Study on the impact of the energy label and potential changes to it – on consumer understanding and on purchase decisions

European Commission, Stakeholder meeting of the Energy Labelling Review

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Ipsos

Objective

- Assess consumer understanding and purchasing behaviour when products are affixed with alternative energy label designs

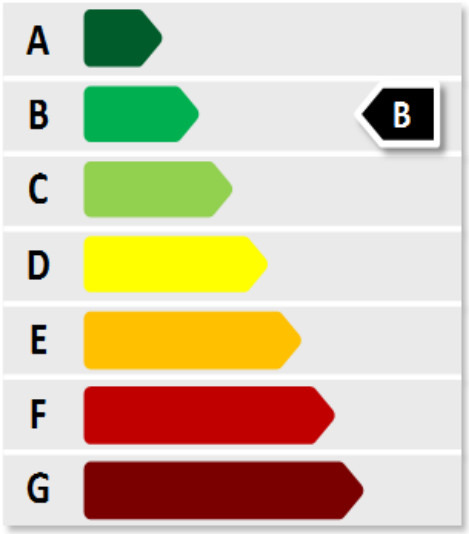
- Label frames tested
  - Closed alphabetic
  - Closed numeric
  - Open numeric
  - Best available technology marker
  - Reverse numeric

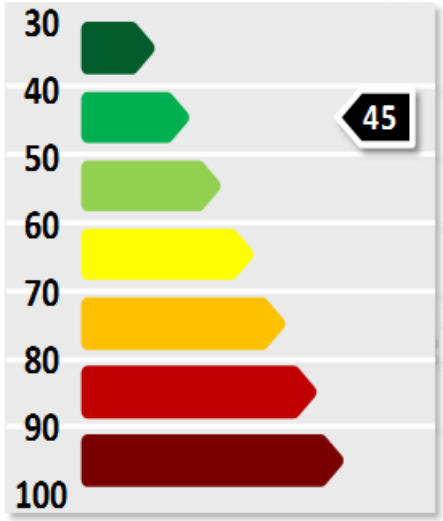
- Phase I of the study
  - Online behavioural experiment with simulated purchasing scenarios to test understanding of the label elements and estimate willingness-to-pay for more energy efficient products

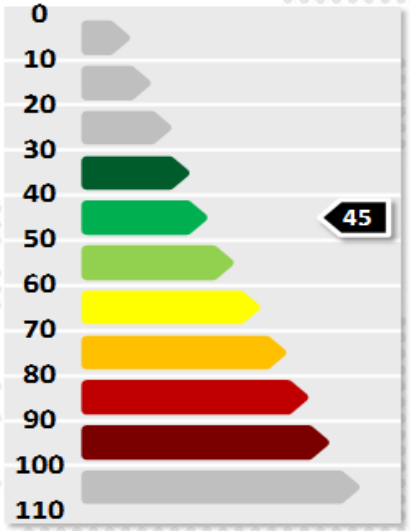
- Phase II
  - Bricks and mortar experiment with four label designs including the current EU energy label

The label frames

Closed alphabetic, closed numeric and open numeric frames

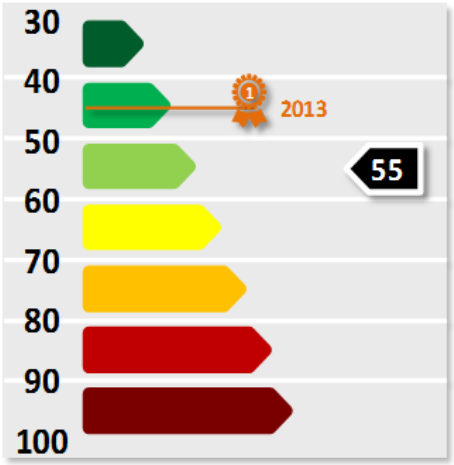


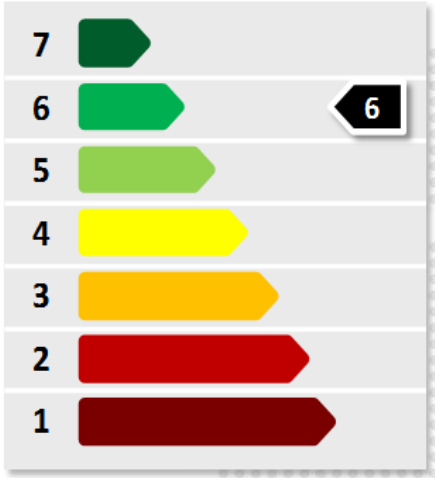




The frames continued

Best available technology marker and reverse numeric scale

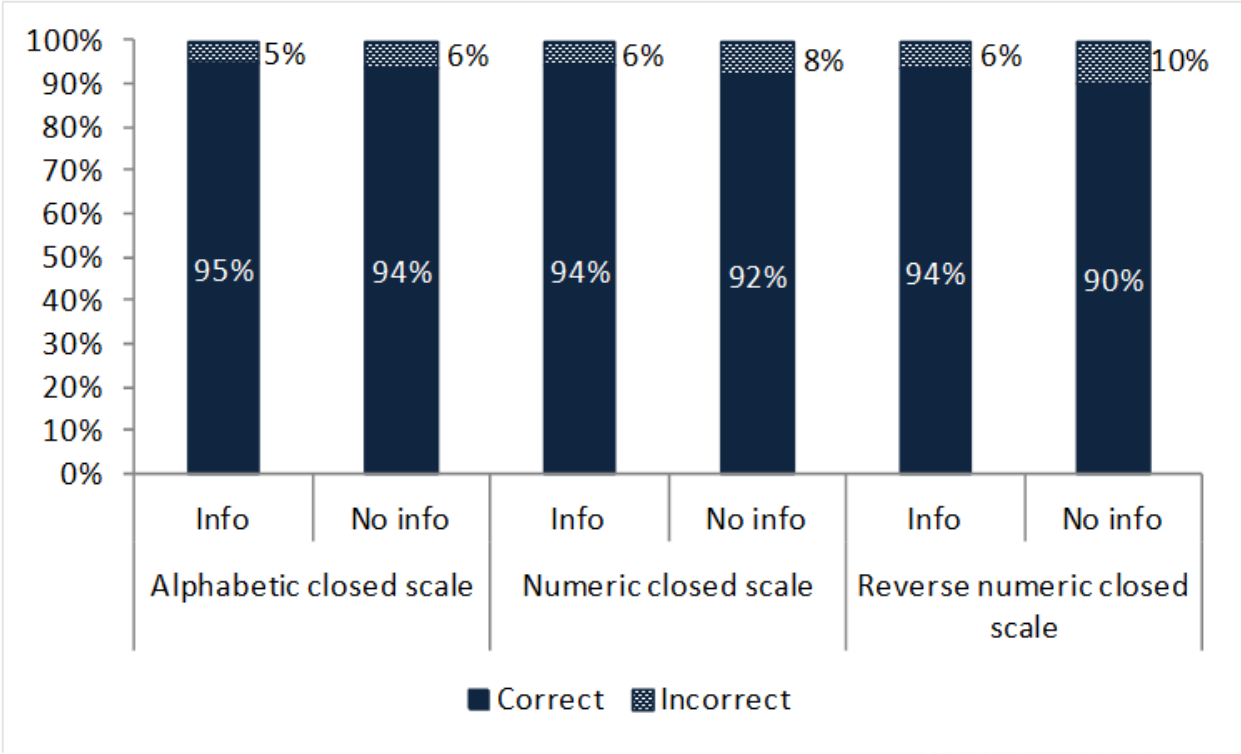




Approach

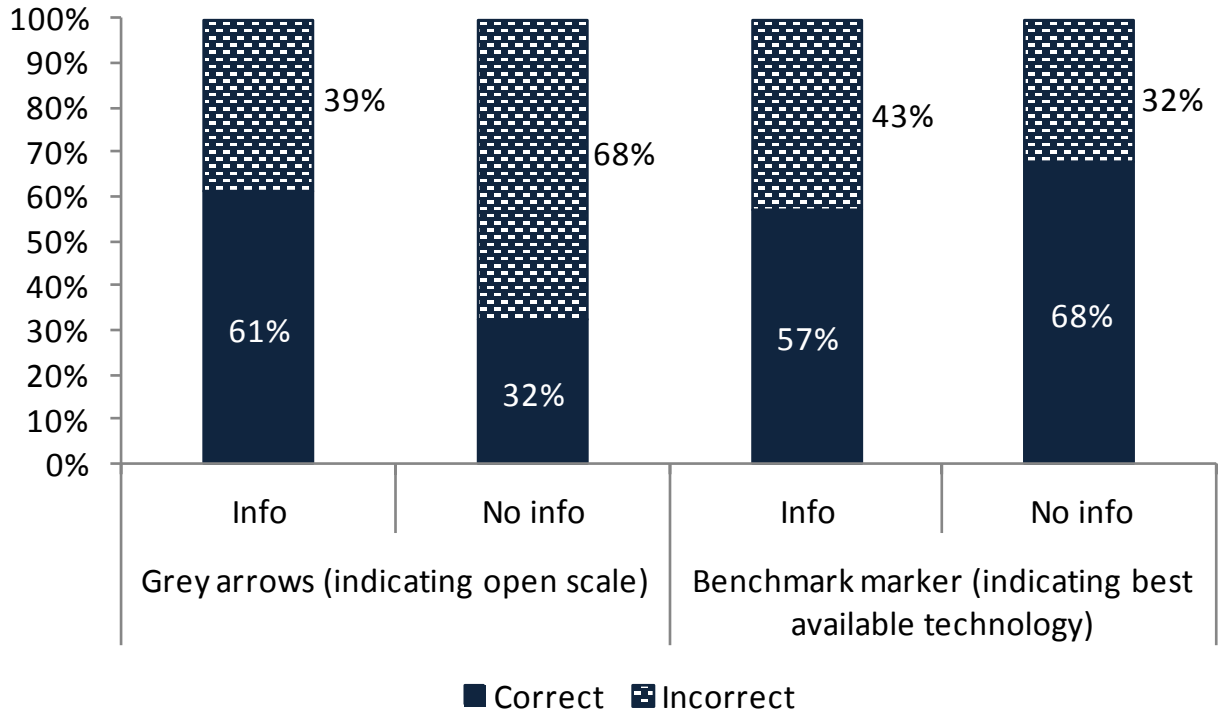
- Behavioural experiment conducted in Czech Republic, France, Italy, Norway, Poland, Romania and UK (5,012 consumers)
- Three products tested – televisions, washing machines and light bulbs
  - Vary in terms of purchase frequency, price levels and whether they are luxuries or necessities
- **Bidding experiment (experiment A)**
  - Reveals respondents' willingness-to-pay for goods affixed with different label frames by asking them to make an offer in an auction
- **Choice experiment (experiment B)**
  - Respondents given a choice between two products
  - Both products have the same label but one is always 'better' than the other in terms of energy efficiency
  - Estimates respondents' willingness-to-pay for more energy efficient goods by observing their choice of product
- **Comprehension quiz (experiment C)**
- Respondents received an **explanation of the label frame** they experienced before completing the experiment

Share of respondents correctly identifying the most energy efficient product



- Overall understanding of the labels is high, 90% correctly identified the most energy efficient product
- Provision of information about the label meaning has a positive impact on understanding

Share of respondents correctly identifying the meaning of specific label features



- Understanding is lower for the numeric open and best available technology marker
- Provision of information has a strong effect on understanding for the numeric open scale, but an unclear/unexpected effect on the benchmark marker

Average bids for more energy efficient goods

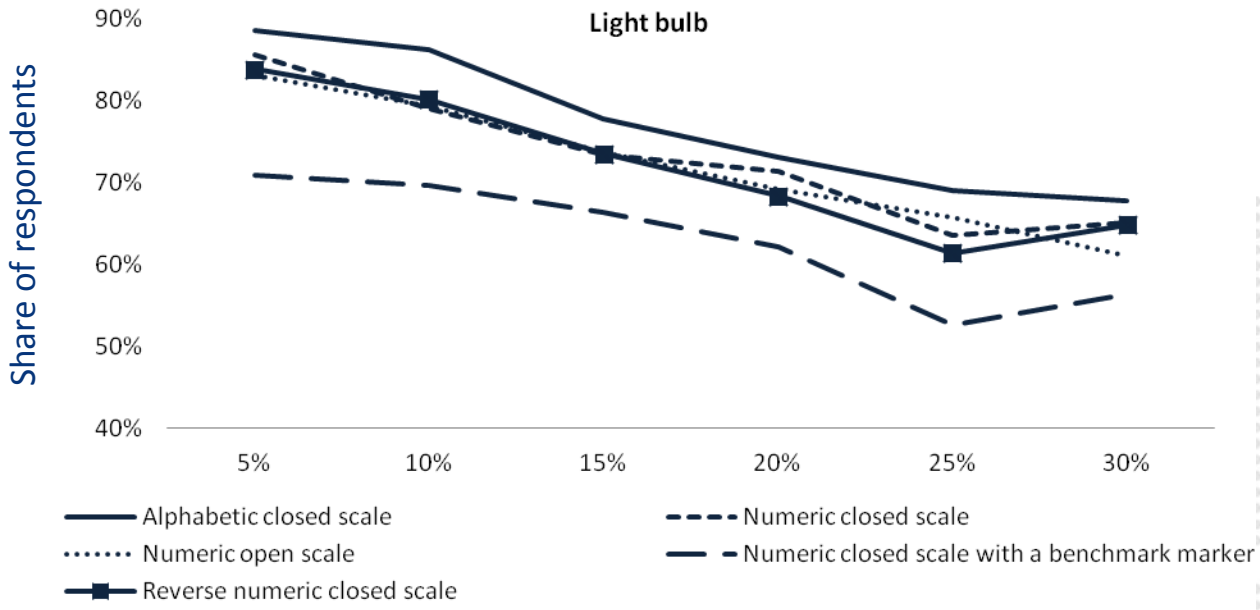
- Across all label frames, average bids for more energy efficient products are higher than for the less energy efficient products

Difference in mean bids for 'good' and 'bad' products across each energy label framing (€)					
	Alphabetic closed scale	Numeric closed scale	Numeric open scale	Numeric closed scale with a benchmark marker	Reverse numeric closed scale
Light Bulb	0.07**	0.07***	0.10***	0.12***	0.04
TV	4.99***	4.05***	4.17***	3.80***	2.87**
Washing machine	4.94***	5.91***	6.04***	4.36***	5.77***

Note: *, **, *** indicates the difference is statistically significant at the 90%, 95% and 99% level.
Source: BDM bidding experiment

- However, we find not clear pattern between label frames
- No strong evidence from the bidding experiment that one frame performs better than another in terms of willingness-to-pay for more energy efficient products

Share of participants willing to pay a higher price for more energy efficient products



Price premium for the more energy efficient product

- Alphabetic closed scale performs best across all price premiums
- Numeric closed scale performs least well across all price premiums

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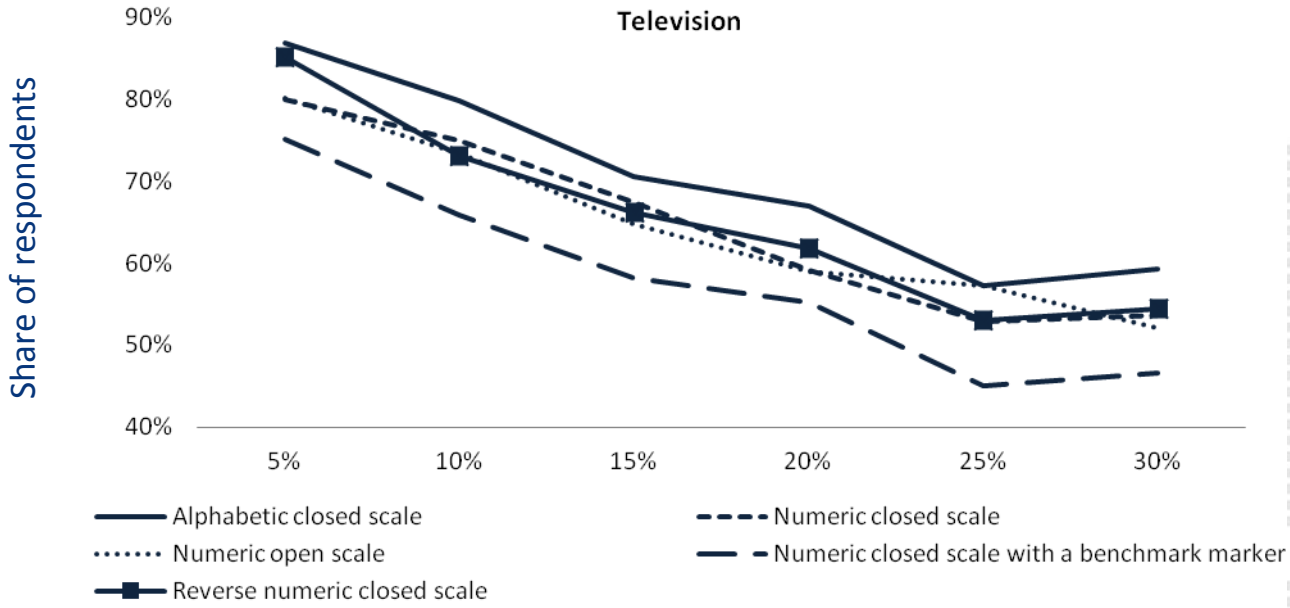

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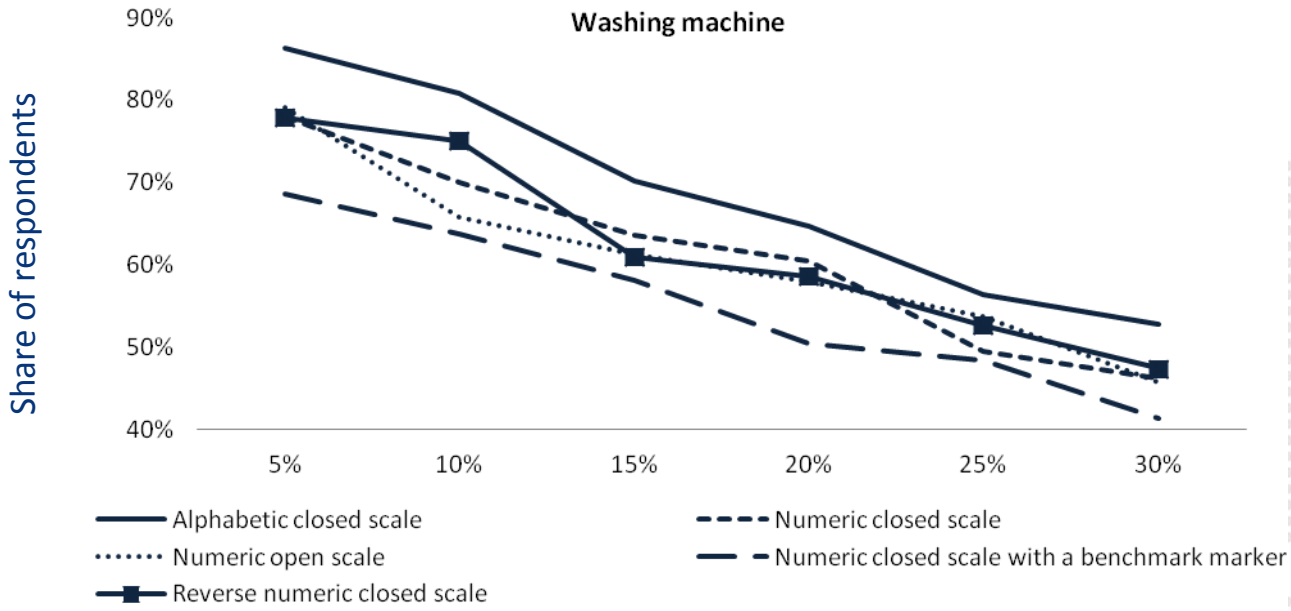

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Conclusions

- Respondents took into account the energy labels in their decision-making, and were **willing to pay more for a more energy efficient product**
- Best performing frame was the **alphabetic closed frame**, and this frame also had the highest level of understanding
- The **benchmark marker** performed least well in terms of willingness-to-pay, and understanding was low for this frame
  - Respondents may be using the colour coded scales to make the choices and not incorporating the additional information provided by the marker
  - Previous studies from the US have also found mixed results for benchmarks and consumer understanding, suggesting that clear wording needs to be used to indicate best technology
- **Information about the meaning of the label frames** improves understanding, and this is particularly the case when more unfamiliar frames are used e.g. Open ended scales

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