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Impact of the Energy Performance Certificate on Purchasing Decisions – Hermann Amecke

Climate Policy Initiative (CPI)

- CPI **assesses, diagnoses, and supports** efforts to achieve low carbon growth
- Focus is on **implemented policy rather than policy design**
- International organisation: German office in **Berlin at DIW**
- CPI is an **independent, not-for-profit** organization with long-term funding from George Soros

Topic and Methodology

Energy Performance Certificate (EPC)

- Comparison label – semi mandatory for existing buildings
- Aim: Bridge information gap
 - influence purchasing decisions
 - influence renovation decisions
- Relevant policy design
 - does it work?

ENERGIEAUSWEIS für Wohngebäude

gemäß den §§ 16 ff. Energieeinsparverordnung (EnEV)

Berechneter Energiebedarf des Gebäudes Masterstr. 123b
Vorderhaus 2

Energiebedarf

CO₂-Emissionen¹⁾ 58 kg/(m²·a)

Endenergiebedarf 222 kWh/(m²·a)

Primärenergiebedarf "Gesamtenergieeffizienz" 250 kWh/(m²·a)

Anforderungen gemäß EnEV²⁾

Primärenergiebedarf
Ist-Wert kWh/(m²·a) Anforderungswert kWh/(m²·a)

Energetische Qualität der Gebäudehülle H_T
Ist-Wert W/(m²·K) Anforderungswert W/(m²·K)

Sommerlicher Wärmeschutz (bei Neubau) eingehalten

**Für Energiebedarfsberechnungen
anzuwählende Verfahren**

Verfahren nach DIN V 4108-6 und DIN V 4709-10

Verfahren nach DIN V 18599

Vereinfachungen nach § 9 Abs. 2 EnEV

Endenergiebedarf

Energieträger	Sittlicher Endenergiebedarf in kWh/(m ² ·a) für			Gesamt in kWh/(m ² ·a)
	Heizung	Warmwasser	Hilfsgeräte ⁴⁾	
Erdgas H	177,9	40,5	0,0	218,4
Strom	0,0	0,0	3,6	3,6

Ersatzmaßnahmen³⁾

Anforderungen nach § 7 Nr. 2 EEWärmeG

Die um 15 % verschärfen Anforderungswerte sind eingehalten.

Anforderungen nach § 7 Nr. 2 i. V. m. § 8 EEWärmeG

Die Anforderungswerte der EnEV sind um % verschärft.

Primärenergiebedarf
Verschärfter Anforderungswert: kWh/(m²·a)

Transmissionswärmeverlust W_T
Verschärfter Anforderungswert: W/(m²·K)

Vergleichswerte Endenergiebedarf

Erläuterungen zum Berechnungsverfahren

Die Energieeinsparverordnung lässt für die Berechnung des Energiebedarfs zwei alternative Berechnungsverfahren zu, die im Einzelfall zu unterschiedlichen Ergebnissen führen können. Insbesondere wegen standardisierter Randbedingungen erlauben die angegebenen Werte keine Rückschlüsse auf den tatsächlichen Energieverbrauch. Die ausgewiesenen Bedarfswerte sind spezifische Werte nach der EnEV pro Quadratmeter Gebäudenutzfläche [kWh].

- **Current Knowledge:** Little knowledge about impact of EPC , esp. on purchasing decision
- **Study Focus:** Private purchasing decisions of residential dwellings in Germany
- **How:** Survey among private purchasers of dwellings since January 2009

Methodology

60,000 e-mails
to former
ImmobilienScout24
customer in July
2010

25%
opened
mail

2100
started
survey

1200
completed
survey

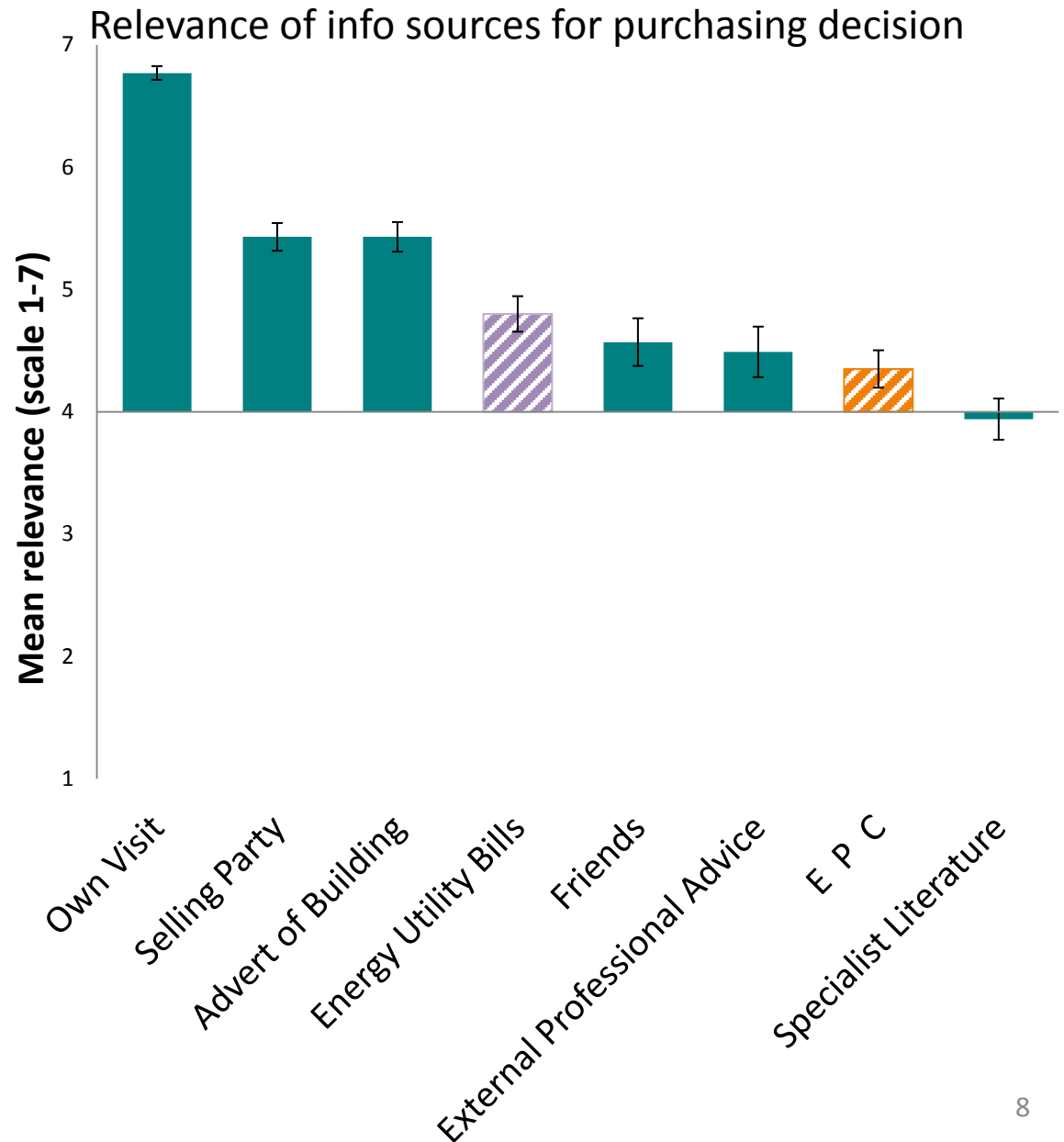
662
final
sample

- Lower response because of selecting question in mail
- Avoidance of self-selection bias → e.g. neutral framing of survey

Study Results

Results: Impact

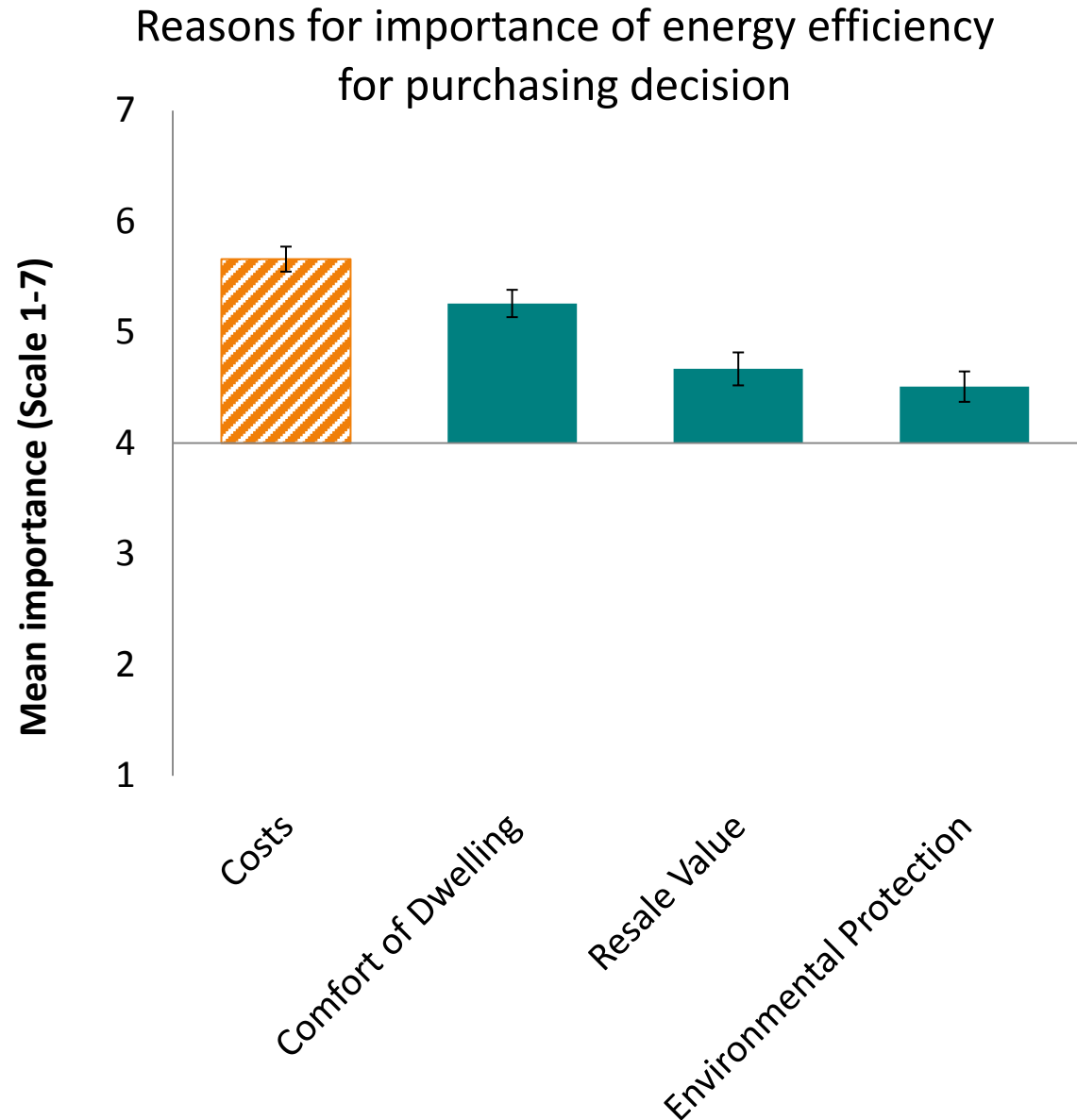
- EPC: positive but minor role (mean: 4.35 / rank: 7 of 8)
- Moderate absolute and low relative impact of EPC confirmed by other indicators in study



Explanations

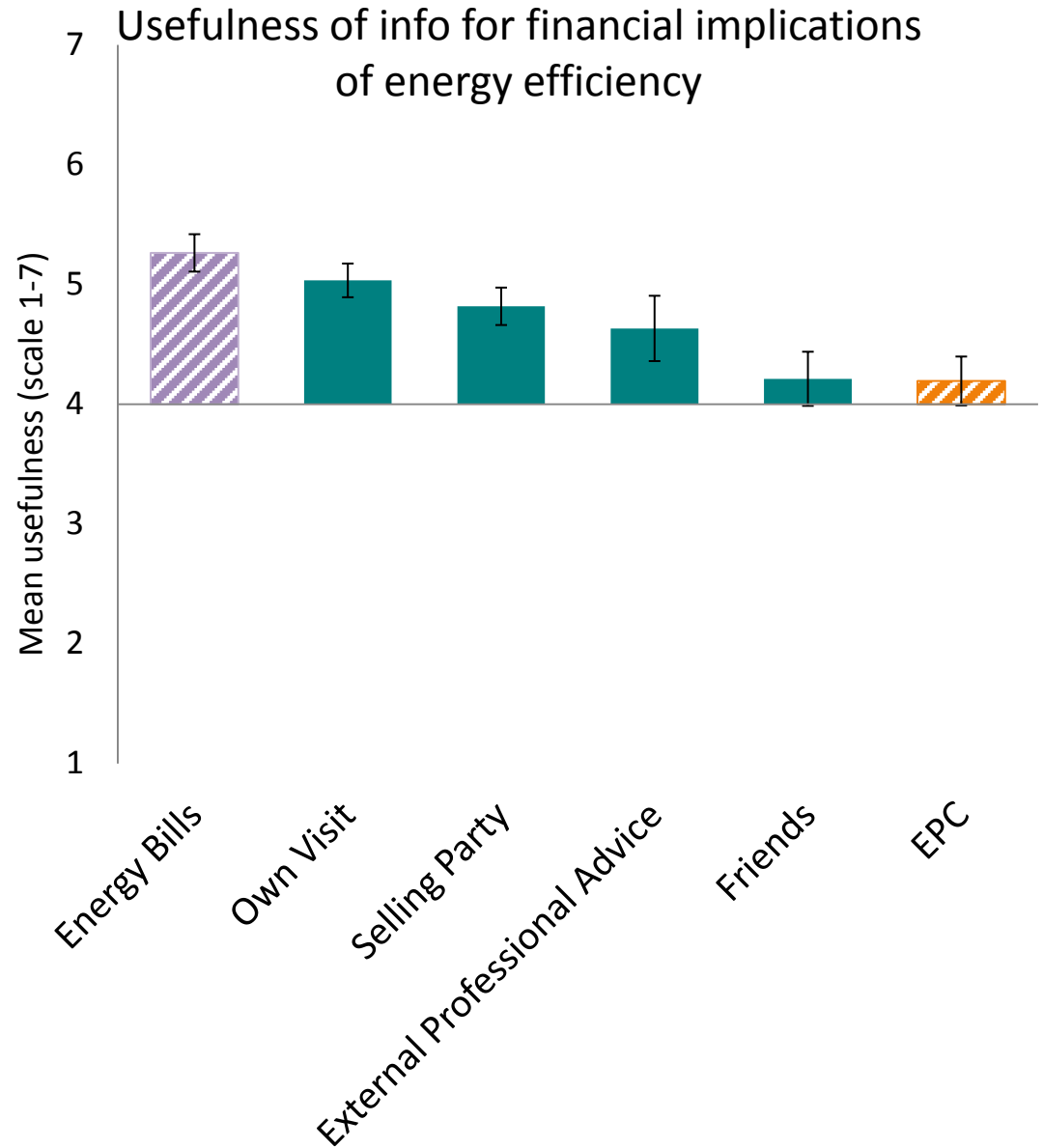
Explanations (1)

- Why do purchasers pay attention to energy efficiency (if they do)?



Explanations (1)

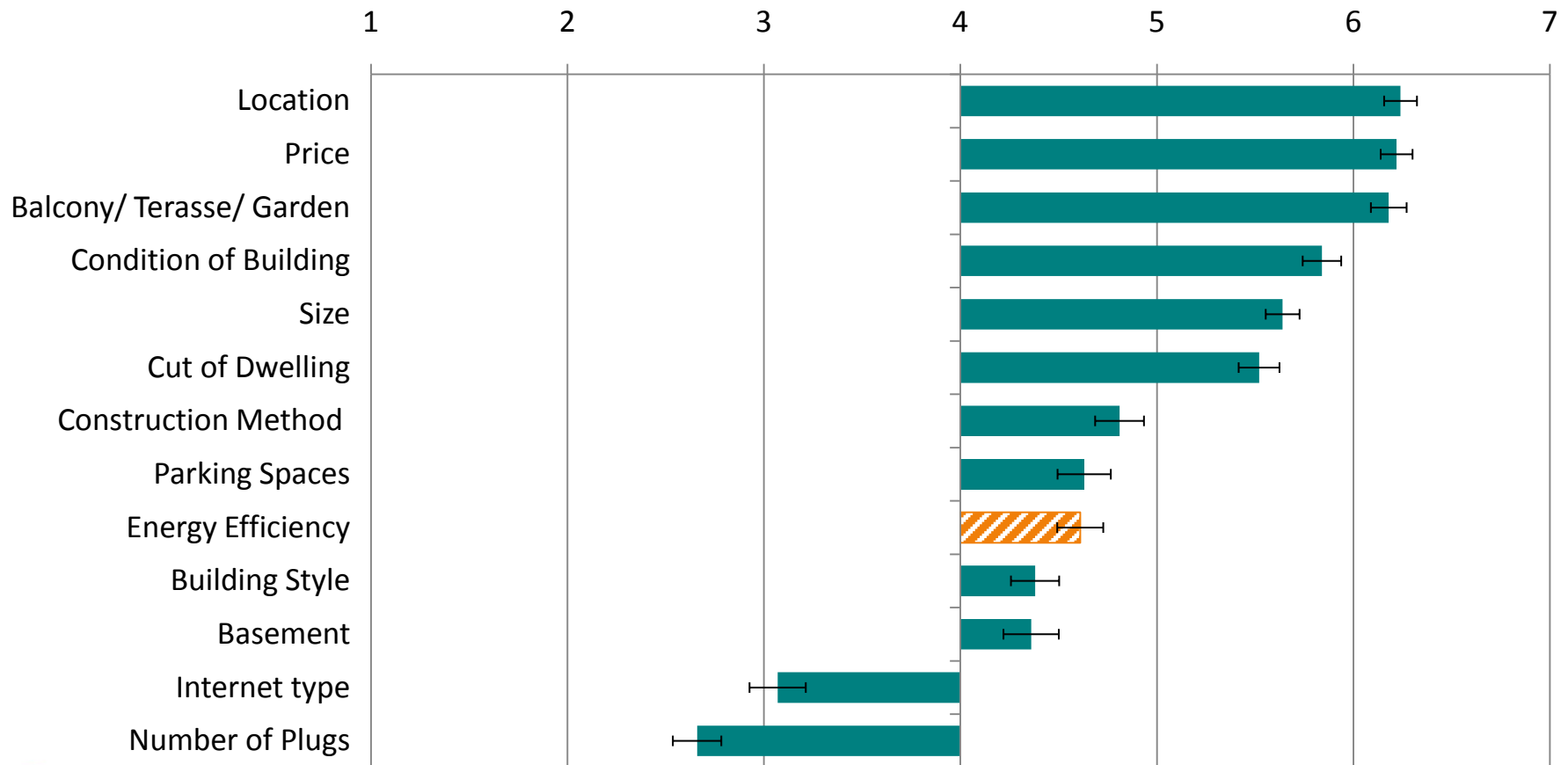
- Purchasers found EPC less useful for financial information (mean: 4.19 / rank 6 of 6)
- Preference for energy bills
- How to improve?



Explanations (2)

- Energy efficiency was minor purchasing criterion
- EPC can only be as important as criterion which it informs
- How to improve?

Importance of dwelling criteria for purchasing decision (scale 1-7)



- EPC has moderate impact in Germany
- Impact of EPC inhibited
 - due to design aspects → understanding financial implications
 - due to relative unimportance of energy efficiency
 - due to legal status of EPC
- Policy implications: design, policy mix, outlook
- Research implications: cross-country effectiveness study. Which design works best?



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Thank you for your attention!

For a more detailed report visit

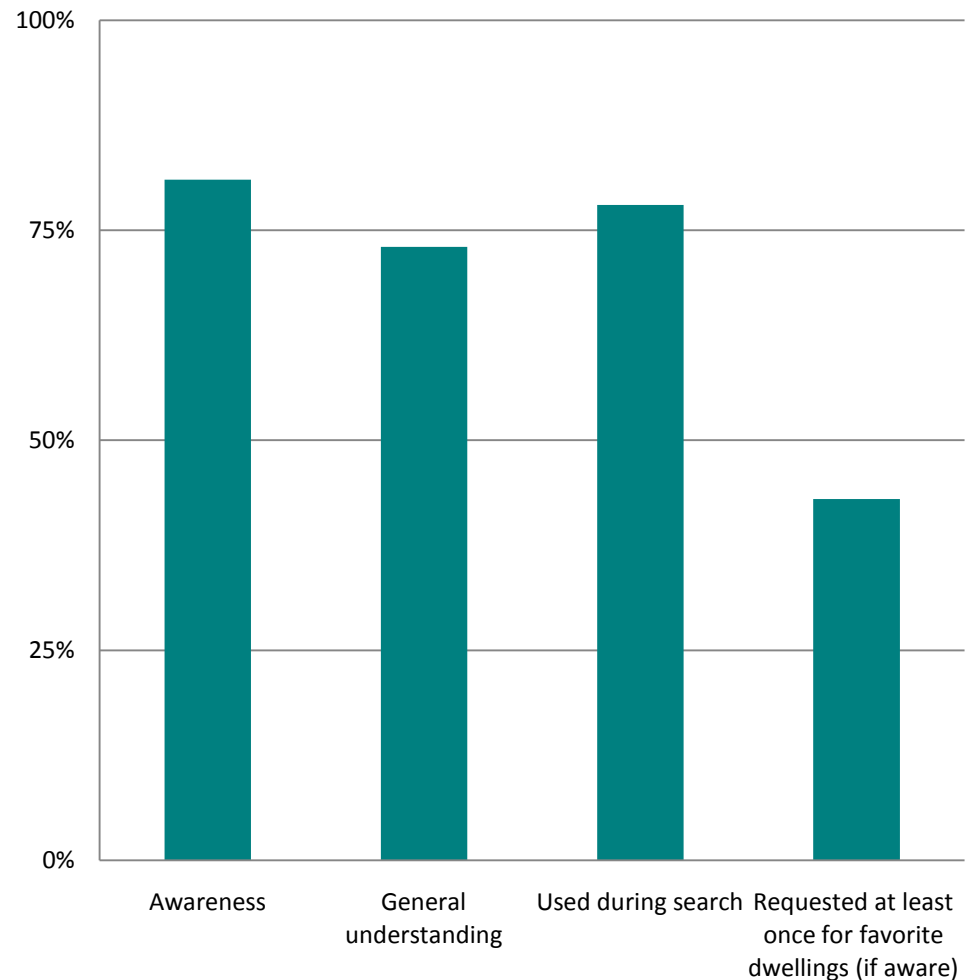
www.climatepolicyinitiative.org

or contact

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- High awareness of EPC among purchasers
- High understanding what EPC is
- Most respondents indicated that they used certificate at some point during search

Awareness + interest



Impact (Summary)

- To summarize: Modest impact of EPC on purchasing decisions
- Positive: Awareness and interest high, overall positive rating for EPC
- However: EPC has moderate absolute and low relative scores compared to other indicators (see table)
- Other information sources were more important

Summary of indicators	Results
Awareness + interest	High
Understanding	Mean: 4.73
Trust	Mean: 4.24
Perceived usefulness for assessing energy efficiency	Mean: 4.71 Rank: 4/6
Relevance of informed criterion (energy efficiency) for purchasing decision	Mean: 4.61 Rank: 9/13
Relevance of EPC for purchasing decision	Mean: 4.35 Rank: 7/8