

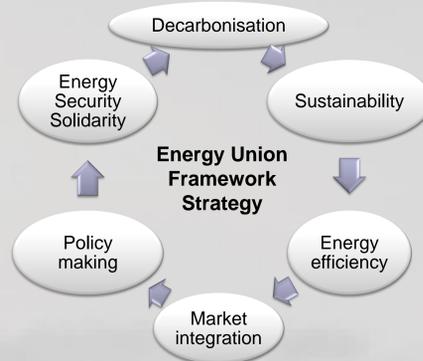
Learning from experience and involving energy citizens and experts. Ways of improving energy-related policymaking

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INTRODUCTION & MOTIVATION

- Heating and cooling system consume half of the European Union energy and much of it is wasted
- Heat demand accounted for 44% of final energy use in residential building sector in Spain
- Majority of the fuel heating system uses still comes from fossil fuels
- Heating system is a significant contributor to global CO2 emissions
- Heating and cooling system requires substantial policy efforts
- Policy effectiveness highly depends on behavioural decision-making by households

An European Union Strategy on Heating and Cooling



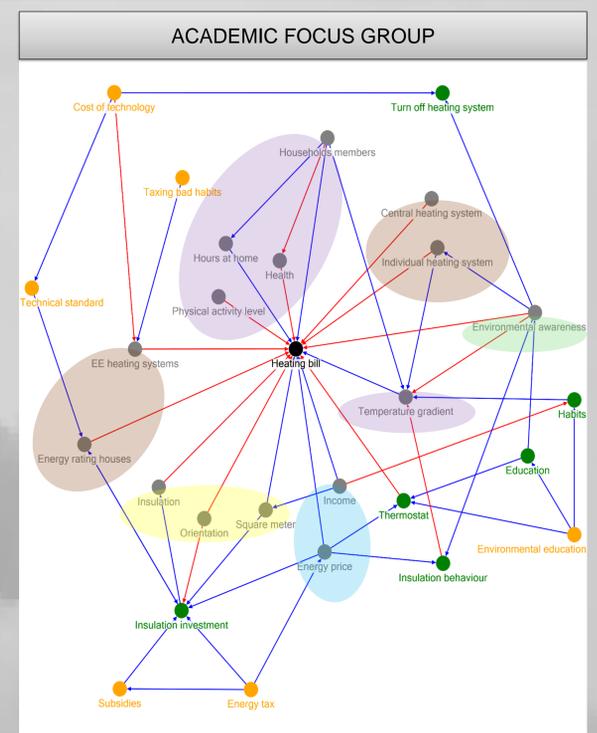
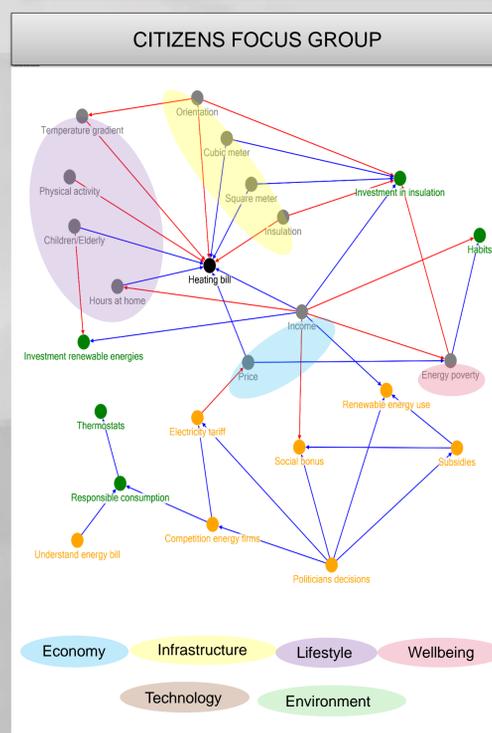
OBJECTIVES

- To identify the key factors of energy choices in the heating and cooling area
- To understand what determines people's choices in heating consumption area
- To analyse at the social acceptability of energy transitions using a participatory foresight process
- To suggest some strategic policy recommendations regarding heating and cooling energy choices

DATA

Focus Group	Participants number and characteristics	When?	Where?
Academic Focus Group	8 participants	December 20 th , 2017	Basque Centre for Climate Change Bilbao
Citizens Focus Group	8 participants Gender, Studies, Age, Income, Type of dwelling, Member of households, Heating system	January 23 rd , 2018	Bilbao
Energy experts Focus Group	7 participants	January 31 st , 2018	Asociación Española para la Economía Energética (AEEE) zaragoza

RESULTS



METHODOLOGY

Literature review of existing qualitative studies

Identify

Investigation of technological, economic and social factors affecting individual energy choices and behaviours

Create

Participatory foresight exercise

Create

Fuzzy Cognitive Mapping

What it is?
It is a representation of a belief system in a given domain. It comprises of concepts representing key drivers of the system, and connections between concepts (Kok K., 2009).

Focused on how to change energy choices and behaviours to support the full-scale transition to a low carbon heating consumption

Common discussion guideline:

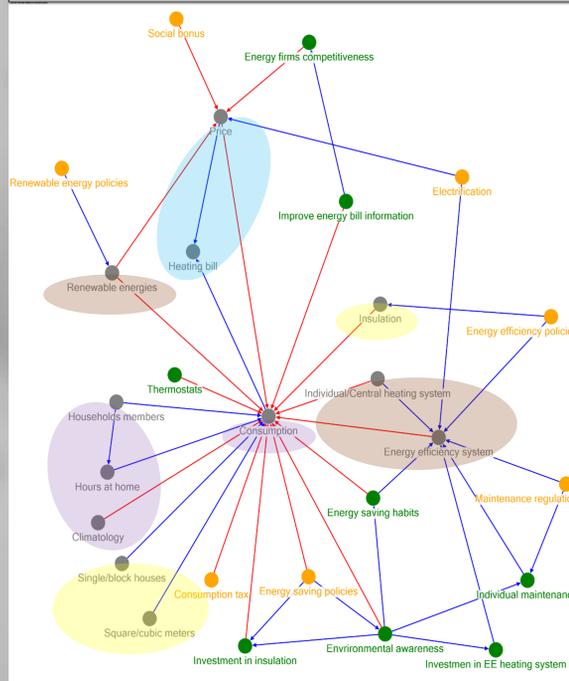
Research question: What influences the amount of your heating bill?

- Step 1 To list the factors influencing heating bills (grey concepts in the maps)
- Step 2 To define individual actions which can change or reduce heating consumption (green concepts)
- Step 3 To define policy measures that the government could develop (orange concepts in the maps)
- Step 4 Connections between the concepts (blue positive, red negative)

FUTURE RESEARCH

- ✓ Analysis of policy scenarios
- ✓ Heating policy simulations

ENERGY EXPERTS FOCUS GROUP



- Economic variables such as energy price and income of households influence the amount of heating bill
- Infrastructure variables, such as number of rooms, insulation or orientation of houses are also important
- Other common factors mentioned: lifestyle factors, such as turn on the heating system at night or graduate the temperature
- Education in energy savings is another important factor to reduce the heating bill

DIFFERENCES

Academic and experts focus groups

- Taxes to improve energy efficiency of heating system
- Environmental education
- Taxes to bad habits

Citizens focus group

- Energy poverty
- Desire to decrease costs
- Policies that help them to understand the energy bill
- Subsidies to invest in renewable energies

POLICY RECOMMENDATIONS

- ✓ Environmental education
- ✓ Energy savings policies
- ✓ Energy efficiency policies