

# The role of hard to reach energy users in reaching Baltics and Nordics Climate targets- a multidisciplinary analysis (NUANCE)



**Professor Andra Blumberga,**  
Ruta Vanaga (Riga Technical University)  
Jagruti Ramsing Thakur (KTH Royal  
Institute of Technology)  
Anna Volkova, Kertu Lepiksaar (Tallinn  
University of Technology)  
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# The goal of the project

To identify hard-to-reach (HTR)\* energy user groups  
in the Baltic-Nordic region

and study strategies to engage them to achieve national energy  
and climate targets while providing energy justice, equity and  
energy services.

*\* - either HTR physically, underserved, or hard to engage or  
motivate for climate impact reduction behaviour change*

# Identification of HTR energy user groups in the Baltic and Nordic



RTU  
VASSI

***What are the main characteristics and features of HTR energy users in the Baltics+Nordics which can be used to describe them?***

- Classification of HTR energy users by country
- Qualitative and quantitative analysis of groups by country
- Methodology: the literature review and communication with stakeholders
- Residential consumers of thermal energy (heating and cooling) and power

# ESTONIA

## Methodology:

- Literature review
- Stakeholders interviews
- Questionnaires

## Target sector:

- Thermal energy consumers in multi-family buildings

# Communication with stakeholders

## ENERGY COMPANIES:

- located geographically far
- weak apartment associations
  - share of HTR < 10%
- motivation for HTR: obligations arising from legislation

## FINANCIAL INSTITUTIONS:

Interest about EE financing is high

## MUNICIPALITIES:

- residents who need social benefits
- low income people
- about 5% are HTR

## REAL ESTATE DEVELOPERS:

Have not met HTR

## APARTMENT OWNERS' ASSOCIATIONS:

- Pensioners (elderly people)
  - Low-income
- With language barrier
- Low education level

# Identified HTR consumers to be studied further in Estonia:

ELDERLY

LOW INCOME

LOW  
EDUCATION  
LEVEL

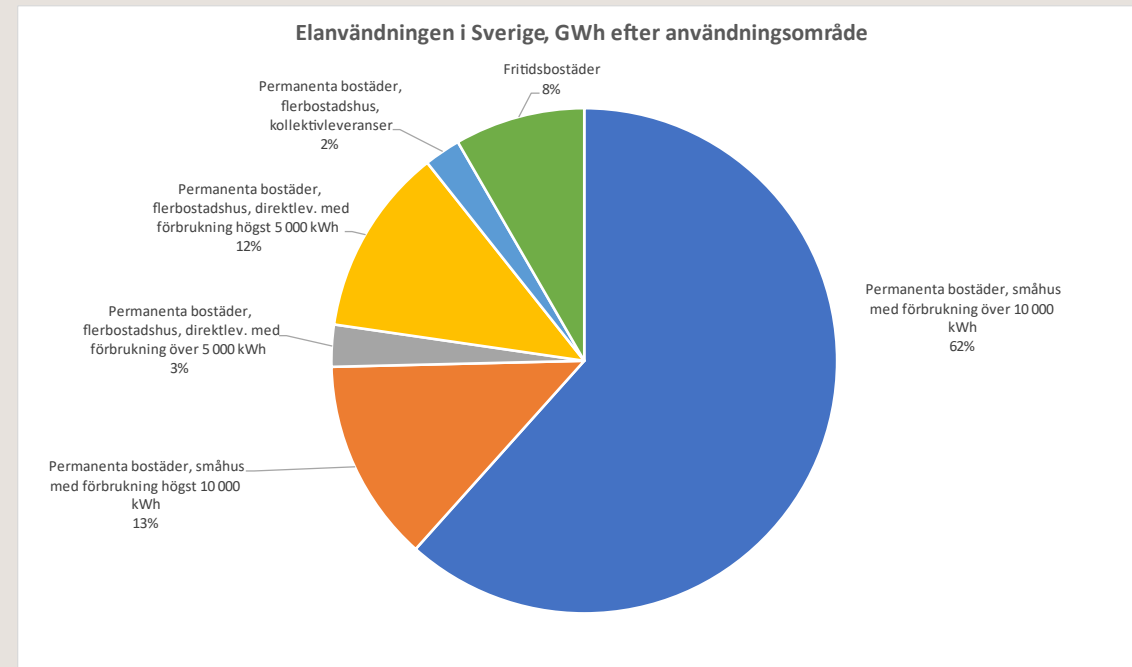
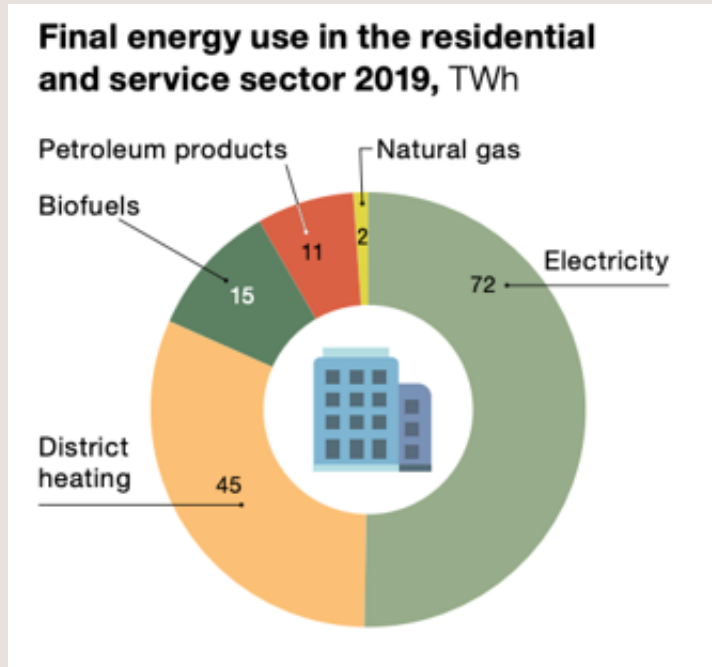
# SWEDEN

Methodology:

- Literature review

Target sector:

- Electricity consumption in the households





# Identified HTR consumers to be studied further in Sweden:

ELDERLY

HIGH  
INCOME

RURAL, LOW  
INCOME

# LATVIA

## Methodology:

- Literature review
- Mass media analysis
- Stakeholders interviews:  
energy efficiency experts,  
energy consultants, ESCO,  
municipalities, energy  
companies

## Target sector:

- Thermal energy consumers in  
multi-family buildings

## Experts' average estimates about HTR groups:

- HTR energy consumers constitute 5...10% of the total number of apartment owners:
  - HTR physically: 30...40%
  - Underserved: 10...25%
  - Hard to engage or motivate for climate impact reduction behaviour change: 35...45%
- HTR consumers have a significant impact on the group dynamics of the decision making process about the EE renovation project

# HTR energy consumer types identified in Latvia

PHYSICALLY  
HARD TO  
REACH

UNDERSERVED

LOW INCOME

«I KNOW  
BETTER»

“I AM AGAINST  
ANYTHING”

DISSAPOINTED  
AND OPENLY  
AGRESSIVE

INDIFFERENT,  
“SILENT  
ROARER”

SABOTOUR

# Identified HTR consumers to be studied further:

«I KNOW  
BETTER»

“I AM  
AGAINST  
ANYTHING”

DISSAPOINTED  
AND OPENLY  
AGRESSIVE

“SILENT  
ROARER”

# Conclusions from the first results

- Different target groups in the household sector are identified:
  - Electricity consumers in Sweden
  - Heating consumers in multi-family buildings in Estonia and Latvia
- Various hard-to-reach energy consumers are identified:
  - Estonia: elderly, low income, low education level
  - Sweden: elderly, high income, rural with low income
  - Latvia: “I know better”, disappointed and openly aggressive, “I am against anything”, “silent roarer”.



# On-going and further research

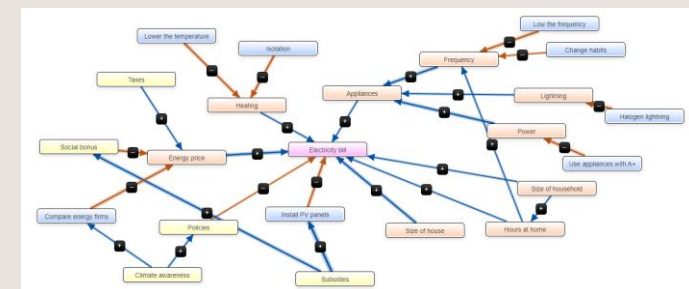
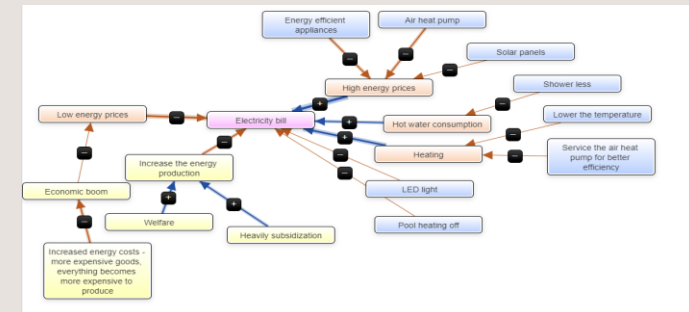


# Mental models and System Dynamics model of hard-to-reach energy consumers

## Interviews with HTR energy users:

- What are the basic electricity facts, elements, or components that influence the amount of your electricity bill?
- What individual measures could help to reduce your electricity bill?
- What policies could politicians implement to bring down electricity bills?
- Expected result: recommendations for policy makers for better targeting misconceptions and improving the decision-making process to improve strategies to engage HTR to achieve national energy and climate targets.

## Example: Sweden





# Hard-to-reach consumers and future net-zero energy system design



Expected result: recommendations for policy makers about HTR energy users impact on future net-zero energy system design