

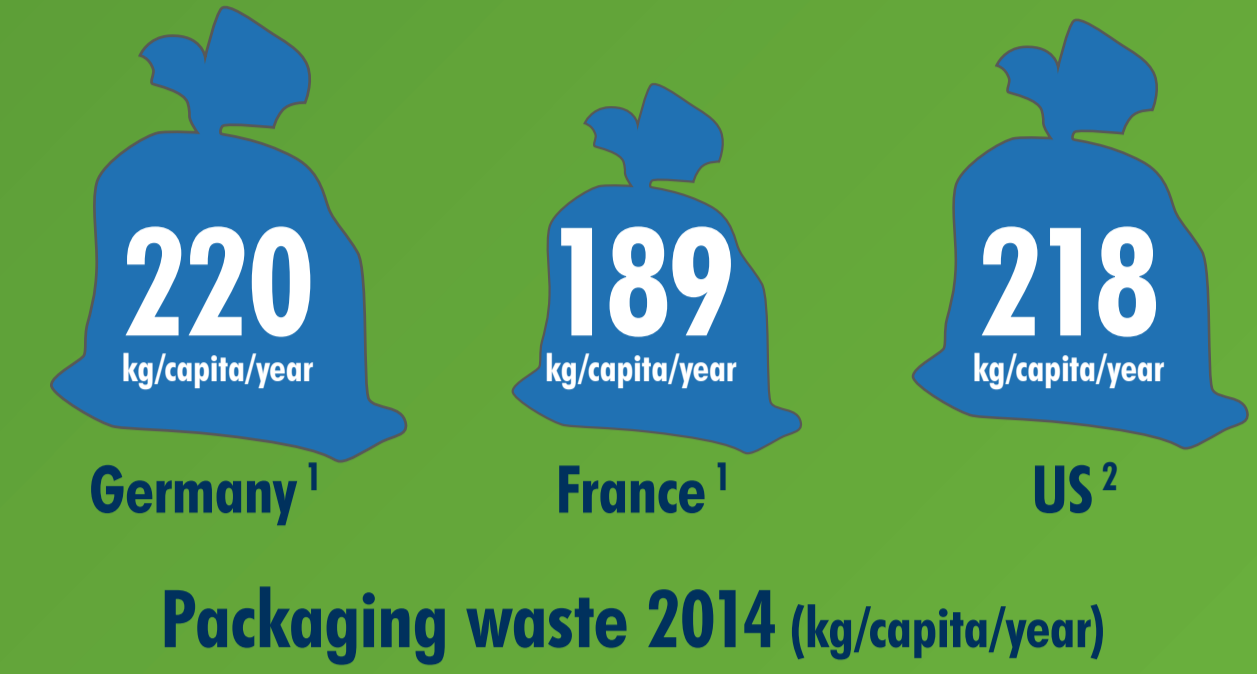
The Least Desirable Option – Consumers' Attitudes Towards Biomethane as a Raw Material for Green Packaging Solutions



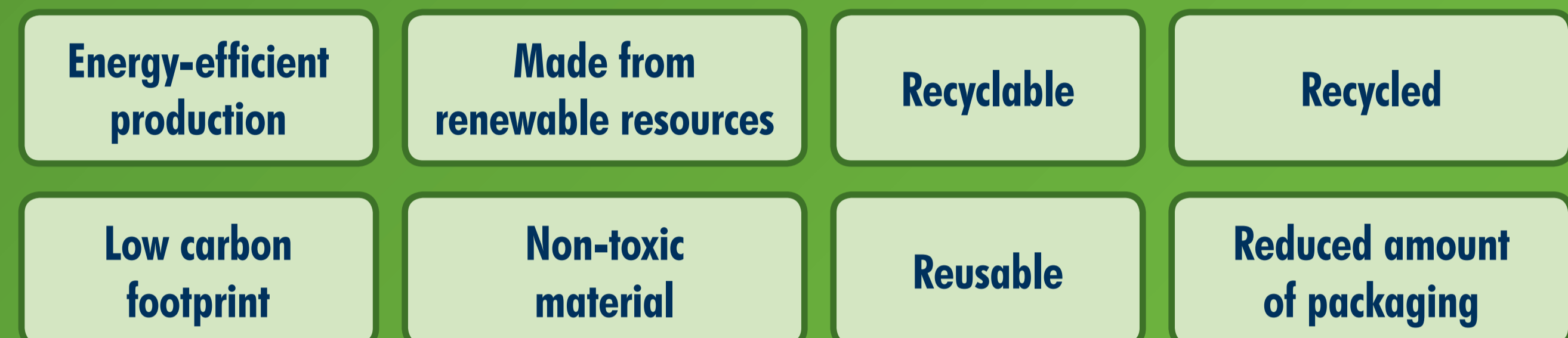
1 Packaging as an environmental problem

- Resource consumption
- Pollution through waste

¹ Eurostat, 2016. Verpackungsabfälle nach Abfallbehandlung und Abfallströmen. <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>.
² EPA, 2016. Advancing Sustainable Materials Management: Facts and Figures. <https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures>.



2 Options for eco-friendly packaging



But: which options do consumers consider to be most environmentally friendly?

3 Methods

- Countries under review: Germany, France, US
- 2.001 interviews: face to face and online

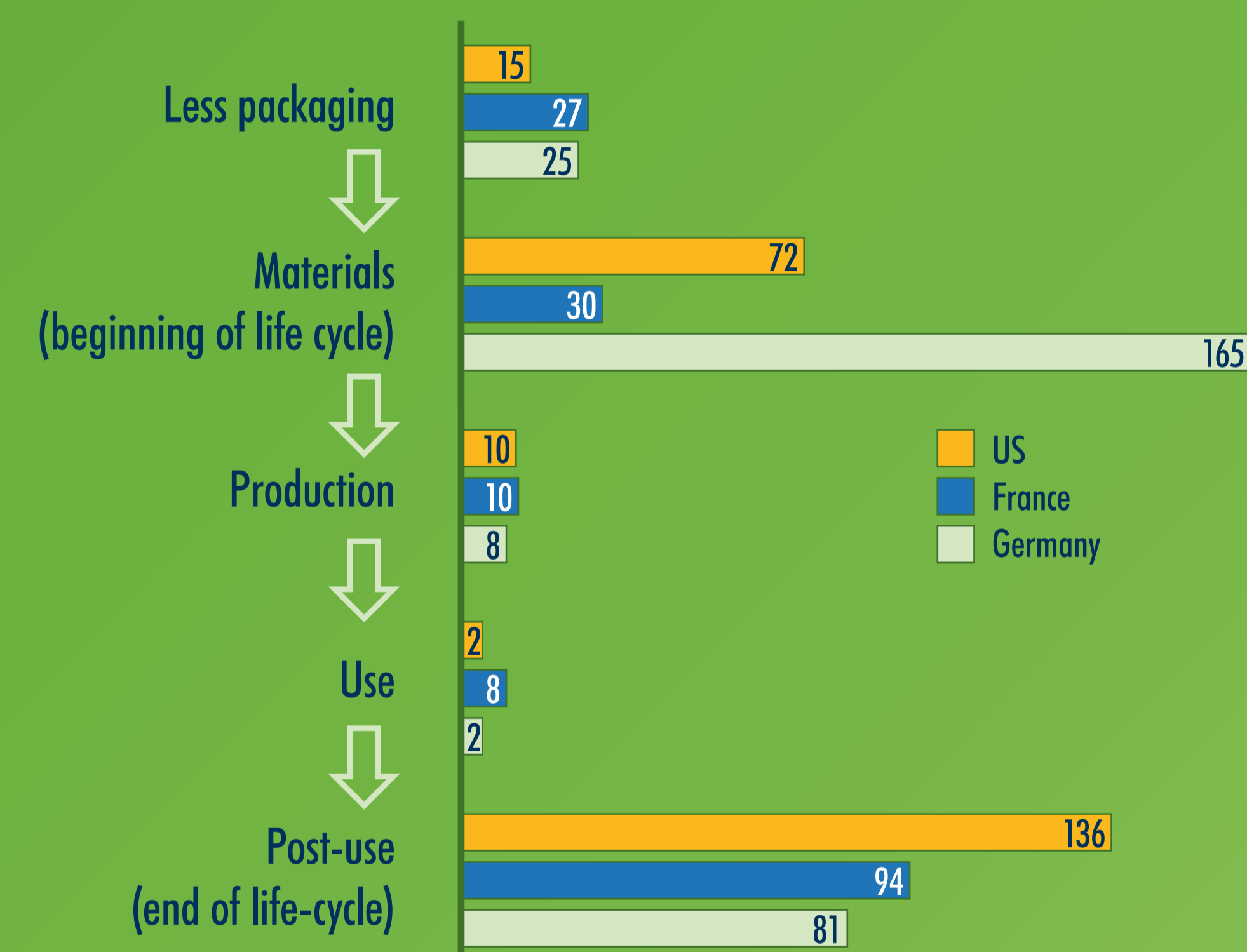
- Closed questions and open questions
- Analysis of open questions through structured content analysis

4 Results

Result of closed question: Perceptions of eco-friendliness (1 = "Not environmentally friendly" 5 = "environmentally friendly")

Packaging options	France	Germany	USA	One-Way Anova
Made from RECYCLABLE material	4.08	3.80	4.23	***
Made from REUSABLE material	3.97	4.17	4.07	***
Plastics from NON-RENEWABLE resources that are BIODEGRADABLE	2.75	2.80	3.16	***
Plastics made from BIO-METHANE	2.47	2.23	2.87	***
	Reasons: <ul style="list-style-type: none"> • Presented as not biodegradable • Food vs. fuel (Germany only) • Waste perceived as unpleasant 			
Plastics from RENEWABLE resources other than bio-methane that are biodegradable	4.04	3.72	4.15	***
Plastics made from RENEWABLE resources other than bio-methane that are NOT BIODEGRADABLE	2.51	2.41	3.04	***

Result of open question: "For you, what makes packaging material green? (i.e. environmentally-friendly) Please list as many answers as necessary". Codings per 100 participants per country



5 Discussion and strategic implications

Bio-based packaging in general:

- Renewable material less important to consumers than reusability, recyclability, biodegradability ⇒ disadvantage for bio-based solutions

Biomethane-based packaging:

- Is the least popular packaging material
- If manufacturers use biomethane-based packaging they should make sure that is biodegradable and highlight this aspect

Cross-cultural differences

- in the open question, German consumers named attributes like renewable material pertaining to the beginning-of-the-life-cycle a lot more than US and French consumers

Strategic implications

- Short term:
 - Offer differentiated packaging solutions by country
 - Keep communication of biomethane origin low key
- Long-term: Educate consumers about importance of renewable materials

