

# Consumer landscape

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2. Market acceptance of biorefinery concepts and their products – results of a consumer survey
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  - Attitude towards biorefineries
  - Purchase frequency of biobased products
  - Attitude towards biobased products/bioplastic
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  - Willingness to pay for biobased products
3. Summary/ conclusions

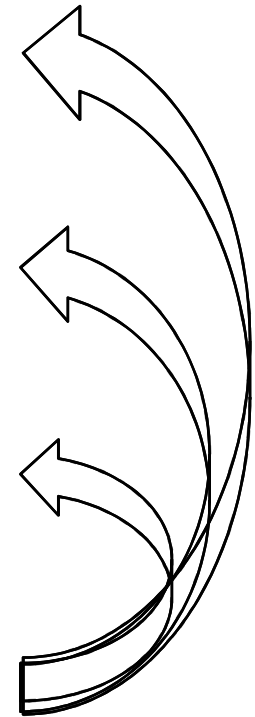
## ▷ Introduction

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- Consumer chemicals (e.g. soaps, detergents, perfumes, or cosmetics) represent approximately 10.8 % of total EU chemicals sales  
*(European Chemical Industry Council (Cefic)2007).*
- From 2004 to 2005: consumer chemicals showed positive growth rates of 3 % while petrochemicals production grew by only 1.4 %  
*(European Chemical Industry Council (Cefic) 2006).*
- No scientific investigation was found which analysed market acceptance of biorefinery concepts and their products amongst consumers

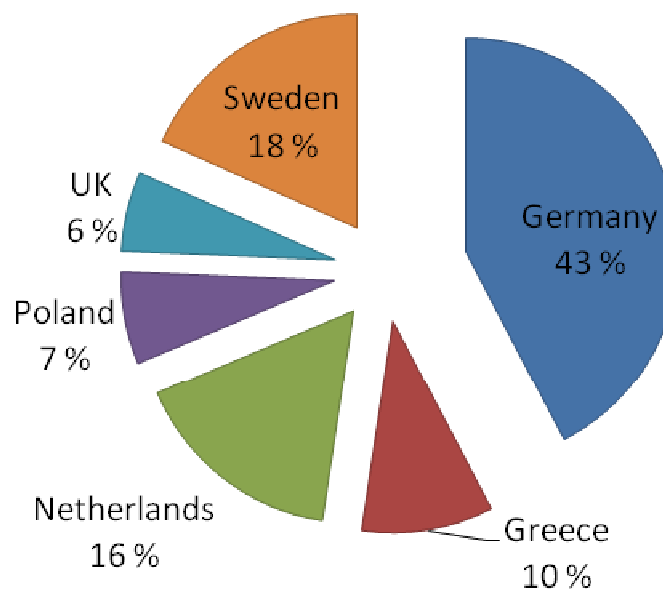
# ▷ Introduction

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# Results of the survey - Description of the sample

Country	Dispatched questionnaires A	Response rate B	Relative response rate
Germany	1,800	289	16.1 %
Greece	1,000	68	6.8 %
Netherlands	1,000	111	11.1 %
Poland	1,000	48	4.8 %
Sweden	1,000	125	12.5 %
UK	1,000	41	4.1 %
<b>Total</b>	<b>6,800</b>	<b>682</b>	<b>10 %</b>



# Results of the survey - Description of the sample

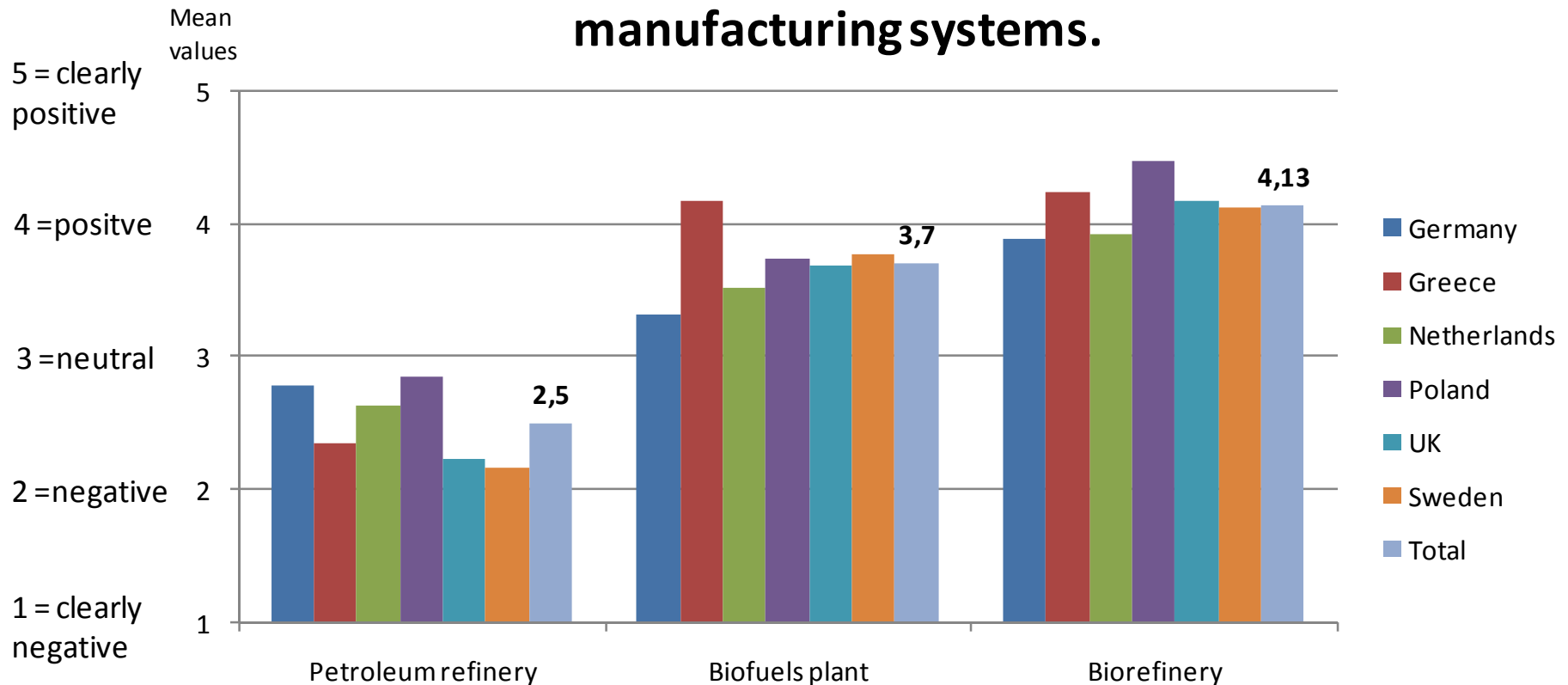
## Education level of the respondents

<i>Country:</i>							
<i>Highest education level:</i>	D	GR	NL	PL	UK	S	Total
ISCED 0, 1, 2 (no qualification, school-leaving qualification)	13.3 %	1.6 %	17.9 %	0 %	10.8 %	13.5 %	9.5 %
ISCED 3, 4 (training certificate, Higher education entrance qualification)	41.6 %	14.5 %	19.8 %	40.4 %	21.6 %	34.2 %	28.7 %
ISCED 5, 6 (college/university degree, PhD)	45.2 %	83.9 %	62.3 %	59.6 %	67.6 %	52.3 %	61.8 %

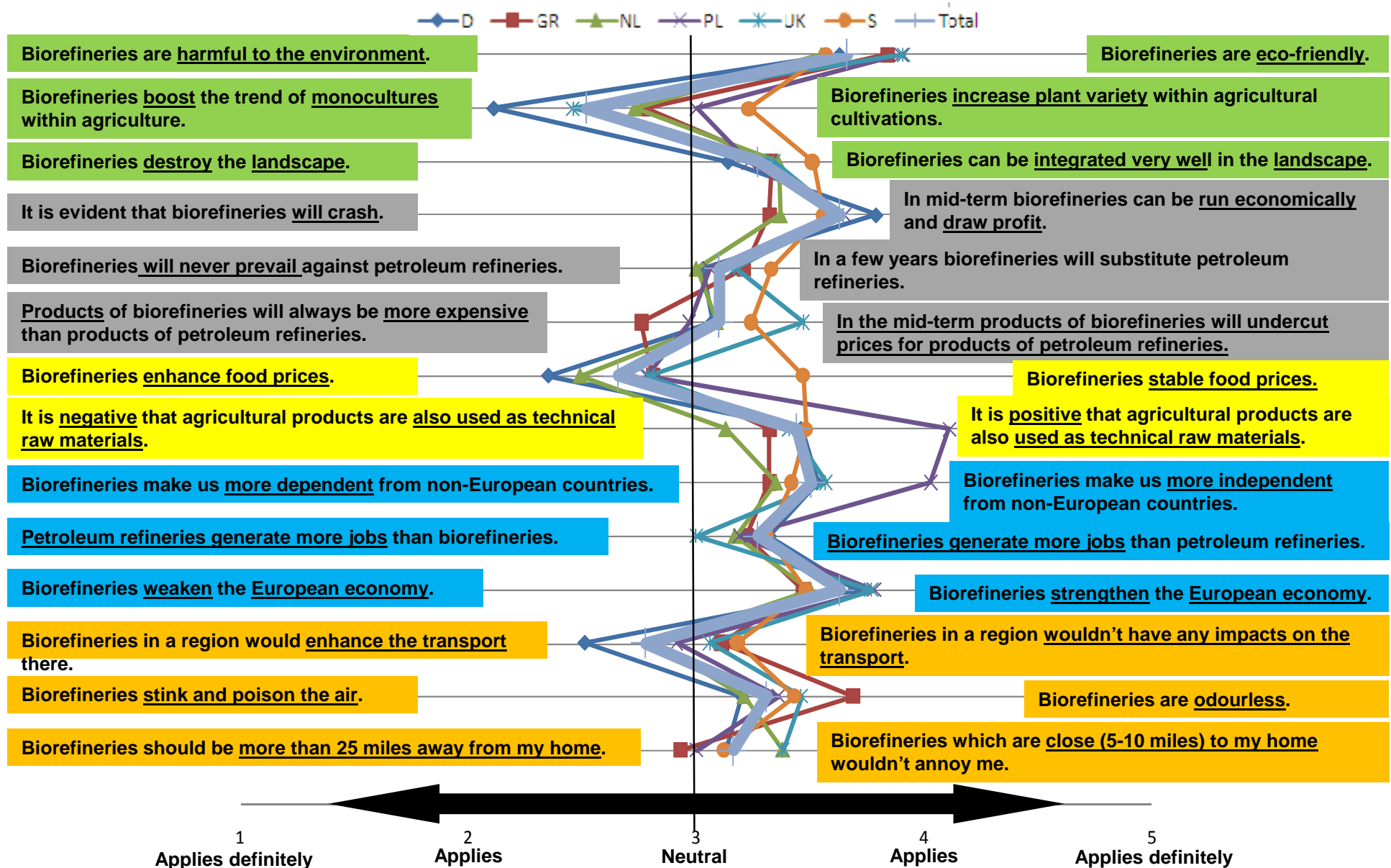
# Results of the survey - Attitude towards biorefineries



Please rate your personal opinion to the following manufacturing systems.



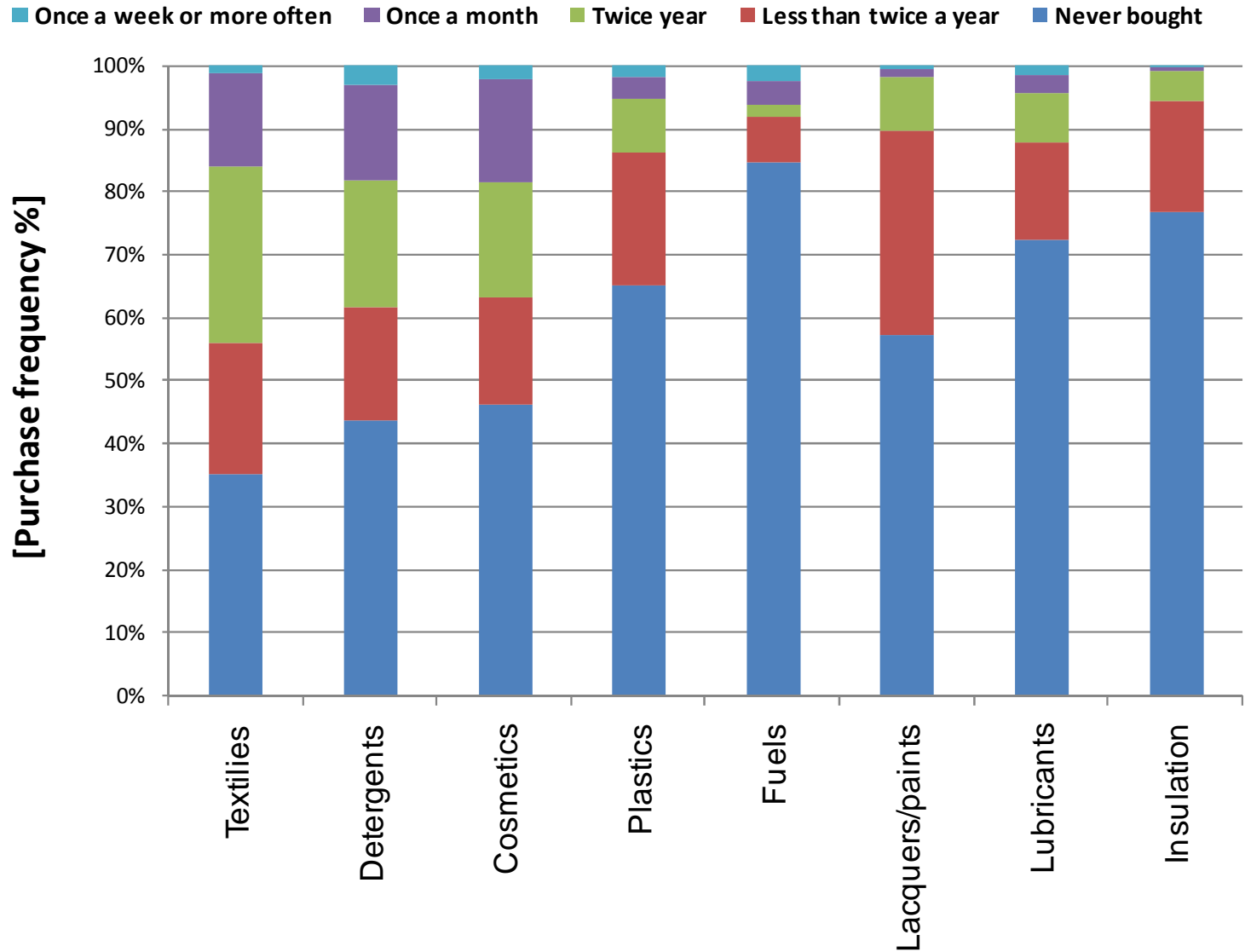
# Results of the survey - Attitude towards biorefineries



# Results of the survey -



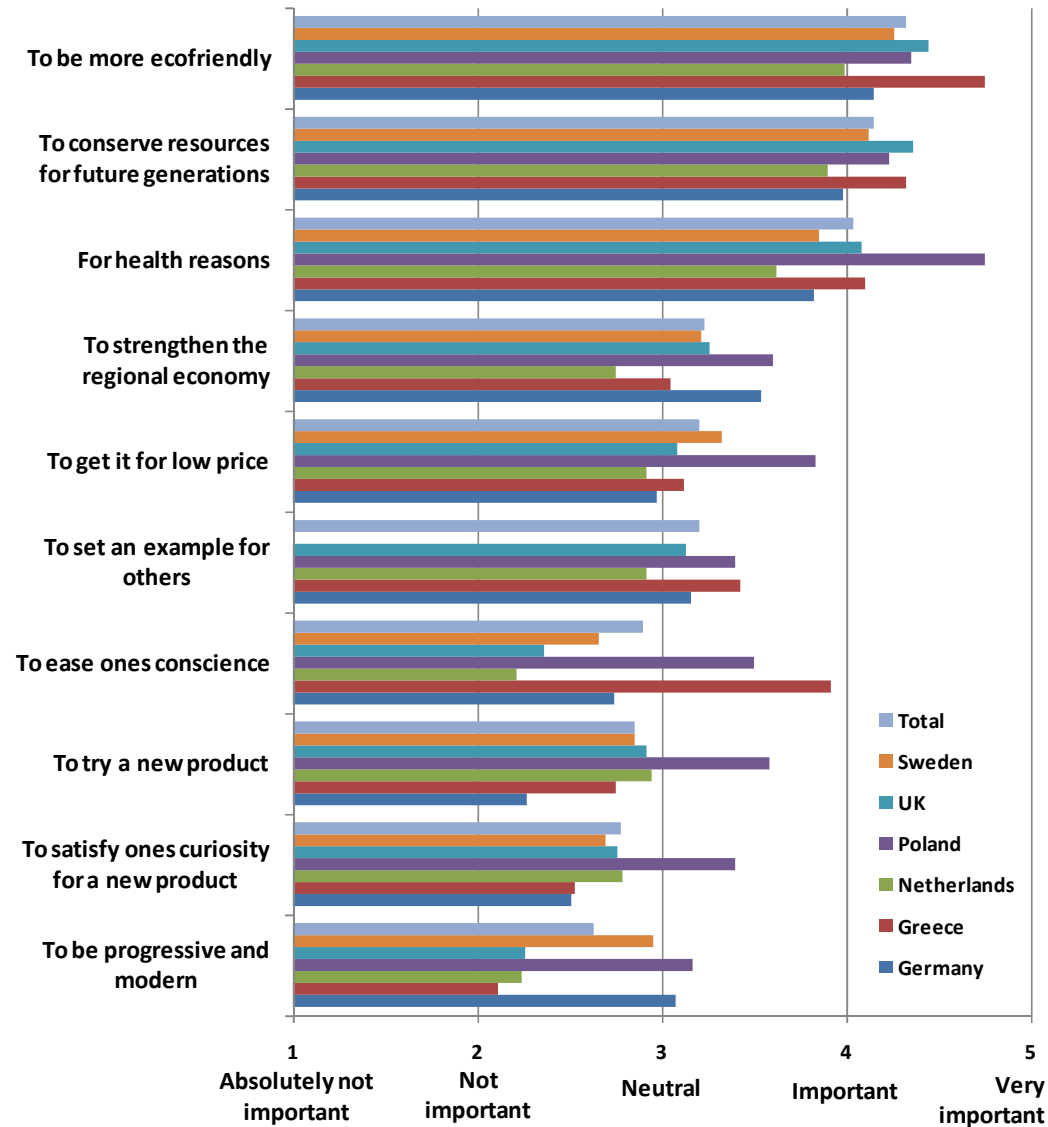
## Purchase frequency of biobased products



# Results of the survey - Attitude towards biobased products/bioplactic



If I were to buy a bioplactic product it would be important for me...





# Results of the survey - Knowledge about biobased products/biorefineries

## The raw materials to produce bioplastics...

- are mainly starch containing plants, like maize or potatoes
- are mainly fibres containing plants, like flax or jute
- are mainly fat containing plants, like sunflowers or sesame
- I don't know

## Euro banknotes...

- are printed by bio-based inks
- are partly made from cotton
- are partly made from potatoes
- I don't know

## Biobased plastic bags...

- are already on the market
- will be on the market in the coming five years according to expert opinion
- will never be on the market according to expert opinion
- I don't know

## What are the targets of the European Union with regard to biofuels?

- The market share of biofuels in the overall transport fuel supply should be increased to 5.75 % till 2010
- The market share of biofuels in the overall transport fuel supply should be increased to 11.5 % till 2010
- The European Union doesn't have any targets in the field of biofuels
- I don't know

## What are the targets of the European Union with regard to bio-based chemicals?

- The market share of bio-based chemicals should be increased to 25 % till 2010
- The market share of bio-based chemicals should be increased to 35 % till 2010
- The European Union doesn't have any targets in the field of bio-based chemicals
- I don't know

## In Europe most biodiesel is produced from...

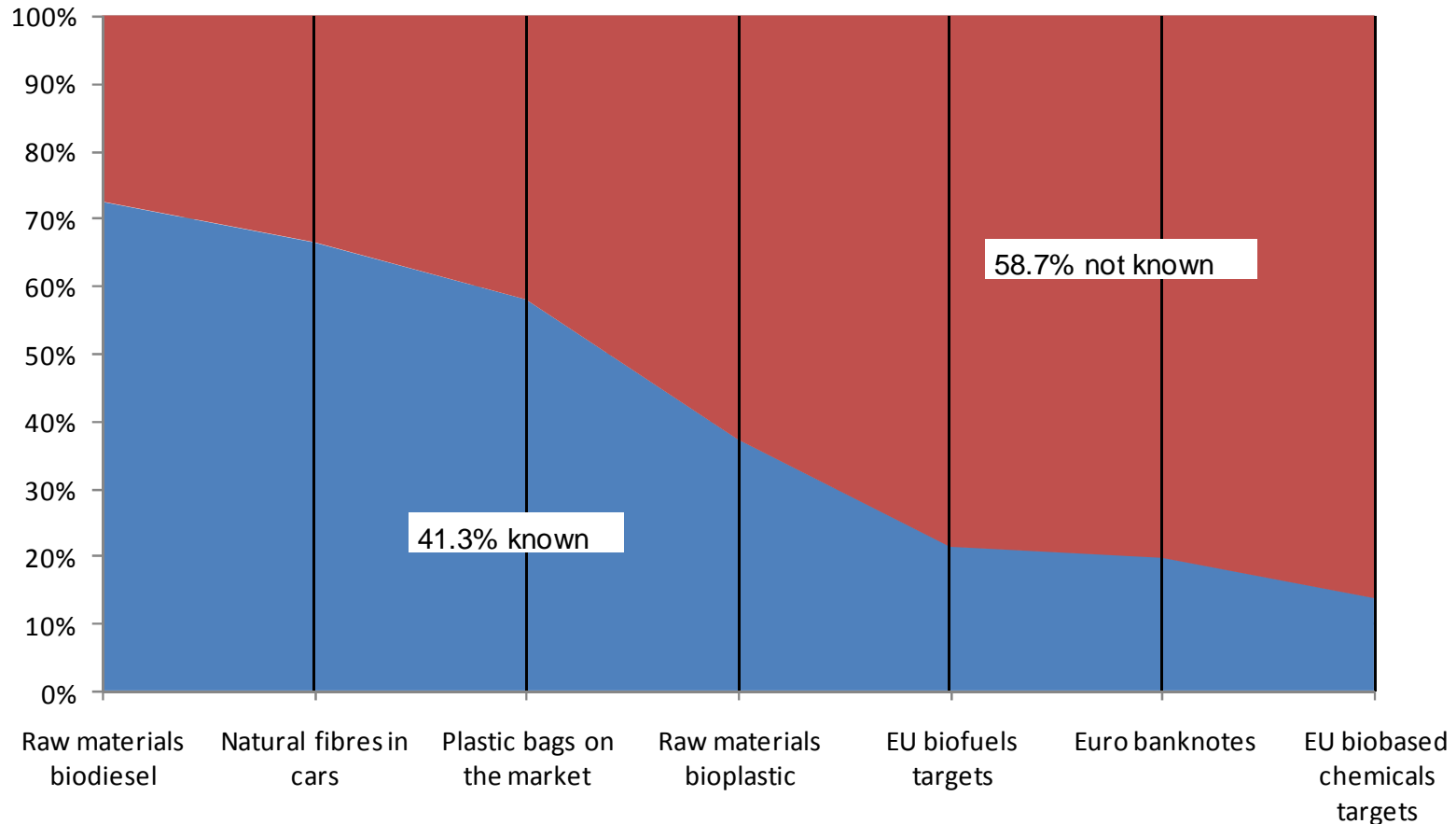
- corn
- oilseed rape
- sunflowers
- I don't know

## In cars natural fibres can currently be used in...

- interior trims
- exhaust pipes
- windows
- I don't know

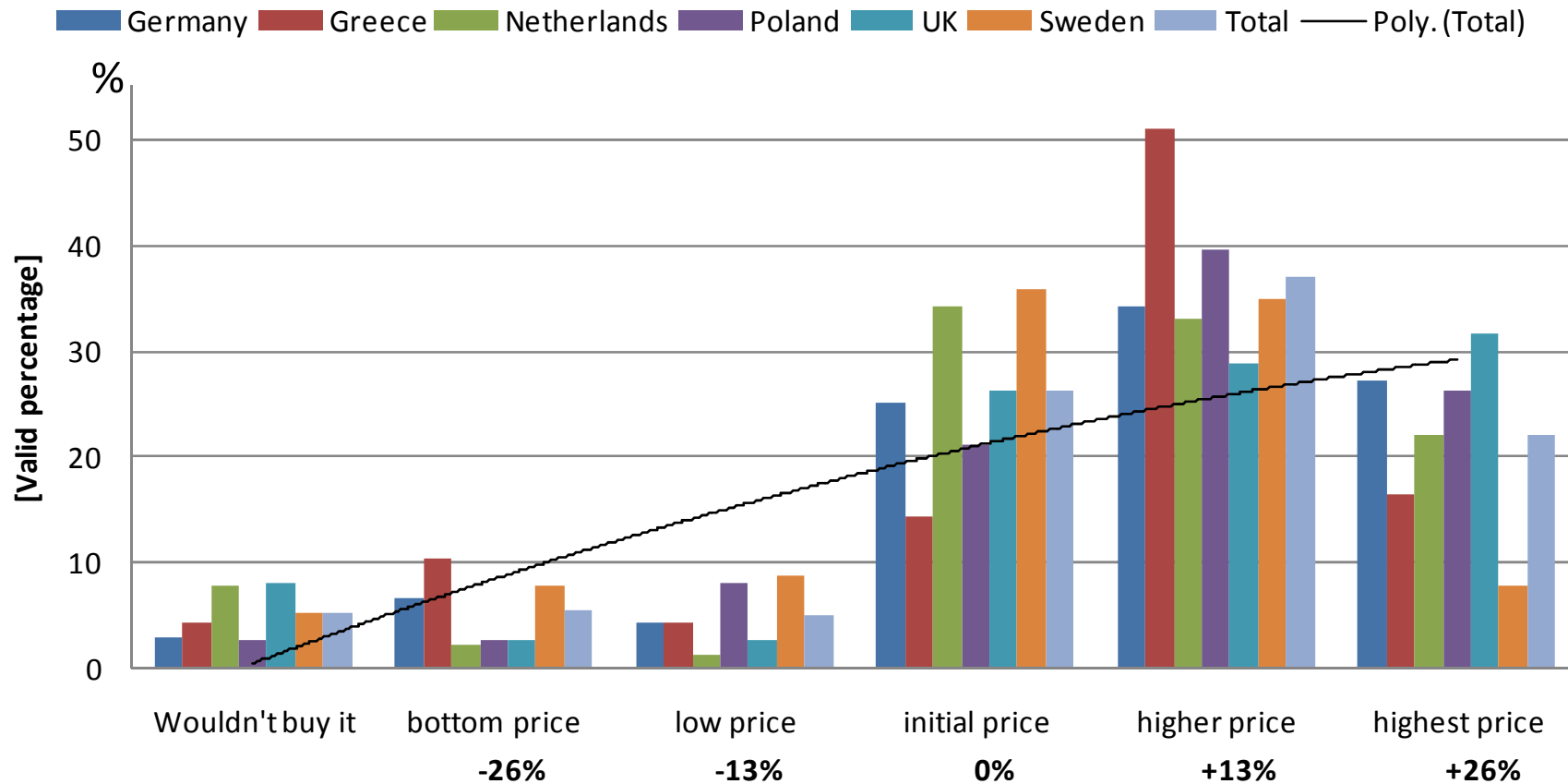


# Results of the survey - Knowledge about biobased products/biorefineries



# Results of the survey -

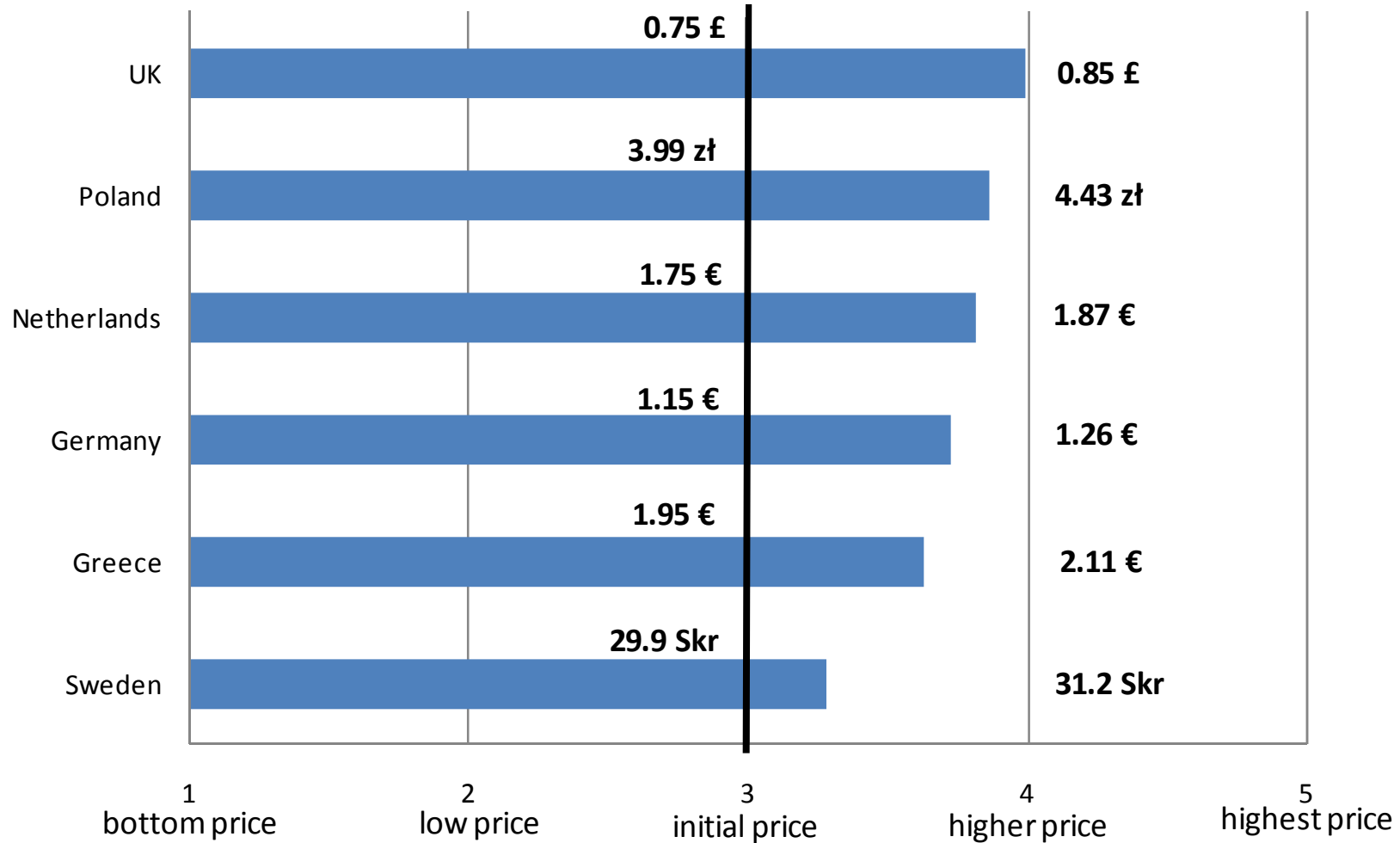
## Willingness to pay – biobased washing-up liquid



Ingredients of biobased washing-up liquid could be e.g. sugar tensides, fatty alcohol sulphates, ethanol, proteins, glycerol, lactic acid etc. (*Violey GmbH 2009*)

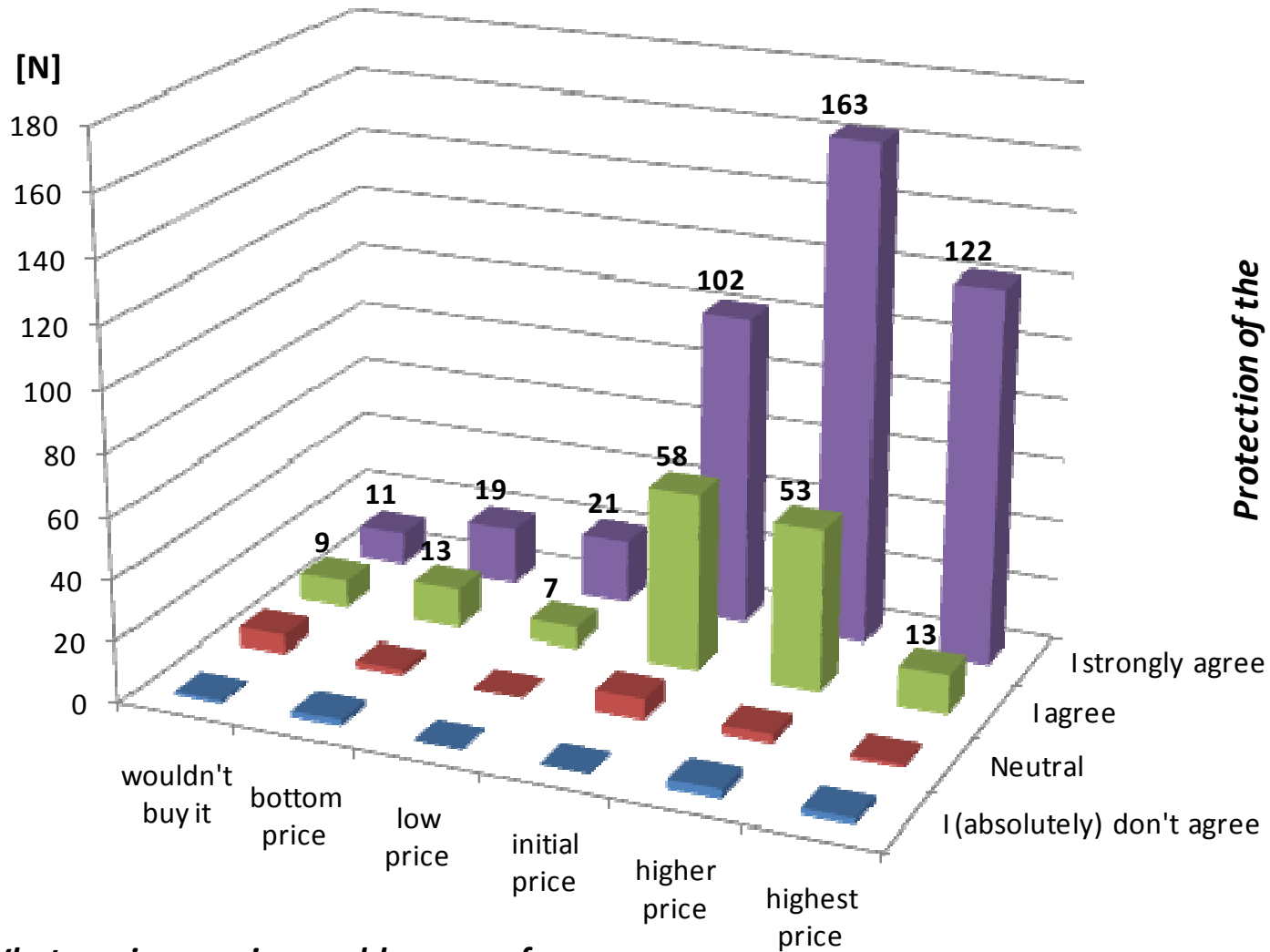


# Results of the survey - Willingness to pay – biobased washing-up liquid



# Results of the survey -

Attitude towards the environment \* Willingness to pay for washing-up liquid with biobased ingredients

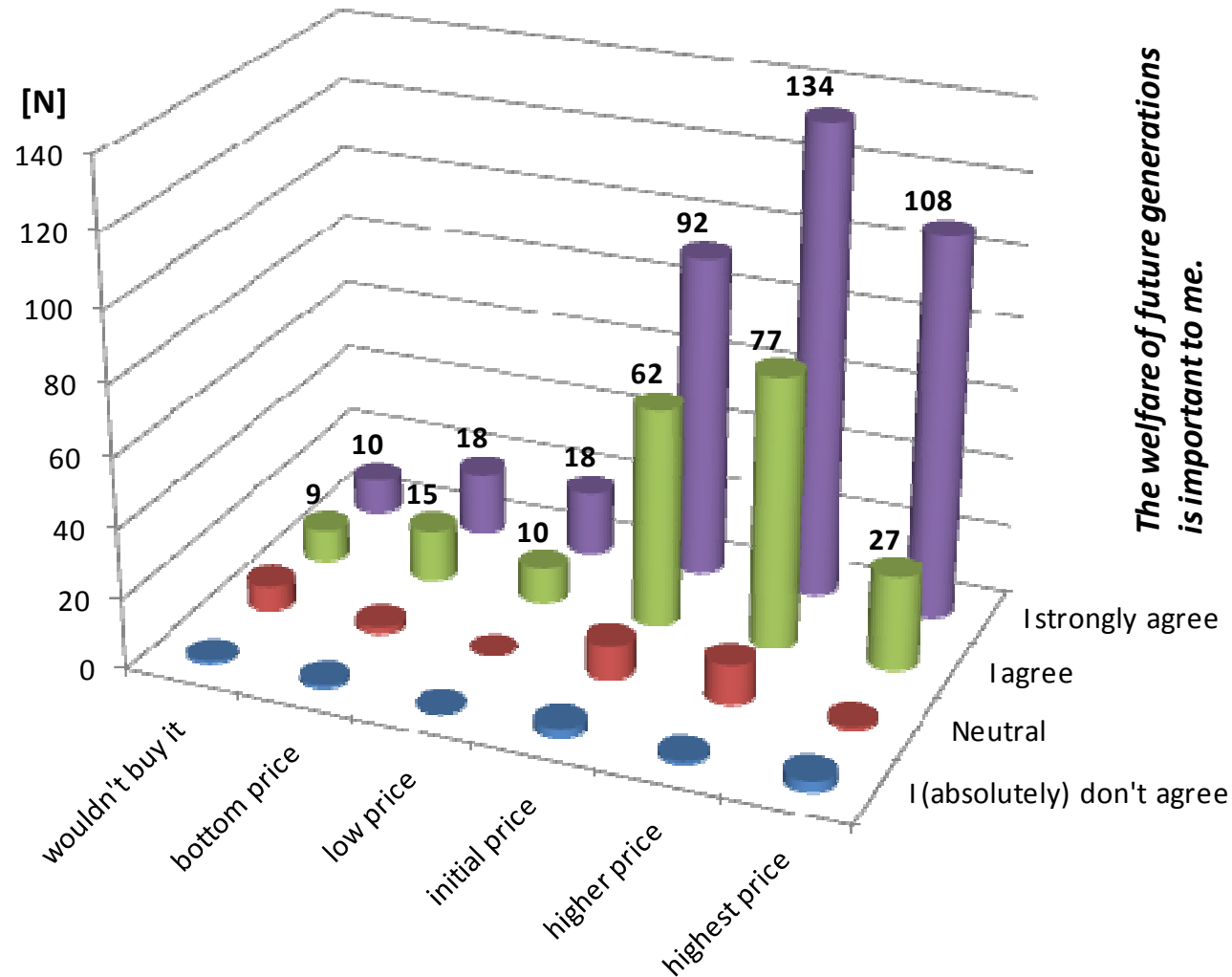


Protection of the environment is an important issue.

**What maximum price would you pay for a washing-up liquid where the ingredients are marked as biobased?**

# Results of the survey -

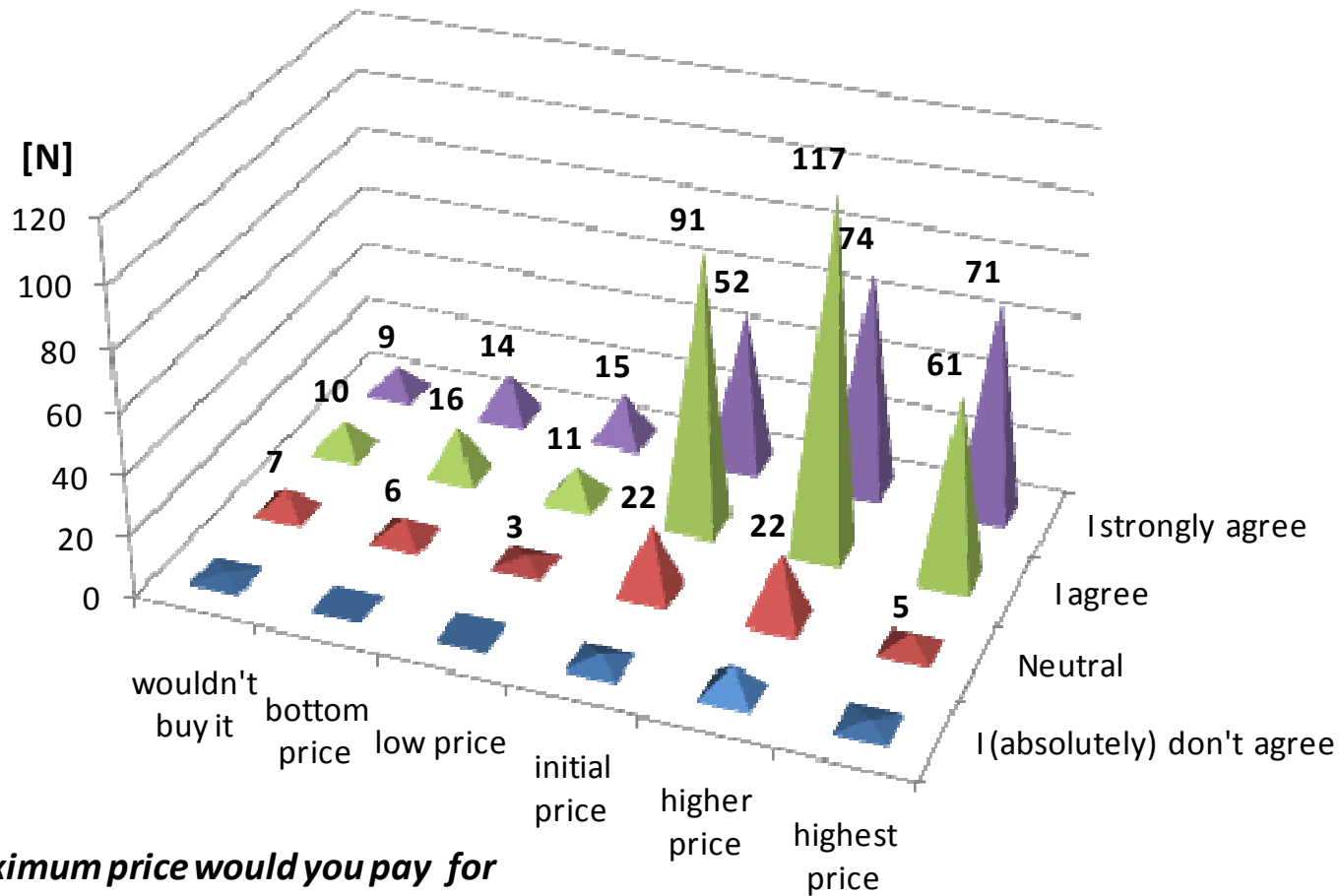
Attitude towards future generations \* Willingness to pay for washing-up liquid with biobased ingredients



**What maximum price would you pay for a washing-up liquid where the ingredients are marked as biobased?**

# Results of the survey -

Attitude towards one's health\* Willingness to pay for washing-up liquid with biobased ingredients

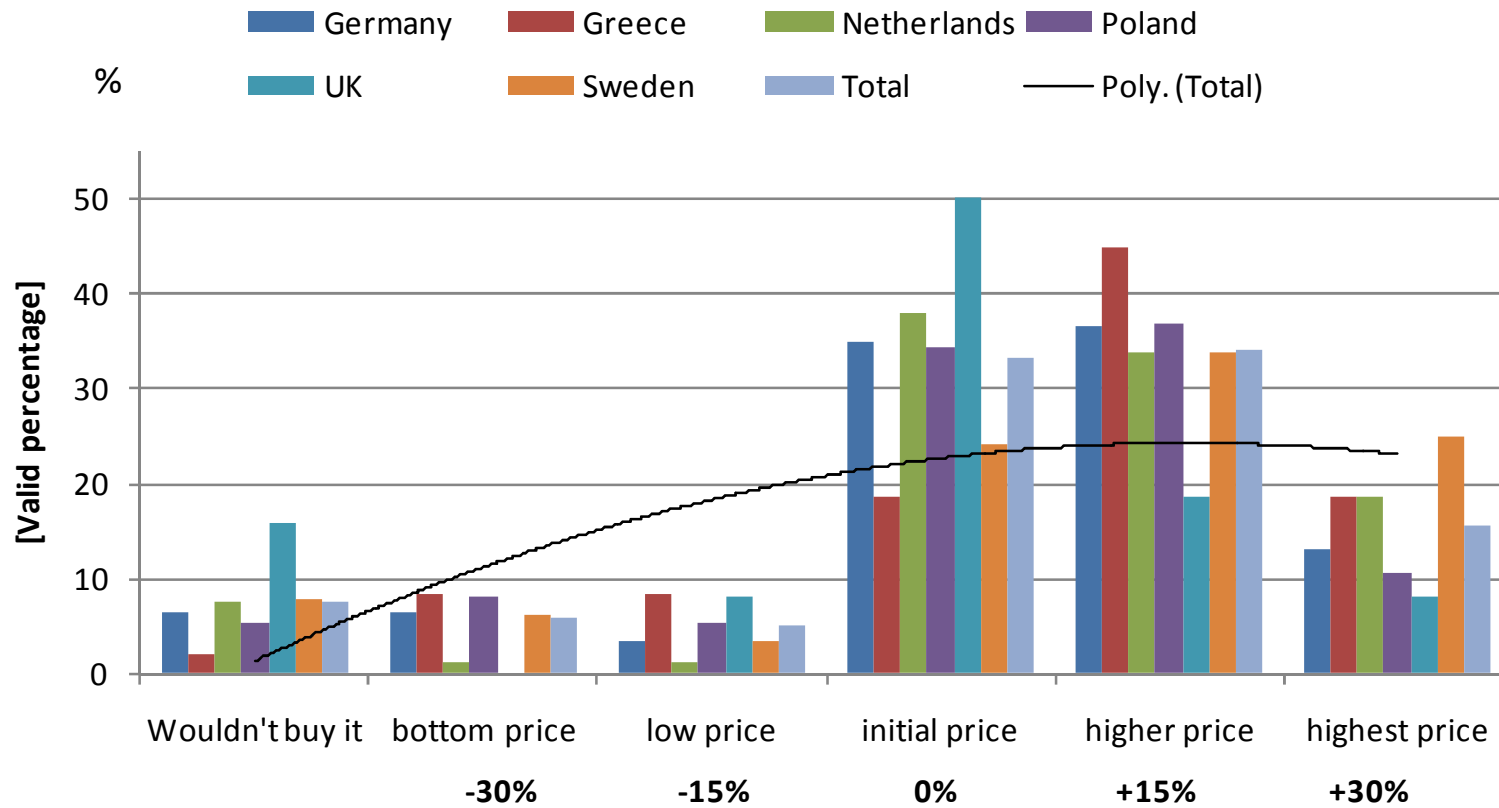


*It take care of my health.*

**What maximum price would you pay for a washing-up liquid where the ingredients are marked as biobased?**



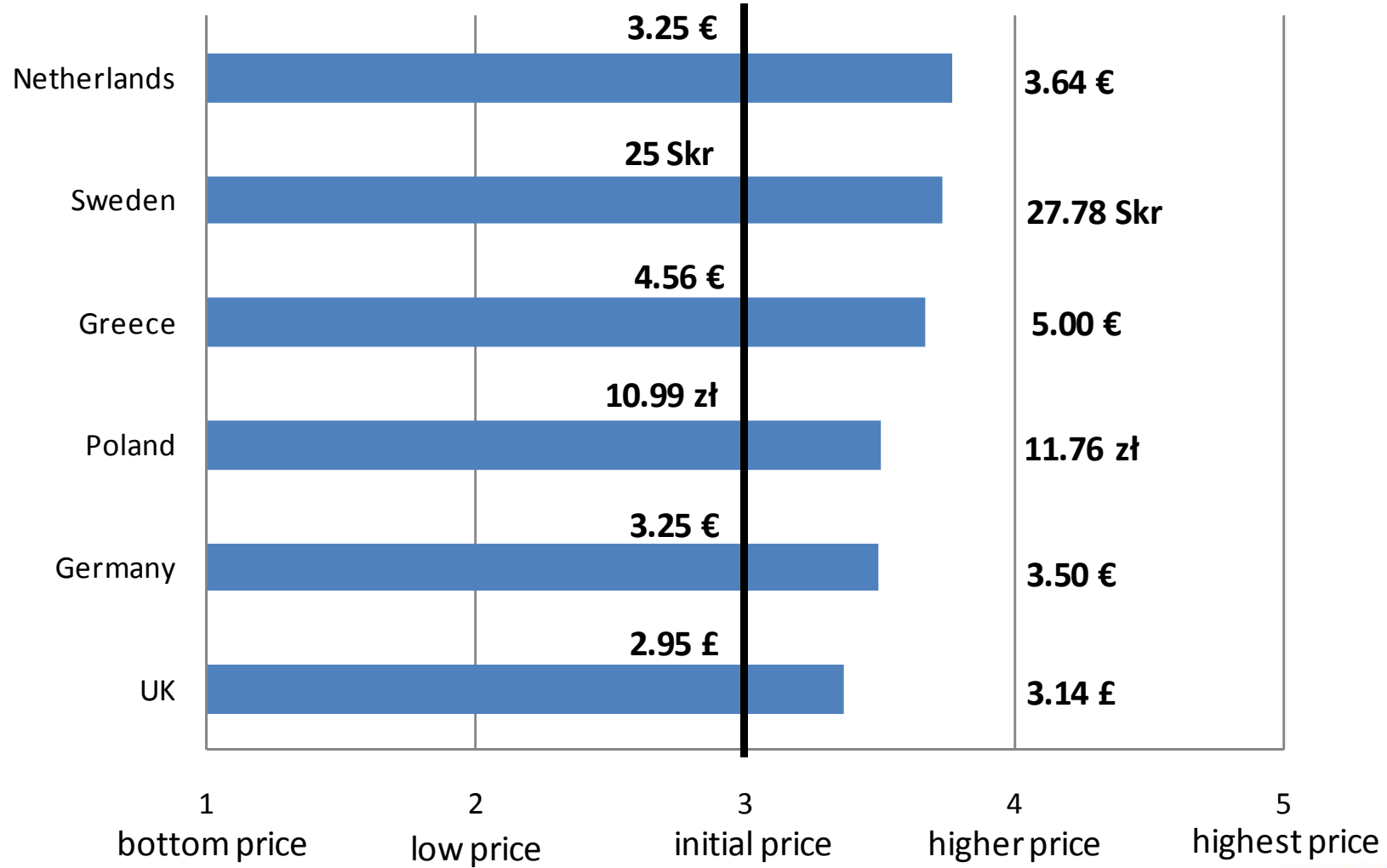
# Results of the survey - Willingness to pay – biobased shampoo



Ingredients of biobased shampoo could be e.g. amino acid, wheat protein, glycerin, lactic acid etc. (*Visana 2009*)

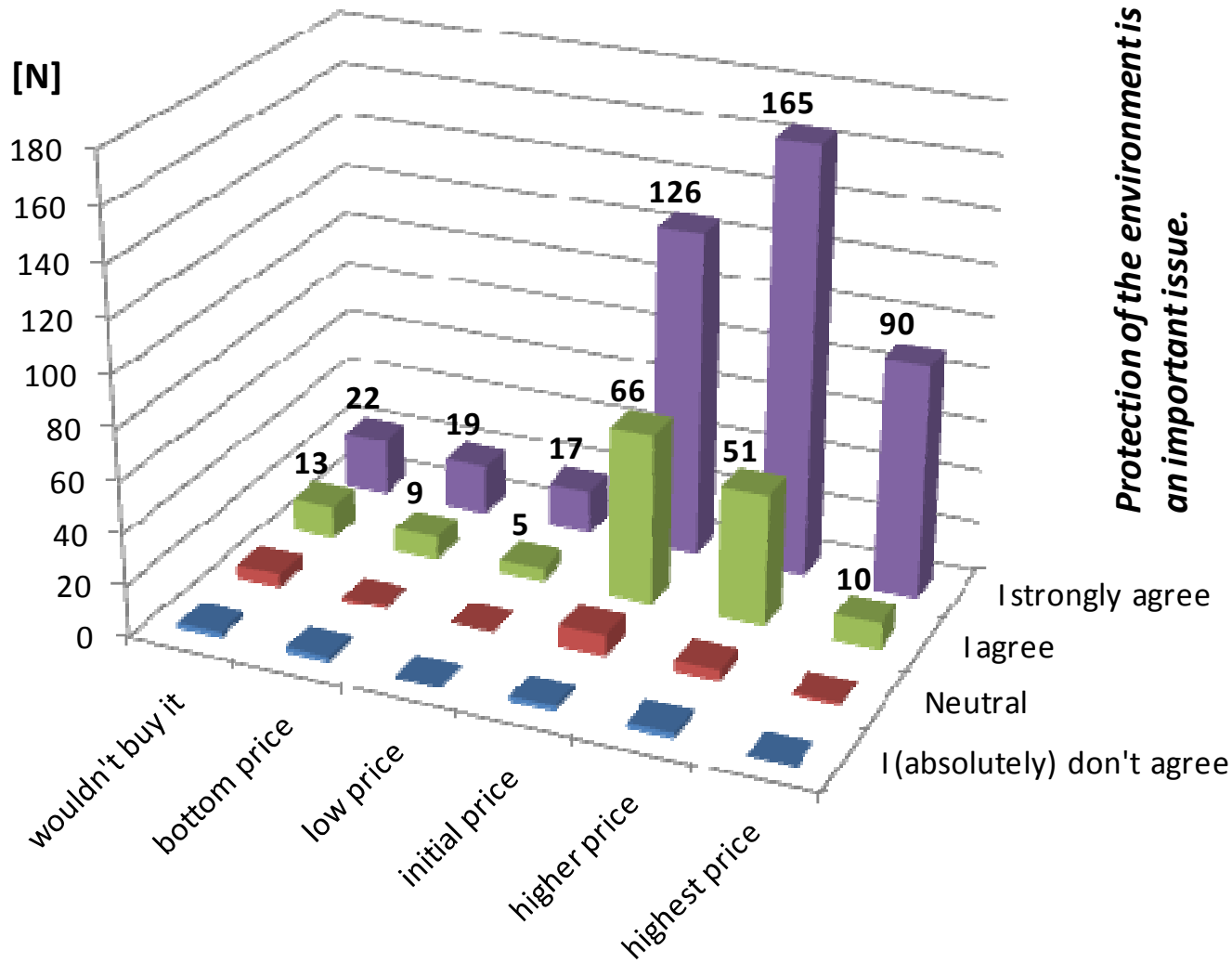


# Results of the survey - Willingness to pay – biobased shampoo



# Results of the survey -

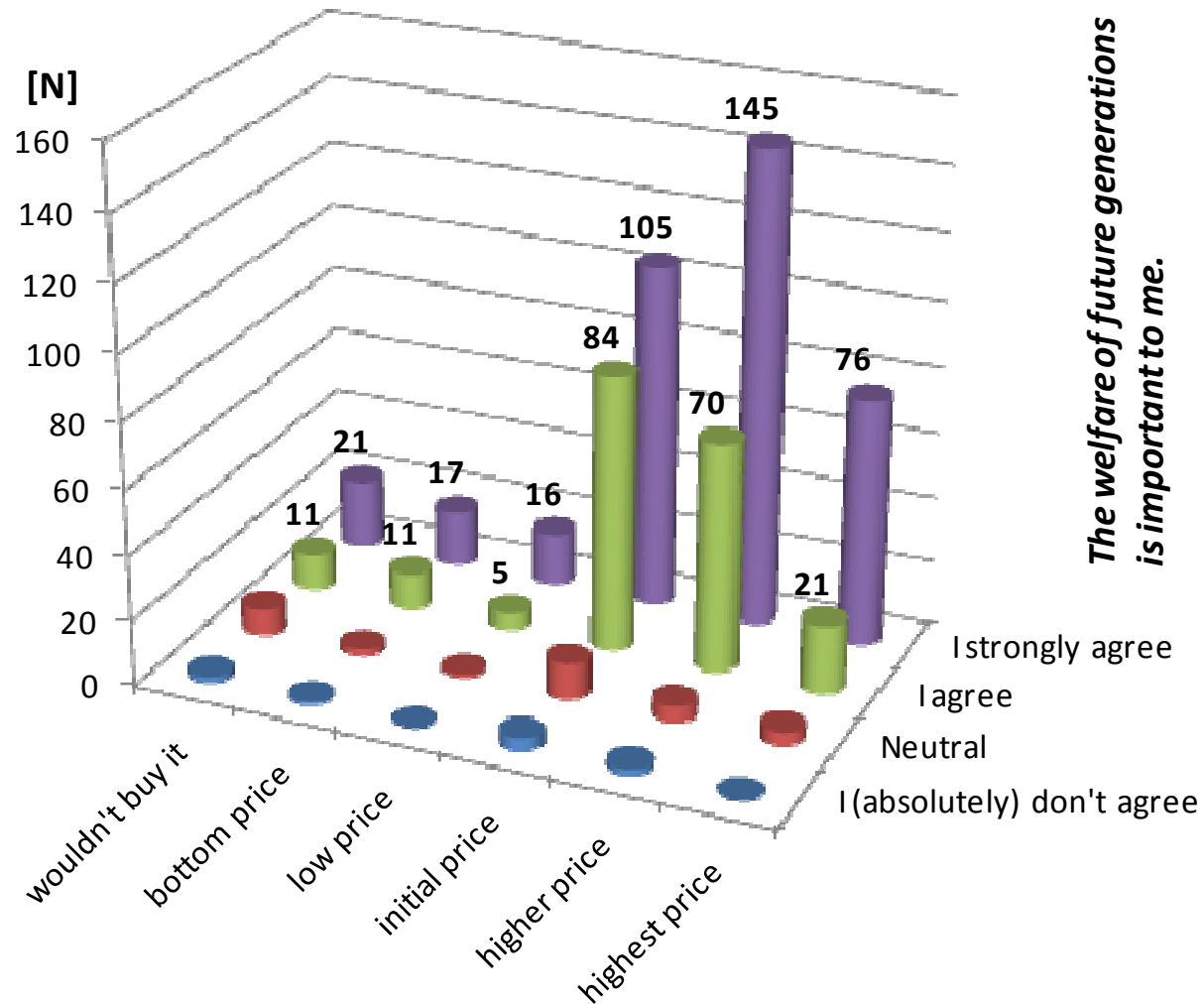
Attitude towards the environment \* Willingness to pay for shampoo with biobased ingredients



**What maximum price would you pay for a shampoo where the ingredients are marked as biobased?**

# Results of the survey -

Attitude towards future generations \* Willingness to pay for shampoo with biobased ingredients



**What maximum price would you pay for a shampoo where the ingredients are marked as biobased?**

## ▷ Conclusions

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### Survey:

Strong overrepresentation of respondents of some countries and with higher education levels. Nevertheless valuable information and tendencies could be detected

### Assessment of biorefineries:

*→ Due to a (very) positive assessment of biorefineries no strong public opposition of biorefinery plants in the 6 surveyed countries must be expected.*

*→ Especially their “eco-friendliness” and their “positive economic effects” should be highlighted in public communication activities*

*→ Demonstration plants and intensive public communication can reduce negative aspects associated with biorefineries (e.g. monocultures in agriculture, loss of biodiversity, rising food prices)*

## ▷ Conclusions

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### **Purchase frequency of biobased products:**

(1) Textiles, (2) Detergents, (3) Cosmetics, (4) Bioplastics, (5) Lacquers/paints, (6) Fuels, (7) Insulation

**→ For biorefinery operators: Market for biobased products does partly exist and consumers are willing to buy some biobased products**

**→ Non-purchaser represent (high) potential but intensive marketing activities are required**

**Important factors for consumers buying bioplastic products:** ecological, sustainable, and healthy aspects

**→ Product characteristics and communication activities should highlight these aspects**

**→ Especially interested buyer segments (in particular LOHAS ) should be attracted**

## ▷ Conclusions

### Knowledge about biobased products/biorefineries:

→ *Consumers don't know much about political issues but are better informed about the products itself*

### Willingness to pay for biobased products:

Respondents tend to pay only limited price extras for the 2 surveyed products with biobased ingredients. Several raw materials of these products (e.g. amino acid, lactic acid, or glycerine) can be produced in biorefineries.

→ *Positive WTP on the demand side can be interpreted as a positive signal towards industrial actors.*

→ *Current barriers/problems (like high investment costs for biorefinery plants or high prices for biomass-derived raw material) could be partly compensated by higher revenues*

→ *Interested buyer segments should be addressed first*

→ *Intensive marketing activities necessary to convince consumers from biobased products*

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**Thank you for your  
attention**