



**DEVELOPMENT AND PILOT PRODUCTION OF SUSTAINABLE
BIO-BINDER SYSTEMS FOR WOOD-BASED PANELS**

SUSBIND

Industry-led White-Paper for EU Ecolabel Criteria for Wooden Furniture Revision

This project has received funding from the Bio Based Industries Joint Undertaking under the



**Horizon 2020
European Union Funding
for Research & Innovation**



**Bio-based Industries
Consortium**



European Union's Horizon 2020 research and innovation programme under grant agreement No 792063.

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1. Foreword

Sustainability in the furniture trade

The word sustainability is something that everyone uses, but does everybody know what it really means? Achieving sustainability requires the understanding of a cradle-to-cradle circular economy concept that only functions if multiple-actors along the entire value chain embrace it. Achieving sustainability means satisfying our current needs *only on the condition* that future generations are guaranteed of their livelihood. This may sound easy, but the complexity of addressing all parts of the value chain to achieve a truly sustainable economy is where many challenges still lie.

It is a question of choice and even action that is required from many actors like government, industry and consumers to achieve true sustainability. Society needs to consider the total environmental and economical savings of promoting, investing and behaving in a way that promotes sustainability. To not do so will result in climate, human and existential threats that will be even more expensive to address.

Industry leaders have a major role to play in providing sustainable furniture alternatives, and consumers have an important role to ease the market-entry of such goods through their purchasing power. Everyone is called on to contribute to achieving the many large and small climate goals. This has ramifications for a multitude of sectors, including that of the furniture industry and furniture trade business.

But how can behaviour be changed to influence sustainable the availability of consumer products and choices? Is it knowledge that shapes consumer's decisions, or is it a matter of cost, or even a question of the options that are available? What blocks adherence to the adoption of the label and what could sustain it? Is it that leading corporate furniture manufacturers are quicker to make change ahead of government, or must they be coerced, like the smaller SMEs that find the implementation of such certification too expensive and overly complex? And essentially, what are the benefits and the return on investment for companies?

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The BBI-JU and Horizon 2020 SUSBIND project has published a White Paper based around a survey of furniture industry participants and consumers that addressed multiple aspects of advancing on the framework proposal of the revision of the EU Ecolabel which has been described as a “patchwork of regulatory instruments”¹. Many of the questions mentioned above are addressed in the SUSBIND survey responses that provide an insight into the thinking behind the possible behaviour of industry and consumer participants. The survey’s questionnaire considered the many European Union Parliamentary initiatives and research papers already in existence to further understand where the barriers, benefits and opportunities lie for certified sustainable products within the EU.

There are many progressive global furniture and industry manufacturers that are advanced in their sustainability goals. Responsible corporate sustainability governance is essential to influence multiple stakeholders, especially the smaller companies they source from. Increasingly, consumers and industry gatekeepers are demanding sustainable product options. It is here that entrepreneurs are challenged to derive the “right” action from this. The good news that came out of the SUSBIND White Paper survey is that two thirds of European consumers are prepared to pay more for sustainable furniture.

In this regard, there are many opportunities to support sustainability — in the respective companies, in products and production, and along the entire value chain. The furniture trade and retail in general have important key functions here. It is here that decisions are made as to what is offered to the end customer — what, when, where and how. It is here that prices and conditions are set, and decisions are made as to what happens to unusable and expired goods. This is where joint government and industry initiatives can make a difference to support a circular economy and the standards set out in eco-labels.

An essential element for the furniture industry is to support sustainable decisions that can make a climate positive difference by deciding: what materials to use and source; how the product can be designed and conceived to assist up-cycling at the end-of-use date; extend the lifespan of the product; demand the reparability of products; and increase the recyclable potential.

On this subject, EU specifications and targets — such as an eco-label — certainly can be useful aids, or act as a guideline. However, the innovative power and freedom of companies and industries, as well as competitiveness should not be prevented or restricted. An eco-label used throughout Europe would have to appeal to the customer and the advantages would have to be communicated accordingly in public campaigns. It would also need to be supported by all European countries.

Of course, every company within the furniture sector has many other possibilities to act sustainably, for example: emission-free buildings and vehicle fleets; sourcing from regional supply chains, if possible; further training of employees on these topics; the use of recycled and natural materials, and much more. Thinking and working in cycles — cradle to cradle — should be defined as a goal to take and reach.

¹ Briefing: Initial Appraisal of a European Commission Impact Assessment:
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/730347/EPRS_BRI\(2022\)730347_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/730347/EPRS_BRI(2022)730347_EN.pdf)

SUSBIND is a good example of an EU project that helps seed and implement sustainable concepts for formaldehyde-free bio-based binders for building products and furniture. The SUSBIND White Paper survey shows that industry, trade and end customers increasingly are thinking and acting more sustainably which is completely in line with the objectives of the EU Green Deal. It also shows that many people are not even aware of the health risks that some furniture and building products contain.

Therefore, it is also an imperative for us as representatives of the furniture trade and EU projects to deal with sustainability in all its possibilities and opportunities, but also to address the challenges. Achieving this is not about one big step, but about many small steps that can and must be taken by all parties. A good way to promote the Ecolabel would be to provide more educational campaigns across Europe to make the symbol and what it stands for recognizable. An overwhelming 78% of respondents said this. Additionally, support should be given to smaller companies – suppliers, producers and even waste companies – across the entire value chain to enable the Ecolabel criteria to be adopted and valued. Consumers also need to demand more Ecolabel products.

We are still at the beginning of a long journey. Achieving this is a massive, complex endeavour that will require less talk, more action, and even flexibility, to ensure that the road becomes a wheel of cradle-to-cradle circular sustainability. We at, SUSBIND, FENA and RTDS will make our contribution. Together we can do it!



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2. Introduction

The SUSBIND project set out to create a new adhesive for particleboard (PB) and fibre board, (MDF). Urea-Formaldehyde (UF) adhesives, which are generated from fossil fuels, are currently used with PB and MDF. Additionally, formaldehyde, which can be detrimental to human health, is released during the production and usage phases of boards manufactured with UF. Accordingly, the SUSBIND project sought to create a PB and MDF binder that was bio-based, formaldehyde-free, and had a 5% lower carbon footprint as UF adhesives. In this framework, SUSBIND has also sought to gauge industry and consumer preferences towards the adoption of sustainability criteria in wood furniture, specifically the relevance of the EU Ecolabel from industry and consumer perspectives.

3. Goal

This document summarises the outcome of some of the market analysis and policy recommendation activities implemented in SUSBIND, which target the revision process of the EU Ecolabel on sustainable furniture products. The analysis of the data and recommendations presented in this project deliverable have been discussed and approved by the industry representatives of the Consortium, and relevant stakeholder associations in Europe. They do not reflect an opinion of the European Commission. As a public report, it aims to support policy makers with an evaluation of criteria of the EU Ecolabel, conducted by industry representatives and consumers.

4. Literature review - Current EU Ecolabel for furniture and criteria

Ecolabels are a labelling system used to identify products or services proven to be environmentally preferable within a specific category. Currently there are 456 ecolabels used in 199 countries and distributed across 25 industry sectors globally. In Europe, the EU Ecolabel was introduced by an EU regulation in 1992 (Regulation EEC 880/92).

*"The EU Ecolabel, established in 1992, is a voluntary label of environmental excellence. It is promoting goods and services with reduced environmental impacts all over their life-cycle, when compared with products in the same product group existing on the European market. In doing so, the scheme contributes to making consumption and production more sustainable"*².

The abovementioned regulation establishes the need to update the criteria to award the EU Ecolabel only to products meeting the best environmental performance achieved by the products on the market.

² Council Regulation (EEC) No 880/92 of 23 March 1992 on a Community eco-label award scheme, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31992R0880> • •

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"The EU Ecolabel scheme is part of the sustainable consumption and production policy of the Community, which aims at reducing the negative impact of consumption and production on the environment, health, climate and natural resources. The scheme is intended to promote those products which have a high level of environmental performance through the use of the EU Ecolabel. To this effect, it is appropriate to require that the criteria with which products must comply in order to bear the EU Ecolabel be based on the best environmental performance achieved by products on the Community market. Those criteria should be simple to understand and to use and should be based on scientific evidence, taking into consideration the latest technological developments. Those criteria should be market oriented and limited to the most significant environmental impacts of products during their whole life cycle".³

Annex I of the EU Ecolabel Regulation establishes the procedure and requirements for the revision process. According to the strategic EU Ecolabel Work Plan 2020-2024⁴, Criteria 049 (2016/1332/EU) for furniture products expired 28 July 2022. However, it has been prolonged so that it can be reviewed in the future and merged with the requirements for bed mattresses. However, no starting date for the reviewing process has been established yet by the Joint Research Centre (JRC). It is envisaged that it may be updated in parallel to the development of the EU Regulation on Eco-design for Sustainable Products (ESPR), which is still a proposal under in the Circular Economy Action Plan⁵, presented by the Commission on the 30th March 2022.



Figure 1- Evolution of public policy on the requirements for sustainable furniture products

At the SUSBIND Final Online Conference on the 6 June, 2022, Project Officer at **Joint Research Council (JRC)** –, Antonio Delre, explained that the EU eco-label for furniture revision will take into consideration the future Regulation on Ecodesign of sustainable products.

³ Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel (Text with EEA relevance) available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32010R0066>

⁴ EU Ecolabel criteria are developed and revised through the multi-stakeholder process described in Annex I of the EU Ecolabel Regulation. The decision on the need to prolong/review/withdraw/establish EU Ecolabel criteria is taken by the EC after having consulted the EUEB and having assessed the relevance of the product group, its criteria and the related assessment and verification requirements.

⁵ European Commission - Circular Economy Action Plan (2015) available at: https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

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"In parallel to and in synergy with developing product-specific rules under the Eco-design for Sustainable Products Regulation (ESPR), the Commission will work on reviewing or setting new product-specific criteria under the EU Ecolabel. This is a well-known and trusted label that has recognised and certified products with a high environmental performance for 30 years across the EU".⁶

The data and recommendations included in this document aim to support the revision and harmonization of criteria on sustainability requirements for furniture products. Also, the project events, such as the Industry Online Seminars and the SUSBIND Final Conference, contributed to the synergy between policy makers, research groups and industry to further elaborate on harmonized footprint-assessment methodologies to substantiate the claims of the environmental benefits and improve the communication thereof.

"As announced in the Circular Economy Action Plan, the Commission is proposing new rules to make almost all physical goods on the EU market more friendly to the environment, circular, and energy efficient throughout their whole lifecycle from the design phase through to daily use, repurposing and end-of-life".⁷

The Eco-design for Sustainable Product Regulation (ESPR) proposal focusses on the development of eco-design requirements for sustainable products on the EU market. Therefore, there is a need to align the existing rules and certification procedures on sustainable products through public consultations. Accordingly, there are several standardization groups and stakeholder discussions around the development of the Eco-design regulation.

"By bringing a common approach to products in the EU, our proposals will help to create a level playing field for companies operating in the single market and make the EU a standard-setter in the area of sustainable products. In order to ensure that the shift to more sustainable products rolls out in a way that alleviates the costs and challenges of the transition, the selection of product groups and the setting of product-specific rules will be subject to long-term planning in an inclusive co-creation process, as well as to rigorous impact assessments, including as regards affordability for consumers, impacts on competitiveness and administrative burden".⁸

Currently, the EU does not have generalised sustainability or circularity requirements for all products on the internal market. The existing Eco-design Framework Directive only covers energy-related products and the sustainability certification granted by the EU ecolabel is only awarded upon voluntary validation of specific product criteria.

⁶ Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on making sustainable products the norm - Brussels, 30.3.2022, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0140&qid=1649112555090>

⁷ EC – Press release, Green Deal: New proposals to make sustainable products the norm and boost Europe's resource independence (March 2022), available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2013

⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on making sustainable products the norm - Brussels, 30.3.2022, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0140&qid=1649112555090>

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"... there is currently no overarching, integrated EU policy instrument covering the sustainable production and consumption of all products and/or the availability and reliability of sustainability information on all products (p. 18). Rather, there is a patchwork of regulatory instruments, which allows only certain aspects related to product sustainability and circularity to be addressed, and leaves certain highly relevant sectors (such as textiles and furniture) almost wholly unaddressed in this respect. Since implementing regulations have energy efficiency as a primary objective, not all significant environmental impacts of the regulated products are tackled. As a result, Member States, such as France, Germany, the Netherlands, and Finland, are pressing ahead with rules to foster the sustainability of the products placed on their markets and it is likely that the fragmentation of the internal market will continue to increase".⁹

The EU Ecolabel is one of many EU policy instruments establishing sustainability requirements that could be harmonised under the ESPR. An objective of the EU Ecolabelling scheme is to provide consumers with accurate, non-deceptive, science-based information on the environmental impacts of products and services and influence their purchasing decisions. Therefore, it is expected that products complying with the sustainability criterion of the EU Ecolabel will be also aligned with the requirements resulting from the development of the ESPR.

"Products covered by the Eco-design requirements are required, like other products covered by EU harmonising legislation, to have a CE marking affixed and an EC declaration of conformity issued. The directive specifies conformity assessment procedures for Eco-design requirements; rules on presumption of conformity (products that apply harmonised standards referenced in the Official Journal and those awarded an EU Ecolabel are presumed to comply with the Eco-design requirements); and rules on market surveillance, including the safeguard measures to be taken when a product bearing a CE marking is found not to comply with all the relevant requirements".¹⁰

Furniture has been already identified by the European Commission as a priority product group for the development of the requirements in the ESPR proposal, considering the environmental impact of the supply chain and health related concerns linked to the use of formaldehyde and hazardous substances in the manufacturing process.

"A preliminary assessment made by the Commission has identified that product categories such as textiles, furniture, mattresses, tyres, detergents, paints, lubricants, as well as iron, steel and aluminium have high environmental impact and potential for improvement and are thus suitable candidates for the first working plan".¹¹

⁹ European Parliament Briefing: Initial Appraisal of a European Commission Impact Assessment - Setting eco-design requirements for sustainable products (June 2022), available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/730347/EPRS_BRI\(2022\)730347_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/730347/EPRS_BRI(2022)730347_EN.pdf)

¹⁰ European Parliament Briefing, EU Legislation in Progress - Eco-design for Sustainable Products (May 2022), p3. available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI\(2022\)733524_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI(2022)733524_EN.pdf)

¹¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on making sustainable products the norm - Brussels, 30.3.2022, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0140&qid=1649112555090>

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Accordingly, the European Furniture Industry Confederation (EFIC) has recently published several position papers and contributed to the sustainable product initiative and ESPR proposal. Nevertheless, public consultation on the selection of product categories will be launched by the European Commission by the end of 2022 under the ESPR Working Plan 2022-2024¹².

"The European Furniture Industries Confederation (EFIC) said that furniture was well suited to a circular economy, with many best practices already in existence. However, it said that, when developing furniture-specific legislation, the complexity of not only furniture products but also the furniture value chain should be considered".¹³

Several research papers have already discussed the perception of EU Ecolabel and the complexity of the criteria requirements. The previous analysis focussed on the lack of awareness by consumers and the complexity of the certification process considering the tests and required data, which small companies would not be able to justifiably afford if the Ecolabel does not substantiate a return on investment. In 2017, a research article assessed the main barriers of the EU Ecolabel from a business perception based on an empirical survey ran in April 2014¹⁴.

"Companies still perceive bureaucracy as a major problem and ask for streamlined assessment and verification procedures. As for the "lack of external incentives", this can be paired with the "lack of recognition by public institutions". Companies show a rather high agreement on the lack of institutional support and recognition as the survey and interviews reveal that they believe public institutions should incentivize and support the EU Ecolabel by means of fiscal and regulatory relief measures, i.e., easier access to public procurement, tax reduction, simplifications of permitting procedures, etc. As for the "lack of competitive rewards and advantages", this emerges as closely linked to the lack of tailor-made external incentives for rewarding companies that propose more environmentally friendly products to the market. It is interesting to note that, while companies indicated improved competitiveness and better market positioning as the main benefits deriving from holding an EU Ecolabel license, at the same time, they declare that they experienced an insufficient market response. This may suggest that, even if the EU Ecolabel brings some market benefits, they are lower than those expected by companies applying for the EU Ecolabel. The surveyed companies perceive this barrier as mainly linked to the lack of awareness of the EU Ecolabel by consumers and to the insufficient and inadequate promotion of the Scheme by public institutions and the EU"¹⁵.

Also, the requirements of the Criteria 049 were assessed in another research article through a Furniture Complexity Index (FCI) for proper assessment and verification of sustainability requirements to be rewarded with the EU Ecolabel certification, considering the different materials in furniture products.

¹² See Eco-design and Energy Labelling Working Plan 2022-2024, available at: https://energy.ec.europa.eu/ecodesign-and-energy-labelling-working-plan-2022-2024_en

¹³ European Parliament Briefing, EU Legislation in Progress, Eco-design for Sustainable Products, (May 2022), p8, available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI\(2022\)733524_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI(2022)733524_EN.pdf)

¹⁴ Iraldo, F.; Barberio, M. Drivers, Barriers and Benefits of the EU Ecolabel in European Companies' Perception. *Sustainability* 2017, 751. <https://doi.org/10.3390/su9050751>

¹⁵ Iraldo, F.; Barberio, M. Drivers, Barriers and Benefits of the EU Ecolabel in European Companies' Perception. *Sustainability* 2017, p11, 751. <https://doi.org/10.3390/su9050751>

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*"When considering complexity for a particular material or product, it is necessary to look beyond the simple "quantity" of criteria and to consider the "quality" aspects too, which could be considered as the total compliance effort required. Consequently, it is necessary to define a method for assessing the degree of complexity, or compliance effort, which might be required for each criterion."*¹⁶

Such complexity has a negative impact on the industry perception and therefore on the uptake of the EU Ecolabelling scheme. This could be reverted by strengthening awareness raising campaigns to promote sustainable buying behaviour, which would lead to a higher demand for sustainable furniture products, and more cost-effective incentives for producers and retailers of EU certified products.

"Discussions with industry stakeholders revealed that the complexity of the EU Ecolabel criteria was found to be a major disincentive for SME companies to apply. The main stumbling blocks were the highly detailed restrictions on chemicals, which require some expertise and understanding of REACH and CLP Regulations (EC 2006, 2008). Larger companies have an advantage because they may be able to (or need to) hire a REACH or CLP expert due to the large volumes of chemicals they handle.

However, criteria complexity is just one important aspect of whether or not the EU Ecolabel can be successful in the furniture sector. To a certain extent, it could be accepted that criteria become more complex as a product becomes more complex. During the criteria revision process, it was clear that certain larger furniture companies were happy to monitor the criteria development process but with no intention of ever applying for the EU Ecolabel because it simply was not part of their marketing strategy.

*In terms of the EU Ecolabel fitting into marketing strategies, this issue stretches beyond the EU Ecolabel policy tool and would require positive market signals coming from the demand side. The implementation of relevant Green Public Procurement criteria by public authorities and recognition of EU Ecolabel furniture in Green Building Assessment schemes are two highly relevant external influences."*¹⁷

¹⁶ Donatello, S., Analysis of Complexity from a Material and a Supply Cordella, M., Kaps, R. *et al.* Are the existing EU Ecolabel criteria for furniture products too complex? An chain perspective and suggestions for ways ahead. *Int J Life Cycle Assess* 25, 868–882 (2020). (p3). <https://doi.org/10.1007/s11367-019-01601-1>

¹⁷ Donatello, S., Analysis of Complexity from a Material and a Supply Cordella, M., Kaps, R. *et al.* Are the existing EU Ecolabel criteria for furniture products too complex? A chain perspective and suggestions for ways ahead. *Int J Life Cycle Assess* 25, 868–882 (2020). (p.13) <https://doi.org/10.1007/s11367-019-01601-1>

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5. Scope

In the scope of this White Paper, two market surveys were conducted during the project implementation, one directed at industry (B2B) and another one targeting the general public perception (B2C).

- a) Industry Survey (B2B) – with the aim to reach stakeholders including furniture suppliers, manufacturers, and retailers, conducted by RTDS with the assistance of the Association of European Furniture Retailers (FENA), the European Furniture Industries Confederation (EFIC) and industrial partners.
- b) General Public Survey (B2C) – Four representative EU countries (Germany, Poland, Spain, Sweden) (with over 2000+ validated responses conducted by MindTake Research, a full-service market research institute located in Vienna, Austria with the aim to understand public perception.

Both surveys aimed at facilitating the monitoring of the criteria and contributing to assessing the uptake of the EU Ecolabel on furniture products. It focused on the following four main pillars:

- The relevance of the EU Ecolabel from the industry and consumers' perspective.
- The expectations from industry and consumers towards EU Ecolabel.
- The limitations or barriers to uptake the EU Ecolabel in the furniture industry.
- The specific recommendations to contribute to a new EU ecolabelling strategy.

Questionnaires & Methodology

The B2B industry questionnaire addressed the following topics in approximately 25 questions with a 8-10 minute survey length:

- Company profiling/identification
- Relevance and Expectations of the EU Ecolabel
- Limitations of the current EU Ecolabel
- Recommendations for the EU Ecolabel
- Closing questions

The B2C general public questionnaire addressed the following topics in approximately 15 questions with a 3-5 minute survey length:

- Knowledge of the EU Ecolabel
- Knowledge of components of materials
- Relevance of the EU Ecolabel and willingness to pay more for it
- Recyclability of materials
- Closing questions

The questionnaire was created by RTDS and CE Delft and re-worked by MindTake in close co-operation with RTDS. The B2B survey was designed and administered to the respondents in English. The master questionnaire for the B2C survey was in English and afterwards translated into the respective local languages.

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Target groups

- B2B: relevant contacts distributed via the RTDS network
- B2C: people aged 18-69 years (100% incidence), representative for the local citizens in terms of age, gender and region in ES, DE, PL SE. n=500 per country

Result interpretation was done by RTDS in the context of the SUSBIND EU project.

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6. Survey results

To begin the survey, it is important to establish the general awareness and perception by industry towards the Ecolabel. This survey set out to ascertain the recognition of either the Ecolabel logo or name. The next questions aimed to determine the interest, relevance and uptake of the Ecolabel by industry. When asked about their awareness on the EU Ecolabel, it was observed that the recognition is relatively high, with more than 80% of the participants knowing about the certification either by its name or the logo.

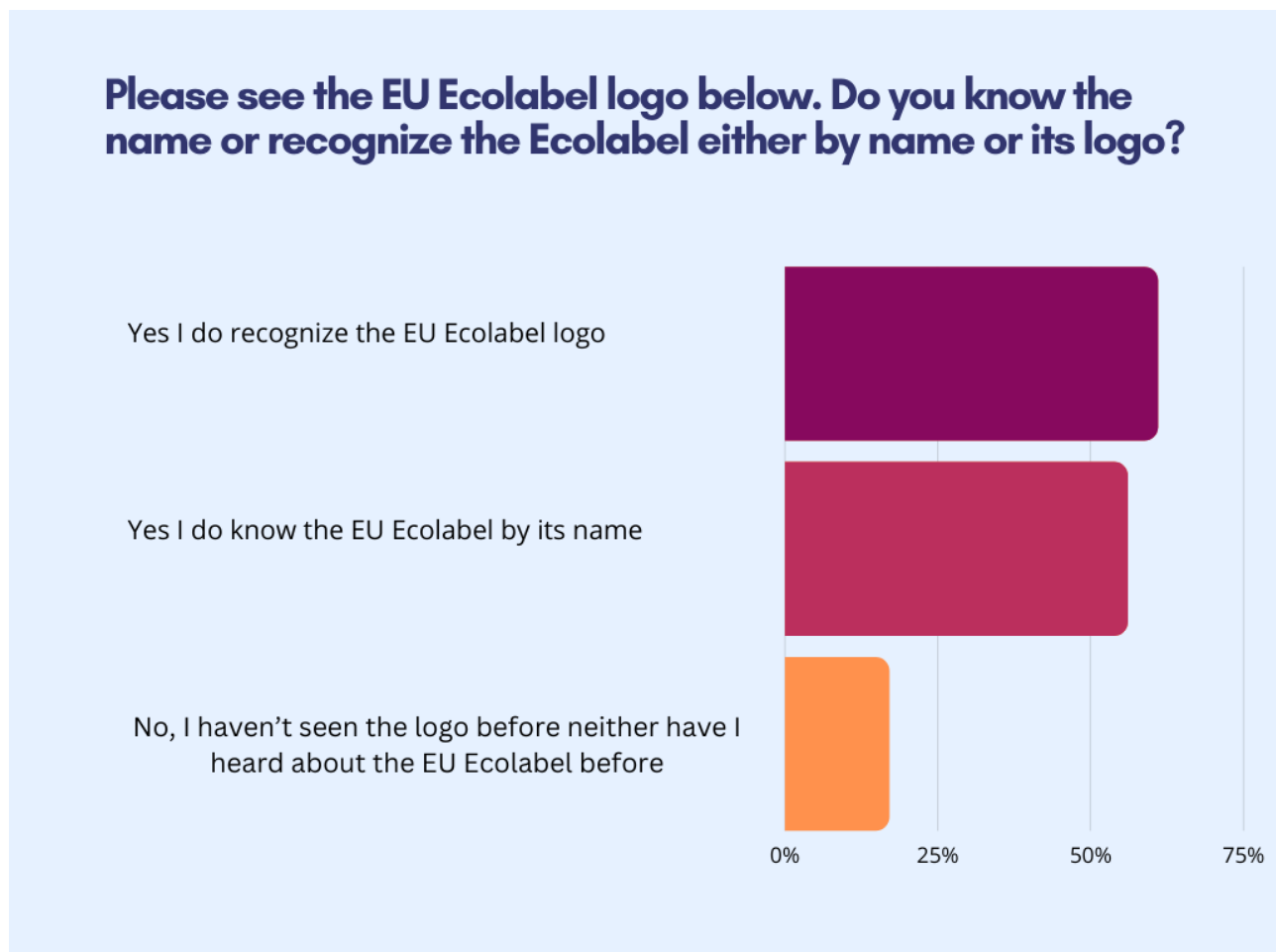


Figure 1

The market uptake of the EU Ecolabel by industry was shown to still be low reflecting that more than 60% of the participants have not yet applied for the EU Ecolabel certification for their products.

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Is your organization currently adhering or producing in line with an EU Ecolabel?

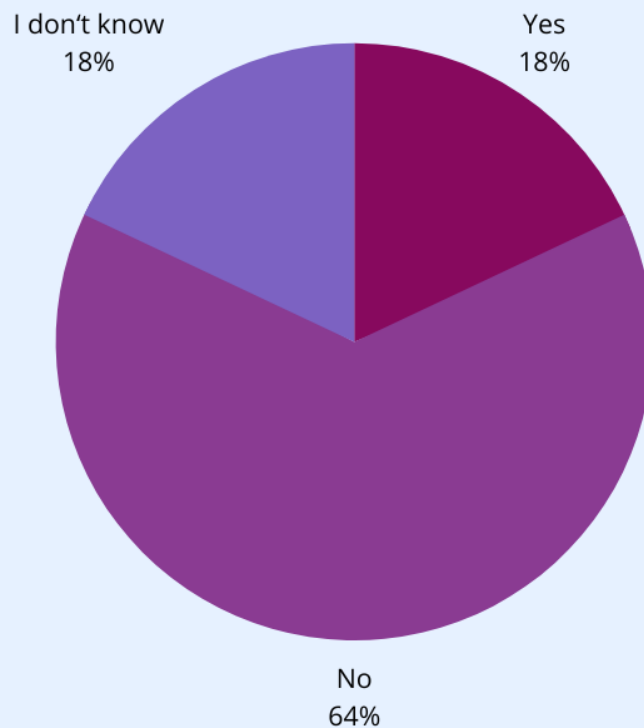


Figure 2

So, while established in the market, the uptake of the Ecolabel is low despite a number of attractive benefits perceived by the implementation of the EU Ecolabel. When asked about the expected benefits of using an EU Ecolabel:

- Over 70% of the participants would expect an improved brand image
- 65% would expect the alignment of their value chains with the sustainability requirements of the Ecolabel
- 50% would expect higher sales from the commercialisation of the certified products

Now, over 50% of the participants would consider a cost-effective return of investment by obtaining increased sales and a better image-perception of their companies and product quality by their customers and stakeholders.

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How do you or how would you measure the benefits or return on investment of applying for the EU Ecolabel?

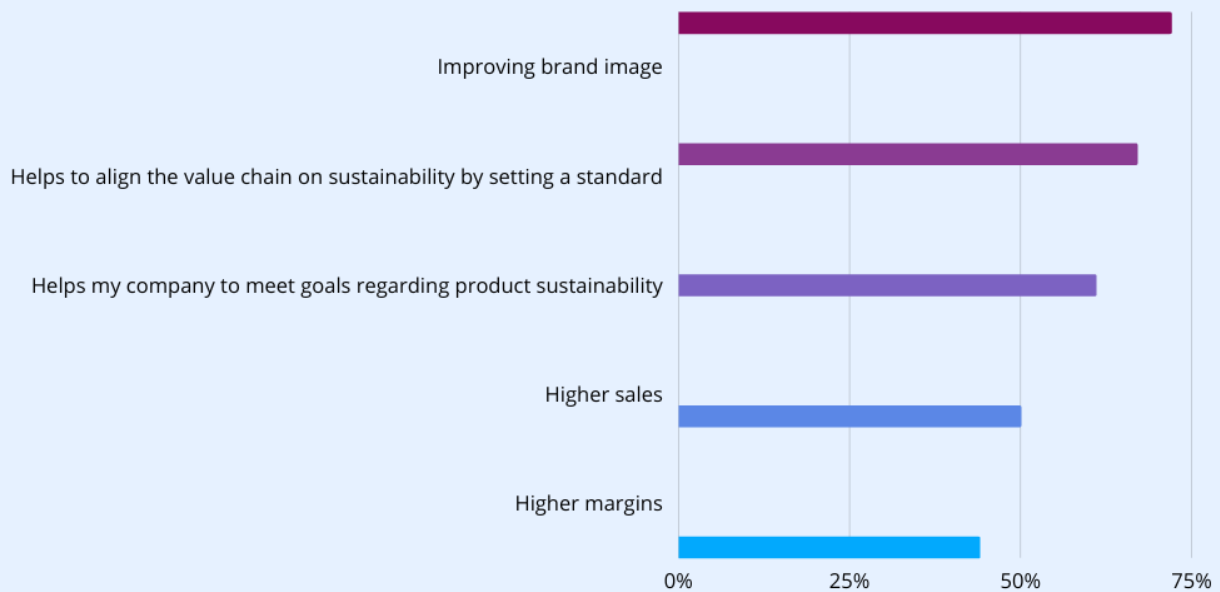


Figure 3

In addition to the perceived benefits, there is also a perceived price premium that can be achieved by utilising the EU Ecolabel. This perceived price premium is ranked by “living area” to understand and underline priorities for the furniture value chain to address. Not surprisingly, home living, especially in the sleeping quarters, comes out on top while outdoor living scores towards the bottom of the list of priorities. Interestingly the office environment scores high as employee satisfaction/well-being has become a driving force particularly after the pandemic. According to the participants, their customers would be willing to pay (on average) a premium price of 13.50% more for sleeping/bedroom furniture, around 12% more for office furniture, 10% more for living room furniture products and nearly 5% on outdoor furniture.

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Which price premium do you expect customers are willing to pay (on average) for furniture that features an EU Ecolabel? Please give your estimation for furniture in each of the following living areas.

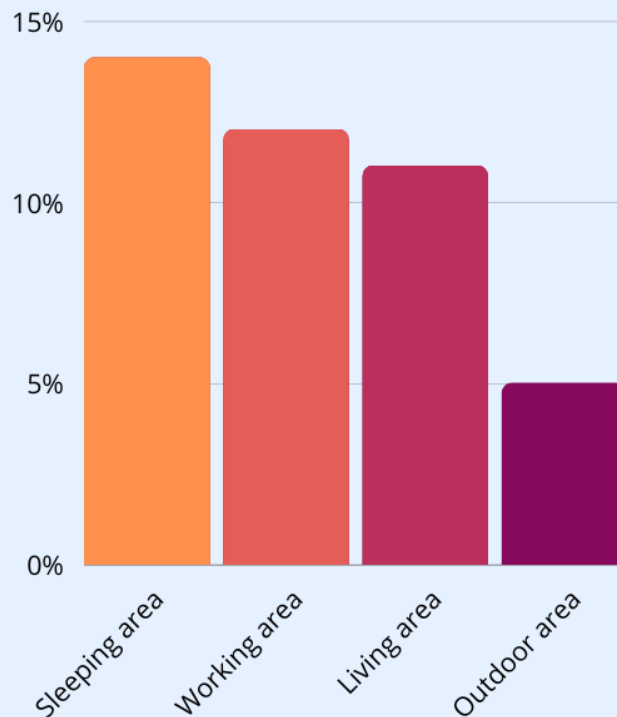


Figure 4

Based on the high recognition and the relative low uptake, coupled with the convincing perceiving of a number of benefits, the question then arises on which important aspects need be covered by the EU Ecolabel to further enhance acceptance, uptake and approval. In order to gauge the characteristics that are most important to make an EU Ecolabel successful we first focused on the importance of environmental aspects that are covered by the EU Ecolabel.

This project has received funding from the Bio Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 792063.

**How important is it that the following environmental aspects are covered by the EU Ecolabel for furniture in your opinion?
Multiple answers possible.**

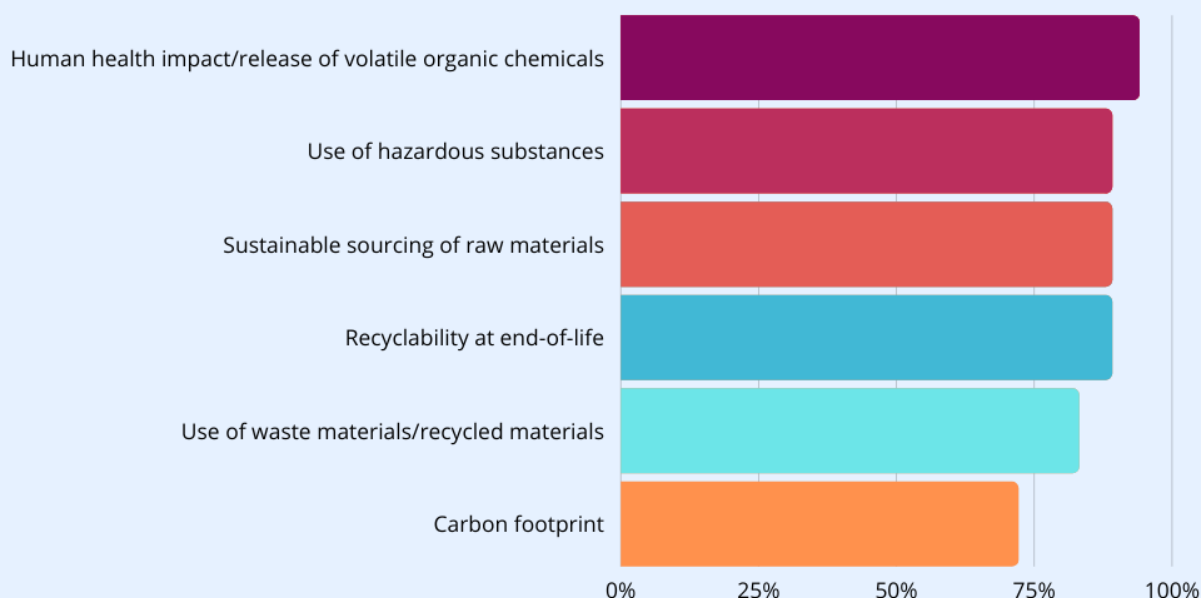


Figure 5

The majority of environmental factors are clearly given a high priority. Nearly 95% of the participants considered the human health impact/emission of volatile organic chemicals as the most important factor covered, while carbon footprint is perhaps less straight forward, and needs more clarification and education to become more meaningful for industry at this stage.

In the light of the low market uptake of the EU Ecolabel, participants provided a list of the important characteristics, from the perspective of environmental importance, to make the certification scheme successful.

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Which of the following characteristics are most important to make an EU Ecolabel successful in your opinion?

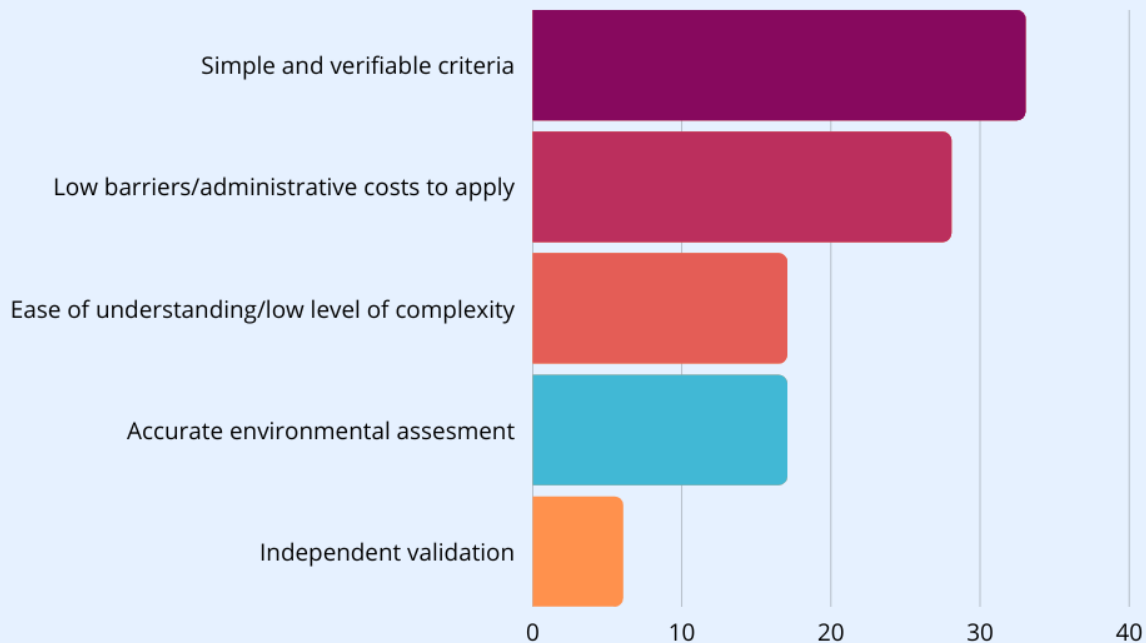


Figure 6

- Keep it simple – one third of participants consider simplicity and verifiable criteria as being the most important characteristics to make the EU Ecolabel successful.
- Lowering the barriers and administrative effort, coupled with making the EU Ecolabel easier to understand, and having an accurate environmental assessment would also make the label a more effective tool.

In terms of complexity more than 50% per cent of the participants agreed on a high and moderate complexity of the application. Participants confirmed that the verification process is complex at different levels.

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Why do you consider the application process to the EU Ecolabel complex? Multiple answers possible.

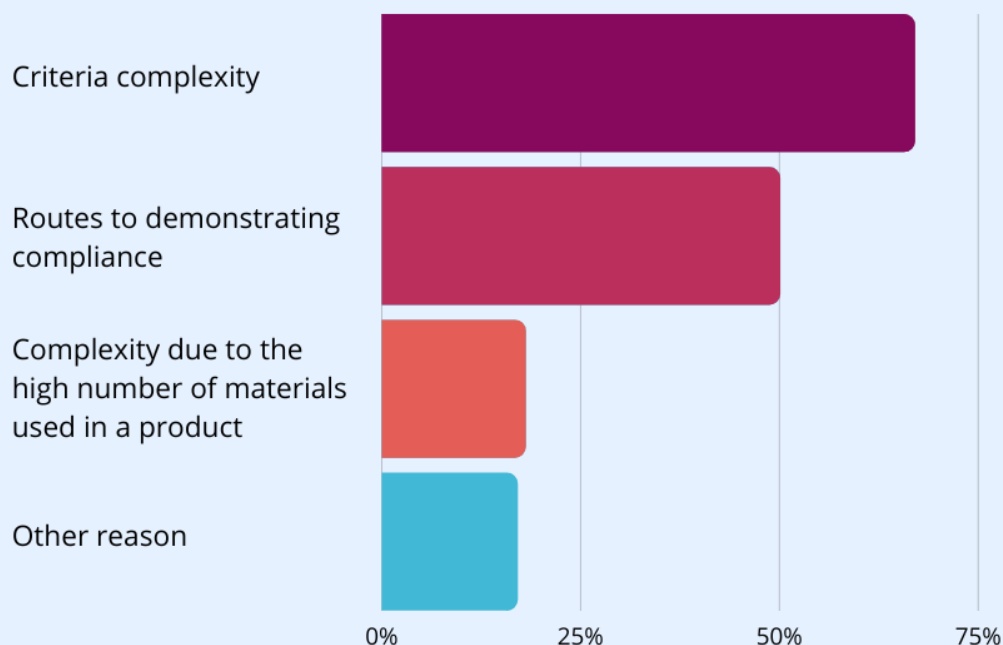


Figure 7

Two thirds of the participants highlighted the complexity of the criteria requirements and its verification. Taking into account in particular the various materials and components utilised across the whole supply chain of furniture items, for instance, wood-based panels and coatings, may make it difficult for furniture manufacturers to satisfy the relative stringent criteria of the EU Ecolabel.

To demonstrate compliance with the criterion requirements, industry may need to continuously monitor their manufacturing lines, collect data from other component suppliers, and employ extra Life-Cycle Assessment expertise (particularly in relation to REACH and CLP standards).

In another complexity linked question, 40 per cent of the participants stated that the verification procedure should be changed to a more lenient scoring system that would still allow certification even if some of the standards were just average. This was taking into account the individual composition or different materials and adaptation to the environmental footprint of each product category.

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Should the current EU Ecolabel criteria be changed from the pass/ fail approach to a more flexible scoring approach (meaning that you can get the label even if some criteria score below average)

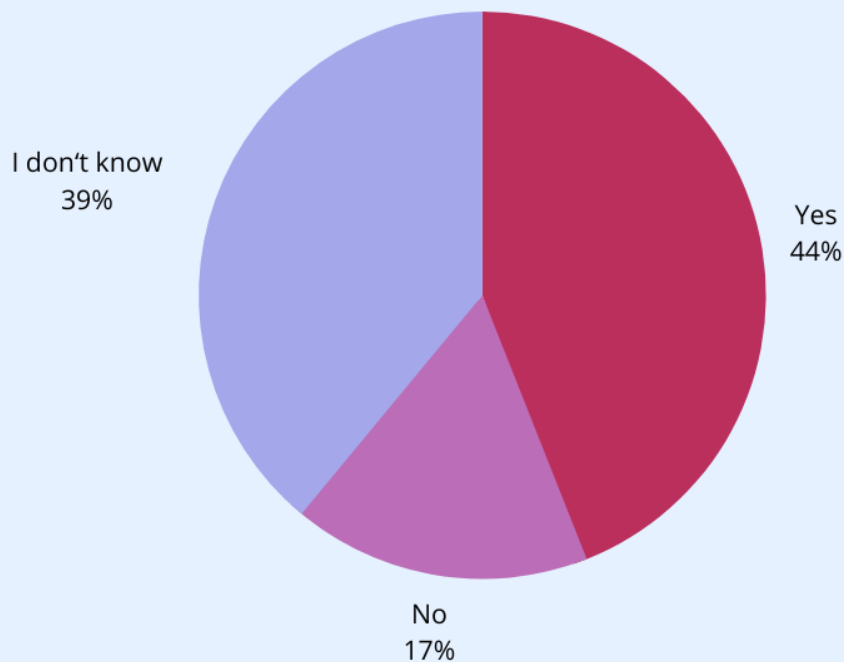


Figure 8

Taking flexibility one step further, the majority of participants concluded that a flexible scoring system based on the individual furniture composition that adapt automatically to the environmental footprint at the individual product level would ease the complexity and therefore likely influence the uptake of Ecolabels. This claim supports other initiatives in providing transparency and clarity into the ecolabel process.

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How would you consider the need of a flexible scoring system based on the individual furniture composition that adapt automatically to the environmental footprint at the individual product level?

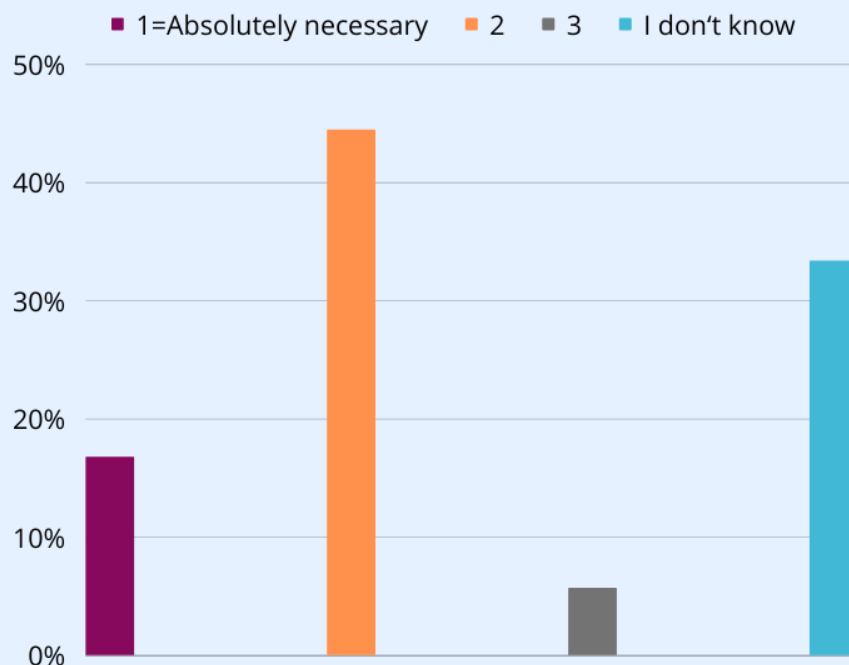


Figure 9

A scoring system based on industry-best practice restricted substance lists for relevant materials, as well as an approach to the classification, labelling and packaging (CLP) restrictions was also supported by the participants.

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Which of the following approaches regarding EU Ecolabel criteria would you prefer?

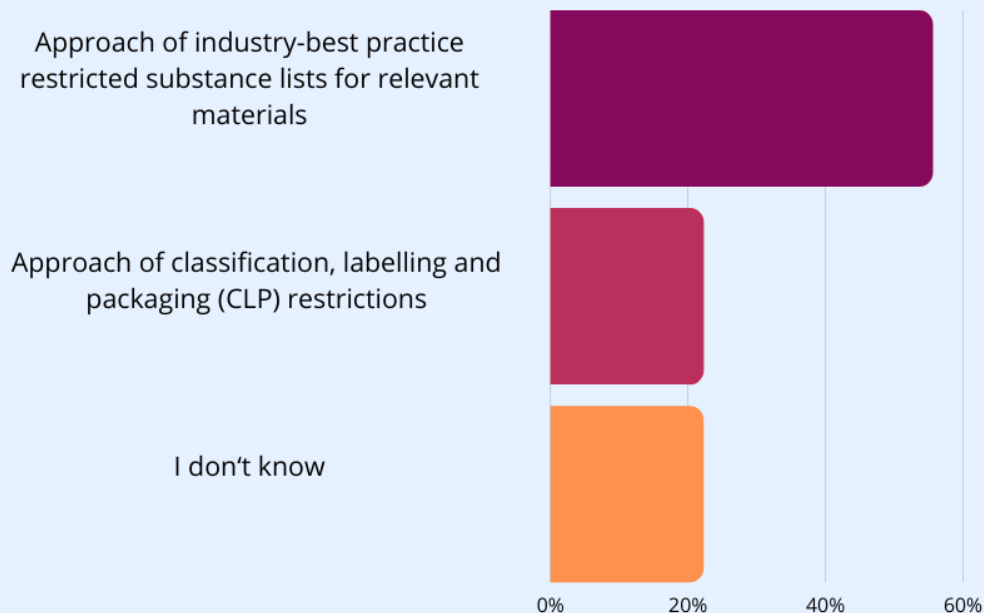


Figure 10

Apart from highlighting the benefits of the Ecolabel it is clear that some aspects need to be simplified in order to gain additional uptake. Industry feels that a better uptake from the consumer side is paramount, and as we will see there is plenty of scope and interest there for more information. The EU Ecolabel and the environmental arguments it highlights are both urgently in need of promotion by industry.

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Do you think there is a need on the market to do more promotion campaigns from the EU regarding the EU Ecolabel?

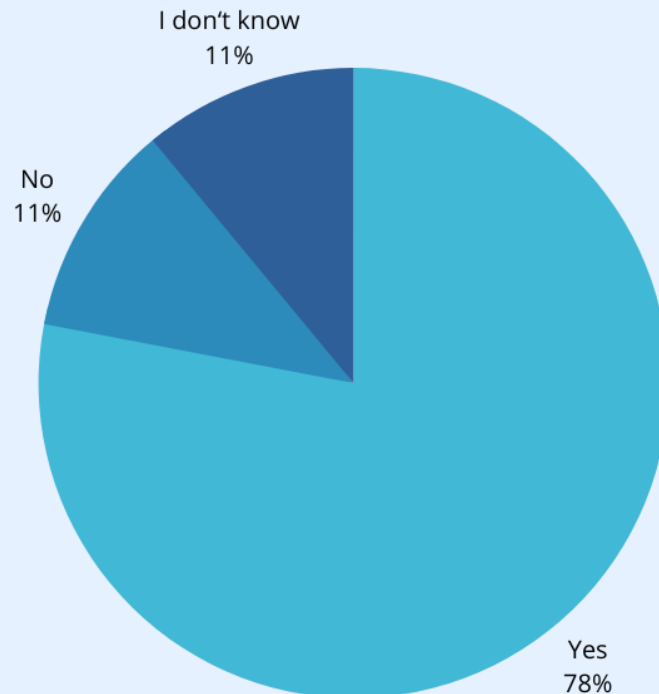


Figure 11

The low market adoption of the EU Ecolabel may be attributed to consumers' lack of understanding and inadequate promotion of its advantages. This might be reversed by more effective communication and a marketing strategy that encourages sustainable consumption, especially by educating the general public about the EU Ecolabel through information and education initiatives. This would allow consumers to make more informed and sustainable decisions.

It is clear that customer perception is one of the primary motivators for the sector to seek, achieve and retain the EU Ecolabel certification. In fact, *"the intention is that the EU Ecolabelling scheme will provide consumers with accurate, non-deceptive, science-based information on the environmental impacts of products and services and will influence their purchasing decisions"*¹⁸.

The survey that was conducted in four EU countries sought to gauge the perception of the Ecolabel with the aim of having a representative "snapshot" of the European consumer. Accordingly, this survey aimed to monitor the understanding of the EU Ecolabel by European consumers in Germany, Poland, Spain, and Sweden. The results show a general conformity throughout Europe towards the

¹⁸ Iraldo, F.; Barberio, M. Drivers, Barriers and Benefits of the EU Ecolabel in European Companies' Perception. Sustainability 2017, 9, 751. Pp.1, <https://doi.org/10.3390/su9050751>

Ecolabel, with only a few deviations between the selected geographical regions of Europe. This leads to believe that other countries in the EU not represented directly by this survey would most probably also fall into a similar pattern of response.

First, we need to understand the level of recognition the EU Ecolabel has.

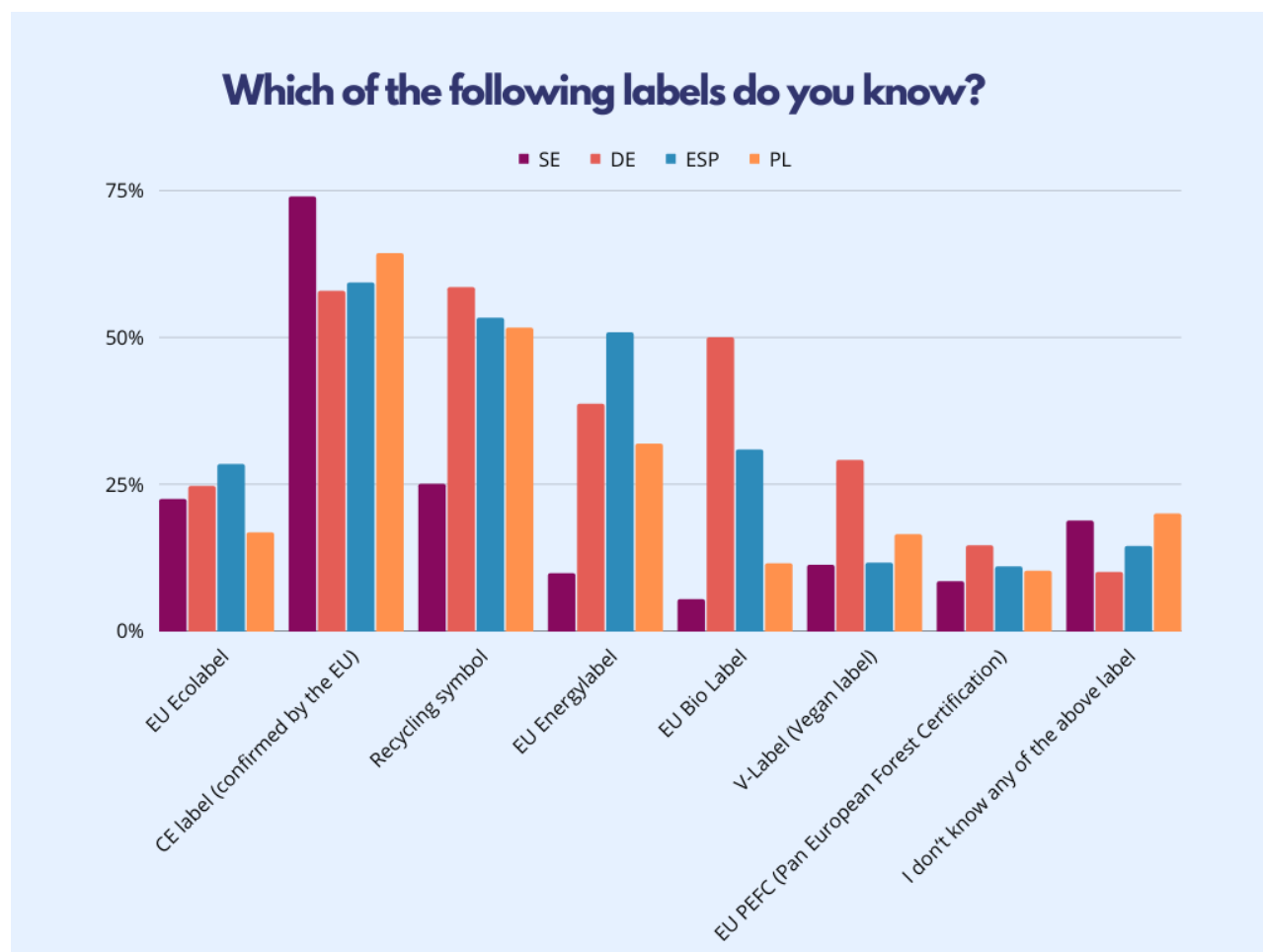


Figure 12

Despite all of the promotional efforts carried out that concern the co-ordination of the EU Ecolabel, it was apparent that less than 30% of the general public participants knew about its existence. The participants seemed to be more familiar with other certification labels, such as the CE marking and the recycling symbols.

The Ecolabel logo recognition was only slightly higher than the label which underpins the need to promote further recognition of this label.

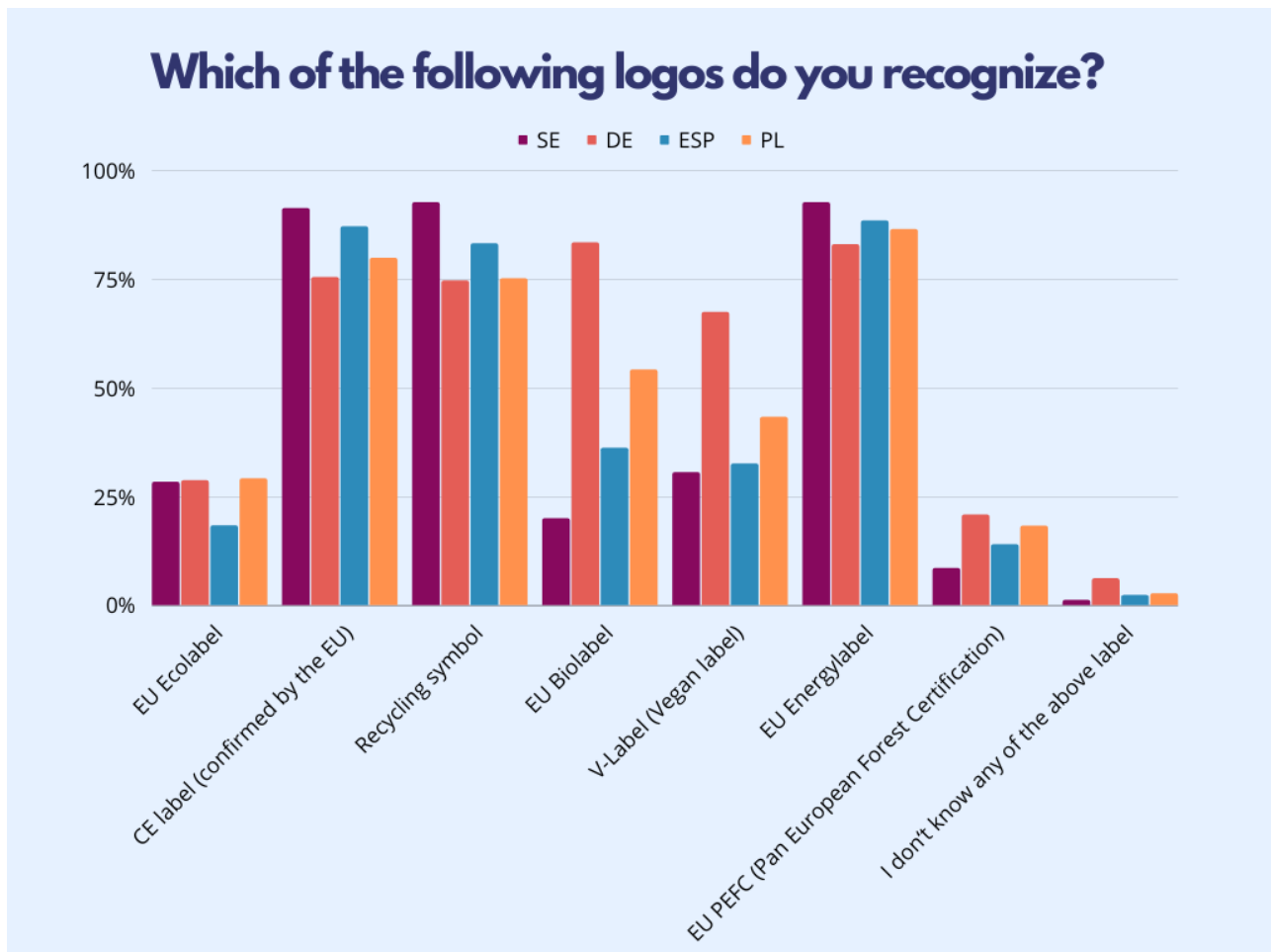


Figure 13

Participants appeared to comprehend that certification symbols signify adherence to accepted standards. They were aware that the certification is given following an independent authority's verification procedure, giving them some assurance regarding certain characteristics of the items and their components. The participants were therefore questioned on the features of the items they take into account when making a furniture purchasing decision.

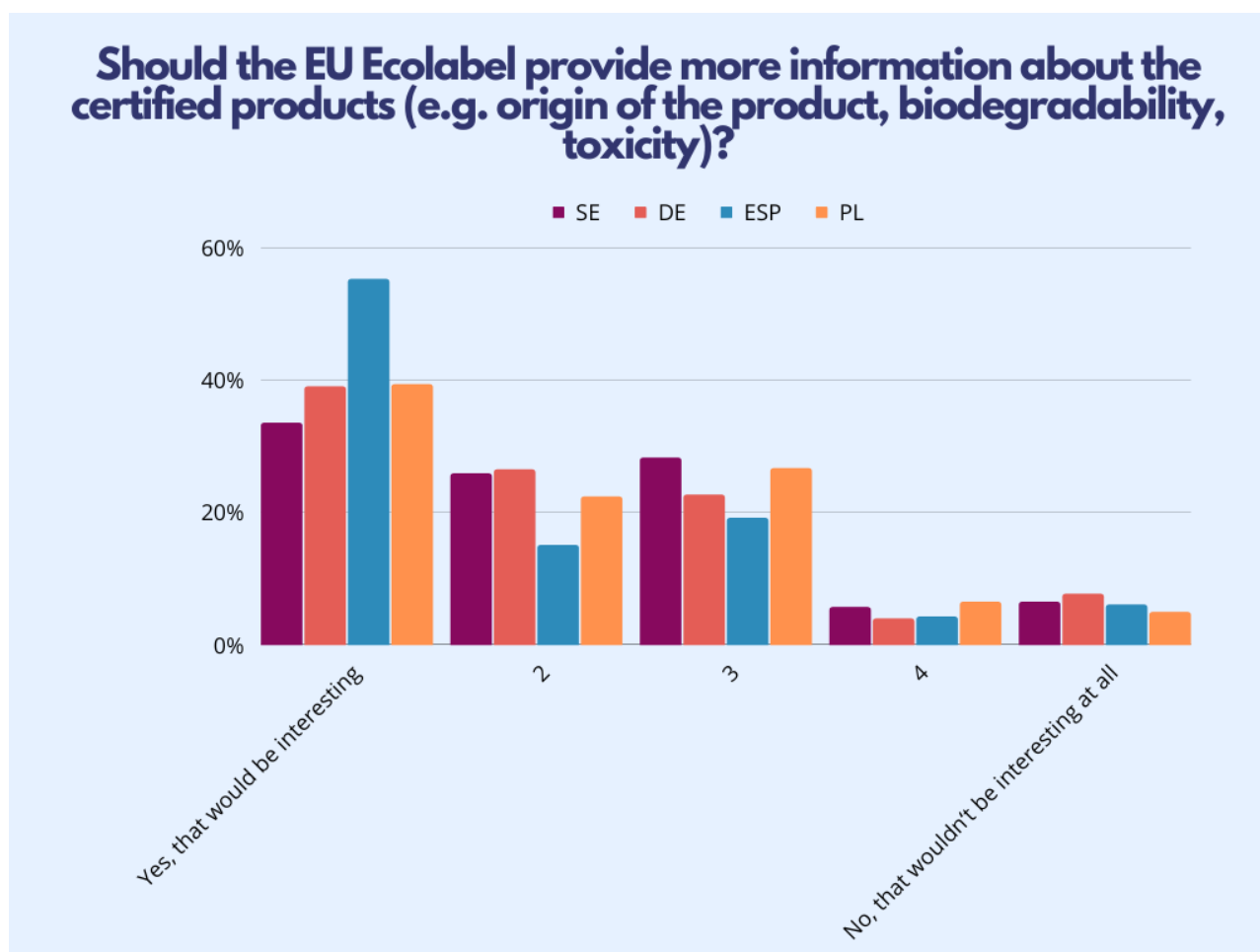


Figure 14

Across the four countries more than 60% of the participants would like to have more information about the products certified with the sustainability claims of EU Ecolabel. It should be mentioned that there is already information available about the certified products in the EU Ecolabel Catalogue¹⁹, which also contains a detailed description of the criteria requirements and expectations to obtain such certification.

However, such information might still be perceived as too technical and does not highlight the actual benefits for consumers and the environmental impact in simpler terms. The need for more information can be seen as a lack of awareness and understanding.

When asked about the health issues caused by VOC (Volatile Organic Compound), close to a third of the participants in Sweden, Germany and Poland had heard about formaldehyde, (even less than

¹⁹ See the EU Ecolabel Product Catalogue available at: <http://ec.europa.eu/ecat/>

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20% in Spain). This is despite the fact that formaldehyde was reclassified as a Category 1B carcinogen (H350 – may cause cancer) in 2015, and the use of formaldehyde-based resin formulations remains the most common method. See the EU Ecolabel Catalogue available at: of produced wood-based panels²⁰.

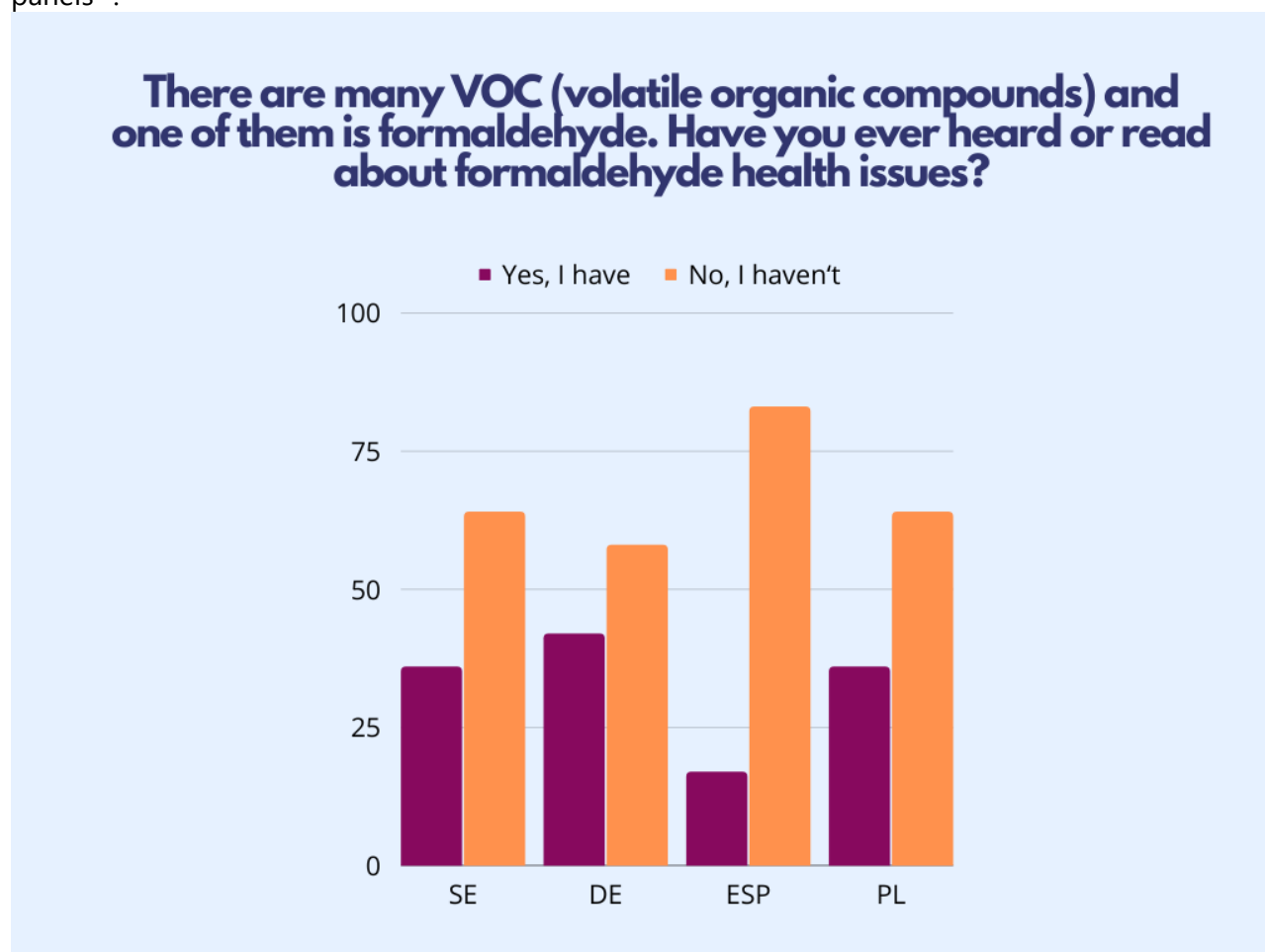


Figure 15

Interestingly, the awareness of formaldehyde seems to correspond to the level of people who consider it when making their purchasing decisions.

²⁰ The specific manufacturing processes used for each type of wood-based panel are tailored according to the behaviour of the resin and it is not straightforward to simply change from one type of resin to another. Given that the most important environmental impact associated with these resins is formaldehyde emissions from the final product, their use is permitted in EU Ecolabel furniture so long as the final emission criteria are complied with. Donatello S., Moons H., Wolf, O., 2017. Revision of EU Ecolabel criteria for furniture products. Final Technical Report, p3. 28443 EN, doi:10.2760/59027

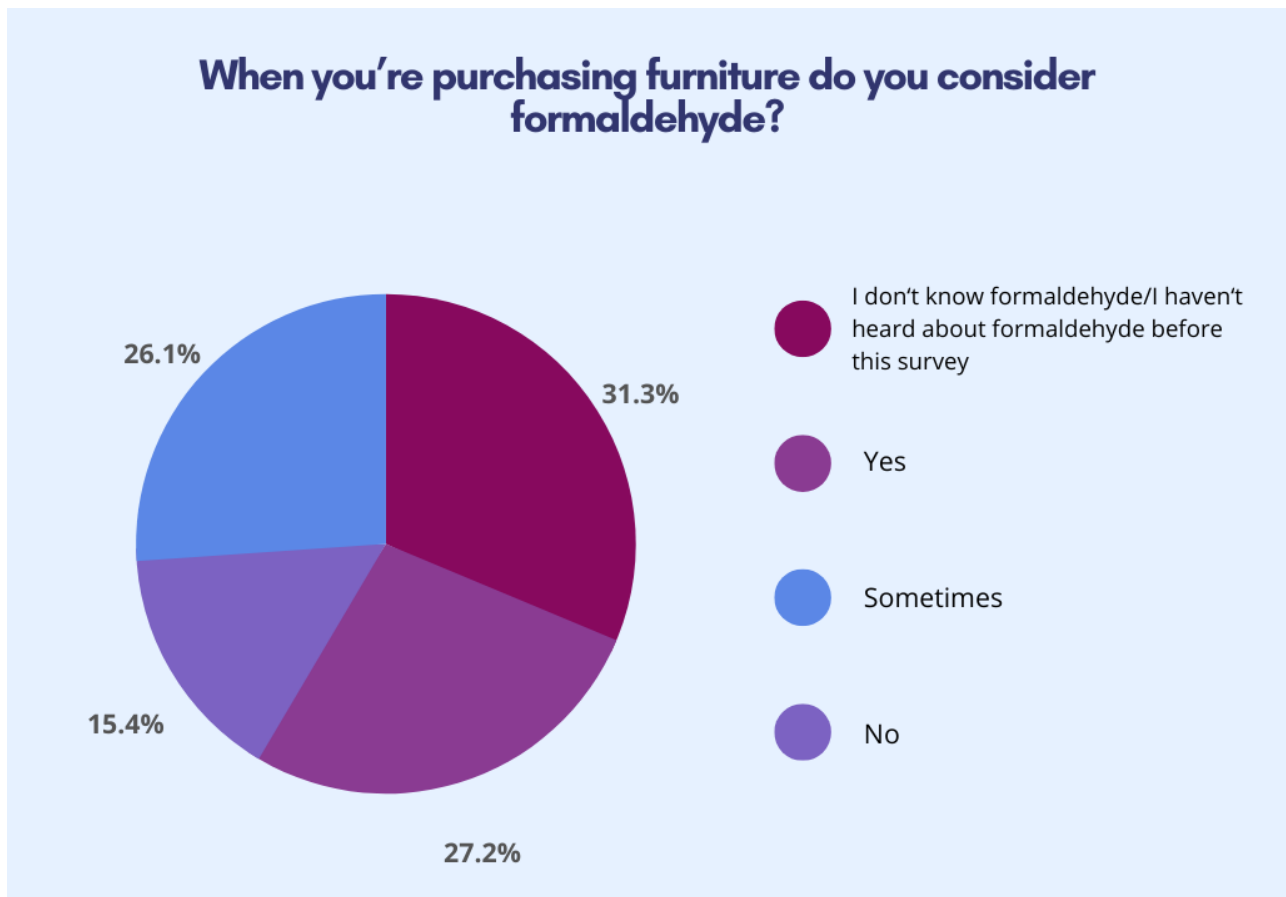


Figure 16

The aforementioned results suggest the need to better promote the health-related claims of the EU Criteria 049, so that the consumer would choose sustainable furniture products marked with the EU Ecolabel. More than 50% of the participants would be interested in learning more about health and sustainability issues to make an informed decision when it comes to buying furniture products. In particular, between 20% and 30% of the survey participants are definitely interested accessing more relevant information and promotion of the Ecolabel criteria.

How interested are you in learning more about health and sustainability related topics when it comes to furniture in particular?



Figure 17

Raising awareness about the benefits and drivers of the EU Ecolabel, as well as the impact of sustainable buying prerequisites would clearly provide furniture producers with a competitive advantage over those competitors without certified claims.

An overwhelming majority still rank comfort, price and durability as the main factors influencing purchasing decision. Additionally, it is apparent that participants also care about the sustainability and environmental claims of the EU Ecolabel when buying furniture, such as; the origin of the furniture materials; the recyclability of the components of the furniture; as well as the health issues that might affect them due to the existence of the dangerous or hazardous components used in the manufacturing process.

The summary of top considerations when purchasing furniture can be seen below.

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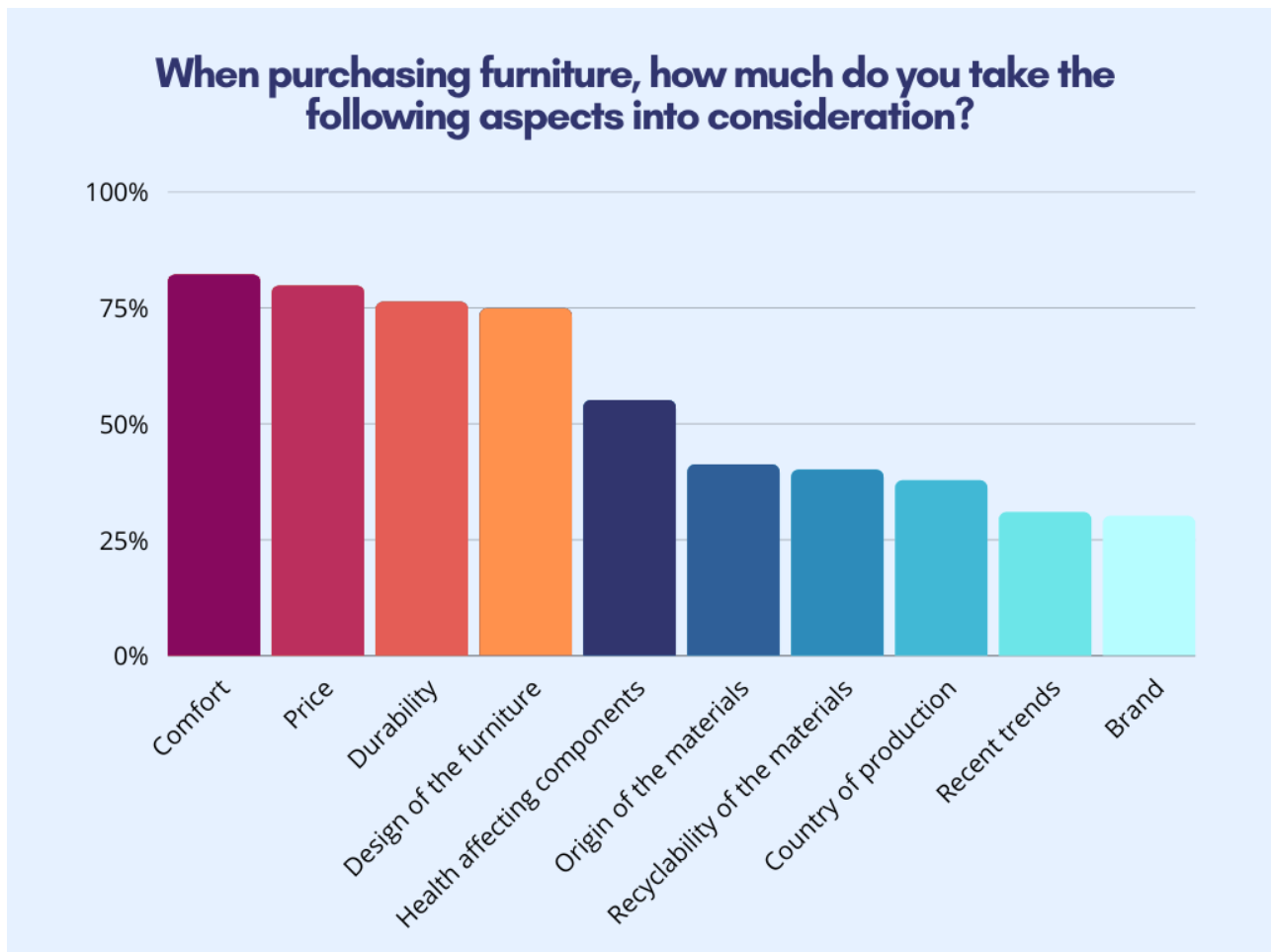


Figure 18

What is becoming clearer is that consumers are interested in Ecolabel criteria, and they show a willingness to learn more about it. Topics of sustainability are influencing purchasing decisions and may in the future be the determining factor when choosing which furniture to purchase.

With price still being a major decision-making factor (ranked second after comfort in our survey), we wanted to finally test the consumer willingness and disposition to pay for products that have been sustainability certified by an Ecolabel.

As we have seen, the awareness on this topic shows significant potential. We set out to ask the participants very early on in the surveys for their willingness to pay more for an "EU Certified" sustainable and healthier furniture product.

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Would you be willing to pay more for 'EU Certified' sustainable and healthier furniture products?

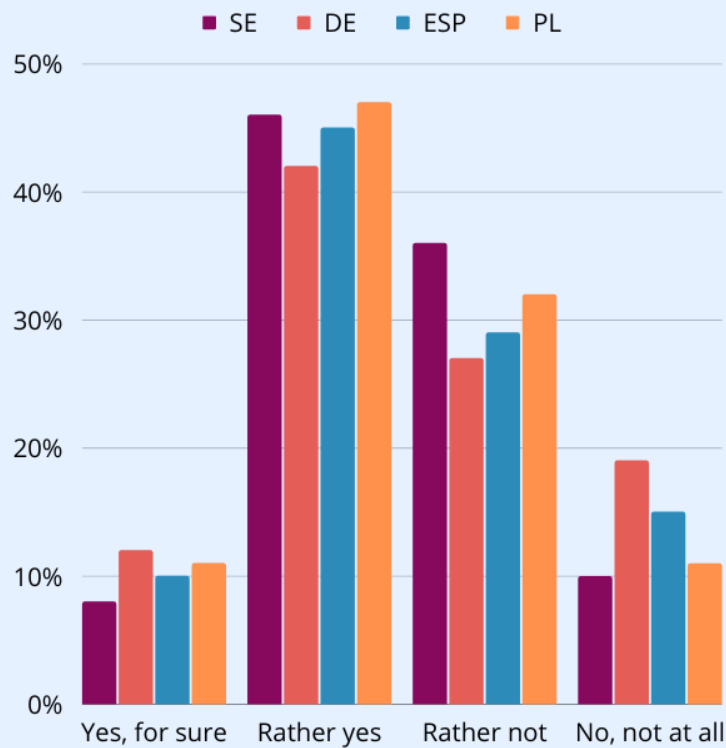


Figure 19

At the beginning of the survey the results showed a convincing majority across all four countries to pay more for sustainable and healthier furniture products. With an average of 10% that are for sure willing to pay more for sustainable and healthier furniture products we see a compelling case towards making furniture more sustainable and healthier.

Intentionally, we asked the same question again at the very end of the survey. At this stage (approximately 3-5 minutes later) the participants have been introduced briefly to sustainability issues in furniture, particularly in VOC and formaldehyde.

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Now that you have read more about sustainability and impact in furniture in the course of this survey, would you be willing to pay more for 'EU Certified' sustainable and healthier furniture products?

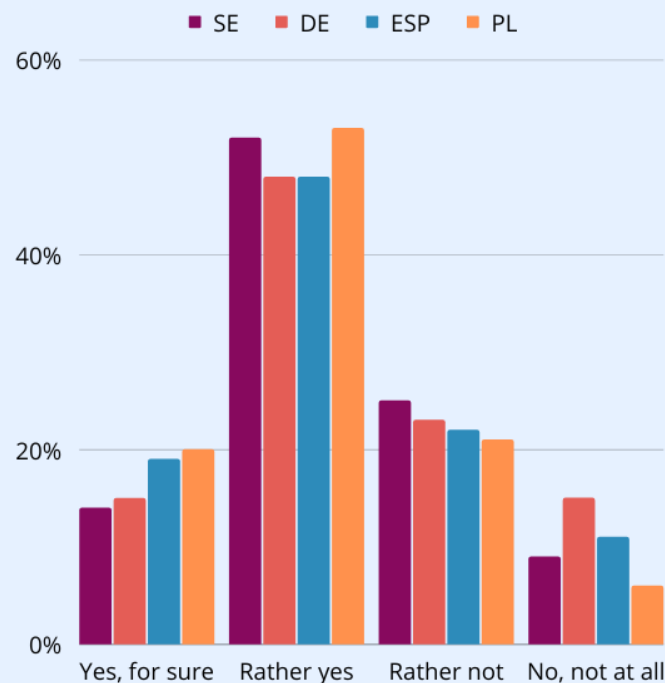


Figure 20

Armed with more knowledge and facts, the results at the end of the survey show that in each country questioned the willingness to pay more for EU certified sustainable and healthier furniture products has increased, in some cases it almost doubled. The average post survey of people that are for sure willing to pay more for sustainable and healthier furniture products reached 17% (up from 10%), and 50% of all questioned stated "rather yes" (compared to 45% in the pre survey).

This increase of over 12% to the "Yes Camp" is truly encouraging and demonstrates what a little awareness can create to shape societal viewpoints. So, looking specifically at the "Yes Camp" we asked our participants to put a monetary value on the commitment. Again, the answers across the geographic corners of Europe were rather homogeneous and consistent.

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And how much more would you be willing to pay for an 'EU Certified' sustainable and healthy furniture product compared to a product that is not 'EU Certified'

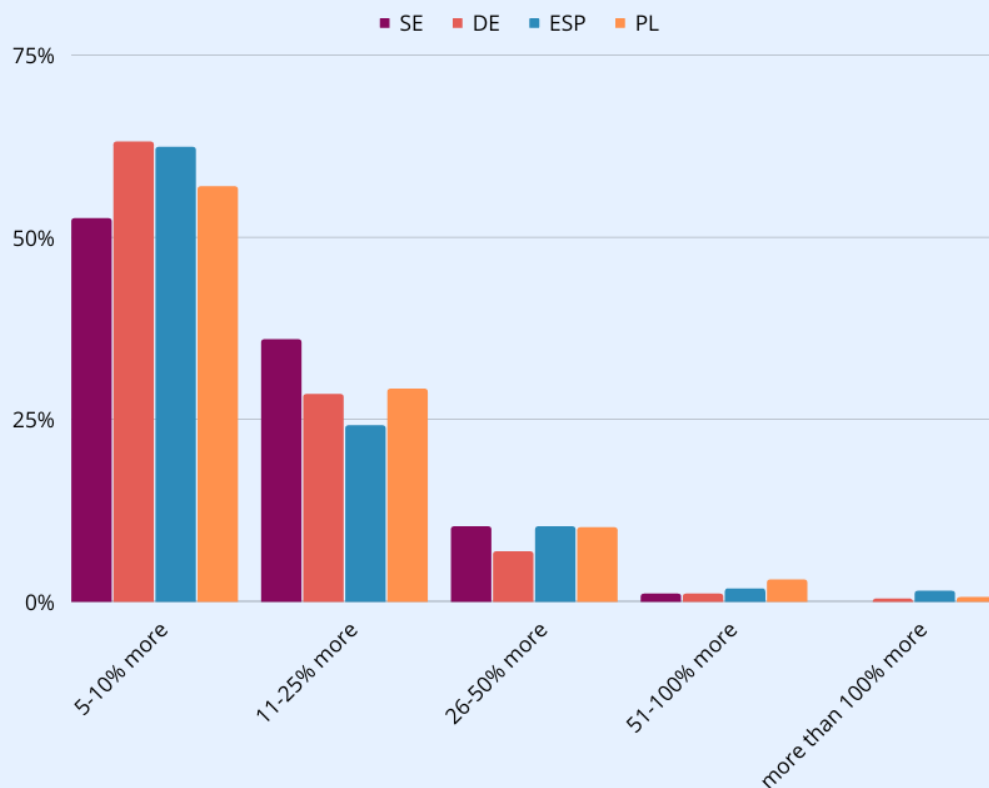


Figure 21

The results clearly demonstrate a significant willingness of nearly 60% to pay between 5-10% more for 'EU Certified' sustainable and healthy furniture products. A further 30% of participants are prepared to spend between 11% and 25% more for 'EU Certified' sustainable and healthy furniture products.

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7. Recommendations

The results discussed above provide valuable insights into consumer and industry behaviour and perceptions concerning the EU Ecolabel. They could offer a pathway of change that suppliers, manufacturers and retailers in the furniture value chain have been waiting for. The results show that there is a significant market for 'EU Certified' sustainable and healthier furniture products. It also shows a need for more information about the impact behind the sustainability and environmental claims of the EU Ecolabel to further reach and increase awareness towards the EU Ecolabel and the uptake of sustainable furniture.

1. There is need **to reduce the complexity of the** EU Ecolabel, considering the different components that might challenge compliance with the requirements of the EU Ecolabel, and the potential standards included in the ESPR. Accordingly, the SUSBIND Consortium supports the proposal of the European Furniture Industries Confederation (EFIC) regarding the development of a furniture-specific legislation²¹ where the complexity of furniture products and the furniture value chain is *"carefully considered for certification of sustainability claims via impact assessments, the different functions, materials, lifespans of furniture products, as well as the affordability and acceptance for consumers, impacts on competitiveness and administrative burden on companies"*²².
2. To **ensure the harmonisation of legislative efforts** through the development of standards that cover the impact of sustainable furniture products regarding human health, reduction of the carbon footprint, the use of waste materials and the recyclability at the end-of-life. Accordingly, SUSBIND Consortium also supports the recommendations of EFIC towards the development the ESPR. In particular, the recommendation No. 5 on the alignment with already existing standardisation groups, such as the CEN/TC 207 for the development of eco-design standards and information requirements should be considered.
3. To continue and reinforce the efforts *"to inform the public and to raise public awareness of the EU Ecolabel through promotion actions, information and education campaigns, at local, national and Community levels, in order to make consumers aware of the meaning of the EU Ecolabel and to enable them to make informed choices. It is also necessary in order to make the scheme more attractive to producers and retailers"*, as established in the Paragraph 13 of the EU Ecolabel regulation. In particular, from a marketing approach to stimulate the market for sustainable products, not only furniture.
4. To **involve stakeholders and other contributors to the supply chain**, such as component suppliers and retailers on the promotion campaigns, to communicate the benefits of EU Ecolabel branded products and facilitate access to the information about the production of sustainable and healthier furniture products and their components.

²¹ European Parliament, March 2022, Briefing: EU Legislation in Progress. Pp. 1, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI\(2022\)733524_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733524/EPRS_BRI(2022)733524_EN.pdf)

²² See European Furniture Industries Confederation Position on the Commission Proposal for an Eco-design for Sustainable Products Regulation https://www.efic.eu/-/files/ugd/a1d93b_0f23922f41c14edbbd45e9ebc91bb03f0.pdf

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5. **To further support innovation and research and development initiatives** leading to the development of more sustainable and healthier products, as well as to safeguard green technology contributing to material and business model neutrality.

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