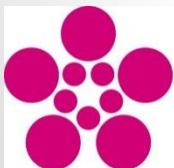


Energy demand, carbon footprint and attitudes towards climate change: case study of Czech households with international comparison (with nuclear bonus)

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**Ekonomická
fakulta**
Faculty
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Jihočeská univerzita
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University of South Bohemia
in České Budějovice

Introduction

- Department of Regional Management, Faculty of Economics, University of South Bohemia in České Budějovice
- Research topics: Environmental sociology, Environmental and ecological economics, Regional and rural development, Carbon footprint, Energy policy



České Budějovice



Project introduction

Europe 2020 targets



20%

LESS CO₂ EMISSIONS
vs. 1990



20%

MORE RENEWABLE
ENERGY USE



20%

LESS PRIMARY
ENERGY USE vs. BAU*

By the year
2020

*Business As Usual

7th FP EU “Governance, Infrastructure, Lifestyle Dynamics and Energy Demand: European Post-Carbon Communities” (GILDED) 2008–2012

Identify social, economic, cultural and political changes which could help rural and urban households in Europe consume less energy.

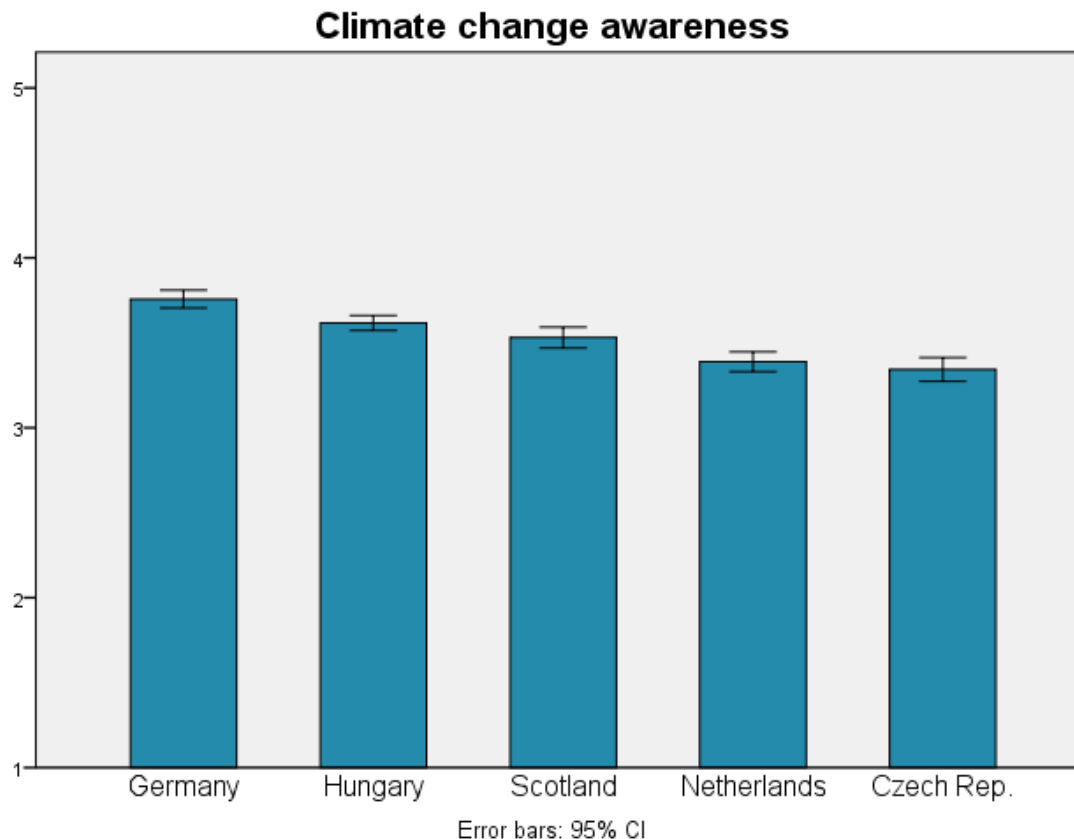


Methods

- **Qualitative interviews** (Summer 2009)
 - Approx. 45 in each country (3 regions)
- **Questionnaire survey** (Spring 2010 and Spring 2011)
 - Approx. 500 in each country (2486 together)
 - Urban-rural distinction (50:50)
 - Gender and age quotas
 - Questions on values, climate change related attitudes and opinions, lifestyles, perception of the role of institutions
- **Carbon footprint calculator** (all 2486 respondents)
 - 6 categories: heating, electricity, car using, public transport, flights, food consumption (mix of direct and indirect)
 - Private emissions (no business flights etc.)
 - Other personal consumption and general emissions not included (services and goods)

Climate change awareness

- 12 item construct
 - 4 dimensions: Anthropogenic causes; Outcome efficacy; Exaggeration; Negative consequences

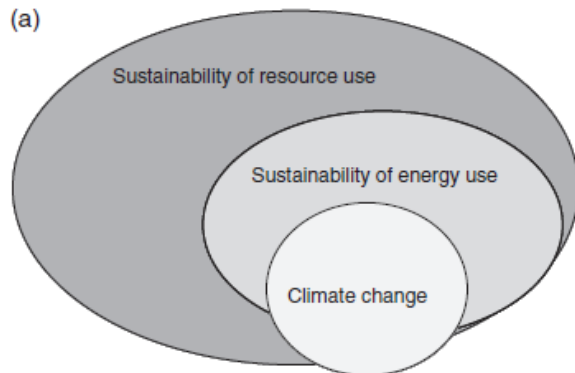


Climate change?

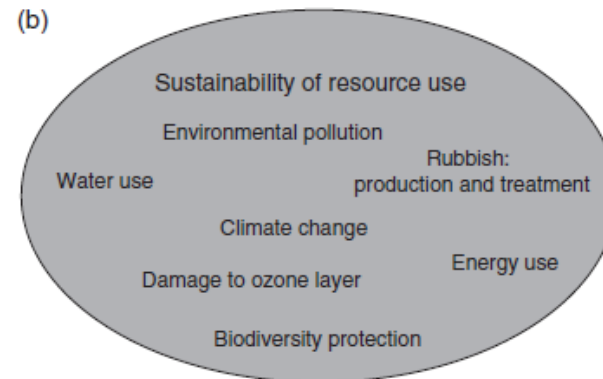
No, wise resource use is the issue!

- Interviews focused on energy in their everyday life and energy and future, climate change probed later
- Concept of social representations (Moscovici)
 - “web of interrelated meanings” (Buijs 2009); “collective elaboration of an object by the community for the purpose of behaving and communicating” (Wagner et al. 1999)
- Humans contribute to climate change, but it is somehow uncertain
- Consensus on “Need for change!”
 - Our way of life is unsustainable
 - But: Human right for energy
- Understanding of climate change and environment in general:

(a)

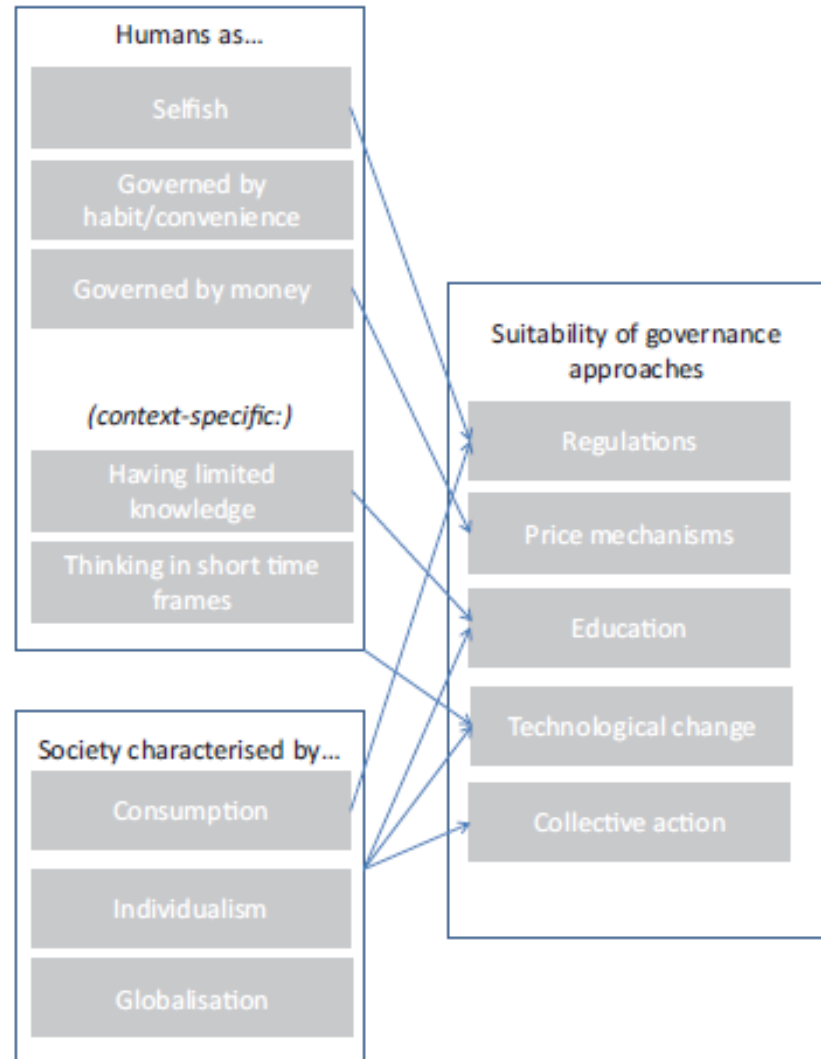
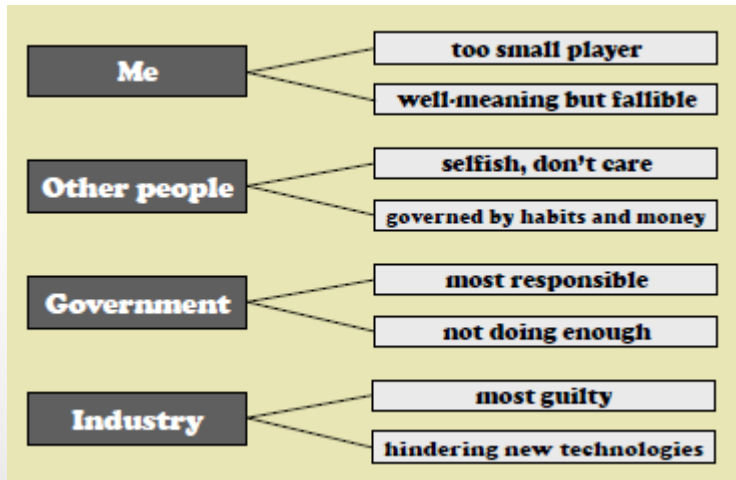


(b)

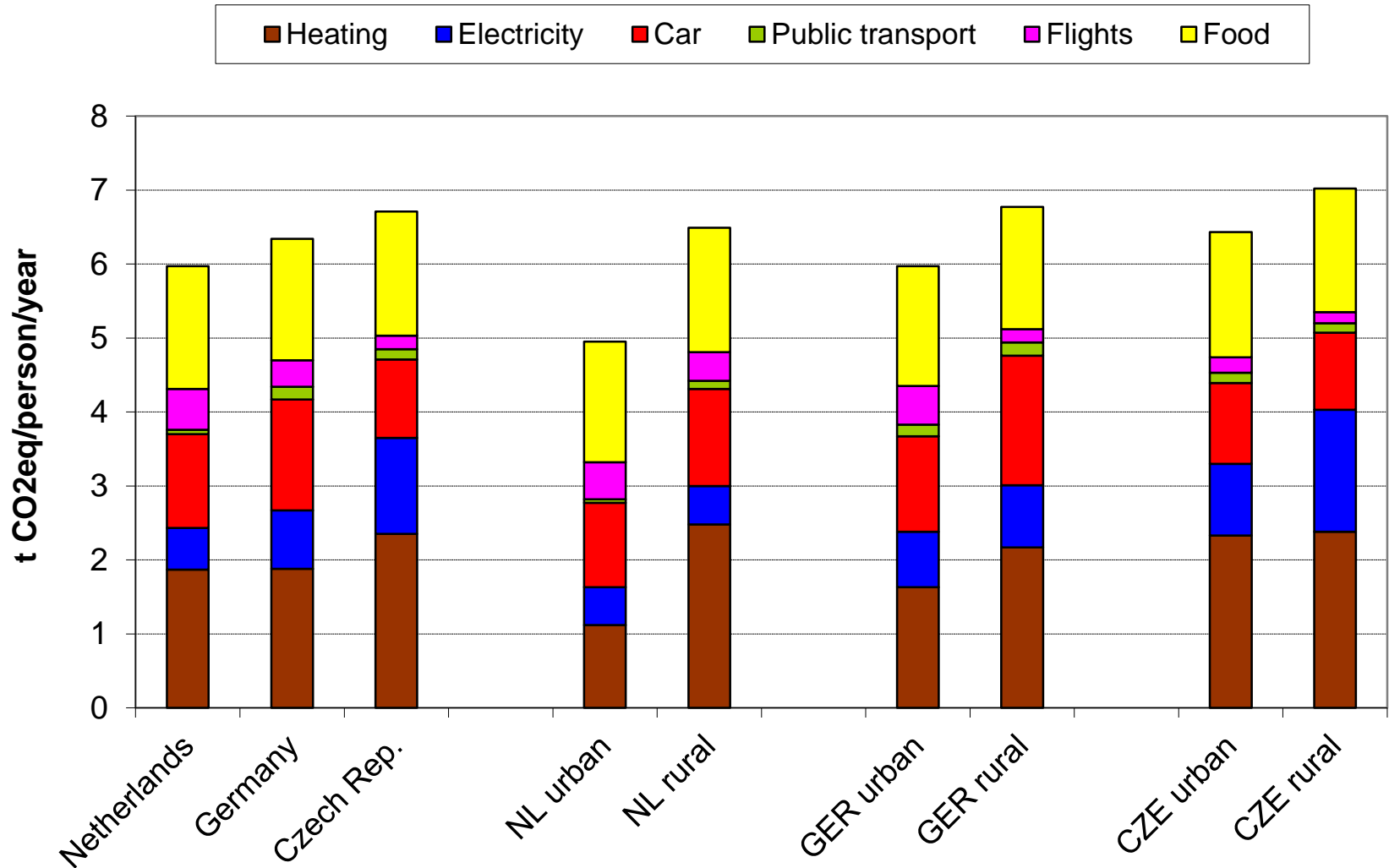


Me, others and government

- Concept of folk psychology
 - set of theoretical, generalised considerations about human behaviour, thought and feelings as developed and used by laypeople (Fischer et al. 2011)
 - Energy relevant behaviour

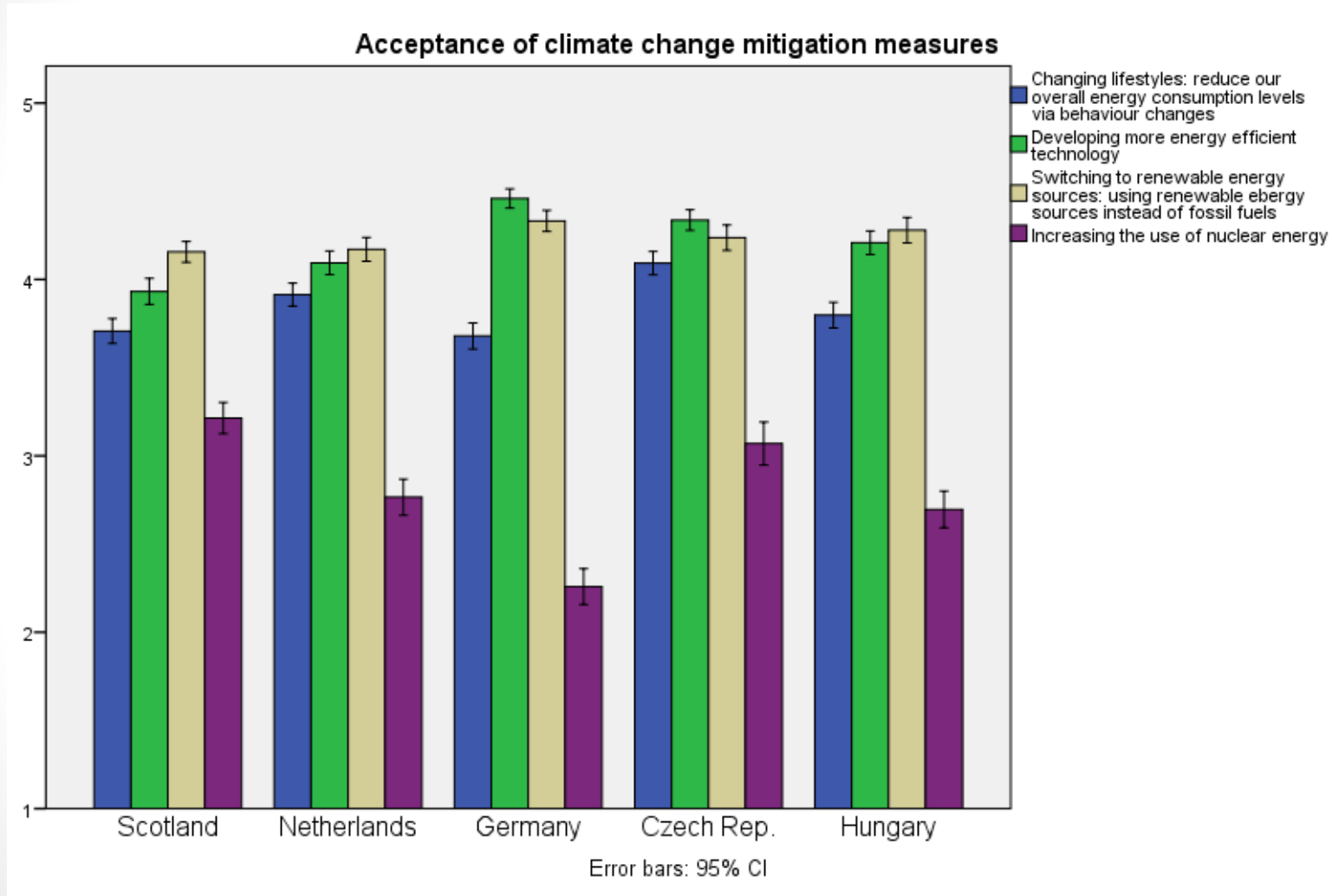


Carbon footprint of 3 states





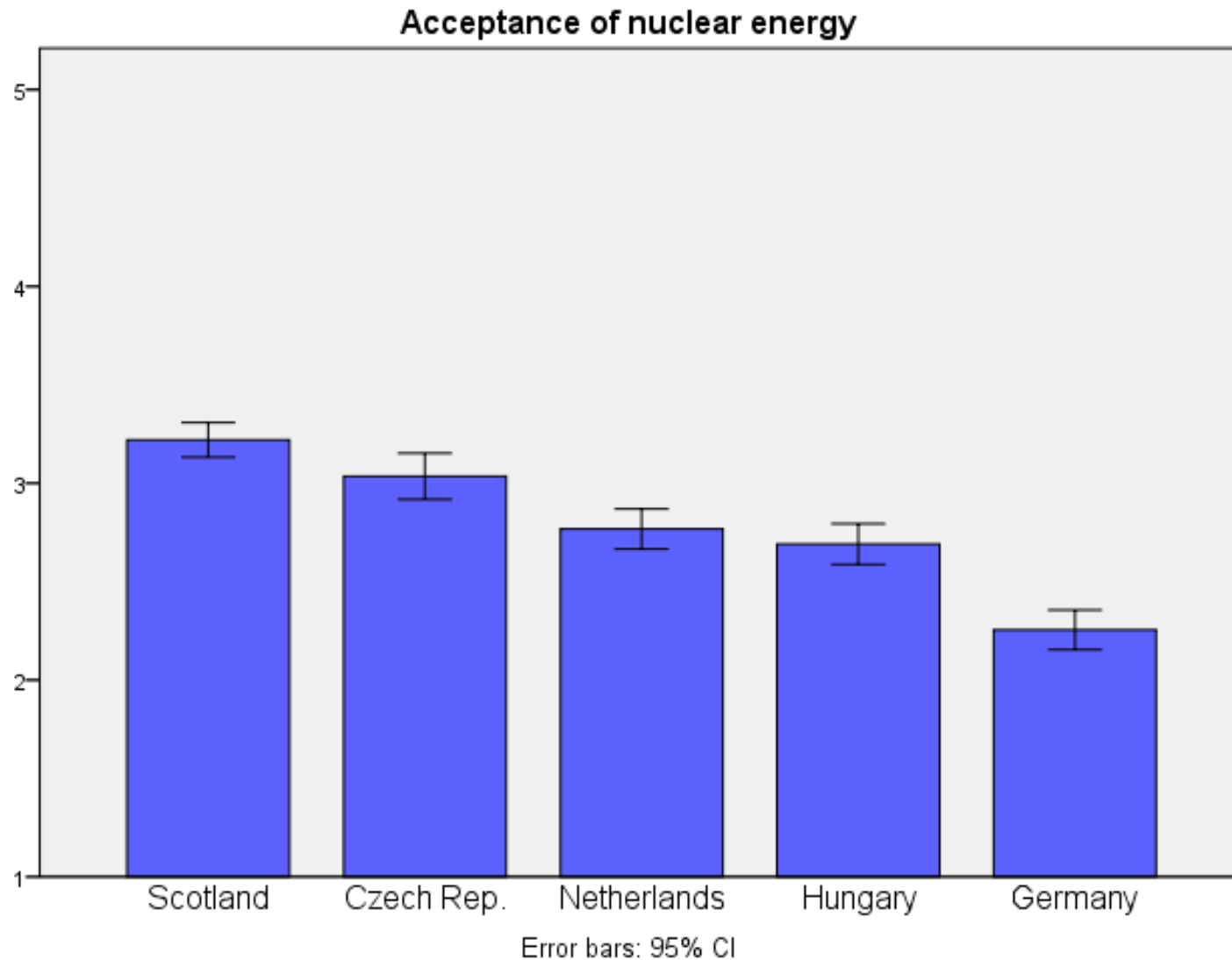
Mitigation measures



Lowest SD: efficient technology (GER, CZE); renewables (GER), lifestyles (CZE)

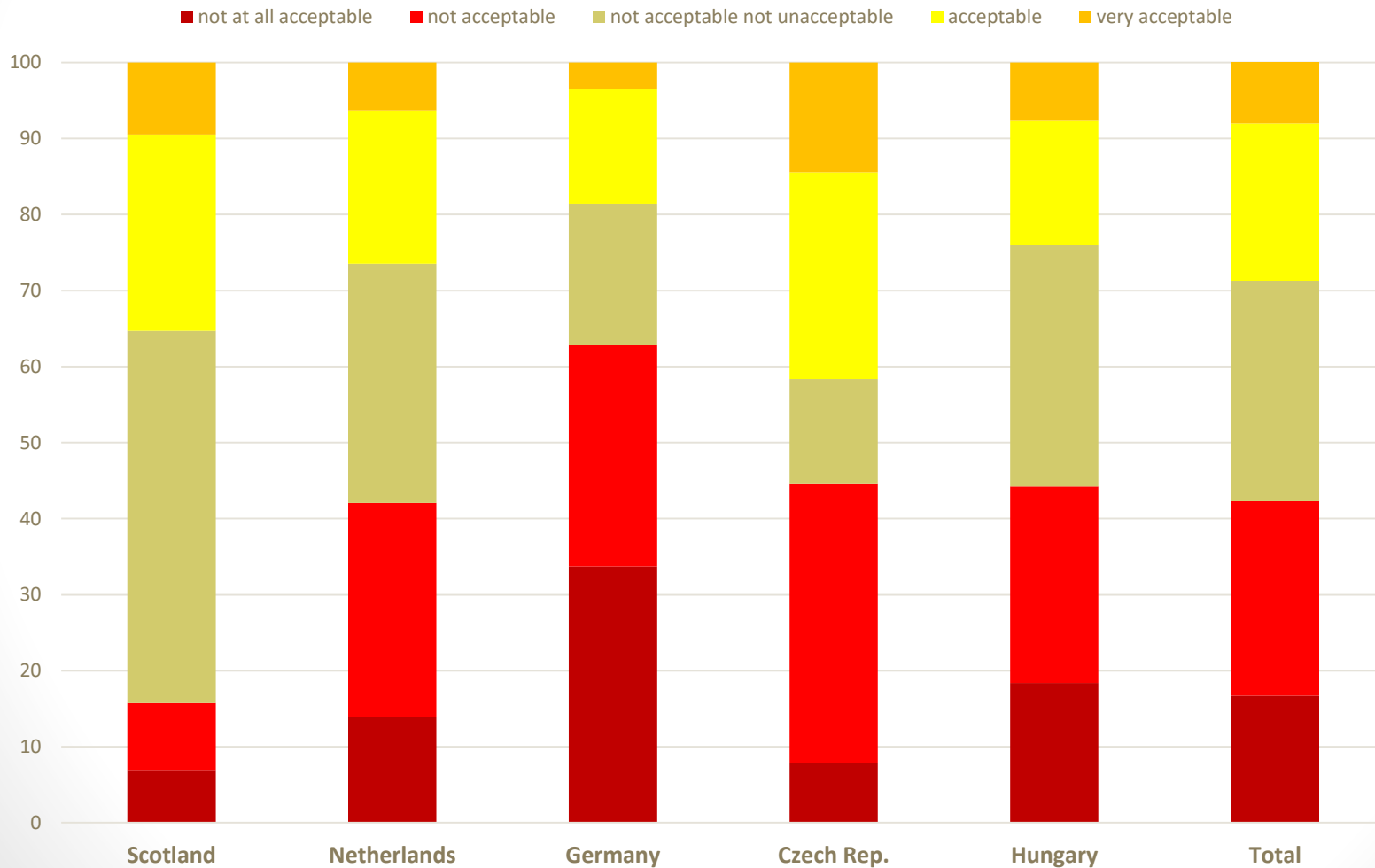
Highest SD: nuclear energy (all countries)

Nuclear energy



Nuclear energy

Acceptance of nuclear energy (%)



Acceptance of various measures

Correlations

Statistics: Pearson Correlation

| country | | Changing lifestyles: reduce our overall energy consumption levels via behaviour changes | Developing more energy efficient technology | Switching to renewable energy sources: using renewable energy sources instead of fossil fuels |
|-------------|---|--|--|--|
| Scotland | Increasing the use of nuclear energy | -,058 | -,044 | ,080 |
| Netherlands | Increasing the use of nuclear energy | -,136** | -,099* | -,192** |
| Germany | Increasing the use of nuclear energy | -,235** | -,087* | -,268** |
| Czech Rep. | Increasing the use of nuclear energy | -,141** | -,056 | -,201** |
| Hungary | Increasing the use of nuclear energy | -,041 | -,006 | -,076 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Negative relationship between acceptance of nuclear energy and other three measures.

Acceptance of nuclear energy

Linear regression – dependent variable: Acceptance of nuclear energy

| | Scotland | Netherlands | Germany | Czech Rep. | Hungary |
|---------------------------|----------|-------------|----------|------------|---------|
| Region (1=urban, 2=rural) | ,074 | ,040 | ,011 | -,033 | ,069 |
| Gender (1=male, 2=female) | -,190*** | -,171** | -,112* | -,133* | -,097 |
| Age | ,160** | -,085 | -,029 | ,051 | ,006 |
| Education | ,088 | -,030 | ,059 | ,165* | ,104 |
| Income | ,119* | ,117* | ,032 | -,158* | ,084 |
| Climate awareness | ,000 | -,225*** | -,361*** | -,199** | -,169** |
| Adjusted R ² | ,090 | ,089 | ,146 | ,063 | ,040 |

* P < 0,05; ** p < 0,01; *** p < 0,001

Local perspective



Nuclear power plant Temelín

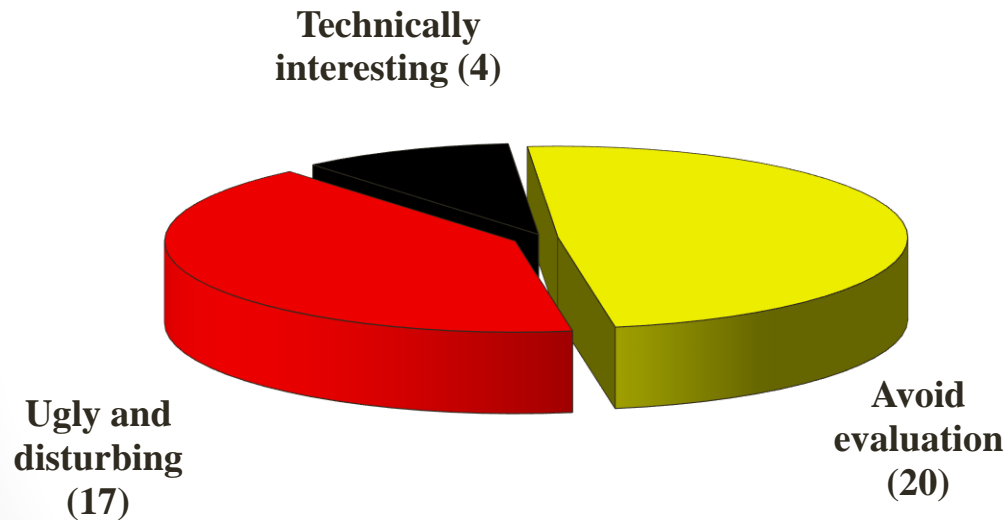
- From mid-1980s to mid-2000s
- Area of 123 ha
- 10 influenced villages
 - 6 destroyed
 - 4 influenced (partly destroyed)
- Political issue (3 governmental decisions about construction since 1990)
- International discussions (with Austria)



Socio-ecological research

- **1983 – Landscape ecology aspects**
- **1993 – Landscape ecology and sociology**
- **2002–2008 – Social ecology and psychology**
 - Local communities are adapted, but there is still some latent tension which can be activated. Power plant does not decrease objective quality of life but can influence subjective well-being.
- **2008 – Visual perception**
 - My MA thesis, qualitative research in local communities

Visual/Aesthetic perception

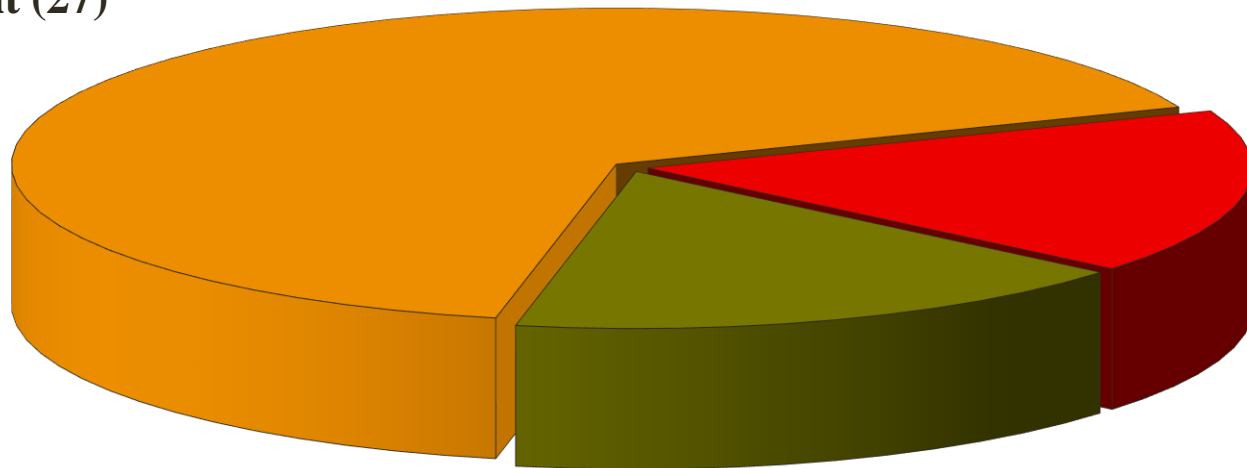


- Tourist attraction (4)
- Orientation point (6)

Total 41 respondents

Power plant is...

Habit (27)



Annoying (7)

Matter of course (7)

Total 41 respondents

References and links

About Faculty of Economics USB

<http://www.ef.jcu.cz/about-faculty>

About the GILDED project

<http://gildedeu.hutton.ac.uk/>

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Thank you for your attention!

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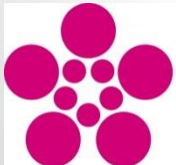
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