

# Just retrofitting!?!



The interrelation of energy justice and retrofit in social housing

Eisfeld, Kristina and Hengst, Tabea

# Structure



1. Introduction
2. Research projects: SINFONIA & BALANCE
3. Theoretical frame
4. Preliminary results
5. Discussion and conclusion

# 1. Introduction



## EU target

- a. Greenhouse gas emissions should decrease 40% by 2030 (1990)
- b. At least 32% share of renewable energy
- c. At least 32.5% improvement in energy efficiency

## Austria: Status quo

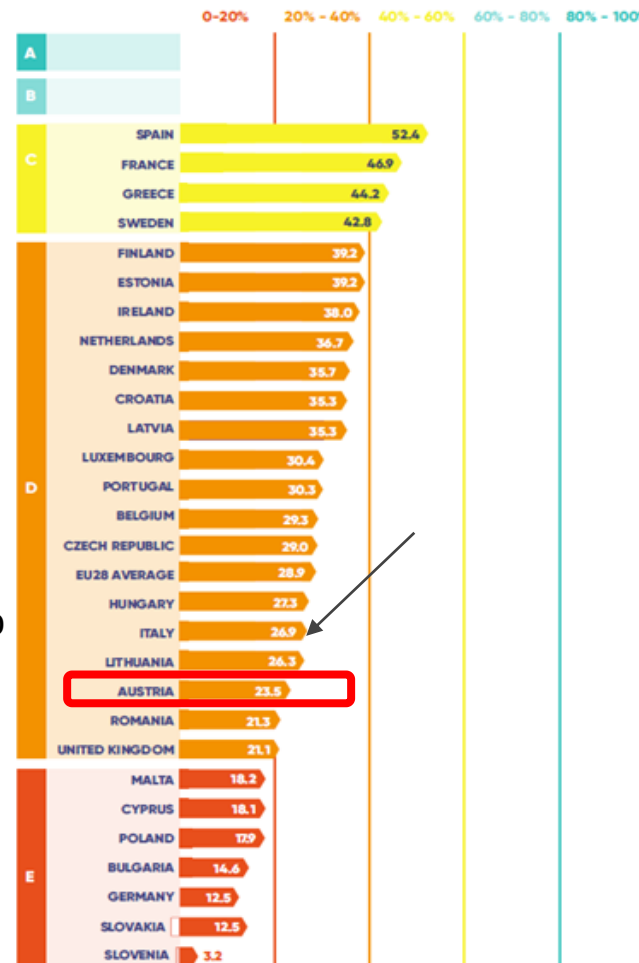
- a. GHG emissions increased in 2017 (1990) by 4.6%
- b. EU Renewables Directive goal for 2020 (33.5%) fulfilled
- c. Building sector emissions increased by 1.8 % (1990)
  - Missing energy efficiency target for 2020
  - Retrofitting rate is currently under 0.7%

# 1. Introduction



## EU country-specific recommendation on Austria's National Energy and Climate Plan (June 2019)

- “Complement the measures it plans to introduce in the **building** and transport sectors in order to achieve its 2030 greenhouse gas target of -36 % compared to 2005”
- “Better integrate **just and fair** transition aspects [...]. Further develop the approach to addressing **energy poverty issues**”



## 2. Research projects



Funded under the 10<sup>th</sup> Call of Austrian Climate Research Program of the Austrian Climate and Energy Fund (funding no. B769944).



Demo cities **Vienna** and Graz

- **Objective:** Recommend low carbon policies for housing without cutting back on social agenda
- **Gap:** Interlinkages of climate and social housing policy in (re)producing energy poverty
- Explain contradictions and possible synergies



This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 609019



Demo cities Bolzano and **Innsbruck**

- 50% primary energy savings per district
- 30% more renewable energy sources
- Reducing carbon-dioxide emissions by 20%
- **Measures:**
  - District heating & cooling
  - **Energy efficient refurbishment**
  - Innovative solutions for electricity supply

May 2018  
Kick of BALANCE

May 2020  
End of BALANCE

June 2014  
Kick of SINFONIA

May 2019  
Extension permitted

June 2020  
End of SINFONIA

## 2. Research projects: Surveys



Where

- Vienna (social housing)
- Innsbruck (NHT → limited profit association)



When

- Start: June 2019
- End: November 2019
- Start: February 2015
- End: September 2019



How

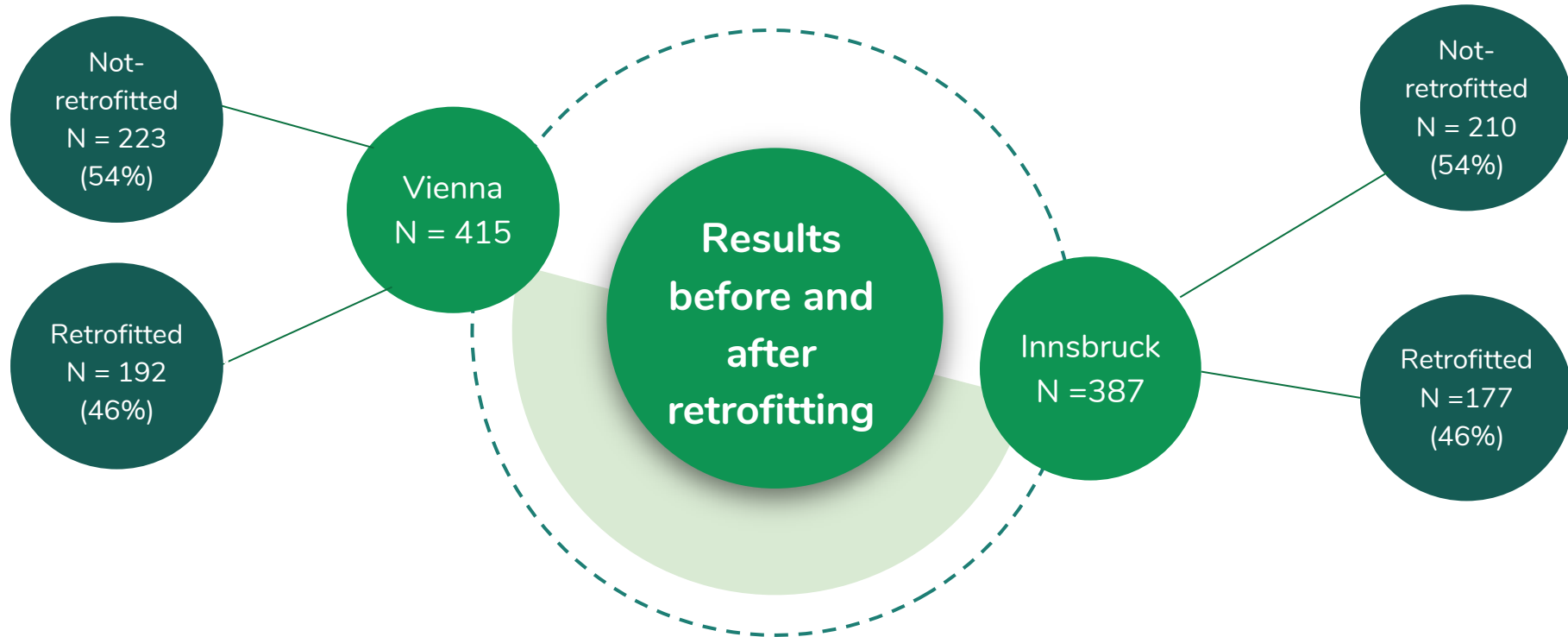
- Envelopes to post boxes and online
- Retrofitted and not- retrofitted housing
- Predominantly paper questionnaire distributed through housing association
- Before and after refurbishment



What

- Hidden energy poverty
- Behavioural change
- Environmental justice
- Attitude (shifting) towards energy efficiency
- Satisfaction before / after refurbishment
- Energy literacy

## 2. Research projects: Surveys

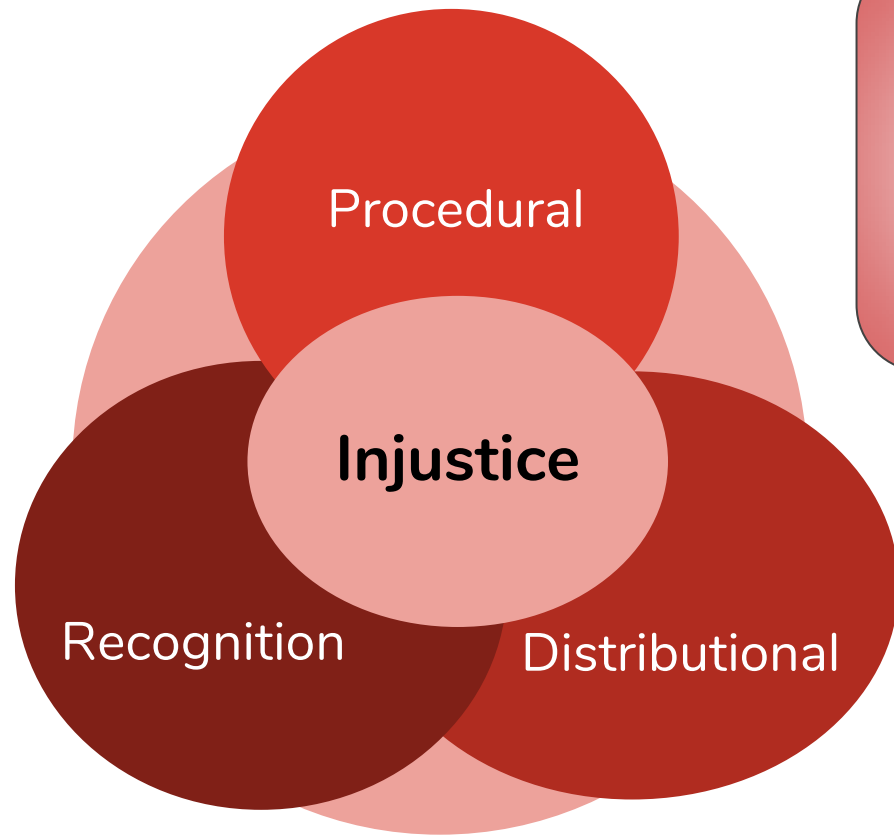


# 3. Theoretical frame: Energy justice



All communities should have access to **information and mechanisms to participate** fully in decisions affecting their environment

Some households need to use more energy to have the same **opportunities and welfare**

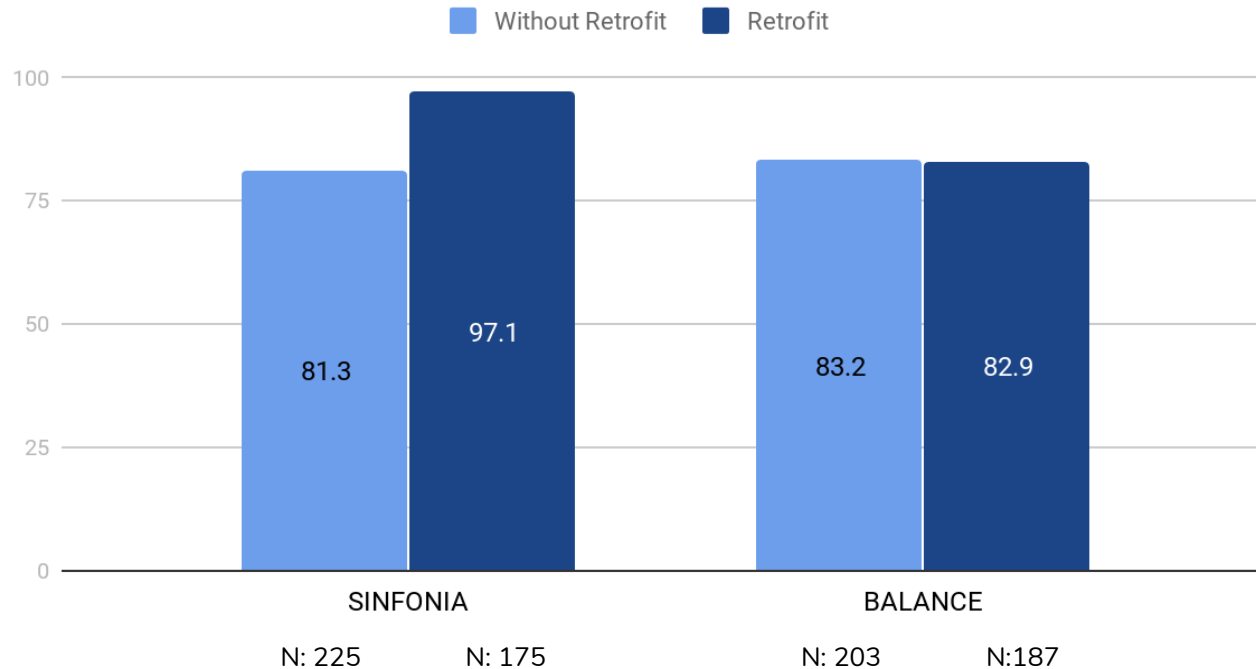




## 4. Preliminary results: Energy literacy



Energy-saving practices in my daily life are important to me  
(General Agreement in %)

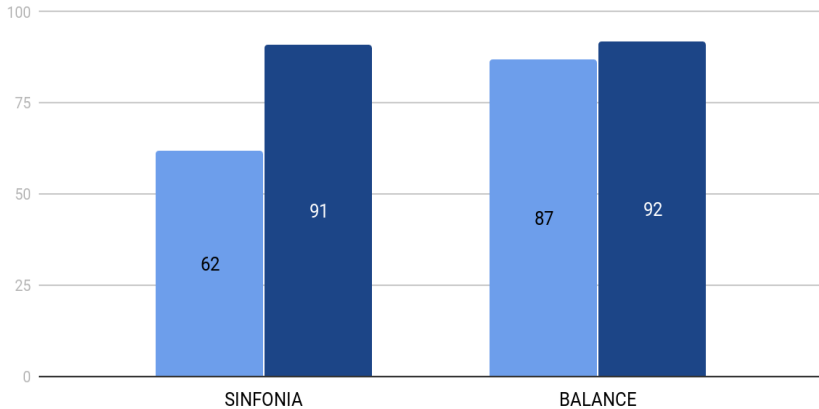


# 4. Preliminary results: Satisfaction



In general, I am satisfied with my [retrofitted] apartment  
(General Agreement in %)

Without Retrofit    Retrofit

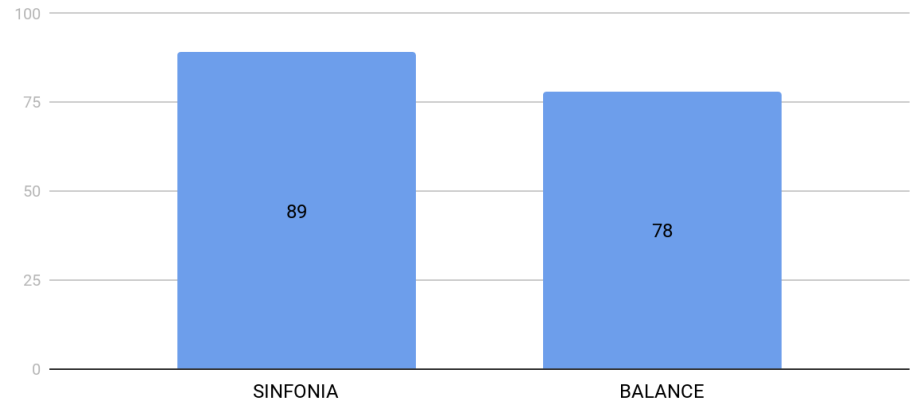


N: 172

N:179

My appartement improved because of the retrofit.  
(General Agreement in %)

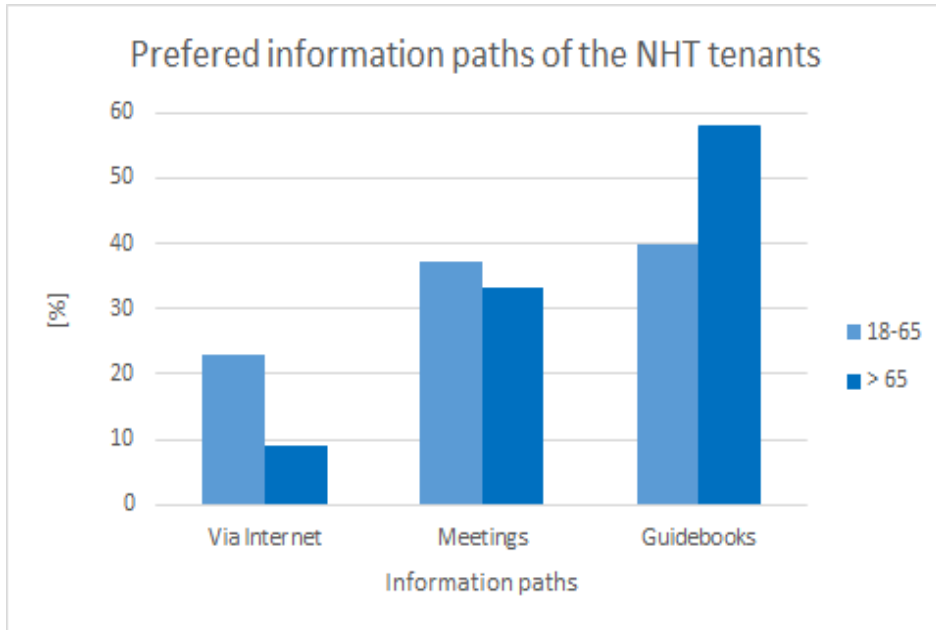
Retrofit



N: 166

N:172

## 4. Preliminary results: **Procedural justice**



Majority prefers:

- **Overview** of information rather than details
- Inclusion during the process
- Decision power in retrofit




Well received inclusion measures:


- **Individual** meetings
- **Workshops**
- **Demo** apartments

Improvement (tenants voice):

- Keeping up with time plan
- Construction company coordination

## 4. Preliminary results: Recognition justice

	Who likes it warmer (>23°)?	Who is at home longer (>18h)?
13% cannot reach their preferred temperature at home!	✗	✗
Status	✓ 	✓ 
HH with kids	✗	✗
Employed	✗	✓ Unemployed
WFS benefit recipients	✓	✓
Life events	✗	✓ 

Preliminary survey results:  significant results from  $\chi^2$ , T-tests and ANOVA ( $p < 0.05$ )

# 5. Discussion and conclusion



<b>Procedural injustice</b>	<b>Recognition injustice</b>
How to spread information to avoid rebound? → Younger: via <b>internet</b> ; Older: workshops and peer-to-peer <b>meetings</b> ; Easy <b>leaflets</b>	JUST transitions needs to recognize specific group needs: incorporation in social and climate policies → <b>Intersectoral coordination</b>
Inclusion of tenants in retrofitting processes (windows, cellar and balcony)	Detect coping strategies as households that are not present in official statistics → Intersectional vulnerabilities
Fair perceptions → fair distributive outcome → HH might evaluate procedure more positively → <b>positive spill-over effects</b>	<b>Focus on</b> elderly, unemployed, and HH with caring responsibilities, severe illness and/or receive benefits as their needs differ

# Thank you for your attention!

“The federal state of Vienna is the biggest owner of buildings. It costs a lot of money. I do not know where we currently stand with retrofitting I only know it is very, very little money available.”

Climate Coordination Vienna (Expert interview)