

# Climate change and individual decision making

Francesca Pongiglione  
Post-doctoral fellow, Università di Bologna

# Outline

1. **Psychological dimension of individual decision-making relating to climate change**
  - Relevant elements:
    - a. Knowledge
    - b. Risk-perception
    - c. Self-interest
  - Two case studies: lack of motivation

## 2. Social dimension of individual decision-making

- “Microsocial” interaction:
  - “Behavior Change Programs”

→ Which social dynamics favor the rise of environmentally friendly behavior?

- Social imitation?
- Desire of belonging to a specific group?
- Desire of being approved by others?

## 3. Ethical/political dimension: Cooperative behavior in collective action. The role of the social norm of *equity* in international climate negotiations



## ***Why focus on the individual?***

- 40% of OECD emissions result from decisions by individuals:
  - Transport
  - Energy consumption
  - Food/goods purchase
- Policy decisions are taken by individuals subject to standard mental processes

## a. Knowledge - The status quo

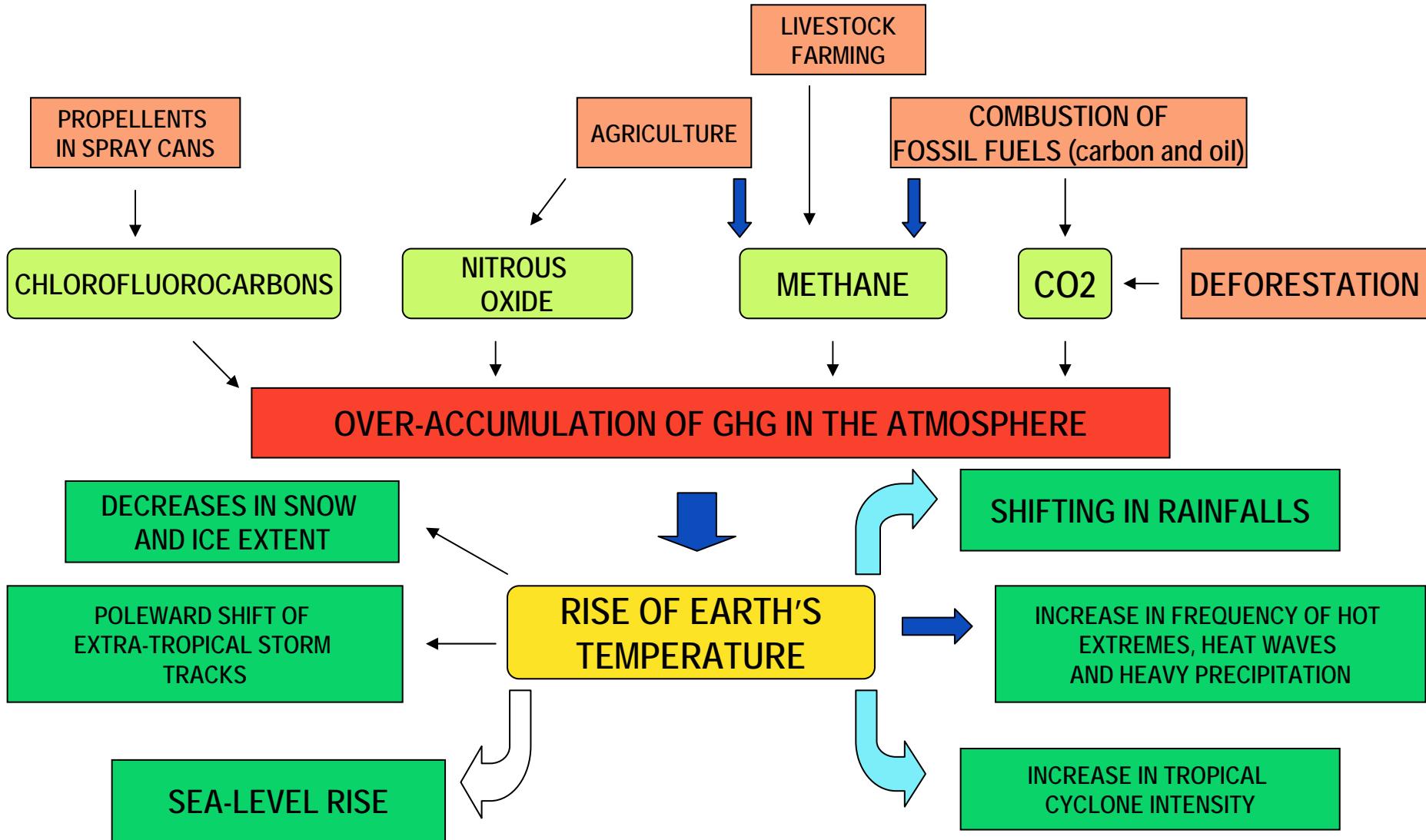
### Confusion

- 31% of Europeans think that CO<sub>2</sub> emissions and other greenhouse gases have only marginal impact on climate change, and 12% “don’t know”
- 42% of Americans do not know which gases are responsible for trapping heat from the Earth’s surface

### Uncertainty

- 29% of Europeans think that the seriousness of climate change has been exaggerated
- 38% of Americans perceive a good degree of uncertainty among scientists about whether or not climate change is happening

# Anthropogenic climate change



- Very likely - >90% probabilities
- Likely - >66% probabilities
- To be defined

DATA: IPCC 2007

## b. Risk perception

- Governments somehow select the risks to which they give priority according to how vivid and urgent they think a certain risk is (→Precautionary Principle)
- Individual decision-making follows the same cognitive mechanism: people take preventive actions when risks are high, close, certain

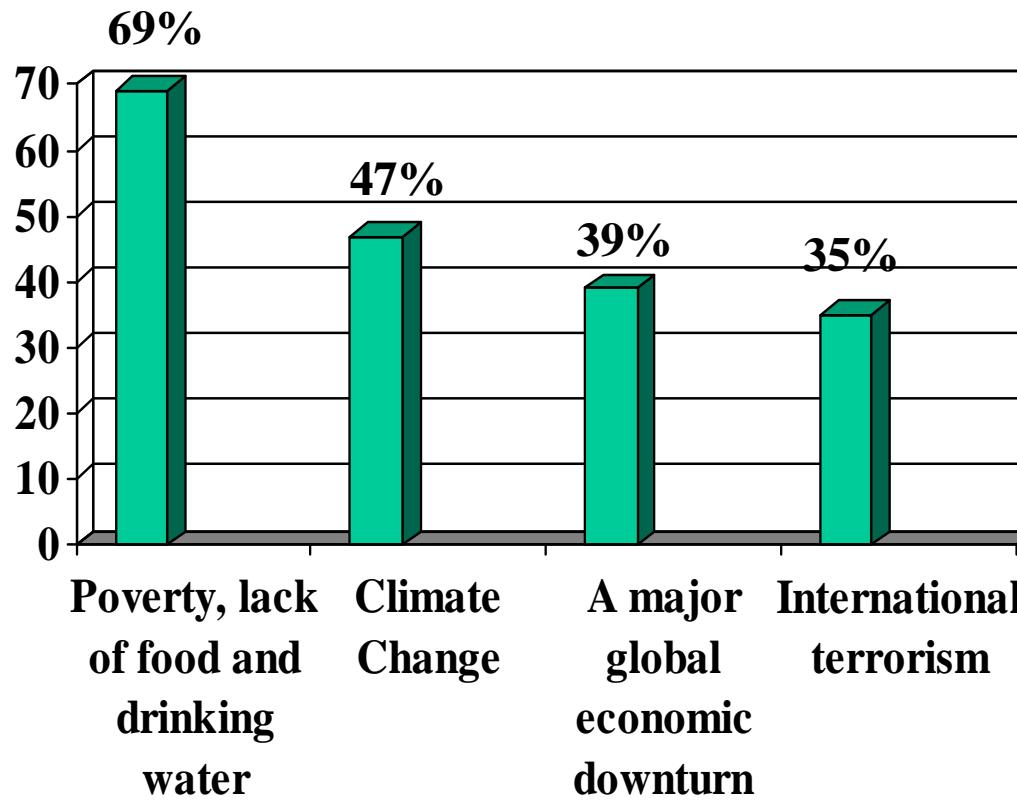
## People do not feel at risk for climate change

- Temporal distance of every possible negative effect arising from climate change
- The threat is global, not personal

# Risk perception

## Europe

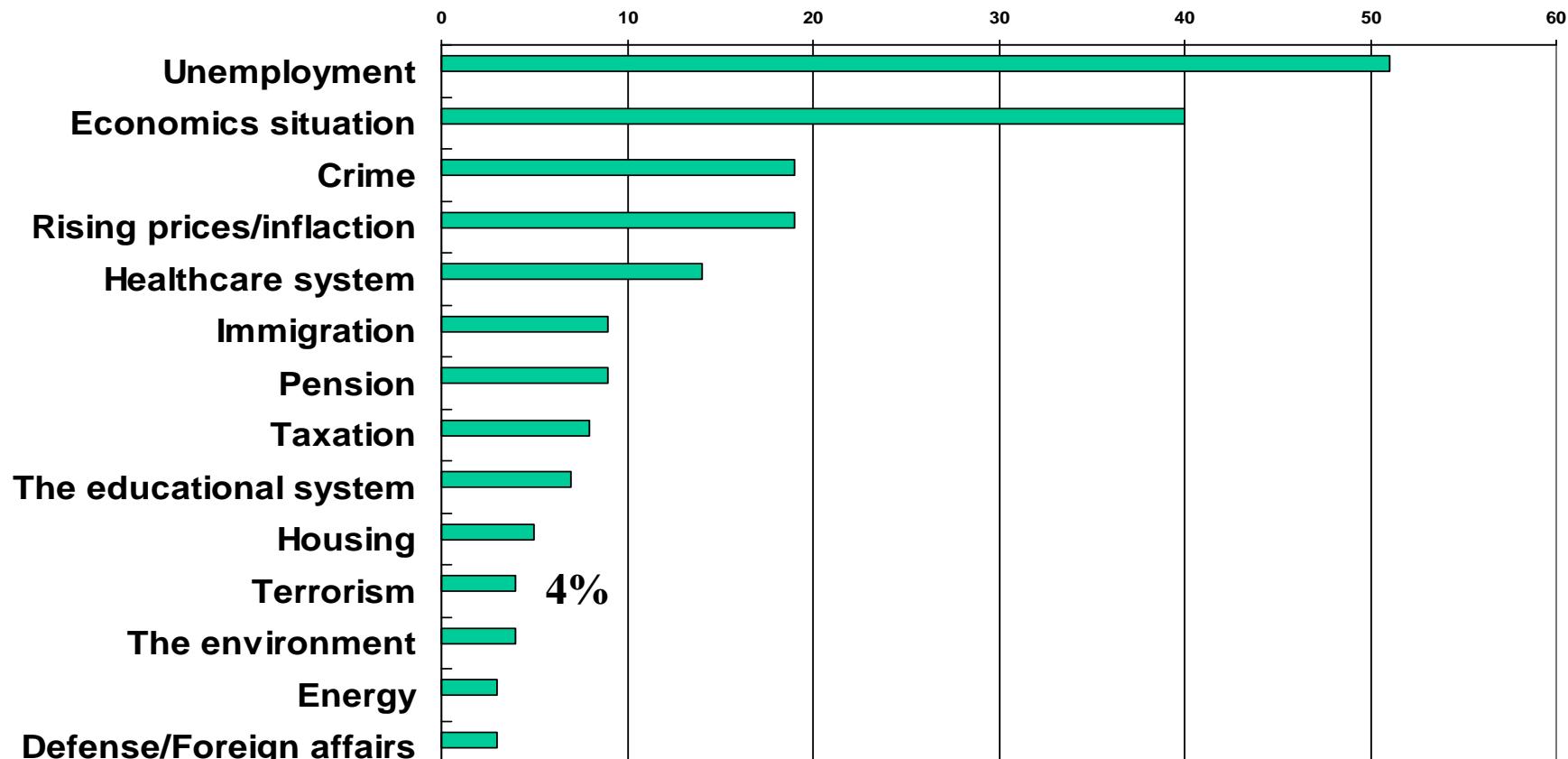
“What is the most serious problem the world is facing today?”



Data: Eurobarometer 2009

# Risk perception

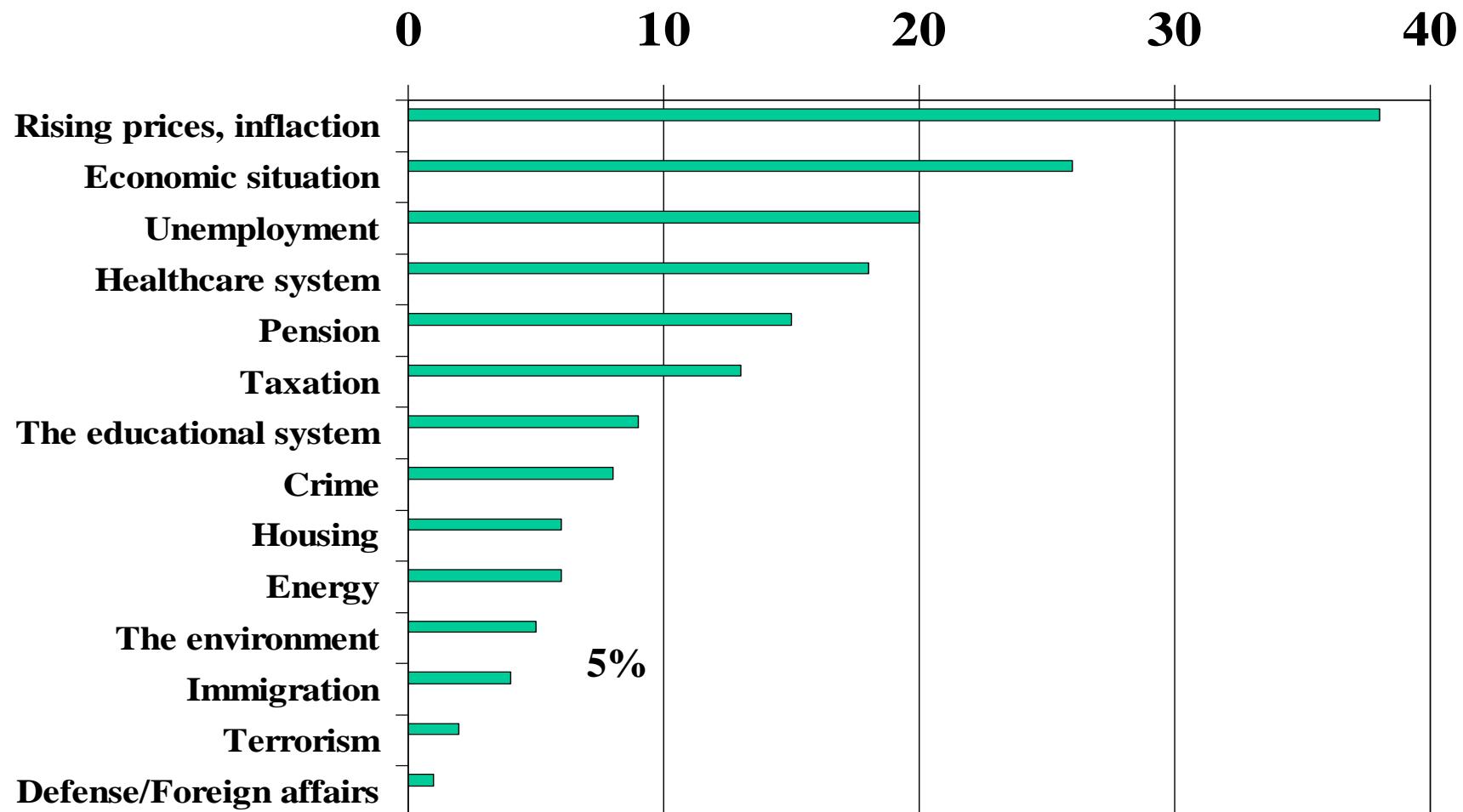
Which of the following do you consider to be the most serious problem currently facing *your country*?"



Data: Eurobarometer 2009

# Risk perception

**“What is the most important issues you are facing at the moment?”**



Data: Eurobarometer 2009

## c. Self-interest

### How much are people willing to sacrifice?

#### Willingness to pay – monetary

- Greener energy provider
- More energy-efficient household appliances
- ...

#### Willingness to pay – lifestyle

- Reduce the use of car
- Use public transport
- Reduce flying
- Reduce heating/air-conditioning
- Buy just local and seasonal food

→ Some habits have a strong social connotation, are expression of wealth

- People's WTP is generally low:
  1. The costs are **concrete**, the benefits are **vague**
  2. The costs are **immediate**, the benefits are **long-term**
  3. The costs are incurred by the **individual**, the benefits are **global**

## Two case studies

1. Norwegian community [Norgaard 2006]
2. Swiss Alps village [Strauss 2009]

- High level of knowledge
- High level of concern
- No significant behavioral change:
  - No grassroots activity
  - No mention of climate change in the meetings of local political organization
  - No plans for taking common mitigation actions

**Qualitative analysis results with individual interviews → Lack of motivation due to:**

- Isolation
- Ineffectiveness
- Helplessness

# An interesting experiment: “social” feedback on energy use in San Marcos, CA [Schultz et al. 2007]

- Detailed energy bills to 290 households:
  1. First group: Own energy consumption details & average energy consumption of the neighborhood
  2. Second group: Own energy consumption details, average energy consumption of the neighborhood & “*injunctive message*”:
    - ☺ if consumptions were below the average
    - ☹ if consumptions were above the average

## Social feedback: an experiment

- Behavioral response of above-the-average consumers:
  - 1st group (data only): **decrease** in energy consumption
  - 2nd group (data & ☺): more pronounced **decrease** energy consumption
- Behavioral response of below-the-average consumers:
  - 1st group (data only): **increase** in energy consumption
  - 2nd group (data & ☺): **continues with low energy consumption**

→ Social approval

# **From the psychological to the social dimension**

■ Provided that the individual is:

- informed about what to do
- willing to do the right thing environmentally
- given appropriate incentives

**how does the social context influence individual pro-environment behavior?**

## **2. Social context and environmentally-friendly behavior**

### **■ “Microsocial” interactions:**

- Experiments for modifying behavior in specific social contexts.  
Global Action Plan (UK)– Behavior change programs:
  1. The Environment Champions Program
  2. The EcoTeams Program

# 1. The Environment Champions Program

[Nye and Hargreaves, 2009]

- **Who** - A team of people drawn from different departments of a same office (volunteers and not).
- **What** – Communication campaign within the office, on:
  - Energy consumption
  - Recycling
- **Objective** – reduce in energy-consumption and waste
- **Results** – average: 38% waste reduction; 12% decrease in energy usage
- **Frequently met obstacles to behavioral change:**
  - The Champions were not taken seriously (“Environmental police”)
  - Resistance by who played more official and hierarchically superior roles: no restrictions on energy consumption  
→ old roles/habits are difficult to break

## 2. The EcoTeams Program

[[http://www.uea.ac.uk/env/cserge/pub/ext/evaluating\\_ecoteams.pdf](http://www.uea.ac.uk/env/cserge/pub/ext/evaluating_ecoteams.pdf)]

- **Who** – groups of 4 to 6 households (ideally same neighborhood) + one team facilitator
- **What** – monthly meetings, information and final report on personal consumption/habits regarding:
  - Energy /Water use
  - Waste and recycling
  - Transport
  - Food/goods purchase
- **Objective:** to find out how individuals can be encouraged to adopt environmentally-friendly behavior

# EcoTeams

## ■ Practical results.

### Actions started after participating in EcoTeams:

- Joining a green energy tariff: 16%
- Installing energy efficient light bulbs: 37%
- Heating just the most used rooms in the house: 17%
- Increasing use of public transport for regular journeys: 21%
- Buying products with no or minimal packaging: 56%
- Buying local products as much as possible: 44%
- Borrowing or renting items rather than buying: 20%

- **Focus groups and interviews - Themes specifically examined:**
  - a. How participation in EcoTeams influenced motivation
  - b. Effects of personalized feedback for changing waste and energy use behaviors
- **Results:**
  - Participants reported they felt a sense of **social support**, of “**effectiveness**” of their actions – they felt not alone in committing to the environment
  - EcoTeams gave people the opportunity to **exchange** “practical **ideas** and knowledge”
  - Sharing experiences and communicating gave **motivation**
  - Some people enjoyed the “**sense of community**” that arose from the EcoTeam

## Summary

### Main insights:

- Social interaction/connection may provide:
  - Motivation
  - Feedback
- Environmentally responsible behavior is not only dependent on individual cognition, beliefs and attitude, but also on:
  - Habits and routine, that may prevail over conscious intentions
  - The surrounding context with its norms

### Future research: areas of focus

- Social dynamics in contexts where behavioral change has already occurred:
  - Local initiatives/groups in Italy: social context, practical actions, community.

### 3. Ethical/political dimension

## The role of the social norm of *equity* in international climate negotiations

- Individual and collective action: some differences

### **Individual action:**

- Social norms → social approval/disapproval
- Social context - observation of other people's behavior

### **Collective action:**

- Social norms as “common ground” of shared values on which to structure negotiations/cooperation
- Social context - observation of other people's behavior

- **In climate negotiations countries often appeal to *Equity*. What are its possible meanings?**
  - Equity as equity of opportunities (= right to develop)
  - Equity as equal commitment
  - Equity as acknowledging differentiated responsibilities
  - Equity as strongest commitment by richer countries
- **Which are the policy proposals these concepts give rise to? [Lange et al. 2010]**
  - equity of opportunities → “Egalitarian rule”: equal per capita emissions
  - equity as equal commitment → “Sovereignty rule”: equal percentage reduction of current emissions
  - equity as differentiated responsibilities → “Polluter-pays rule”: who has polluted more, pays more
  - equity as strongest commitment by richer countries → “Ability-to-pay rule”: abatement costs proportioned to GDP

## A positive analysis

- Why and how do *countries* develop different notions of equity?
  - Self-serving bias based on:
    - *Current* convenience in supporting one notion of equity over another?
    - *Long-term* considerations?
  - Inherited inequality between countries?
  - Observation of other countries' behavior?
  - Cultural/political tradition?
- Successful vs. failed negotiations - Montreal vs. Kyoto:
  - Explicit or implicit appeal to norms of equity?
  - If so, to which specific notion of equity?

## Current work:

- Under review: F. Pongiglione, *The perception of the risk in the climate change issue: which reaction?*, contribution for: *Elements for an Economics of fear*, ed. by M. Cedrini and M. Novarese, London: Anthem Press;
- Under review: Cherlet, J., Pongiglione, F., *As climate change is anthropogenic, why downplay the social?*
- In preparation: F. Pongiglione, *Mitigation actions on climate change: the perspective of the individual*, for the International Society of Environmental Ethics (ISEE), Early Career Essay Prize