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# Relevance of the Energy Performance Certificate for 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)

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**Berechneter Energiebedarf des Gebäudes** Masterstr. 123b  
Vorderhaus 2

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### Energiebedarf

CO<sub>2</sub>-Emissionen<sup>1)</sup> 58 kg/(m<sup>2</sup>·a)

**Endenergiebedarf** ↓ 222 kWh/(m<sup>2</sup>·a)

**Primärenergiebedarf "Gesamtenergieeffizienz"** ↑ 250 kWh/(m<sup>2</sup>·a)

Anforderungen gemäß EnEV<sup>2)</sup>

Primärenergiebedarf: Ist-Wert  kWh/(m<sup>2</sup>·a) Anforderungswert  kWh/(m<sup>2</sup>·a)

Energetische Qualität der Gebäudehülle H<sub>T</sub>: Ist-Wert  W/(m<sup>2</sup>·K) Anforderungswert  W/(m<sup>2</sup>·K)

Sommerlicher Wärmeschutz (bei Neubau):  eingehalten

Für Energiebedarfberechnungen anzuwendende Verfahren

Verfahren nach DIN V 4108-6 und DIN V 4708-10

Verfahren nach DIN V 18559

Vereinfachungen nach § 9 Abs. 2 EnEV

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### Endenergiebedarf

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

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### Ersatzmaßnahmen<sup>3)</sup>

Anforderungen nach § 7 Nr. 2 EnEV WärmeG

Die um 15 % verschärfen Anforderungswerte sind eingehalten.

Anforderungen nach § 7 Nr. 2 i. V. m. § 8 EnEV WärmeG

Die Anforderungswerte der EnEV sind um  % verschärft.

Primärenergiebedarf: Verschärfter Anforderungswert:  kWh/(m<sup>2</sup>·a)

Transmissionswärmeverlust W<sub>T</sub>: Verschärfter Anforderungswert:  W/(m<sup>2</sup>·K)

### Vergleichswerte Endenergiebedarf

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### 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 angegebenen 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

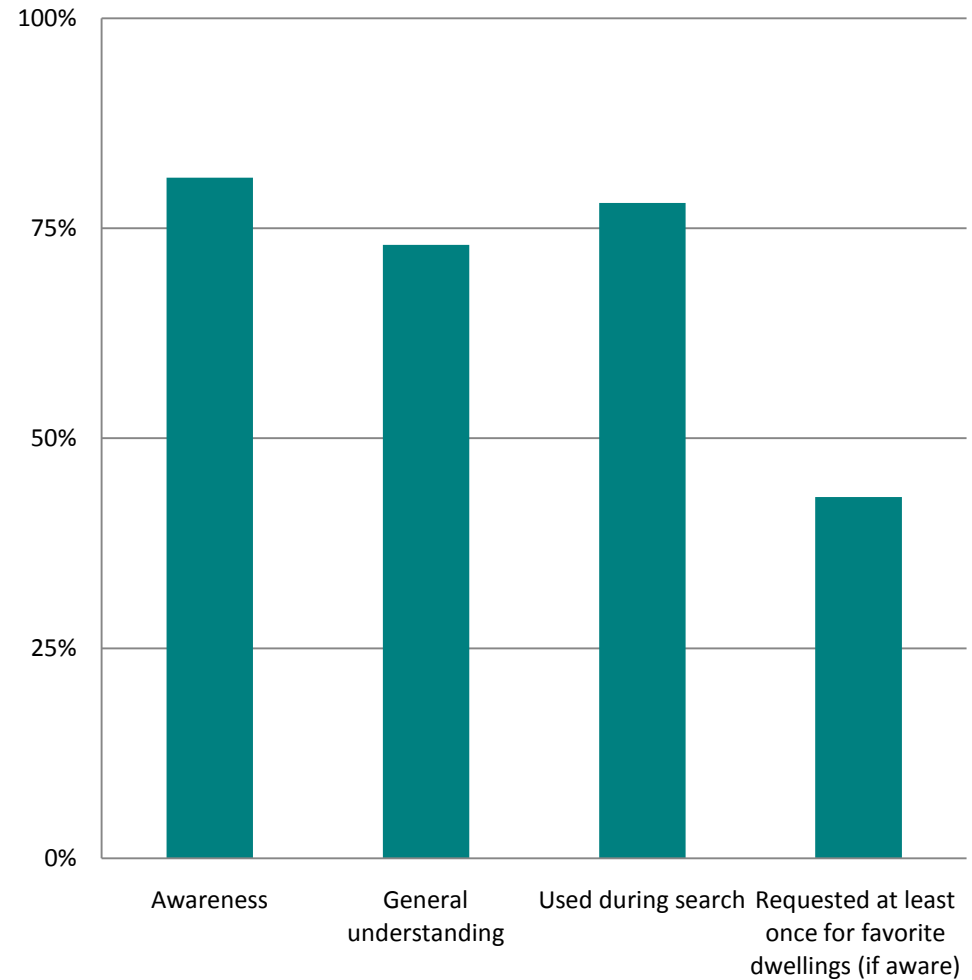
**662**  
final  
sample

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

# Study Results

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

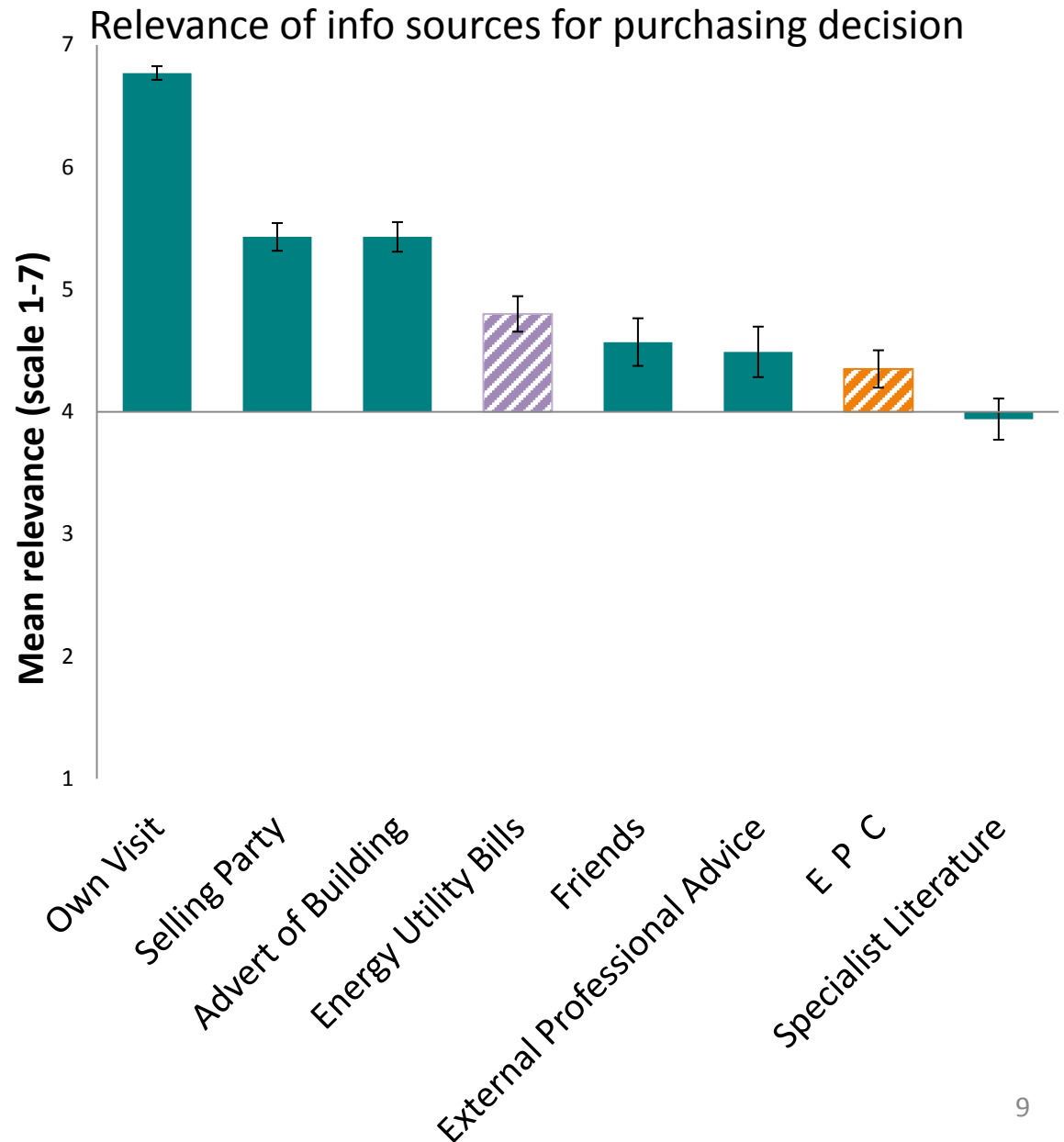
## Awareness + interest





# Results: Impact

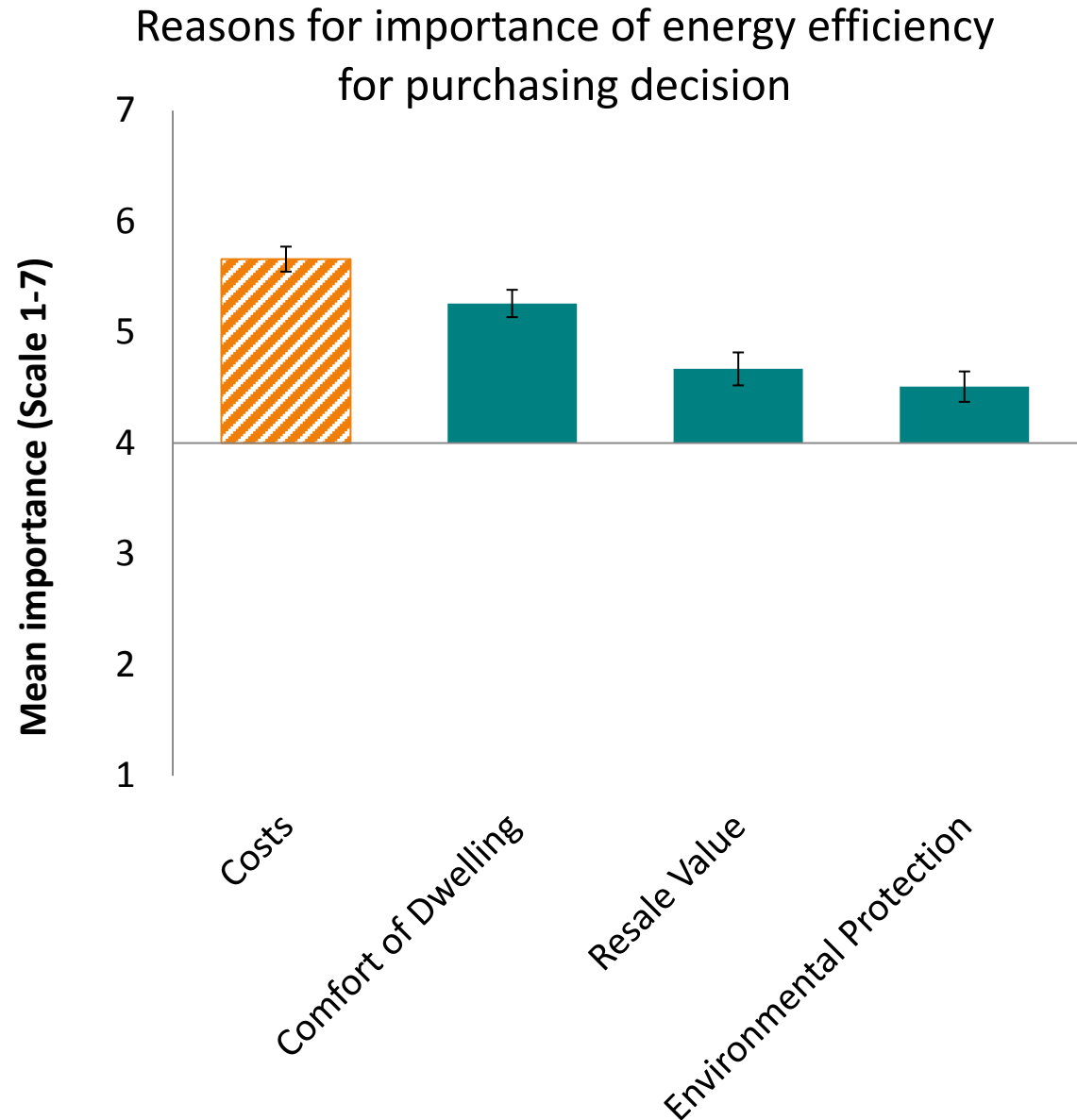
- EPC: positive but minor role (mean: 4.35 / rank: 7 of 8)
- Moderate absolute and low relative impact of EPC confirmed by other indicators in study



# Explanations

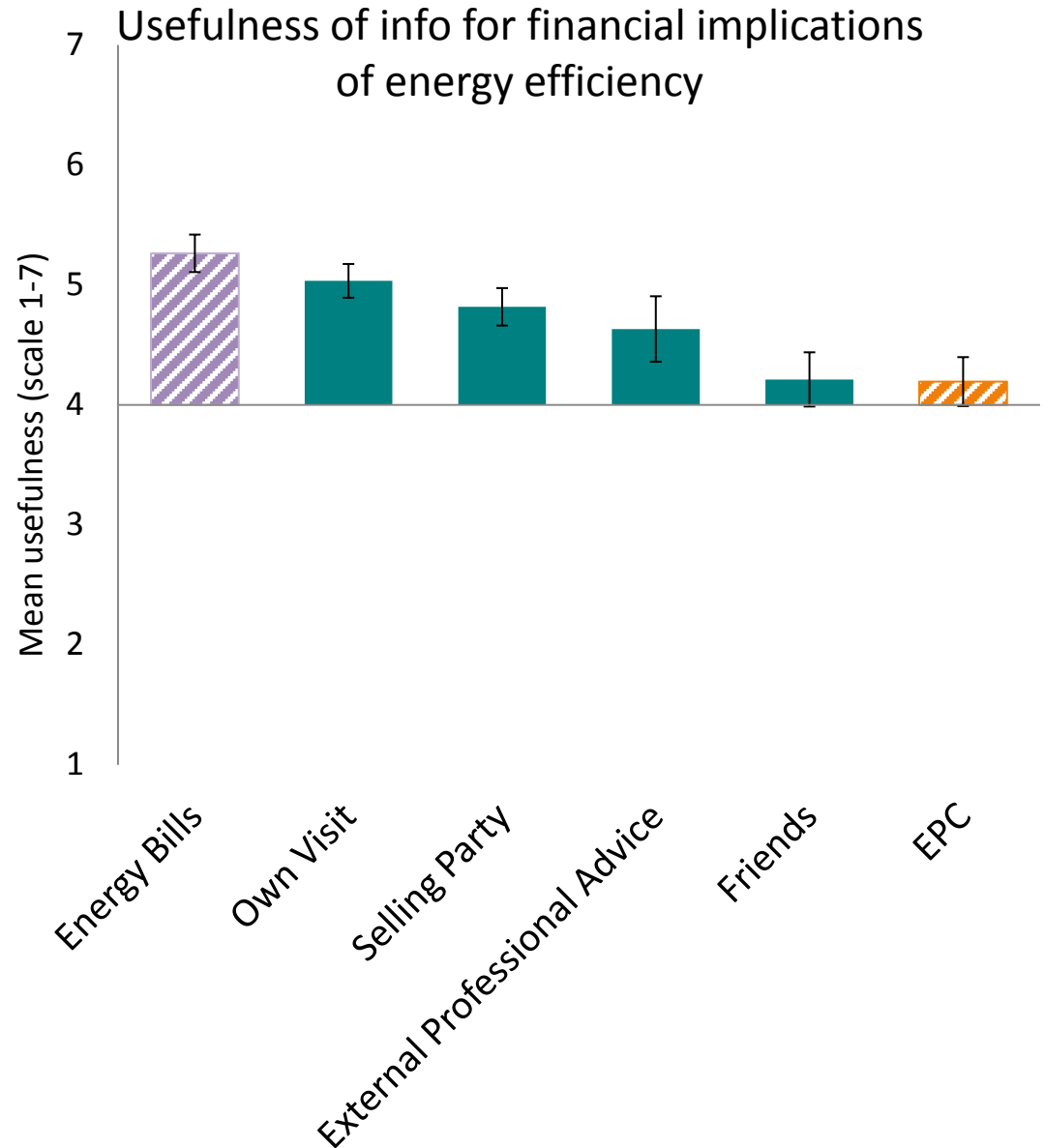
# Explanations (1)

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



# Explanations (1)

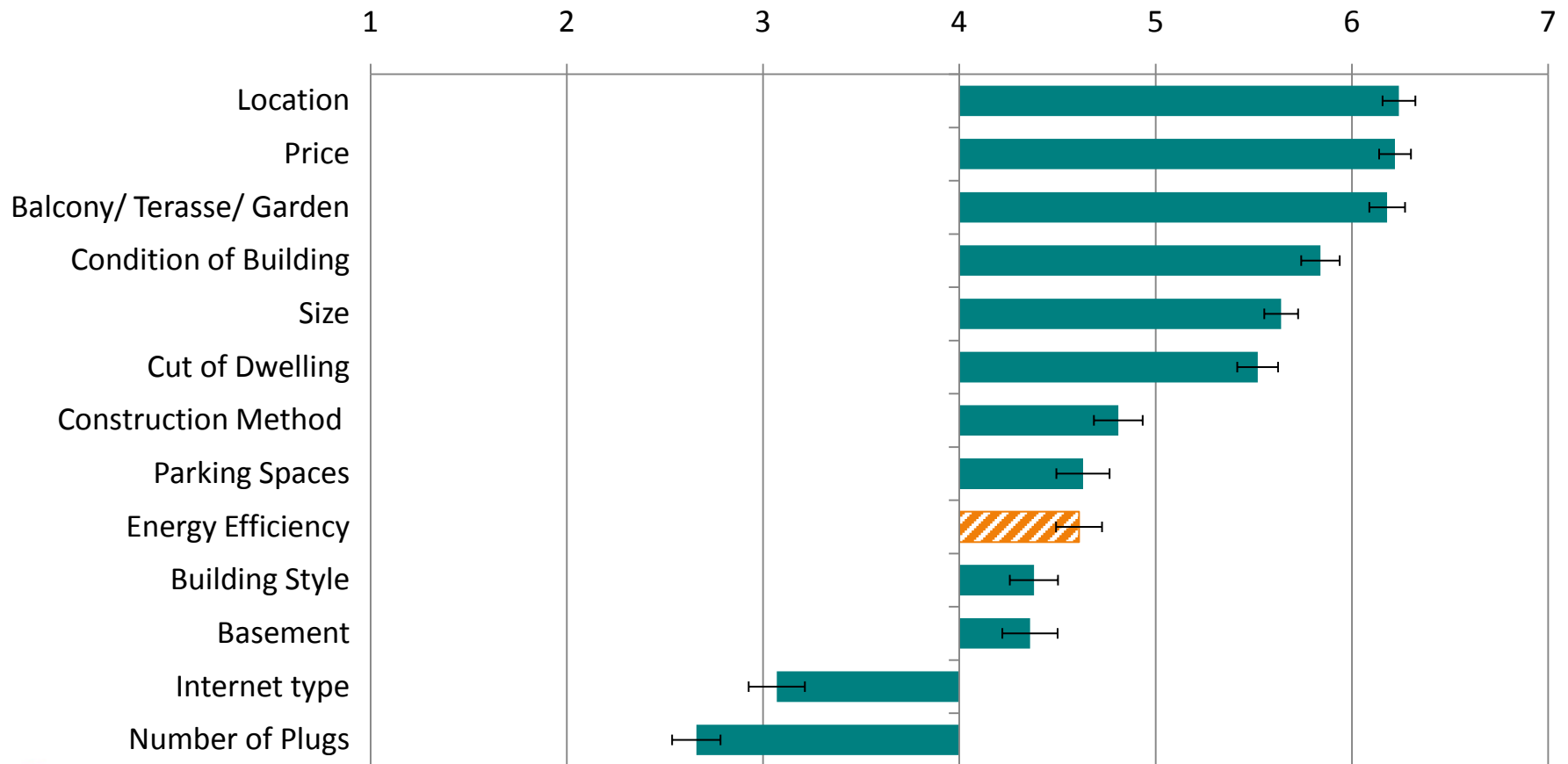
- Purchasers found EPC less useful for financial information (mean: 4.19 / rank 6 of 6)
- Preference for energy bills
- How to improve?



# 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/low spread of EPC
- Policy implications: design, policy mix, outlook
- Research implications: cross-country effectiveness study. Which design works best?



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[www.climatepolicyinitiative.org](http://www.climatepolicyinitiative.org)

or contact

[hermann.amecke@cpiberlin.org](mailto:hermann.amecke@cpiberlin.org)