%	5	8%	7	10%	0	0%	1	8%	1	10%	1	5%
I do not know	0	0%	0	0%	2	3%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Management of construction and demolition waste														
Important	37	67%	33	51%	42	58%	11	61%	8	62%	9	90%	14	70%
Somewhat important	11	20%	28	43%	24	33%	6	33%	4	31%	1	10%	6	30%
Not important at all	7	13%	4	6%	4	6%	0	0%	1	8%	0	0%	0	0%
I do not know	0	0%	0	0%	2	3%	1	6%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Other (please use textbox directly below to explain your own suggestion that you are ranking on this line):														
Important	16	67%	20	77%	40	56%	10	56%	5	38%	4	40%	10	50%
Somewhat important	2	8%	1	4%	3	4%	0	0%	2	15%	1	10%	0	0%
Not important at all	1	4%	1	4%	0	0%	0	0%	0	0%	0	0%	0	0%
I do not know	5	21%	4	15%	3	4%	2	11%	0	0%	0	0%	2	10%
Sub-total	24	100%	26	100%	46	64%	12	67%	7	54%	5	50%	12	60%

There is a broad consensus on the importance of durability of construction products and components, the flexibility of the building, deconstruction and recyclability aspects as well as management of construction and demolition waste. The use of recycled material was also considered important by respondents, but greater difference can be noted between the groups with 42% of the responding association considering this to be important while as many as 80% of responding public authorities believe this issue is important. The answers from SMEs show a small difference to this question in that they tend to attach less importance to the management of construction and demolition waste than what the overall group of companies do. The SMEs typically rank this as somewhat important as opposed to important. Association largely representing SMEs however do not agree but answer along the same lines as other associations, i.e. they consider waste management an important aspect to take into account when improving the environmental performance of buildings.

Apart from aspects listed in the questionnaire, respondents added several other issues related to construction products, such as utilisation and certification of secondary construction products after dismantling, land use for obtaining construction material, flammability, toxicity as well as health effects.

Table 2. (cont.)

	Individuals		Companies		Associations		Research		NGOs		Others		Public Authorities	
Ranking	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)
Energy use for manufacturing construction products														
Important	46	84%	40	62%	31	43%	15	83%	10	77%	6	60%	15	75%
Somewhat important	8	15%	20	31%	35	49%	2	11%	2	15%	4	40%	5	25%
Not important at all	1	2%	4	6%	4	6%	1	6%	1	8%	0	0%	0	0%
I do not know	0	0%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Energy use on the construction site														
Important	20	36%	15	23%	22	31%	4	22%	5	38%	5	50%	13	65%
Somewhat important	24	44%	35	54%	34	47%	12	67%	6	46%	3	30%	7	35%
Not important at all	10	18%	13	20%	14	19%	1	6%	2	15%	2	20%	0	0%
I do not know	1	2%	2	3%	2	3%	1	6%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Energy use on the deconstruction/demolition site														
Important	25	45%	13	20%	22	31%	5	28%	5	38%	3	30%	8	40%
Somewhat important	20	36%	33	51%	32	44%	10	56%	5	38%	6	60%	10	50%
Not important at all	10	18%	17	26%	16	22%	2	11%	3	23%	1	10%	0	0%
I do not know	0	0%	2	3%	2	3%	1	6%	0	0%	0	0%	2	10%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

A majority of the respondents consider energy use for the manufacturing of construction products to be important, though associations stress this to a lesser extent. Energy use on the construction site and energy use on the deconstruction or demolition site are considered to be somewhat important with the exception of public authorities, which find energy use on the construction site to be important.

Table 2. (cont.)

	Individuals		Companies		Associations		Research		NGOs		Others		Public Authorities	
Ranking	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)
Water use for manufacturing construction products														
Important	27	49%	19	29%	22	31%	7	39%	4	31%	6	60%	10	50%
Somewhat important	22	40%	36	55%	41	57%	8	44%	7	54%	4	40%	9	45%
Not important at all	6	11%	9	14%	7	10%	2	11%	2	15%	0	0%	1	5%
I do not know	0	0%	1	2%	2	3%	1	6%	0	0%	0	0%	0	0%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Water use on the construction site														
Important	20	36%	14	22%	19	26%	4	22%	2	15%	4	40%	4	20%
Somewhat important	27	49%	35	54%	36	50%	8	44%	9	69%	5	50%	13	65%
Not important at all	7	13%	15	23%	15	21%	5	28%	2	15%	1	10%	2	10%
I do not know	1	2%	1	2%	2	3%	1	6%	0	0%	0	0%	1	5%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Water consumption in the use phase of a building														
Important	38	69%	36	55%	39	54%	12	67%	5	38%	6	60%	13	65%
Somewhat important	12	22%	20	31%	27	38%	4	22%	6	46%	4	40%	5	25%
Not important at all	5	9%	8	12%	4	6%	1	6%	1	8%	0	0%	1	5%
I do not know	0	0%	1	2%	2	3%	1	6%	1	8%	0	0%	1	5%
Sub-total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

There is a broad consensus on the importance of the water consumption in the use phase of a building. Less importance has been given to the water use for construction products and on the construction site (more respondents see these as somewhat important).

In conclusion, stakeholders found all the aspects related with materials to be important: for manufacturing of construction products, at the construction and demolition sites as well as during the use stage of a building. Moreover, the durability of construction products and components, easiness to deconstruct a building and to recycle material are seen as important aspects. Suggestions provided by respondents in addition to the items listed in the questionnaire are furthermore related to the characteristics of construction materials. Respondents also consider water consumption in the use phase and the flexibility of the building as important.

1.3.2. Problems to tackle

1.3.2.1. Demand for better environmental performing buildings and construction products

Table 3. Answers to the question: In your view, what is the current demand for better environmental performance in the following areas?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Public buildings (New buildings)														
High	27	49%	32	49%	43	60%	7	39%	4	31%	6	60%	10	50%
Moderate	17	31%	25	38%	20	28%	10	56%	7	54%	4	40%	7	35%
Low	10	18%	6	9%	7	10%	1	6%	1	8%	0	0%	3	15%
I do not know	1	2%	2	3%	2	3%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Public buildings (Existing buildings)														
High	28	51%	25	38%	24	33%	5	28%	0	0%	4	40%	5	25%
Moderate	9	16%	21	32%	22	31%	10	56%	7	54%	3	30%	8	40%
Low	17	31%	17	26%	24	33%	3	17%	5	38%	3	30%	7	35%
I do not know	1	2%	2	3%	2	3%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (New buildings)														
High	20	36%	24	37%	43	60%	4	22%	3	23%	4	40%	4	20%
Moderate	26	47%	30	46%	18	25%	10	56%	8	62%	6	60%	12	60%
Low	8	15%	10	15%	9	13%	4	22%	2	15%	0	0%	4	20%
I do not know	1	2%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (Existing buildings)														
High	17	31%	19	29%	16	22%	6	33%	1	8%	1	10%	1	5%
Moderate	21	38%	18	28%	28	39%	5	28%	5	38%	6	60%	7	35%
Low	16	29%	27	42%	26	36%	7	39%	7	54%	3	30%	12	60%
I do not know	1	2%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Residential buildings (New buildings)														
High	26	47%	25	38%	31	43%	6	33%	4	31%	5	50%	6	30%
Moderate	17	31%	27	42%	25	35%	6	33%	7	54%	4	40%	9	45%
Low	11	20%	12	18%	14	19%	6	33%	2	15%	1	10%	5	25%
I do not know	1	2%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Residential buildings (Existing buildings)														
High	24	44%	18	28%	18	25%	4	22%	2	15%	1	10%	3	15%
Moderate	12	22%	17	26%	19	26%	5	28%	5	38%	7	70%	7	35%
Low	18	33%	29	45%	33	46%	9	50%	6	46%	2	20%	10	50%
I do not know	1	2%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Construction products														
High	18	33%	30	46%	38	53%	8	44%	2	15%	2	20%	5	25%
Moderate	20	36%	23	35%	20	28%	6	33%	8	62%	6	60%	8	40%
Low	14	25%	11	17%	13	18%	4	22%	3	23%	2	20%	7	35%
I do not know	3	5%	1	2%	1	1%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Generally it seems that respondents currently perceive that there is a higher demand for better environmental performance in new public and residential buildings, although also in existing public buildings, than for other kinds of buildings. Demand for better environmental performance in new

and existing private buildings (commercial buildings) and for construction products is rated as moderate while for existing residential buildings, demand is considered low.
However, it can be noted that in some cases there is a big difference in how respondents rate the demand. For example, 60% of associations consider that there is a high demand for new commercial buildings, while only 20% of public authorities share the same opinion. It may indicate that there is not enough information available regarding demand for different kind of buildings.

Table 4. Answers to the question: In your view, without any new policy or initiatives to stimulate better environmental performance, what is the likely future demand for environmental performance in the following areas?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Public buildings (New buildings)														
High	20	36%	17	26%	35	49%	5	28%	2	15%	1	10%	5	25%
Moderate	19	35%	31	48%	25	35%	10	56%	6	46%	5	50%	13	65%
Low	15	27%	14	22%	10	14%	3	17%	4	31%	4	40%	2	10%
I do not know	1	2%	3	5%	2	3%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Public buildings (Existing buildings)														
High	11	20%	17	26%	18	25%	3	17%	0	0%	0	0%	0	0%
Moderate	19	35%	18	28%	28	39%	8	44%	6	46%	4	40%	11	55%
Low	24	44%	26	40%	23	32%	7	39%	6	46%	6	60%	9	45%
I do not know	1	2%	4	6%	3	4%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (New buildings)														
High	12	22%	13	20%	32	44%	1	6%	2	15%	2	20%	2	10%
Moderate	25	45%	30	46%	28	39%	11	61%	6	46%	6	60%	10	50%
Low	17	31%	20	31%	10	14%	6	33%	5	38%	2	20%	8	40%
I do not know	1	2%	2	3%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (Existing buildings)														
High	9	16%	12	18%	10	14%	2	11%	0	0%	1	10%	0	0%
Moderate	18	33%	19	29%	36	50%	5	28%	6	46%	2	20%	6	30%
Low	27	49%	31	48%	23	32%	11	61%	7	54%	7	70%	14	70%
I do not know	1	2%	3	5%	3	4%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Residential buildings (New buildings)														
High	20	36%	11	17%	28	39%	1	6%	2	15%	1	10%	2	10%
Moderate	22	40%	31	48%	33	46%	11	61%	4	31%	7	70%	8	40%
Low	12	22%	20	31%	9	13%	6	33%	7	54%	2	20%	10	50%
I do not know	1	2%	3	5%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Residential buildings (Existing buildings)														
High	9	16%	13	20%	11	15%	2	11%	0	0%	0	0%	0	0%
Moderate	19	35%	14	22%	29	40%	6	33%	5	38%	5	50%	7	35%
Low	26	47%	34	52%	30	42%	10	56%	8	62%	5	50%	12	60%
I do not know	1	2%	4	6%	2	3%	0	0%	0	0%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Construction products														
High	15	27%	17	26%	30	42%	2	11%	1	8%	1	10%	2	10%
Moderate	12	22%	25	38%	24	33%	10	56%	6	46%	4	40%	12	60%
Low	25	45%	22	34%	15	21%	5	28%	6	46%	5	50%	6	30%
I do not know	3	5%	1	2%	3	4%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents seem to be even more sceptical about the future demand for better environmental performance in buildings in case of no policy action – they rate it to be rather moderate or even low for every type of buildings. This decrease is remarkable – for instance, 50% of public authorities considered current demand for new public building high, but only 25% of them consider future demand for new public building high.

Table 5. Answers to the question: In your opinion, what would be the appropriate level of intervention to increase demands for better environmental performance in the following areas?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Public buildings (New buildings)														
Beyond EU	8	15%	7	11%	0	0%	2	11%	0	0%	0	0%	0	0%
EU	23	42%	36	55%	27	38%	8	44%	7	54%	6	60%	9	45%
National	19	35%	14	22%	27	38%	6	33%	4	31%	3	30%	8	40%
Regional/Local	1	2%	2	3%	2	3%	1	6%	0	0%	1	10%	3	15%
Market	0	0%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
I do not know	0	0%	2	3%	1	1%	0	0%	1	8%	0	0%	0	0%
No need for intervention	4	7%	3	5%	13	18%	1	6%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Public buildings (Existing buildings)														
Beyond EU	6	11%	6	9%	0	0%	2	11%	0	0%	0	0%	0	0%
EU	26	47%	33	51%	24	33%	6	33%	6	46%	6	60%	10	50%
National	12	22%	17	26%	37	51%	8	44%	5	38%	3	30%	6	30%
Regional/Local	8	15%	3	5%	2	3%	1	6%	0	0%	1	10%	4	20%
Market	0	0%	0	0%	2	3%	0	0%	0	0%	0	0%	0	0%
No need for intervention	3	5%	4	6%	6	8%	1	6%	1	8%	0	0%	0	0%
I do not know	0	0%	2	3%	1	1%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (New buildings)														
Beyond EU	6	11%	6	9%	0	0%	2	11%	1	8%	0	0%	0	0%
EU	19	35%	27	42%	20	28%	5	28%	5	38%	5	50%	10	50%
National	15	27%	16	25%	20	28%	3	17%	5	38%	3	30%	7	35%
Regional/Local	4	7%	3	5%	3	4%	2	11%	0	0%	1	10%	1	5%
Market	7	13%	8	12%	12	17%	4	22%	1	8%	1	10%	2	10%
No need for intervention	3	5%	3	5%	16	22%	1	6%	1	8%	0	0%	0	0%
I do not know	1	2%	2	3%	1	1%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Private buildings excluding residential ones (Existing buildings)														
Beyond EU	5	9%	5	8%	0	0%	2	11%	1	8%	0	0%	0	0%
EU	21	38%	26	40%	20	28%	3	17%	4	31%	5	50%	10	50%
National	12	22%	16	25%	26	36%	9	50%	6	46%	3	30%	7	35%
Regional/Local	9	16%	3	5%	5	7%	1	6%	0	0%	1	10%	1	5%
Market	5	9%	8	12%	13	18%	2	11%	1	8%	1	10%	2	10%
No need for intervention	2	4%	5	8%	7	10%	0	0%	1	8%	0	0%	0	0%
I do not know	1	2%	2	3%	1	1%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Residential buildings (New buildings)														
Beyond EU	5	9%	5	8%	0	0%	2	11%	0	0%	0	0%	0	0%
EU	22	40%	28	43%	19	26%	3	17%	6	46%	5	50%	10	50%
National	17	31%	20	31%	24	33%	8	44%	5	38%	3	30%	8	40%
Regional/Local	3	5%	4	6%	7	10%	1	6%	1	8%	1	10%	1	5%
Market	5	9%	3	5%	8	11%	3	17%	0	0%	1	10%	1	5%
No need for intervention	3	5%	3	5%	13	18%	0	0%	1	8%	0	0%	0	0%
I do not know	0	0%	2	3%	1	1%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Residential buildings (Existing buildings)														
Beyond EU	4	7%	3	5%	0	0%	2	11%	0	0%	0	0%	0	0%
EU	22	40%	28	43%	19	26%	2	11%	4	31%	5	50%	10	50%
National	13	24%	19	29%	30	42%	10	56%	6	46%	3	30%	8	40%
Regional/Local	9	16%	5	8%	6	8%	2	11%	2	15%	1	10%	1	5%
Market	5	9%	3	5%	10	14%	1	6%	0	0%	1	10%	1	5%
No need for intervention	2	4%	5	8%	6	8%	0	0%	1	8%	0	0%	0	0%
I do not know	0	0%	2	3%	1	1%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Construction products														
Beyond EU	19	35%	14	22%	4	6%	3	17%	1	8%	1	10%	4	20%
EU	27	49%	33	51%	27	38%	9	50%	7	54%	6	60%	13	65%
National	1	2%	6	9%	12	17%	1	6%	3	23%	2	20%	2	10%
Regional/Local	1	2%	1	2%	1	1%	0	0%	0	0%	0	0%	0	0%
Market	4	7%	7	11%	9	13%	4	22%	1	8%	1	10%	1	5%
No need for intervention	2	4%	3	5%	16	22%	0	0%	1	8%	0	0%	0	0%
I do not know	1	2%	1	2%	3	4%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Most of the respondents found the appropriate level for intervention to increase demand to be the EU level for new public and commercial buildings. Intervention level for all type of existing buildings and new residential buildings vary by respondents. While most categories consider it to be the EU level, associations and research institutions rather prefer the national level for these buildings. Additionally, NGOs prefer actions at the national level for existing commercial buildings. Appropriate intervention level for construction products is considered to be the EU level.

1.3.2.2. Availability of indicators and data

Table 6. Answers to the question: Have you performed or required a LCA or used information from an LCA in relation to construction products or components?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Used LCAs for construction products?														
No	36	65%	24	37%	33	46%	8	44%	8	62%	5	50%	12	60%
Yes, using one system for LCAs	12	22%	24	37%	23	32%	4	22%	3	23%	2	20%	4	20%
Yes, using more than one system for LCAs	7	13%	17	26%	16	22%	6	33%	2	15%	3	30%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

The responses indicate that between 50 and 60% of respondents from the private sector, excluding individual persons, use LCA in relation to construction products or components. There are however more than 60% of individuals, NGOs and public authorities which have never used LCA or used information from an LCA in relation to construction products or components. It is interesting to note that SMEs but also associations representing mainly SMEs have to a large extent either used more than one system or none at all. E.g., about 50% of responding SMEs have never used an LCA at the same time as about 50% of the SMEs have used more than one LCA system.

Table 7. Answers to the question: Have you used a scheme for the assessment of the environmental performance of a building?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Indicators/methods for building product LCAs														
No	30	55%	25	38%	38	53%	7	39%	7	54%	4	40%	8	40%
Yes, using a scheme	17	31%	21	32%	20	28%	5	28%	0	0%	1	10%	7	35%
Yes, using more than one scheme	8	15%	19	29%	14	19%	6	33%	0	0%	5	50%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	7	54%	10	100%	20	100%

More than 50% of individuals, associations and NGOs have never used a scheme for assessment of the environmental performance of buildings and neither have around 40% of the companies, research institutions and public authorities. While approximately 60% of the companies, research institutions and public authorities have used a scheme, around one third of them have used more than one scheme. Again, a difference linked to SMEs can be detected. Associations mainly representing SMEs had a higher experience in using a scheme for the assessment of the environmental performance of buildings than the average association. About 65% of the associations representing SMEs have used at least one scheme (as opposed to 47% for the whole group of associations).

Table 8. Answers to the question: How would you assess the availability of good quality indicators and data in the following areas?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
LCAs for construction products														
Good	15	27%	16	25%	30	42%	1	6%	2	15%	0	0%	1	5%
Moderate	17	31%	27	42%	19	26%	8	44%	3	23%	5	50%	8	40%
Bad	13	24%	14	22%	12	17%	5	28%	5	38%	2	20%	7	35%
I do not know	10	18%	8	12%	11	15%	4	22%	3	23%	3	30%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Indicators/methods for building product LCAs														
Good	14	25%	22	34%	30	42%	5	28%	0	0%	1	10%	1	5%
Moderate	25	45%	23	35%	18	25%	4	22%	5	38%	6	60%	10	50%
Bad	8	15%	11	17%	13	18%	3	17%	5	38%	0	0%	6	30%
I do not know	8	15%	9	14%	11	15%	6	33%	3	23%	3	30%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Input data to LCAs														
Good	9	16%	9	14%	15	21%	0	0%	0	0%	0	0%	0	0%
Moderate	18	33%	26	40%	28	39%	10	56%	4	31%	3	30%	9	45%
Bad	18	33%	20	31%	15	21%	4	22%	4	31%	4	40%	8	40%
I do not know	10	18%	10	15%	14	19%	4	22%	5	38%	3	30%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Indicators for the environmental performance of buildings														

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Good	19	35%	19	29%	19	26%	3	17%	2	15%	1	10%	3	15%
Moderate	26	47%	26	40%	34	47%	7	39%	7	54%	5	50%	10	50%
Bad	5	9%	15	23%	12	17%	4	22%	2	15%	1	10%	5	25%
I do not know	5	9%	5	8%	7	10%	4	22%	2	15%	3	30%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Data on the environmental performance of buildings														
Good	14	25%	7	11%	10	14%	1	6%	1	8%	0	0%	2	10%
Moderate	22	40%	30	46%	26	36%	5	28%	4	31%	4	40%	7	35%
Bad	15	27%	23	35%	28	39%	8	44%	6	46%	3	30%	9	45%
I do not know	4	7%	5	8%	8	11%	4	22%	2	15%	3	30%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
National indicators for resource flows related to buildings. E.g., indicators for material consumption, waste generation etc.														
Good	12	22%	7	11%	8	11%	1	6%	2	15%	0	0%	2	10%
Moderate	13	24%	22	34%	11	15%	6	33%	6	46%	2	20%	9	45%
Bad	27	49%	26	40%	41	57%	7	39%	1	8%	4	40%	5	25%
I do not know	3	5%	10	15%	12	17%	4	22%	4	31%	4	40%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
National data on resource flows related to buildings. E.g., data on material consumption, waste generation, etc.														
Good	13	24%	6	9%	8	11%	1	6%	2	15%	0	0%	1	5%
Moderate	14	25%	19	29%	9	13%	7	39%	5	38%	1	10%	11	55%
Bad	25	45%	27	42%	43	60%	6	33%	2	15%	5	50%	5	25%
I do not know	3	5%	13	20%	12	17%	4	22%	4	31%	4	40%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Most of the respondents have doubts about the availability of good quality indicators and data and rate this as either moderate or bad. It should be noted that none of the respondent categories believe that the availability of indicators and data on the building level is good.

Table 9. Answers to the question: In your opinion, what would be the appropriate level of intervention to improve the availability of good quality indicators and data in the following areas?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
LCAs for construction products														
Beyond EU	14	25%	10	15%	6	8%	1	6%	0	0%	0	0%	2	10%
EU	34	62%	34	52%	28	39%	8	44%	6	46%	5	50%	12	60%
National	4	7%	8	12%	5	7%	2	11%	3	23%	2	20%	5	25%
Regional/Local	0	0%	0	0%	2	3%	1	6%	0	0%	0	0%	0	0%
Industry	0	0%	10	15%	24	33%	4	22%	1	8%	1	10%	0	0%
No need for intervention	1	2%	2	3%	2	3%	0	0%	2	15%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Indicators/ methods for construction product LCAs														
Beyond EU	17	31%	10	15%	5	7%	2	11%	1	8%	0	0%	2	10%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
EU	28	51%	41	63%	44	61%	10	56%	3	23%	5	50%	13	65%
National	7	13%	5	8%	2	3%	2	11%	6	46%	2	20%	4	20%
Regional/Local	0	0%	1	2%	2	3%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	4	6%	6	8%	1	6%	0	0%	1	10%	0	0%
No need for intervention	1	2%	3	5%	8	11%	1	6%	2	15%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Input data to LCAs														
Beyond EU	11	20%	10	15%	6	8%	1	6%	0	0%	2	20%	3	15%
EU	27	49%	27	42%	24	33%	9	50%	4	31%	2	20%	11	55%
National	13	24%	13	20%	10	14%	2	11%	5	38%	3	30%	5	25%
Regional/Local	0	0%	0	0%	2	3%	0	0%	0	0%	0	0%	0	0%
Industry	1	2%	12	18%	21	29%	3	17%	1	8%	1	10%	0	0%
No need for intervention	1	2%	2	3%	4	6%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Indicators for the environmental performance of buildings														
Beyond EU	7	13%	8	12%	1	1%	1	6%	0	0%	0	0%	0	0%
EU	33	60%	31	48%	46	64%	10	56%	5	38%	6	60%	10	50%
National	12	22%	18	28%	11	15%	4	22%	6	46%	3	30%	9	45%
Regional/Local	1	2%	1	2%	0	0%	0	0%	1	8%	0	0%	0	0%
Industry	0	0%	4	6%	4	6%	0	0%	0	0%	0	0%	0	0%
No need for intervention	1	2%	2	3%	8	11%	1	6%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Data on the environmental performance of buildings														
Beyond EU	5	9%	6	9%	0	0%	1	6%	0	0%	0	0%	0	0%
EU	25	45%	26	40%	22	31%	6	33%	5	38%	6	60%	9	45%
National	19	35%	19	29%	27	38%	7	39%	6	46%	3	30%	10	50%
Regional/Local	4	7%	5	8%	5	7%	2	11%	1	8%	0	0%	0	0%
Industry	0	0%	6	9%	13	18%	0	0%	0	0%	0	0%	0	0%
No need for intervention	1	2%	2	3%	2	3%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
National indicators for resource flows related to buildings														
Beyond EU	4	7%	4	6%	0	0%	1	6%	0	0%	0	0%	0	0%
EU	23	42%	22	34%	20	28%	6	33%	2	15%	4	40%	7	35%
National	21	38%	30	46%	38	53%	9	50%	10	77%	4	40%	11	55%
Regional/Local	3	5%	2	3%	3	4%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	2	3%	2	3%	0	0%	0	0%	1	10%	0	0%
No need for intervention	2	4%	4	6%	6	8%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
National data on resource flows related to buildings														

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Beyond EU	3	5%	4	6%	0	0%	1	6%	0	0%	0	0%	0	0%
EU	21	38%	19	29%	12	17%	6	33%	2	15%	4	40%	6	30%
National	22	40%	32	49%	44	61%	9	50%	10	77%	5	50%	12	60%
Regional/Local	6	11%	2	3%	3	4%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	3	5%	4	6%	0	0%	0	0%	0	0%	0	0%
No need for intervention	1	2%	4	6%	6	8%	0	0%	0	0%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Most of the respondents think that the appropriate level for intervention is the EU level concerning LCA for construction products, its indicators and input data; and also for indicators for the environmental performance of buildings. There is no clear preference among respondents concerning data on the environmental performance of building – individual persons, companies and other have a slight preference for the EU level, while others have a fairly even distribution between EU and national level. NGOs tend to prefer that all data and indicators are set at national level, except LCA for construction products where they prefer EU level. It can be noted that there is a low percentage of respondents thinking that there is no need for intervention.

1.3.2.3 . Systems to communicate environmental performance of construction products and buildings

Table 10. Answers to the question: In your opinion, what would be the appropriate level of intervention to address the following situations (as different reporting schemes for the environmental performance of buildings and/or different national reporting requirements on environmental performance of buildings)?

Respondents	Citizens		Companies		Associations		Reserach		NGOs		Others		Public authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Different reporting schemes for the environmental performance of buildings														
Beyond EU	7	13%	8	12%	14	19%	3	17%	1	8%	3	30%	1	5%
EU	34	62%	35	54%	42	58%	10	56%	6	46%	4	40%	12	60%
National	7	13%	7	11%	1	1%	3	17%	5	38%	3	30%	7	35%
Regional/Local	0	0%	1	2%	1	1%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	6	9%	5	7%	0	0%	0	0%	0	0%	0	0%
No need for intervention	2	4%	3	5%	4	6%	0	0%	0	0%	0	0%	0	0%
I do not know	5	9%	5	8%	5	7%	2	11%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Different national reporting requirements on environmental performance of buildings														
Beyond EU	4	7%	3	5%	0	0%	1	6%	0	0%	0	0%	0	0%
EU	26	47%	30	46%	43	60%	4	22%	5	38%	5	50%	10	50%
National	17	31%	22	34%	17	24%	9	50%	7	54%	5	50%	10	50%
Regional/Local	1	2%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	3	5%	3	4%	0	0%	0	0%	0	0%	0	0%
No need for intervention	2	4%	2	3%	4	6%	1	6%	0	0%	0	0%	0	0%
I do not know	5	9%	5	8%	5	7%	3	17%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

A majority of respondents consider the EU the correct level of intervention to address issues regarding different reporting schemes for the environmental performance of buildings. Regarding different national reporting requirements on environmental performance of buildings, answers of respondents vary. While individual persons, companies and associations find that the EU level is appropriate, research institutions and NGOs find that this should stay at the national level. Whereas half of the public authorities consider that different national reporting requirements could be addressed somehow at the EU level, half of them prefer the national level to deal with this. Again, it can be noted that there is a low percentage of respondents thinking that there is no need for intervention.

1.3.2.4. Material management

The following two tables shift the focus directly to more effective material management.

Table 11. Answers to the question: Regarding construction and demolition waste, which of the following areas do you believe are currently sufficiently dealt with in the supply chain? Which areas would need to be improved, in your view?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Recycled material in construction products														
Great improvements needed	39	71%	35	54%	22	31%	9	50%	7	54%	6	60%	13	65%
Small improvements needed	11	20%	16	25%	32	44%	4	22%	3	23%	3	30%	5	25%
Sufficiently dealt with	2	4%	9	14%	12	17%	2	11%	0	0%	1	10%	1	5%
I do not know	3	5%	5	8%	6	8%	3	17%	3	23%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Disassembly of construction products (taking apart construction products into parts suitable for reuse or recycling)														
Great improvements needed	46	84%	45	69%	45	63%	12	67%	8	62%	6	60%	16	80%
Small improvements needed	5	9%	8	12%	15	21%	3	17%	2	15%	2	20%	2	10%
Sufficiently dealt with	1	2%	6	9%	5	7%	0	0%	0	0%	1	10%	1	5%
I do not know	3	5%	6	9%	7	10%	3	17%	3	23%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Recyclability of sorted building materials														
Great improvements needed	32	58%	26	40%	22	31%	7	39%	5	38%	3	30%	12	60%
Small improvements needed	20	36%	26	40%	28	39%	8	44%	5	38%	5	50%	6	30%
Sufficiently dealt with	2	4%	5	8%	15	21%	0	0%	0	0%	2	20%	1	5%
I do not know	1	2%	8	12%	7	10%	3	17%	3	23%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Identification and sorting of construction and demolition waste														
Great improvements needed	34	62%	28	43%	41	57%	8	44%	4	31%	3	30%	11	55%

Small improvements needed	17	31%	24	37%	20	28%	5	28%	5	38%	6	60%	6	30%
Sufficiently dealt with	3	5%	6	9%	4	6%	0	0%	1	8%	1	10%	2	10%
I do not know	1	2%	7	11%	7	10%	5	28%	3	23%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Competence of work force at construction and/or demolition site														
Great improvements needed	32	58%	25	38%	44	61%	8	44%	5	38%	6	60%	8	40%
Small improvements needed	18	33%	22	34%	17	24%	5	28%	5	38%	3	30%	9	45%
Sufficiently dealt with	3	5%	5	8%	3	4%	0	0%	0	0%	1	10%	2	10%
I do not know	2	4%	13	20%	8	11%	5	28%	3	23%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Design for deconstruction of buildings (considering already at the design stage how to take apart a building at the end of its life time, into parts that can be reused or recycled)														
Great improvements needed	45	82%	43	66%	47	65%	13	72%	11	85%	7	70%	16	80%
Small improvements needed	6	11%	11	17%	13	18%	2	11%	0	0%	2	20%	3	15%
Sufficiently dealt with	3	5%	4	6%	5	7%	0	0%	0	0%	1	10%	0	0%
I do not know	1	2%	7	11%	7	10%	3	17%	2	15%	0	0%	1	5%
Total	55	100	65	100	72	100	18	100	13	100	10	100	20	100

Almost all respondents state that at least some improvement (small or great) is needed in regard to construction and demolition waste in the construction phase. Areas where most respondents agree on the need for change are design for deconstruction of buildings, disassembly of construction products and recycled material in construction products.

Table 12. What would be the appropriate level of intervention to address those areas for which you consider improvements are needed?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Recycled material in construction products														
Beyond EU	14	25%	9	14%	3	4%	0	0%	1	8%	1	10%	3	15%
EU	29	53%	28	43%	19	26%	13	72%	5	38%	5	50%	12	60%
National	5	9%	8	12%	11	15%	0	0%	3	23%	1	10%	4	20%
Regional/Local	2	4%	1	2%	1	1%	0	0%	0	0%	2	20%	0	0%
Industry	3	5%	11	17%	23	32%	2	11%	2	15%	0	0%	1	5%
No need for intervention	0	0%	4	6%	10	14%	1	6%	1	8%	1	10%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Disassembly of construction products (taking apart construction products into parts suitable for reuse or recycling)														
Beyond EU	8	15%	7	11%	2	3%	0	0%	0	0%	0	0%	1	5%
EU	31	56%	28	43%	24	33%	9	50%	6	46%	3	30%	11	55%
National	10	18%	15	23%	21	29%	1	6%	4	31%	3	30%	5	25%
Regional/Local	2	4%	4	6%	8	11%	0	0%	1	8%	1	10%	0	0%
Industry	2	4%	7	11%	8	11%	6	33%	0	0%	1	10%	2	10%
No need for intervention	0	0%	0	0%	4	6%	0	0%	1	8%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Recyclability of sorted building materials														
Beyond EU	9	16%	5	8%	2	3%	0	0%	0	0%	0	0%	0	0%
EU	31	56%	28	43%	16	22%	9	50%	4	31%	6	60%	13	65%
National	7	13%	15	23%	21	29%	1	6%	4	31%	1	10%	7	35%
Regional/Local	3	5%	1	2%	5	7%	1	6%	1	8%	0	0%	0	0%
Industry	3	5%	10	15%	17	24%	5	28%	2	15%	2	20%	0	0%
No need for intervention	0	0%	1	2%	6	8%	0	0%	1	8%	1	10%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Identification and sorting of construction and demolition waste														
Beyond EU	7	13%	5	8%	2	3%	0	0%	1	8%	0	0%	0	0%
EU	28	51%	30	46%	25	35%	6	33%	4	31%	4	40%	8	40%
National	13	24%	15	23%	27	38%	6	33%	3	23%	4	40%	9	45%
Regional/Local	4	7%	2	3%	4	6%	1	6%	2	15%	1	10%	2	10%
Industry	1	2%	6	9%	8	11%	3	17%	1	8%	0	0%	1	5%
No need for intervention	0	0%	1	2%	1	1%	0	0%	1	8%	1	10%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Competence of work force at construction and/or demolition site														
Beyond EU	5	9%	3	5%	2	3%	0	0%	0	0%	0	0%	0	0%
EU	20	36%	14	22%	8	11%	6	33%	2	15%	3	30%	5	25%
National	15	27%	22	34%	35	49%	6	33%	5	38%	5	50%	9	45%
Regional/Local	10	18%	5	8%	6	8%	2	11%	2	15%	0	0%	3	15%
Industry	2	4%	12	18%	13	18%	1	6%	2	15%	2	20%	3	15%
No need for intervention	1	2%	1	2%	2	3%	0	0%	1	8%	0	0%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Design for deconstruction of buildings (considering already at the design stage how to take apart a building at the end of its life time, into parts that can be reused or recycled)														
Beyond EU	8	15%	6	9%	3	4%	0	0%	0	0%	0	0%	0	0%
EU	28	51%	26	40%	26	36%	9	50%	4	31%	4	40%	11	55%
National	12	22%	18	28%	11	15%	1	6%	4	31%	2	20%	6	30%
Regional/Local	2	4%	1	2%	6	8%	1	6%	1	8%	1	10%	1	5%
Industry	2	4%	9	14%	17	24%	4	22%	2	15%	2	20%	1	5%
No need for intervention	1	2%	1	2%	4	6%	1	6%	1	8%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Other as described under question 5A														
Beyond EU	2	14%	1	6%	3	10%	0	0%	0	0%	0	0%	0	0%
EU	4	29%	5	31%	18	62%	3	100%	0	0%	1	33%	2	67%
National	1	7%	0	0%	0	0%	0	0%	2	40%	0	0%	0	0%
Regional/Local	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Industry	0	0%	2	13%	1	3%	0	0%	1	20%	0	0%	0	0%
No need for intervention	0	0%	0	0%	0	0%	0	0%	1	20%	1	33%	0	0%
Total	14	100%	16	100%	29	100%	3	100%	5	100%	3	100%	3	100%

Most respondent groups see the EU as the appropriate level to implement the necessary improvements for most of the areas, in particular those three that were identified in the previous question as in need of great improvements, but also "recyclability of sorted building materials". The areas "Identification and sorting of construction and demolition waste" and "Competence of work force at construction and/or demolition site" have quite large share from each group of respondents supporting national intervention. Furthermore, associations and NGOs tend to favour intervention at national or regional level (as opposed to EU level) more than other types of respondents.

1. 3.3. Policy options

1.3.3.1. Measures on assessment framework for the environmental performance of buildings

Table 13. Answers to the question: In your view, how effective would the following policy options at EU level be to support the increased uptake of better environmental performing buildings?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
General guidance regarding resource use areas to include in existing and new schemes for the assessment of the environmental performance of buildings														
Effective	23	42%	18	28%	13	18%	4	22%	2	15%	1	10%	7	35%
Somewhat effective	20	36%	23	35%	31	43%	6	33%	5	38%	6	60%	8	40%
Not effective	9	16%	21	32%	24	33%	7	39%	6	46%	3	30%	4	20%
I do not know	3	5%	3	5%	4	6%	1	6%	0	0%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A voluntary European framework consisting of core indicators														
Effective	10	18%	7	11%	6	8%	2	11%	1	8%	0	0%	2	10%
Somewhat effective	23	42%	40	62%	26	36%	10	56%	7	54%	8	80%	13	65%
Not effective	20	36%	17	26%	38	53%	5	28%	5	38%	2	20%	4	20%
I do not know	2	4%	1	2%	2	3%	1	6%	0	0%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A voluntary European framework consisting of core indicators and, eventually, a set of benchmarks														
Effective	13	24%	9	14%	6	8%	3	17%	1	8%	0	0%	2	10%
Somewhat effective	26	47%	35	54%	22	31%	8	44%	7	54%	8	80%	13	65%
Not effective	14	25%	20	31%	41	57%	6	33%	5	38%	2	20%	4	20%
I do not know	2	4%	1	2%	3	4%	1	6%	0	0%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A mandatory European framework consisting of core indicators														
Effective	29	53%	35	54%	16	22%	10	56%	4	31%	2	20%	14	70%
Somewhat effective	19	35%	11	17%	19	26%	4	22%	5	38%	7	70%	2	10%
Not effective	5	9%	17	26%	34	47%	3	17%	3	23%	1	10%	3	15%
I do not know	2	4%	2	3%	3	4%	1	6%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A mandatory European framework consisting of core indicators and, eventually, a set of benchmarks														
Effective	34	62%	39	60%	17	24%	11	61%	4	31%	5	50%	14	70%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Somewhat effective	15	27%	6	9%	13	18%	3	17%	5	38%	4	40%	2	10%
Not effective	4	7%	18	28%	39	54%	3	17%	3	23%	1	10%	3	15%
I do not know	2	4%	2	3%	3	4%	1	6%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Effective	3	5%	10	15%	22	31%	2	11%	0	0%	0	0%	1	5%
Somewhat effective	4	7%	1	2%	1	1%	0	0%	2	15%	2	20%	2	10%
Not effective	45	82%	48	74%	34	47%	14	78%	10	77%	7	70%	14	70%
I do not know	3	5%	6	9%	15	21%	2	11%	1	8%	1	10%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

A change in EU policy in this domain is viewed as important and effective or somewhat effective. There is a clear majority among the companies, individual persons, research institutions and public authorities which consider a mandatory European framework consisting of core indicators and, eventually, a set of benchmarks as an effective option; NGOs find it somewhat effective. Associations are less favourable of this option – more than half of these respondents did not consider it an effective option. While the mandatory options are preferred by most respondents, voluntary options are supported as well. Individual persons, companies, associations and public authorities believe the option of providing general guidance regarding resource use to be effective or somewhat effective but research institutions and NGOs do not tend to agree. There is broad consensus that "no change in EU policy" is not an option (it is not effective).

Table 14. Answers to the question: Do you think that the overall benefits of implementing these options will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
General guidance regarding resource use areas to include in existing and new schemes for the assessment of the environmental performance of buildings														
Significantly	13	24%	18	28%	13	18%	4	22%	4	31%	0	0%	7	35%
Slightly	18	33%	20	31%	18	25%	5	28%	6	46%	6	60%	4	20%
Not at all	19	35%	18	28%	29	40%	6	33%	2	15%	1	10%	4	20%
I do not know	5	9%	9	14%	12	17%	3	17%	1	8%	3	30%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A voluntary European framework consisting of core indicators														
Significantly	7	13%	10	15%	10	14%	1	6%	2	15%	0	0%	4	20%
Slightly	19	35%	27	42%	24	33%	12	67%	7	54%	3	30%	5	25%
Not at all	21	38%	23	35%	33	46%	2	11%	3	23%	4	40%	5	25%
I do not know	8	15%	5	8%	5	7%	3	17%	1	8%	3	30%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A voluntary European framework consisting of core indicators and, eventually, a set of benchmarks														
Significantly	10	18%	11	17%	12	17%	1	6%	2	15%	0	0%	5	25%
Slightly	18	33%	23	35%	19	26%	10	56%	7	54%	5	50%	5	25%
Not at all	20	36%	25	38%	35	49%	3	17%	3	23%	2	20%	4	20%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
I do not know	7	13%	6	9%	6	8%	4	22%	1	8%	3	30%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A mandatory European framework consisting of core indicators														
Significantly	19	35%	25	38%	20	28%	5	28%	5	38%	4	40%	10	50%
Slightly	19	35%	17	26%	9	13%	6	33%	3	23%	2	20%	2	10%
Not at all	14	25%	17	26%	37	51%	3	17%	3	23%	1	10%	3	15%
I do not know	3	5%	6	9%	6	8%	4	22%	2	15%	3	30%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
A mandatory European framework consisting of core indicators and, eventually, a set of benchmarks														
Significantly	21	38%	29	45%	19	26%	8	44%	6	46%	5	50%	10	50%
Slightly	17	31%	14	22%	6	8%	3	17%	2	15%	1	10%	2	10%
Not at all	14	25%	15	23%	41	57%	2	11%	3	23%	1	10%	3	15%
I do not know	3	5%	7	11%	6	8%	5	28%	2	15%	3	30%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	5	9%	9	14%	8	11%	5	28%	0	0%	0	0%	3	15%
Slightly	4	7%	2	3%	2	3%	1	6%	1	8%	0	0%	0	0%
Not at all	30	55%	35	54%	23	32%	7	39%	7	54%	6	60%	9	45%
I do not know	16	29%	19	29%	39	54%	5	28%	5	38%	4	40%	8	40%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

The option for which benefits most significantly will outweigh the costs is a mandatory European framework consisting of core indicators and, eventually, a set of benchmarks, closely followed by the option of a mandatory framework but without the benchmarks. Only associations are of a different opinion, on average. It is however to be noted that associations are sceptic to all options, including "no change in EU policy". The same options but introduced on a voluntary basis are rather considered to "slightly" see benefits outweighing the costs. The benefits of more general guidance are also thought to slightly outweigh costs. This option does however not allow for the same possibility to move onto what was seen as the most effective and cost-efficient option at a later stage, a mandatory framework, as the voluntary framework does.

It is interesting to note that SMEs and associations mainly representing SMEs are generally much more positive to the cost-effectiveness of a voluntary European framework than what the total group of companies and associations are, respectively. E.g., about half of the associations mainly representing SMEs believe that the benefits from a voluntary framework would slightly outweigh its costs (as opposed to a third of all associations) and about a quarter believe that the benefits of this option would significantly outweigh its costs (as opposed to 14% of all associations).

1.3.3.2. Measures to stimulate demand for better environmental performing buildings

Table 15. Answers to the question: In your view, how effective would the following policy options at EU level be to stimulate demand for better environmental performing <u>public buildings</u>?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mandatory GPP (going beyond energy efficiency) for all or certain type of buildings (e.g. schools), based on European criteria														
Effective	38	69%	42	65%	29	40%	13	72%	6	46%	5	50%	15	75%
Somewhat effective	14	25%	12	18%	19	26%	4	22%	3	23%	4	40%	3	15%
Not effective	2	4%	9	14%	19	26%	1	6%	2	15%	1	10%	1	5%
I do not know	1	2%	2	3%	5	7%	0	0%	2	15%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary GPP (going beyond energy efficiency) for all or certain type of buildings (e.g. schools), based on European criteria														
Effective	9	16%	9	14%	9	13%	0	0%	2	15%	1	10%	1	5%
Somewhat effective	23	42%	34	52%	36	50%	13	72%	7	54%	5	50%	11	55%
Not effective	22	40%	20	31%	23	32%	5	28%	3	23%	4	40%	7	35%
I do not know	1	2%	2	3%	4	6%	0	0%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Mandatory targets for the extent of GPP of buildings by public authorities														
Effective	38	69%	34	52%	28	39%	13	72%	6	46%	6	60%	15	75%
Somewhat effective	13	24%	18	28%	16	22%	2	11%	3	23%	3	30%	3	15%
Not effective	3	5%	10	15%	23	32%	3	17%	2	15%	1	10%	1	5%
I do not know	1	2%	3	5%	5	7%	0	0%	2	15%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary targets for the extent of GPP of buildings by public authorities														
Effective	9	16%	8	12%	7	10%	0	0%	1	8%	0	0%	1	5%
Somewhat effective	24	44%	31	48%	36	50%	11	61%	8	62%	6	60%	13	65%
Not effective	21	38%	23	35%	24	33%	7	39%	3	23%	4	40%	5	25%
I do not know	1	2%	3	5%	5	7%	0	0%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Training of relevant authorities in how to use GPP in the area on buildings														
Effective	28	51%	29	45%	33	46%	9	50%	6	46%	4	40%	14	70%
Somewhat effective	23	42%	28	43%	30	42%	7	39%	5	38%	6	60%	5	25%
Not effective	1	2%	6	9%	4	6%	2	11%	0	0%	0	0%	0	0%
I do not know	3	5%	2	3%	5	7%	0	0%	2	15%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Increasing the use of GPP of buildings (going beyond energy efficiency) in future EU regional policy														
Effective	34	62%	29	45%	19	26%	9	50%	7	54%	7	70%	14	70%
Somewhat effective	16	29%	24	37%	37	51%	7	39%	3	23%	3	30%	5	25%
Not effective	2	4%	7	11%	11	15%	1	6%	1	8%	0	0%	0	0%
I do not know	3	5%	5	8%	5	7%	1	6%	2	15%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
EU-wide life cycle costing (LCC) methods for buildings for GPP														
Effective	36	65%	36	55%	38	53%	8	44%	6	46%	5	50%	12	60%
Somewhat effective	14	25%	16	25%	22	31%	7	39%	3	23%	4	40%	7	35%
Not effective	3	5%	10	15%	7	10%	1	6%	1	8%	1	10%	0	0%
I do not know	2	4%	3	5%	5	7%	2	11%	3	23%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
No change in EU policy														
Effective	4	7%	7	11%	4	6%	0	0%	0	0%	0	0%	0	0%
Somewhat effective	2	4%	2	3%	5	7%	1	6%	2	15%	0	0%	0	0%
Not effective	44	80%	46	71%	46	64%	14	78%	8	62%	8	80%	17	85%
I do not know	5	9%	10	15%	17	24%	3	17%	3	23%	2	20%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Table 16. Answers to the question: Do you think that overall benefits of implementing these options for <u>public buildings</u> will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mandatory GPP (going beyond energy efficiency) for all or certain type of buildings (e.g. schools), based on European criteria														
Significantly	30	55%	32	49%	22	31%	8	44%	5	38%	5	50%	11	55%
Slightly	16	29%	10	15%	11	15%	4	22%	2	15%	1	10%	3	15%
Not at all	7	13%	12	18%	28	39%	2	11%	2	15%	2	20%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary GPP (going beyond energy efficiency) for all or certain type of buildings (e.g. schools), based on European criteria														
Significantly	4	7%	7	11%	11	15%	0	0%	1	8%	0	0%	0	0%
Slightly	25	45%	29	45%	30	42%	12	67%	7	54%	4	40%	13	65%
Not at all	22	40%	19	29%	22	31%	2	11%	2	15%	3	30%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Mandatory targets for the extent of GPP of buildings by public authorities														
Significantly	29	53%	27	42%	18	25%	8	44%	5	38%	5	50%	12	60%
Slightly	14	25%	14	22%	14	19%	4	22%	2	15%	1	10%	1	5%
Not at all	10	18%	12	18%	29	40%	2	11%	2	15%	2	20%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary targets for the extent of GPP of buildings by public authorities														
Significantly	6	11%	6	9%	8	11%	0	0%	2	15%	0	0%	1	5%
Slightly	27	49%	30	46%	33	46%	11	61%	6	46%	4	40%	10	50%
Not at all	18	33%	19	29%	23	32%	3	17%	2	15%	3	30%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Training of relevant authorities in how to use GPP in the area on buildings														
Significantly	17	31%	21	32%	23	32%	8	44%	5	38%	4	40%	12	60%
Slightly	22	40%	21	32%	29	40%	6	33%	4	31%	3	30%	3	15%
Not at all	12	22%	11	17%	14	19%	1	6%	1	8%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Increasing the use of GPP of buildings (going beyond energy efficiency) in future EU regional policy														
Significantly	27	49%	25	38%	17	24%	5	28%	7	54%	5	50%	11	55%
Slightly	17	31%	21	32%	29	40%	10	56%	1	8%	1	10%	3	15%
Not at all	7	13%	8	12%	15	21%	0	0%	1	8%	3	30%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
EU-wide life cycle costing (LCC) methods for buildings for GPP														

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Significantly	22	40%	30	46%	29	40%	4	22%	4	31%	5	50%	9	45%
Slightly	21	38%	17	26%	20	28%	7	39%	2	15%	0	0%	5	25%
Not at all	8	15%	8	12%	12	17%	3	17%	2	15%	2	20%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	8	15%	4	6%	12	17%	2	11%	0	0%	0	0%	1	5%
Slightly	3	5%	6	9%	2	3%	0	0%	2	15%	0	0%	0	0%
Not at all	33	60%	33	51%	24	33%	10	56%	6	46%	6	60%	12	60%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Although all options are considered as either effective (mandatory GPP/targets for GPP, training of relevant authorities, increasing GPP in EU regional policy and EU-wide life cycle costing methods) or somewhat effective (voluntary GPP/targets for GPP), benefits of mandatory options are considered to outweigh their costs significantly while voluntary only are thought to do this slightly. The opinions of associations are however more disperse than those of other categories of respondents, which to a stronger degree perceive benefits with mandatory options.

Regarding training of relevant authorities, increasing use of GPP of buildings in future EU regional policy and EU-wide life cycle costing (LCC) methods for buildings for GPP, respondents consider that their benefits outweigh their costs significantly or slightly. There is a broad consensus that "no change in EU policy" is not an effective option and neither is it seen as cost effective.

Table 17. Answers to the question: In your view, how effective would the following policy options at EU level be to stimulate demand for better performing environmental public buildings?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Label/Certification providing information on environmental performance of buildings, based on a European framework														
Effective	35	64%	40	62%	29	40%	9	50%	5	38%	4	40%	11	55%
Somewhat effective	17	31%	14	22%	26	36%	6	33%	4	31%	5	50%	6	30%
Not effective	2	4%	9	14%	14	19%	1	6%	3	23%	1	10%	2	10%
I do not know	1	2%	2	3%	3	4%	2	11%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary agreements on minimum environmental performance of buildings														
Effective	10	18%	9	14%	7	10%	4	22%	3	23%	1	10%	3	15%
Somewhat effective	26	47%	42	65%	43	60%	9	50%	6	46%	7	70%	11	55%
Not effective	18	33%	13	20%	18	25%	4	22%	3	23%	2	20%	5	25%
I do not know	1	2%	1	2%	4	6%	1	6%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Awareness raising campaign where e.g. architects help clients understanding different options in terms of environmental performance														
Effective	17	31%	17	26%	32	44%	4	22%	5	38%	5	50%	8	40%
Somewhat effective	28	51%	38	58%	23	32%	8	44%	5	38%	5	50%	9	45%
Not effective	8	15%	9	14%	13	18%	5	28%	2	15%	0	0%	2	10%
I do not know	2	4%	1	2%	4	6%	1	6%	1	8%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

European Eco-label for buildings (awarded to best environmental performers)														
Effective	28	51%	27	42%	9	13%	3	17%	4	31%	4	40%	6	30%
Somewhat effective	22	40%	19	29%	33	46%	6	33%	6	46%	5	50%	6	30%
Not effective	4	7%	17	26%	26	36%	8	44%	2	15%	1	10%	4	20%
I do not know	1	2%	2	3%	4	6%	1	6%	1	8%	0	0%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Provide guidance to Member States on financial incentives (e.g. tax breaks, preferential loans)														
Effective	39	71%	36	55%	31	43%	6	33%	4	31%	6	60%	9	45%
Somewhat effective	14	25%	19	29%	23	32%	6	33%	6	46%	3	30%	9	45%
Not effective	1	2%	9	14%	14	19%	4	22%	1	8%	1	10%	0	0%
I do not know	1	2%	1	2%	4	6%	2	11%	2	15%	0	0%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Effective	2	4%	5	8%	5	7%	1	6%	1	8%	0	0%	0	0%
Somewhat effective	3	5%	3	5%	3	4%	0	0%	4	31%	0	0%	1	5%
Not effective	44	80%	46	71%	46	64%	13	72%	6	46%	7	70%	14	70%
I do not know	6	11%	11	17%	18	25%	4	22%	2	15%	3	30%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Table 18. Answers to the question: Do you think that overall benefits of implementing these options for <u>public buildings</u> will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Label/Certification providing information on environmental performance of buildings, based on a European framework														
Significantly	21	38%	28	43%	21	29%	3	17%	4	31%	2	20%	7	35%
Slightly	21	38%	21	32%	29	40%	7	39%	5	38%	5	50%	5	25%
Not at all	10	18%	8	12%	16	22%	4	22%	1	8%	1	10%	4	20%
I do not know	3	5%	8	12%	6	8%	4	22%	3	23%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary agreements on minimum environmental performance of buildings														
Significantly	7	13%	7	11%	4	6%	3	17%	3	23%	0	0%	1	5%
Slightly	23	42%	35	54%	39	54%	10	56%	6	46%	5	50%	9	45%
Not at all	21	38%	15	23%	23	32%	0	0%	2	15%	2	20%	4	20%
I do not know	4	7%	8	12%	6	8%	5	28%	2	15%	3	30%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Awareness raising campaign where e.g. architects help clients understanding different options in terms of environmental performance														
Significantly	17	31%	17	26%	29	40%	3	17%	5	38%	4	40%	5	25%
Slightly	25	45%	33	51%	20	28%	7	39%	5	38%	3	30%	7	35%
Not at all	10	18%	9	14%	15	21%	4	22%	1	8%	1	10%	3	15%
I do not know	3	5%	6	9%	8	11%	4	22%	2	15%	2	20%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
European Eco-label for buildings (awarded to best environmental performers)														
Significantly	15	27%	21	32%	8	11%	2	11%	2	15%	1	10%	5	25%
Slightly	26	47%	24	37%	33	46%	5	28%	7	54%	6	60%	6	30%
Not at all	11	20%	10	15%	23	32%	7	39%	2	15%	1	10%	3	15%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
I do not know	3	5%	10	15%	8	11%	4	22%	2	15%	2	20%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Provide guidance to Member States on financial incentives (e.g. tax breaks, preferential loans)														
Significantly	23	42%	33	51%	31	43%	4	22%	4	31%	5	50%	7	35%
Slightly	18	33%	14	22%	24	33%	5	28%	6	46%	2	20%	6	30%
Not at all	11	20%	11	17%	11	15%	3	17%	0	0%	0	0%	2	10%
I do not know	3	5%	7	11%	6	8%	6	33%	3	23%	3	30%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	3	5%	5	8%	4	6%	2	11%	0	0%	0	0%	1	5%
Slightly	3	5%	6	9%	5	7%	0	0%	1	8%	0	0%	0	0%
Not at all	35	64%	33	51%	30	42%	8	44%	8	62%	6	60%	9	45%
I do not know	14	25%	21	32%	33	46%	8	44%	4	31%	4	40%	10	50%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

In the case of public buildings, the use of a label or a certificate to provide information on the environmental performance, based on a European framework, is considered effective by all groups. Awareness raising campaign and provision of guidance to Member States on financial incentives (e.g. tax breaks, preferential loans) are thought to be effective or somewhat effective, while voluntary agreements are considered somewhat effective. Opinions about a European Eco-label for buildings vary but the option is, in general, thought to be somewhat effective.

Still for public buildings, a majority of the respondents believe that the benefits of voluntary agreements will outweigh their costs, slightly. Regarding the label or certificate providing information on the environmental performance, awareness raising campaigns and provision of guidance to Member States on financial incentives, respondents consider that their benefits will outweigh their costs significantly or slightly. All respondent groups believe that benefits of a European Eco-label for buildings will outweigh its costs slightly, except research institutions which are more hesitant. All respondents groups agree that "no change in EU policy" is not an option.

Table 19. Answers to the question: In your view, how effective would the following policy options at EU level be to stimulate demand for better performing environmental private buildings (residential and non-residential)?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Label/Certification providing information on environmental performance of buildings, based on a European framework														
Effective	28	51%	34	52%	20	28%	12	67%	3	23%	5	50%	11	55%
Somewhat effective	21	38%	19	29%	34	47%	3	17%	9	69%	3	30%	7	35%
Not effective	5	9%	11	17%	17	24%	1	6%	1	8%	2	20%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary agreements on minimum environmental performance of buildings														
Effective	7	13%	34	52%	20	28%	12	67%	3	23%	5	50%	11	55%
Somewhat effective	27	49%	19	29%	34	47%	3	17%	9	69%	3	30%	7	35%
Not effective	20	36%	11	17%	17	24%	1	6%	1	8%	2	20%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Awareness raising campaign where e.g. architects help clients understanding different options in terms of environmental performance														
Effective	21	38%	21	32%	36	50%	4	22%	4	31%	4	40%	10	50%
Somewhat effective	26	47%	34	52%	20	28%	8	44%	8	62%	5	50%	5	25%
Not effective	7	13%	10	15%	15	21%	5	28%	1	8%	1	10%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
European Eco-label for buildings (awarded to best environmental performers)														
Effective	28	51%	23	35%	9	13%	4	22%	1	8%	2	20%	6	30%
Somewhat effective	19	35%	25	38%	30	42%	6	33%	10	77%	7	70%	9	45%
Not effective	7	13%	16	25%	30	42%	7	39%	2	15%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Provide guidance to Member States on financial incentives (e.g. tax breaks, preferential loans)														
Effective	39	71%	34	52%	32	44%	8	44%	6	46%	4	40%	10	50%
Somewhat effective	11	20%	29	45%	23	32%	5	28%	6	46%	5	50%	6	30%
Not effective	4	7%	2	3%	14	19%	3	17%	0	0%	1	10%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Effective	3	5%	6	9%	8	11%	2	11%	0	0%	0	0%	0	0%
Somewhat effective	1	2%	2	3%	2	3%	0	0%	2	15%	0	0%	0	0%
Not effective	44	80%	47	72%	47	65%	12	67%	9	69%	8	80%	15	75%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Table 20. Answers to the question: Do you think that the overall benefits of implementing these options for <u>private buildings</u> (residential and non-residential) will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Label/Certification providing information on environmental performance of buildings, based on a European framework														
Significantly	17	31%	28	43%	19	26%	4	22%	4	31%	4	40%	7	35%
Slightly	25	45%	18	28%	31	43%	7	39%	6	46%	2	20%	6	30%
Not at all	10	18%	11	17%	19	26%	2	11%	1	8%	1	10%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Voluntary agreements on minimum environmental performance of buildings														
Significantly	6	11%	9	14%	11	15%	5	28%	1	8%	0	0%	1	5%
Slightly	27	49%	35	54%	33	46%	7	39%	8	62%	6	60%	9	45%
Not at all	18	33%	14	22%	23	32%	1	6%	2	15%	1	10%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Awareness raising campaign where e.g. architects help clients understanding different options in terms of environmental performance														
Significantly	12	22%	19	29%	34	47%	4	22%	4	31%	3	30%	6	30%
Slightly	27	49%	27	42%	14	19%	5	28%	7	54%	4	40%	7	35%
Not at all	12	22%	14	22%	19	26%	5	28%	1	8%	0	0%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
European Eco-label for buildings (awarded to best environmental performers)														
Significantly	15	27%	16	25%	10	14%	6	33%	1	8%	1	10%	5	25%
Slightly	28	51%	26	40%	25	35%	3	17%	8	62%	6	60%	7	35%

Not at all	9	16%	16	25%	30	42%	4	22%	2	15%	0	0%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Provide guidance to Member States on financial incentives (e.g. tax breaks, preferential loans)														
Significantly	24	44%	29	45%	24	33%	7	39%	5	38%	3	30%	7	35%
Slightly	19	35%	22	34%	25	35%	4	22%	6	46%	4	40%	5	25%
Not at all	9	16%	8	12%	18	25%	1	6%	0	0%	0	0%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	6	11%	6	9%	9	13%	2	11%	1	8%	0	0%	1	5%
Slightly	4	7%	7	11%	7	10%	0	0%	1	8%	0	0%	0	0%
Not at all	33	60%	34	52%	32	44%	6	33%	8	62%	7	70%	9	45%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

The most preferred options were the provision of guidance to Member States on financial incentives and the label/certificate. Awareness raising campaign are perceived as effective to somewhat effective while voluntary agreements were found as somewhat effective. As for a European Eco-label, similar to the case of public buildings, opinions vary but, in general, respondents consider this option to be somewhat effective. In particular, parts of associations and research institutions have their doubts about its effectiveness.

A majority of the respondents consider that the benefits of what is perceived as the most effective options (provision of guidance to Member State on financial incentive and a label/certificate) overweigh their costs significantly to slightly. Awareness campaigns but also a European Eco-label and to a lesser extent voluntary agreements are thought to have benefits outweighing costs, however slightly less. Most of the respondents believe that "no change in EU policy" is not an effective option.

1.3.3.3. Measures to ensure the availability of national data on resource flows related to buildings

Table 21. Answers to the question: In your view, how effective would the following policy options be to ensure good quality data to be collected and reported at national level?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Establish indicators to be used at national level when collecting data														
Effective	33	60%	36	55%	24	33%	7	39%	6	46%	6	60%	14	70%
Somewhat effective	17	31%	14	22%	24	33%	8	44%	4	31%	4	40%	3	15%
Not effective	2	4%	4	6%	18	25%	2	11%	1	8%	0	0%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Require data collection at national level														
Effective	34	62%	34	52%	23	32%	11	61%	8	62%	6	60%	11	55%
Somewhat effective	14	25%	12	18%	28	39%	5	28%	2	15%	3	30%	6	30%
Not effective	4	7%	8	12%	12	17%	1	6%	1	8%	1	10%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Effective	2	4%	6	9%	8	11%	0	0%	1	8%	0	0%	2	10%
Somewhat effective	2	4%	5	8%	2	3%	0	0%	0	0%	0	0%	0	0%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Not effective	44	80%	36	55%	39	54%	15	83%	10	77%	8	80%	14	70%
I do not know	7	13%	18	28%	23	32%	3	17%	2	15%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Most of the respondents, except associations, found both these options to be effective. Associations were more critical and found both options rather somewhat effective while research institutions have a less strong opinion. NGOs, research institutions and public authorities believe that "no change in EU policy" is an option but this view is not shared by private persons, companies or associations.

Table 22. Answers to the question: Do you think that the overall benefits of implementing these options will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Establish indicators to be used at national level when collecting data														
Significantly	19	35%	24	37%	15	21%	3	17%	4	31%	6	60%	9	45%
Slightly	21	38%	20	31%	26	36%	9	50%	5	38%	1	10%	4	20%
Not at all	9	16%	7	11%	19	26%	3	17%	1	8%	1	10%	3	15%
I do not know	6	11%	14	22%	12	17%	3	17%	3	23%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Require data collection at national level														
Significantly	18	33%	24	37%	13	18%	7	39%	5	38%	6	60%	8	40%
Slightly	22	40%	18	28%	29	40%	6	33%	3	23%	0	0%	4	20%
Not at all	8	15%	9	14%	17	24%	2	11%	1	8%	2	20%	3	15%
I do not know	7	13%	14	22%	13	18%	3	17%	4	31%	2	20%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	3	5%	2	3%	9	13%	1	6%	1	8%	0	0%	3	15%
Slightly	3	5%	6	9%	0	0%	0	0%	0	0%	1	10%	1	5%
Not at all	35	64%	29	45%	30	42%	11	61%	7	54%	6	60%	9	45%
I do not know	14	25%	28	43%	33	46%	6	33%	5	38%	3	30%	7	35%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents believe that benefits of both options will outweigh their costs, slightly or significantly. Associations are more sceptical than others but even so typically rate benefits outweighing costs slightly. There is a broad agreement that "no change in EU policy" is not a cost-efficient option.

1.3.3.4. Measures to use construction material more efficiently

Also in this policy section, options for efficient material management are considered.

Table 23. Answers to the question: How effective would the following policy options at EU level be to improve the efficiency of use of construction materials?

	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Ranking	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)	Count (#)	Share (%)
Recommend Member States to require some kind of an end of life assessment in order to grant a building permit														
Effective	26	47%	24	37%	12	17%	6	33%	3	23%	2	20%	10	50%
Somewhat effective	21	38%	25	38%	28	39%	4	22%	8	62%	4	40%	7	35%
Not effective	6	11%	14	22%	27	38%	5	28%	1	8%	3	30%	1	5%
I do not know	2	4%	2	3%	5	7%	3	17%	1	8%	1	10%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as "design for deconstruction" and the "use of recyclable and/or recycled materials" in assessment frameworks for buildings														
Effective	29	53%	25	38%	16	22%	6	33%	7	54%	4	40%	12	60%
Somewhat effective	22	40%	30	46%	36	50%	9	50%	4	31%	5	50%	4	20%
Not effective	2	4%	8	12%	16	22%	1	6%	1	8%	1	10%	2	10%
I do not know	2	4%	2	3%	4	6%	2	11%	1	8%	0	0%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as "design for deconstruction" and the "use of recyclable and/or recycledmaterials" in assessment systems for construction products														
Effective	31	56%	30	46%	20	28%	4	22%	8	62%	6	60%	5	25%
Somewhat effective	19	35%	22	34%	33	46%	10	56%	3	23%	3	30%	8	40%
Not effective	3	5%	11	17%	15	21%	2	11%	1	8%	1	10%	4	20%
I do not know	2	4%	2	3%	4	6%	2	11%	1	8%	0	0%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as "design for deconstruction" and the "use of recyclable and/or recycledmaterials" in GPP criteria														
Effective	34	62%	27	42%	19	26%	3	17%	7	54%	6	60%	12	60%
Somewhat effective	16	29%	24	37%	34	47%	9	50%	5	38%	2	20%	2	10%
Not effective	2	4%	11	17%	14	19%	2	11%	0	0%	1	10%	2	10%
I do not know	3	5%	3	5%	5	7%	4	22%	1	8%	1	10%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support markets for secondary construction materials														
Effective	31	56%	29	45%	36	50%	9	50%	2	15%	5	50%	10	50%
Somewhat effective	18	33%	25	38%	22	31%	5	28%	8	62%	4	40%	6	30%
Not effective	3	5%	8	12%	6	8%	3	17%	2	15%	1	10%	1	5%
I do not know	3	5%	3	5%	8	11%	1	6%	1	8%	0	0%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Introduce quality standards for secondary construction materials														
Effective	35	64%	31	48%	38	53%	7	39%	6	46%	5	50%	11	55%
Somewhat effective	13	24%	17	26%	16	22%	8	44%	5	38%	3	30%	6	30%
Not effective	4	7%	11	17%	8	11%	1	6%	1	8%	1	10%	1	5%
I do not know	3	5%	6	9%	10	14%	2	11%	1	8%	1	10%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Set targets for management of construction and demolition waste														
Effective	32	58%	33	51%	19	26%	6	33%	6	46%	7	70%	10	50%
Somewhat effective	16	29%	17	26%	34	47%	10	56%	4	31%	1	10%	6	30%
Not effective	3	5%	11	17%	12	17%	0	0%	2	15%	2	20%	1	5%
I do not know	4	7%	4	6%	7	10%	2	11%	1	8%	0	0%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support voluntary agreements on reduction of construction and demolition waste														
Effective	12	22%	17	26%	22	31%	4	22%	4	31%	2	20%	1	5%
Somewhat effective	27	49%	35	54%	35	49%	10	56%	6	46%	7	70%	0	0%
Not effective	14	25%	10	15%	8	11%	2	11%	2	15%	1	10%	14	70%
I do not know	2	4%	3	5%	7	10%	2	11%	1	8%	0	0%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Ban landfill of construction and demolition waste														
Effective	26	47%	26	40%	14	19%	9	50%	3	23%	6	60%	0	0%
Somewhat effective	14	25%	16	25%	27	38%	4	22%	7	54%	2	20%	1	5%
Not effective	10	18%	15	23%	23	32%	2	11%	2	15%	1	10%	0	0%
I do not know	5	9%	8	12%	8	11%	3	17%	1	8%	1	10%	2	10%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	3	15%
Recommend increased taxes for the landfill of construction and demolition waste														
Effective	29	53%	30	46%	14	19%	4	22%	5	38%	1	10%	0	0%
Somewhat effective	18	33%	17	26%	27	38%	8	44%	4	31%	5	50%	0	0%
Not effective	5	9%	13	20%	24	33%	3	17%	2	15%	2	20%	0	0%
I do not know	3	5%	5	8%	7	10%	3	17%	2	15%	2	20%	0	0%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	0	0%
Support collaboration along supply chain for sustainable material and waste management														
Effective	29	53%	28	43%	29	40%	8	44%	6	46%	5	50%	0	0%
Somewhat effective	19	35%	23	35%	27	38%	8	44%	6	46%	4	40%	0	0%
Not effective	2	4%	11	17%	8	11%	1	6%	0	0%	0	0%	0	0%
I do not know	5	9%	3	5%	8	11%	1	6%	1	8%	1	10%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	6	30%
Stimulate business models where developers/builders keep the ownership and responsibility for maintenance and upgrading of the building														
Effective	31	56%	28	43%	17	24%	5	28%	3	23%	3	30%	0	0%
Somewhat effective	15	27%	20	31%	24	33%	6	33%	4	31%	6	60%	0	0%
Not effective	4	7%	11	17%	19	26%	4	22%	4	31%	0	0%	0	0%
I do not know	5	9%	6	9%	12	17%	3	17%	2	15%	1	10%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	4	20%
No change in EU policy														
Effective	3	5%	6	9%	5	7%	0	0%	1	8%	0	0%	0	0%
Somewhat effective	3	5%	4	6%	8	11%	1	6%	1	8%	0	0%	0	0%
Not effective	37	67%	44	68%	41	57%	15	83%	9	69%	7	70%	0	0%
I do not know	12	22%	11	17%	18	25%	2	11%	2	15%	3	30%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	4	20%

Generally there is a strong support for all options to improve the efficiency of use of construction material. Most supportive are citizens and public authorities. Support is weaker, however still overall positive, among respondents from research institutions, NGOs, associations and companies.

The introduction of quality standards receives great support and is considered effective by all groups. Similar levels of effectiveness can be seen for support of markets and target settings. Voluntary agreements, however, were considered less effective. This pattern generally goes for all types of respondents.

Actions to directly reduce the possibility to landfill construction and demolition waste are seen as effective with a slight preference for banning this waste management option, though associations and NGOs are more sceptic than other groups of respondents.

Support collaboration but also to a certain extent to stimulate business models, are considered effective, as well. In particular, the former receives quite similar support from all kinds of respondents, though just slightly lower from industry representatives. It is furthermore the option considered the most cost-efficient across most of the respondent groups. No change in EU policy is unanimously thought to be not effective.

Table 24. Do you think that the overall benefits of implementing these options will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Recommend Member States to require some kind of an end of life assessment in order to grant a building permit														
Significantly	19	35%	14	22%	10	14%	2	11%	5	38%	1	10%	8	40%
Slightly	20	36%	30	46%	26	36%	5	28%	5	38%	2	20%	2	10%
Not at all	9	16%	14	22%	27	38%	4	22%	1	8%	4	40%	4	20%
I do not know	7	13%	7	11%	9	13%	7	39%	2	15%	3	30%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as 'design for deconstruction' and the 'use of recyclable and/or recycled materials' in assessment frameworks for buildings.														
Significantly	24	44%	21	32%	17	24%	3	17%	6	46%	4	40%	10	50%
Slightly	17	31%	27	42%	31	43%	7	39%	3	23%	4	40%	3	15%
Not at all	7	13%	10	15%	16	22%	2	11%	1	8%	0	0%	3	15%
I do not know	7	13%	7	11%	8	11%	6	33%	3	23%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as 'design for deconstruction' and the 'use of recyclable and/or recycled materials' in assessment systems for construction products.														
Significantly	24	44%	21	32%	15	21%	1	6%	6	46%	3	30%	7	35%
Slightly	17	31%	22	34%	27	38%	10	56%	3	23%	5	50%	6	30%
Not at all	7	13%	14	22%	23	32%	1	6%	1	8%	0	0%	3	15%
I do not know	7	13%	8	12%	7	10%	6	33%	3	23%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Include aspects such as 'design for deconstruction' and the 'use of recyclable and/or recycled materials' in GPP criteria														
Significantly	24	44%	23	35%	14	19%	4	22%	5	38%	3	30%	11	55%
Slightly	13	24%	22	34%	33	46%	6	33%	5	38%	5	50%	3	15%
Not at all	9	16%	10	15%	15	21%	1	6%	1	8%	0	0%	2	10%
I do not know	9	16%	10	15%	10	14%	7	39%	2	15%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Support markets for secondary construction materials														
Significantly	17	31%	19	29%	32	44%	8	44%	1	8%	4	40%	8	40%
Slightly	25	45%	26	40%	22	31%	4	22%	9	69%	3	30%	5	25%
Not at all	5	9%	9	14%	9	13%	1	6%	1	8%	1	10%	3	15%
I do not know	8	15%	11	17%	9	13%	5	28%	2	15%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Introduce quality standards for secondary construction materials														
Significantly	15	27%	22	34%	31	43%	5	28%	5	38%	4	40%	11	55%
Slightly	22	40%	21	32%	21	29%	6	33%	5	38%	4	40%	3	15%
Not at all	9	16%	12	18%	11	15%	1	6%	1	8%	0	0%	2	10%
I do not know	9	16%	10	15%	9	13%	6	33%	2	15%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Set targets for management of construction and demolition waste														
Significantly	23	42%	20	31%	18	25%	3	17%	4	31%	3	30%	10	50%
Slightly	14	25%	28	43%	31	43%	9	50%	5	38%	3	30%	3	15%
Not at all	8	15%	9	14%	15	21%	0	0%	2	15%	2	20%	3	15%
I do not know	10	18%	8	12%	8	11%	6	33%	2	15%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support voluntary agreements on reduction of construction and demolition waste														
Significantly	8	15%	12	18%	17	24%	6	33%	2	15%	1	10%	6	30%
Slightly	24	44%	34	52%	29	40%	5	28%	6	46%	6	60%	4	20%
Not at all	13	24%	12	18%	18	25%	1	6%	3	23%	1	10%	4	20%
I do not know	10	18%	7	11%	8	11%	6	33%	2	15%	2	20%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Ban landfill of construction and demolition waste														
Significantly	17	31%	18	28%	10	14%	5	28%	2	15%	2	20%	9	45%
Slightly	16	29%	19	29%	30	42%	5	28%	7	54%	3	30%	2	10%
Not at all	12	22%	17	26%	21	29%	1	6%	2	15%	3	30%	4	20%
I do not know	10	18%	11	17%	11	15%	7	39%	2	15%	2	20%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Recommend increased taxes for the landfill of construction and demolition waste														
Significantly	23	42%	23	35%	16	22%	4	22%	3	23%	3	30%	6	30%
Slightly	14	25%	19	29%	21	29%	6	33%	5	38%	2	20%	4	20%
Not at all	9	16%	15	23%	23	32%	1	6%	2	15%	3	30%	4	20%
I do not know	9	16%	8	12%	12	17%	7	39%	3	23%	2	20%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support collaboration along supply chain for sustainable material and waste management														
Significantly	17	31%	20	31%	34	47%	8	44%	4	31%	4	40%	8	40%
Slightly	22	40%	30	46%	16	22%	5	28%	7	54%	3	30%	4	20%
Not at all	6	11%	7	11%	12	17%	0	0%	0	0%	1	10%	3	15%
I do not know	10	18%	8	12%	10	14%	5	28%	2	15%	2	20%	5	25%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Stimulate business models where developers/builders keep the ownership and responsibility for maintenance and upgrading of the building														
Significantly	21	38%	25	38%	14	19%	3	17%	2	15%	4	40%	6	30%
Slightly	12	22%	22	34%	27	38%	7	39%	4	31%	3	30%	5	25%
Not at all	11	20%	9	14%	13	18%	2	11%	3	23%	1	10%	3	15%
I do not know	11	20%	9	14%	18	25%	6	33%	4	31%	2	20%	6	30%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	5	9%	6	9%	10	14%	2	11%	0	0%	0	0%	2	10%
Slightly	4	7%	7	11%	2	3%	0	0%	1	8%	0	0%	0	0%
Not at all	33	60%	26	40%	31	43%	9	50%	7	54%	6	60%	9	45%
I do not know	13	24%	26	40%	29	40%	7	39%	5	38%	4	40%	9	45%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Generally, the answers to the question on cost-efficiency do not give very clear indications, with a high level of answers reflecting uncertainty. The only thing which seems clear is that no change in EU policy is not considered cost-efficient at all.

1.3.3.5. Measures to use buildings more efficiently

The last area covered in the policy section refers to how to use buildings as such more efficiently.

Table 25. How effective would the following policy options at EU level be to stimulate more efficient use of public buildings?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Include the efficient use of buildings (e.g. using empty or flexible or multi-purpose buildings) in assessment schemes or add this aspect to GPP criteria.														
Effective	32	58%	33	51%	21	29%	12	67%	6	46%	4	40%	12	60%
Somewhat effective	17	31%	19	29%	26	36%	5	28%	4	31%	4	40%	4	20%
Not effective	4	7%	7	11%	12	17%	1	6%	1	8%	1	10%	1	5%
I do not know	2	4%	6	9%	13	18%	0	0%	2	15%	1	10%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Platform to share best practice on how to use buildings more efficiently														
Effective	27	49%	33	51%	31	43%	7	39%	5	38%	4	40%	10	50%
Somewhat effective	24	44%	22	34%	25	35%	8	44%	4	31%	6	60%	9	45%
Not effective	3	5%	6	9%	11	15%	3	17%	2	15%	0	0%	0	0%
I do not know	1	2%	4	6%	5	7%	0	0%	2	15%	0	0%	1	5%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support training of relevant actors														
Effective	33	60%	25	38%	31	43%	10	56%	7	54%	2	20%	10	50%
Somewhat effective	18	33%	29	45%	26	36%	7	39%	4	31%	6	60%	7	35%
Not effective	3	5%	7	11%	10	14%	0	0%	1	8%	2	20%	2	10%
I do not know	1	2%	4	6%	5	7%	1	6%	1	8%	0	0%	1	5%

Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Effective	2	4%	5	8%	4	6%	0	0%	0	0%	0	0%	0	0%
Somewhat effective	3	5%	6	9%	3	4%	0	0%	2	15%	0	0%	1	5%
Not effective	40	73%	41	63%	40	56%	13	72%	9	69%	6	60%	11	55%
I do not know	10	18%	13	20%	25	35%	5	28%	2	15%	4	40%	8	40%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

Table 26. Do you think that the overall benefits of implementing these options will outweigh their costs?

Respondents	Citizens		Companies		Associations		Research		NGOs		Others		Public Authorities	
Number (#) and share (%)	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Include the efficient use of buildings (e.g. using empty or flexible or multi-purpose buildings) in assessment schemes or add this aspect to GPP criteria.														
Significantly	15	27%	25	38%	16	22%	7	39%	5	38%	4	40%	10	50%
Slightly	22	40%	23	35%	33	46%	6	33%	4	31%	3	30%	4	20%
Not at all	11	20%	7	11%	8	11%	1	6%	3	23%	1	10%	3	15%
I do not know	7	13%	10	15%	15	21%	4	22%	1	8%	2	20%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Platform to share best practice on how to use buildings more efficiently														
Significantly	13	24%	18	28%	27	38%	6	33%	3	23%	3	30%	9	45%
Slightly	24	44%	26	40%	27	38%	7	39%	6	46%	5	50%	7	35%
Not at all	12	22%	12	18%	10	14%	1	6%	3	23%	0	0%	1	5%
I do not know	6	11%	9	14%	8	11%	4	22%	1	8%	2	20%	3	15%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
Support training of relevant actors														
Significantly	17	31%	21	32%	26	36%	7	39%	4	31%	4	40%	9	45%
Slightly	23	42%	28	43%	29	40%	7	39%	7	54%	3	30%	4	20%
Not at all	8	15%	9	14%	9	13%	1	6%	1	8%	1	10%	3	15%
I do not know	7	13%	7	11%	8	11%	3	17%	1	8%	2	20%	4	20%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%
No change in EU policy														
Significantly	2	4%	6	9%	5	7%	0	0%	0	0%	0	0%	1	5%
Slightly	6	11%	5	8%	2	3%	0	0%	1	8%	0	0%	1	5%
Not at all	34	62%	32	49%	23	32%	9	50%	8	62%	6	60%	10	50%
I do not know	13	24%	22	34%	42	58%	9	50%	4	31%	4	40%	8	40%
Total	55	100%	65	100%	72	100%	18	100%	13	100%	10	100%	20	100%

All proposed options are considered to be effective in stimulating more efficient use of public buildings, in particular to include such aspects in GPP criteria. This option is also seen as the most cost-efficient. The option "no change" is neither considered effective nor cost-efficient.

1.4. Position papers sent beyond questionnaire

30 stakeholders sent additional stand-alone contributions, in the form of position papers or other material related to circular economy, cradle-to-cradle approach, beneficial footprint, etc. All stakeholders welcomed the Commission's initiative on sustainable buildings. They emphasised the appropriateness to reduce the fragmentation of the single market in Europe, which in turn is said to be due to different standards and/or rules used in different Member States. Most stakeholders stressed that there is a need to harmonise requirements regarding how to assess sustainability of buildings all over Europe but some however meant that requirements for assessment should be regulated only at the national level. It was pointed out that, in any case, care needs to be taken to avoid overlaps in regulation.

It was agreed that there is a lack of reliable, accurate and comparable data regarding the environmental performance of buildings. Only a small number of buildings are assessed for their environmental performance and these are mainly new commercial buildings. Stakeholders pointed out that there is a need for simpler and affordable assessment methods. It was also emphasised that assessment methods for private and public buildings should be the same. The situation with several incomparable schemes for the assessment of the environmental performance of buildings results in too much efforts and costs. Instead, of starting with a totally new scheme, it is preferred to adapt existing schemes to become more comparable. It is stressed that the standards developed by CEN TC 350 should for a part of the basis for such development.

It was noted that the key aims of any EU sustainable buildings initiative should be to create transparency and comparability, improve performance, collect data and enable benchmarking. In the move towards country level data collection and benchmarking, the public sector can and should have a leading role by adding common EU requirements to Green Public Procurement (GPP) tenders. This could create more competition, market opportunities and, eventually, lower costs. Linked to this, a number of stakeholders pointed out that Green Public Procurement (GPP) should include a set of requirements that architects and engineers must meet in the design of the building, beyond the individual products used.

Several stakeholders recommended introducing a labelling scheme, which may become a valuable and beneficial method for the development of sustainable buildings. The European Commission should assess the feasibility of introducing a basic EU labelling scheme for residential buildings, based on the existing infrastructure in place for the Energy Performance Certificates. It was noted that schemes like BREEAM, LEED, DGNB and others are valuable for offices and large buildings, however not always suitable for smaller buildings and private houses due to their complexity.

It was pointed out that it would be valuable if the European Commission would support studies that try to fill the existing knowledge gaps in the LCA-methods (e.g. the durability over the lifecycle). Additionally it was stated that, in order to understand the assessment of environmental performance of buildings, knowledge in LCA concept is essential. Thus, raising awareness and training to consumers would be valuable.

The need to agree on the terminology was moreover raised. An example was given from the waste management side with "recycled materials" and "recyclable materials" not meaning the same and it was recommended to look at the definition of "secondary raw materials" and "recyclable waste".

Furthermore, it was suggested that general recycling targets for construction and demolition (C&D) waste do not sufficiently promote the recycling of the different materials that this waste stream consists of. For the same reason, a landfill ban of individual materials is preferred to a general landfill ban for construction and demolition waste. Additionally, it was recommended to promote better renovation and demolition practices via European guidance and standards on product/building recyclability and via sharing of best practices. Certain economic incentives (such as increase of landfill tax, decrease of VAT rate for the use of secondary materials) could have a positive impact on the market for secondary materials and the development of end-of-life criteria for C&D waste could encourage a closed loop approach, moving towards a circular economy.

Importantly, it was stated by many stakeholders that "sustainable buildings" imply that environmental, economic and social impacts are taken into account. Linked to the holistic approach, it was recommended that embodied energy and in-use energy of a building must be assessed and addressed in combination as the result otherwise can be very different from the intended one.

Additional comments concerned flexibility of buildings and the competence of workers. It was stated that flexibility and adaptability of buildings are important dimensions of the sustainability of building. It was moreover noted that the lack of training of workers and the hiring policies prioritizing costs over competences, results in a sector increasingly unable to adapt to new demands, such as those on energy and resource efficiency.

1.5. Complete List of Position papers and other contributions received beyond on-line submissions

1. AEDES (Dutch Social Housing Organisation)
2. ANEC – The European Consumer Voice in Standardisation
3. BIBM (Bureau International du Béton Manufacturé)
4. CEMBUREAU (the European Cement Association)
5. CerameUnie (the European Ceramic Industry Association)
6. Construction Products Europe
7. Council of Aluminium in Building
8. DI Byg (Federation of Danish Building Industries)
9. Ministère du Développement durable et de l'Energie and Ministère du Logement et de l'Ecologie de France
10. Ministry of Infrastructure and the Environment of Netherlands (*brochures*)
11. Municipal Energy Managers (Dislay Campaign) (*brochure*)
12. Dr Robert-Murjahn-Institut
13. ECP (European Concrete Platform)
14. EFBWW (European Federation of Building and Woodworkers)
15. Ellen MacArthur Foundation (*brochure*)
16. EPEA (Environmental Protection and Encouragement Agency; Netherlands) (*brochure*)
17. EuroACE (the European Alliance of Companies for Energy Efficiency in Buildings)
18. EuroGypsum
19. FAECF (Federation of European Window & Curtain Walling Manufacturers Associations)
20. GdW Bundesverband deutscher Wohnungs und Immobilienunternehmen e.V.
21. Glass for Europe
22. Metals for Buildings – European metals alliance for recyclable & sustainable buildings

23. MPA (Mineral Products Association)
24. Orgalime
25. Slimline Buildings (*articles*)
26. SNI (Société nationale immobilière, filiale de la Caisse des Dépôts)
27. UEPG (European Aggregates Association)
28. Velux AS
29. World Green Building Council
30. WRAP (Waste & Resources Action Programme)