

# How to introduce health in Energy Poverty urban programmes



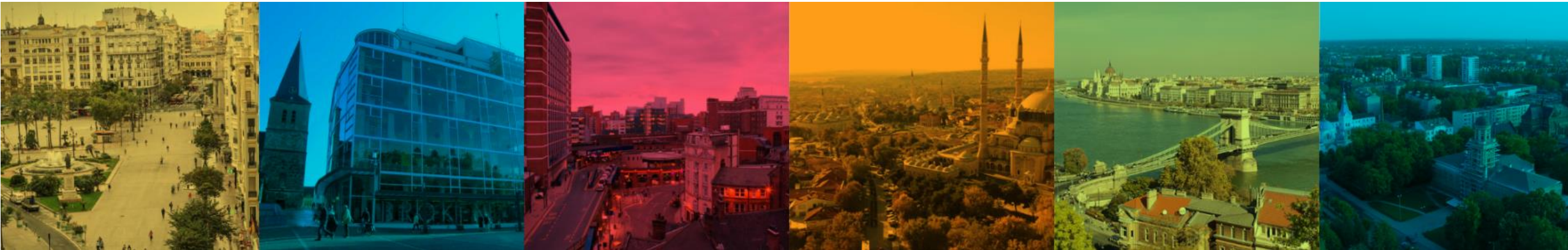
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EPAH Annual Event

Barcelona, 16/10/2024



València  
Innovation  
Capital



València  
Clima i Energia





# TEAM

## Who are we?

### Speakers:

Noemi García Lepetit, Valencia Innovation Capital (VIC)

Elena Rocher, Valencia Innovation Capital (VIC)

Pilar Jordà, Valencia Clima i Energia (VCE)

### Workshop facilitators:

Delmir Giner (VIC)

Corentin Girard (VCE)

Victoria Pellicer-Sifres (VCE)

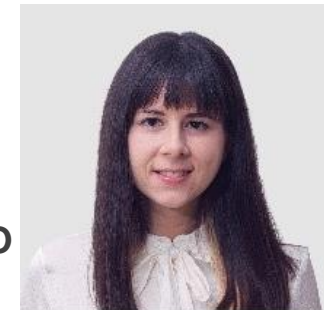
### Session Moderator:

Koen Straver (TNO)

**Valencia Innovation  
Capital**



**Valencia Clima i  
Energia**



**Netherlands Organisation for  
Applied Scientific Research, TNO**



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# SESSION CONTENT



## Goals:

Enrich and share your plans, projects, ideas, expertises on creating energy poverty urban programs and relate them to health

## Content:

- Wellbased Project: an overview
- Project results: how does Energy Poverty impacts on health
- WELLBASED Urban Programs (WUPs): based on socioecological model of health determinants
- A case study: the pilot City of Valencia
- Workshop: how to introduce health in urban programs fighting Energy Poverty?



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# WELLBASED PROJECT: AN OVERVIEW

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Noemi García-Lepetit  
(Valencia Innovation Capital)



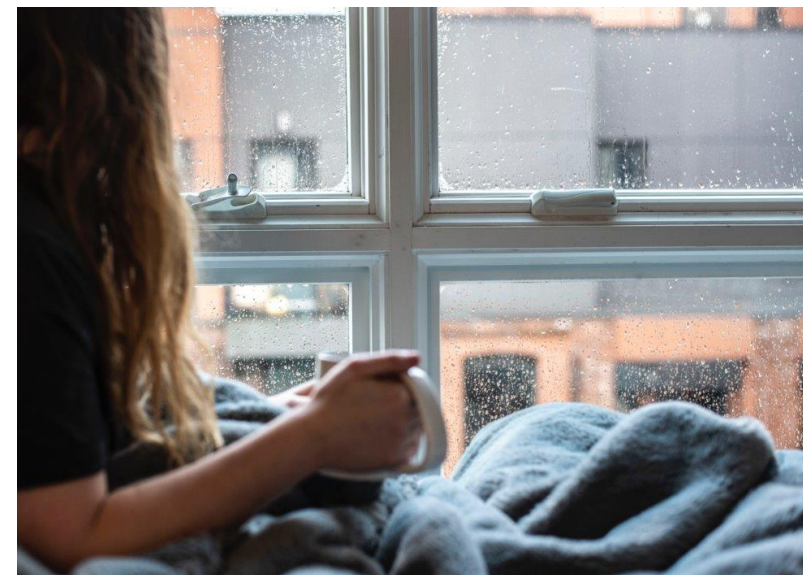
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# WELLBASED PROJECT: AN OVERVIEW

## H2020 WELLBASED goal

- To deliver **comprehensive urban programmes** which contributes to significantly **reducing Energy Poverty**
- To investigate the effects of Energy Poverty on the citizens **health and wellbeing**



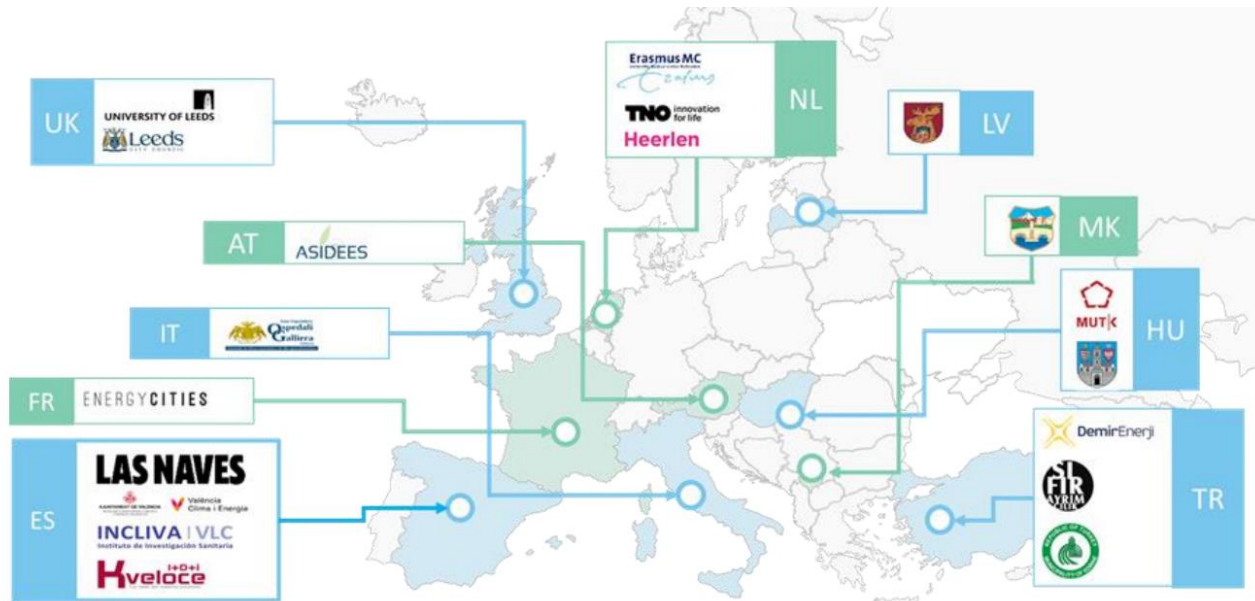
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 **WELLBASED**



# WELLBASED PROJECT: AN OVERVIEW

Consortium: 18 partners from 10 countries



- Municipalities, research institutes, SMEs, NGOs...



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# WELLBASED PROJECT: AN OVERVIEW

>1300 participants from 6 pilot cities



- Edirne (Turkey)
- Heerlen (Netherlands),
- Jelgava (Latvia)
- Leeds (UK)
- Obuda B (Hungary)
- Valencia (Spain)
- + Skopje (Macedonia), follower city



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# WELLBASED PROJECT: AN OVERVIEW

## Interventions in the pilot sites



- Social energy audits
- Energy efficiency kits
- Regular group meetings and trainings
- Energy bills advice
- Home rehabilitations (insulation, heating systems...)
- Home appliances renovation



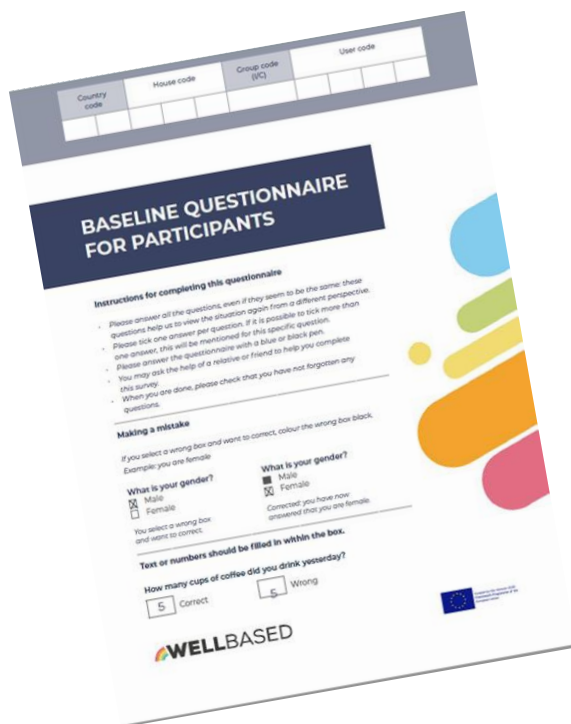


# WELLBASED PROJECT: AN OVERVIEW

## Project Research

Data collection during 18 months:

- Questionnaires on health, sleep and use of energy
- Health measurements
- Home sensors: T, H, CO2
- Qualitative interviews



The image shows a 'BASELINE QUESTIONNAIRE FOR PARTICIPANTS' form. At the top, there are fields for 'Country code', 'House code', 'Group code (IC)', and 'User code'. Below these is a section titled 'Instructions for completing this questionnaire' with several bullet points. Further down is a 'Making a mistake' section with instructions on how to correct errors. The bottom of the form includes a section for 'Text or numbers should be filled in within the box' and a 'WELLBASED' logo.



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# WELLBASED PROJECT: AN OVERVIEW

## Project Research



Analysis on how health is affected by Energy Poverty and interventions:

- Energy poverty indicators
- Energy consumption
- Coping behaviours
- Health & wellbeing outcomes
- Health monitoring measurements
- Indoor comfort and air quality



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# WELLBASED PROJECT: AN OVERVIEW

Project timeline: 2021-2025



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# WELLBASED PROJECT: AN OVERVIEW

Next steps: Results analysis and Policy Advocacy

## Publications:

- Complete research study and other project Deliverables  
[Publications | WELLBASED](#)
- Manifesto for Healthy Homes: [Join us! | WELLBASED](#)
- WELLBASED Policy Recommendations at local and EU level (2025)





# WELLBASED PROJECT: AN OVERVIEW

Next steps: Results analysis and Policy Advocacy

## Events:

- Session within Right to Energy Forum, Brussels (2 December 2024)
- WELLBASED final event in Valencia, Spain (19-20 February 2025)



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# PRELIMINARY PROJECT RESULTS

Noemi García-Lepetit (VIC)

\*Study research made by:

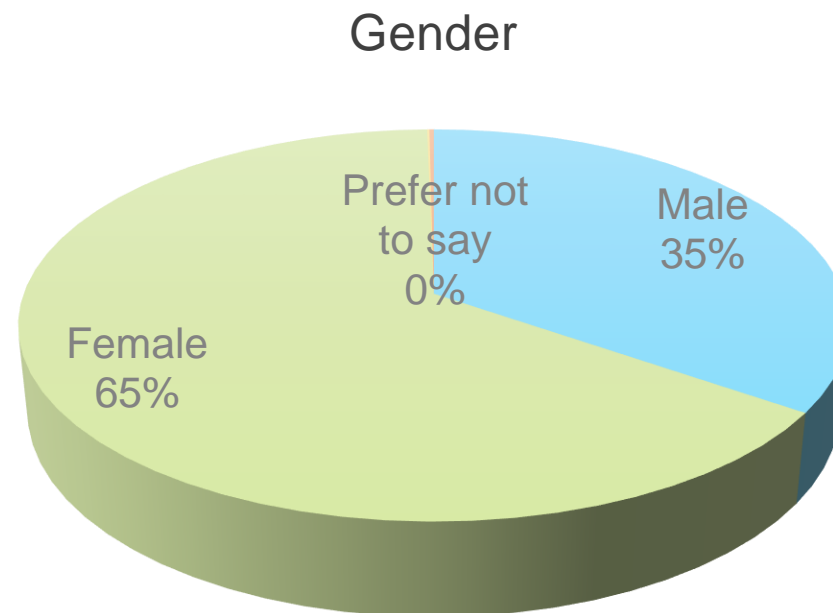
- **Erasmus University Medical Center of Rotterdam, Netherlands** (quantitative analysis)
- **University of Leeds , UK** (qualitative analysis)
- Older adults analysis: **Ente Ospedaliero Galliera (Genova, Italy)**

Full study available at [wellbased.eu](https://wellbased.eu)



# PRELIMINARY PROJECT RESULTS

## Who participated



1340 participants



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# PRELIMINARY PROJECT RESULTS

## How Energy Poverty is experienced?

- The participants live in houses with **damp/leak present** (~60%), **uncomfortable in summer** (~70%) and are **not satisfied with their house** (~60%).
- **Arrears on the utility bills** are common (~50%)
- People were coping **by wearing extra clothes, turning off heating or lights** (~55%)



Valencia's pilot

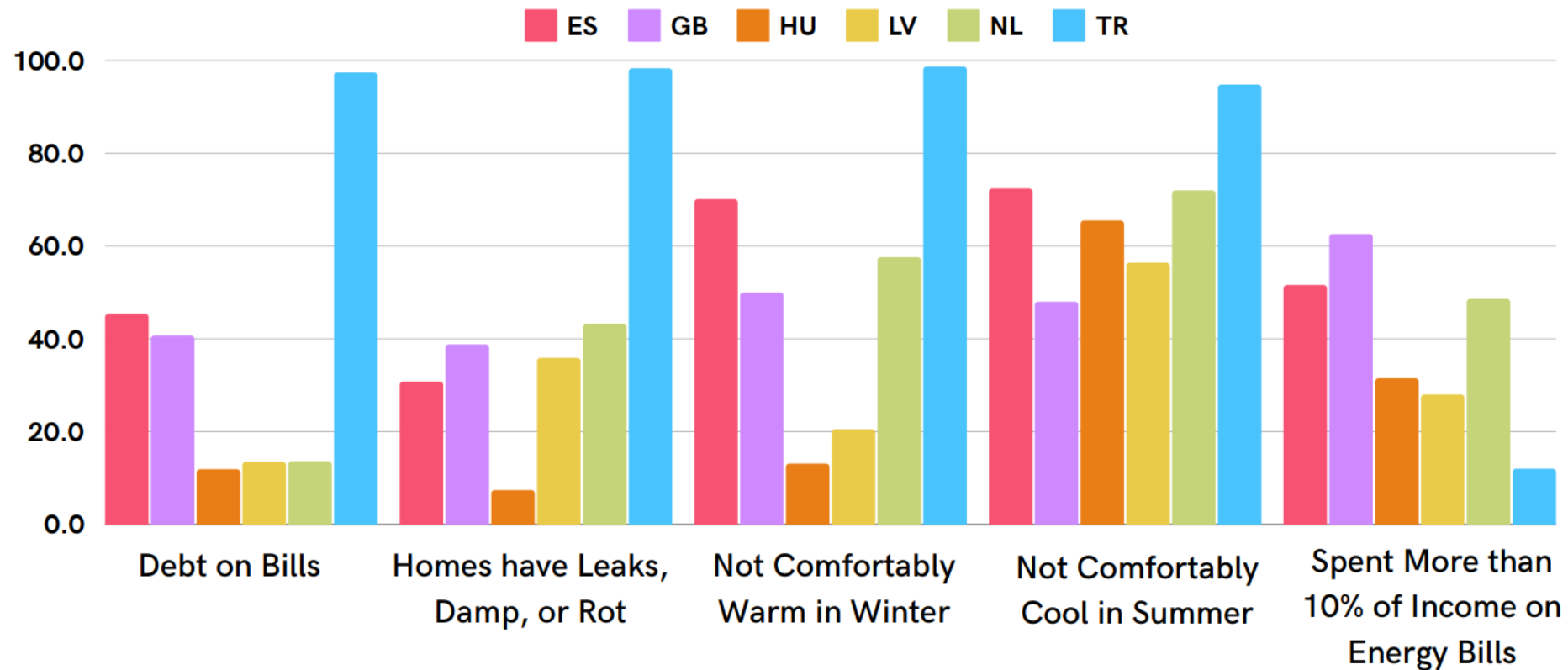


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# PRELIMINARY PROJECT RESULTS

How do different cities experience Energy Poverty?





# PRELIMINARY PROJECT RESULTS

## Effects of Energy Poverty on health and wellbeing

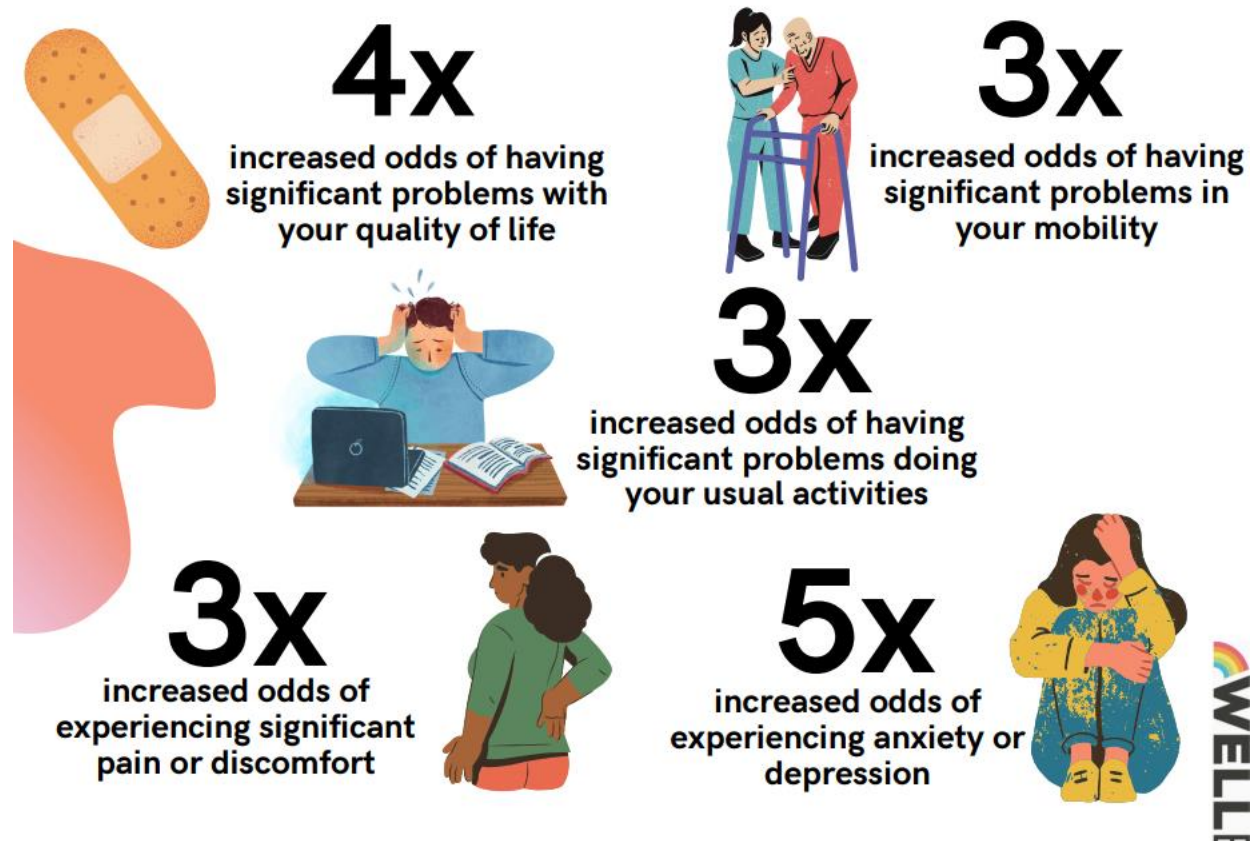
- Participants experience mental health problems, such as feelings of **depression** or **anxiety** (~30%)
- Participants report **>3 chronic conditions** (~40%)
- The doctor is visited **>3 times in the past year** (~40%)
- Intervention group: **Hypertension** and **limited peak flow** is recorded by about a fifth of our participants





# PRELIMINARY PROJECT RESULTS

Compared to someone not in Energy Poverty, being in high Energy Poverty means you have...

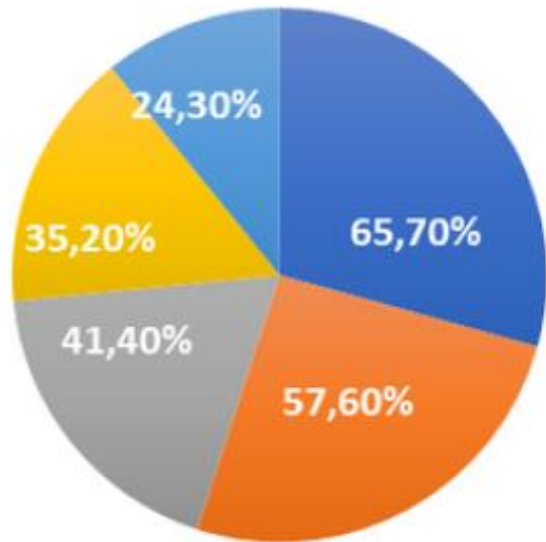




# PRELIMINARY PROJECT RESULTS

## Older participants health (>65 years old)

### Main comorbidities



■ High blood pressure ■ Back pain  
■ Osteoarthritis ■ Heart disease  
■ Lung disease

Older people in EP showed high prevalence of **multidimensional frailty**, mainly related to:

- Social isolation
- Comorbidities: high blood pressure, back pain, osteoarthritis, heart and lung diseases
- Cognitive impairment



# PRELIMINARY PROJECT RESULTS

Effects of project interventions on participants' health (Qualitative analysis)

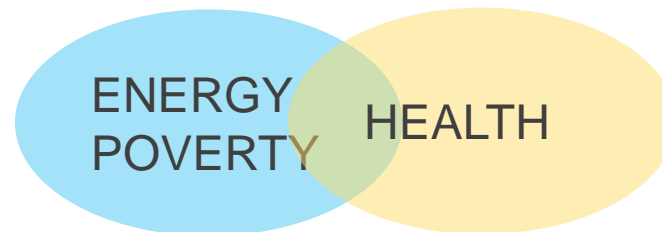
POSITIVE CHANGE	NO CHANGE
<b>Improved wellbeing</b> <ul style="list-style-type: none"><li>• Lower energy costs reduce stress</li><li>• Thermal comfort makes people happier</li><li>• Better air quality reduced fatigue</li><li>• Anticipating better temperatures in home (summer and winter)</li><li>• Knowing someone cares (via intervention) enhances mood</li><li>• Cooking more</li></ul>	<b>Health</b> <ul style="list-style-type: none"><li>• Young and healthy – not affected by temperature in home</li><li>• Already engaged in healthy habits</li><li>• Would need more time to see if impacts physical health</li><li>• Use to putting up with difficulties</li><li>• Children still playing on cold floors, get colds in winter</li><li>• Struggling financially because housing costs are too high</li></ul>



# PRELIMINARY PROJECT RESULTS

## Conclusions & Policy Implications

- Energy Poverty is a **public health** and **public equity issue**
- **Health in All Policies approach** (Energy, Housing, Climate Change policies...)
- Need for intervention frameworks that **target specifically health effects** of EP
- Need for integrated programs that consider **social determinants of health**
- Need for **new measurement approaches and tools** to adequately capture impacts on health and wellbeing







Elena Rocher (VIC)

## WELLBASED Urban Programs (WUPs) and the socioecological model of health determinants



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# How to combine EP and health?

“**Health** is a state of complete **physical, mental and social well-being** and **not merely the absence of disease or infirmity**”

*World Health Organization*

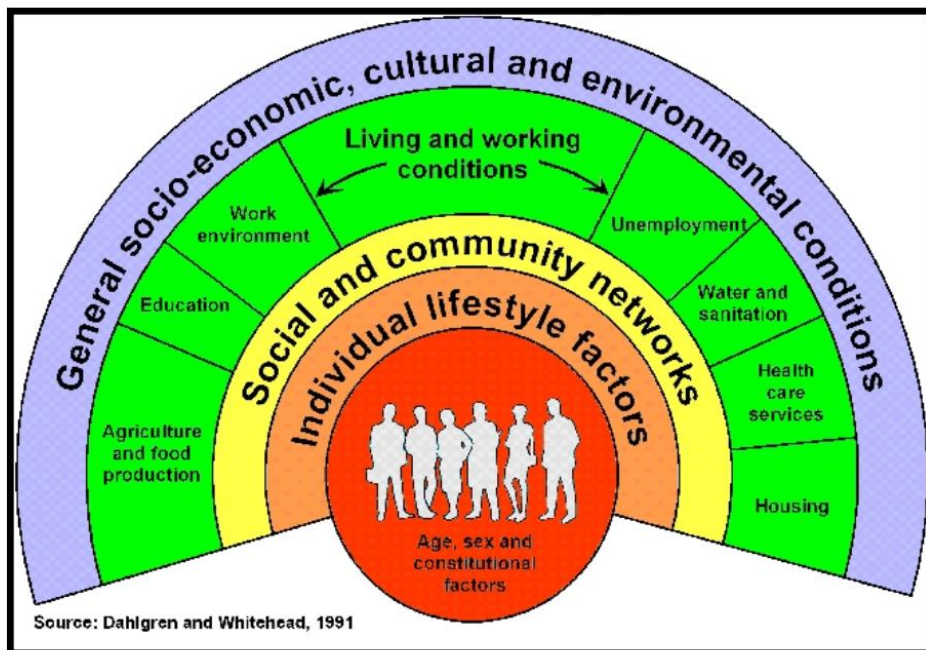


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# THEORETICAL FRAMEWORK FOR ACTION

## Sociocological Model of Health Determinants



Dahlgren and Whitehead (1991)

- Different layers of socioeconomic and environmental determinants of health: where and how you live affect your health
- 23% of mortality in the world is linked to environmental factors (WHO).
- More than 80% of our health depends on external factors
- Health inequalities (those more vulnerable have worse health) are avoidable through the right policies



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# How to combine EP and health?

“**Health** is a state of complete **physical, mental and social well-being** and **not merely the absence of disease or infirmity**”

*World Health Organization*

Strategies for dealing with **social and environmental determinants of health** for energy poverty are needed

Energy poverty = a **complex** problem that needs solutions from a **multidimensional approach**

**Health in all policies** to tackle energy poverty challenges through a set of different urban policies



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# Socioecological model of Health Determinants

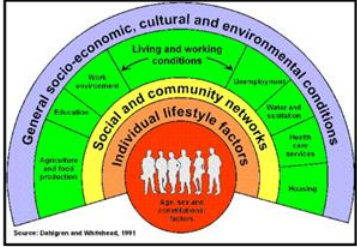
## Health and Energy Poverty

### Health in All Policies approach for Energy Poverty



- **Global context (Layer 4):** energy policies for a Just Energy Transition, social policies, climate change (adaptation and mitigation), macroeconomic policies, policy advocacy (Right to Energy).
- **Living and working conditions (Layer 3):** social services, employment, healthcare, housing, energy (efficiency) programs.
- **Social and community networks (Layer 2):** family, community work, neighborhood, community support networks and empowerment, NGOs, charities.
- **Individual lifestyle factors (Layer 1):** improvement of socioeconomic conditions of households and lifestyles, empowerment.





# FRAMEWORK FOR WELLBASED URBAN PROGRAMMES: THE ACTION

- **Layer 1 Individual Lifestyle factors**

- Practices oriented to improve individual lifestyles regarding health promotion, energy efficiency, energy costs, residential comfort, etc.

- **Layer 2 Social and Community networks**

- Activities oriented to strengthen communities, mainly those oriented to promote community support and mutual aid, peer learning and therefore moving from individual to collective support approach

- **Layer 3 Living and working conditions**

- Practices oriented to improve the access to a dignified work and life conditions, e.g. comfortable and healthy homes and workplaces

- **Layer 4 General socio-economic, cultural and environmental conditions**

- Practices that aim to make structural changes on the socio-economic context, mainly referring to both energy and to household policies





# VLC WUP

## Focus on community and individuals empowerment

### LAYER 1 · Individual Lifestyle factors

- ▴ Socio-energy audits
- ▴ Bill optimization
- ▴ Debt support

### LAYER 2 · Social and Community networks

- ▴ Creation of a “Citizen School of Right to Energy”:
- ▴ Regular community meetings (sense of group, spaces of mutual support)
- ▴ Training professionals on the detection of EP
- ▴ Right to Energy Conference

### LAYER 3 · Living and working conditions

Delivery of Energy Efficiency Kits

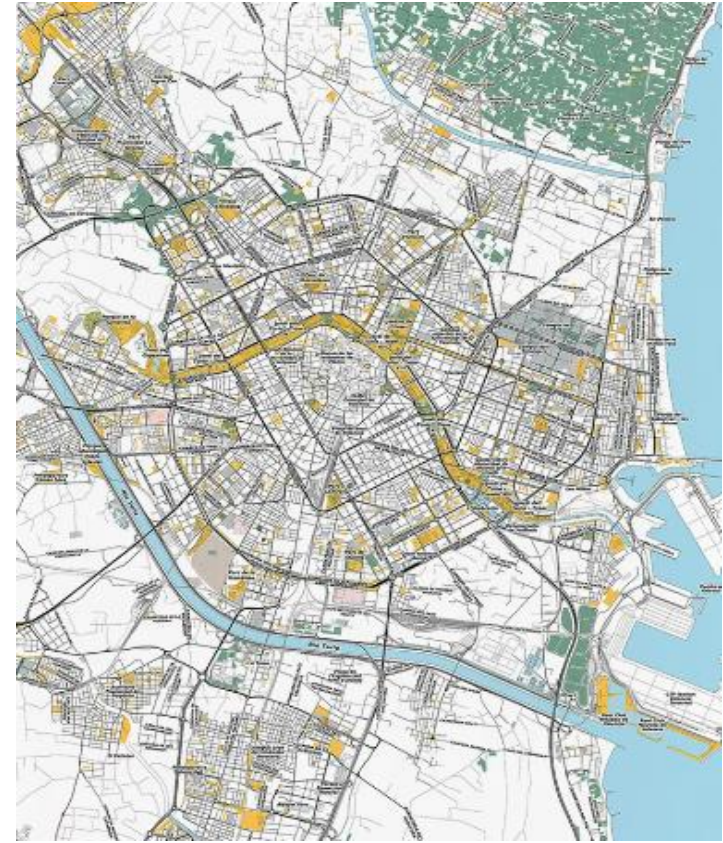
### LAYER 4 · General socio-economic, cultural and environmental conditions

- ▴ Citizen campaign for Right to Energy
- ▴ Policy advocacy plan
- ▴ Mapping of available and potential life-enhancing programmes and initiatives





# A CASE STUDY: THE PILOT CITY OF VALENCIA



Pilar Jordà (VCE)




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# Energy & Health



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- **Physical health:** Increase in winter infections (flu, colds), risk of poisoning/intoxication, hypothermia, physical exhaustion, allergies, inflammation due to humidity and mold, increased risk of heart attacks...
  - **Mental Health:** stress, anxiety, depression, low self-esteem...
  - **Social Health:** daily life (working, studying, looking for a job...), hygiene, isolation, stigmatization, less budget for leisure activities, quality of food...
- 



# Reaching vulnerable households


- Difficulties in **paying bills**
- Old and **inefficient buildings**
- **Cases referred** by Social Services, NGOs, Charity Entities, Energy Offices...





# Reaching vulnerable households



- **130 households** across all neighborhoods
  - 100 women and 43 men
  - Ages 24 ~ 84
  - Large families, single parent families, elder people, students, migrants, unemployed people, people with chronic diseases...
- 



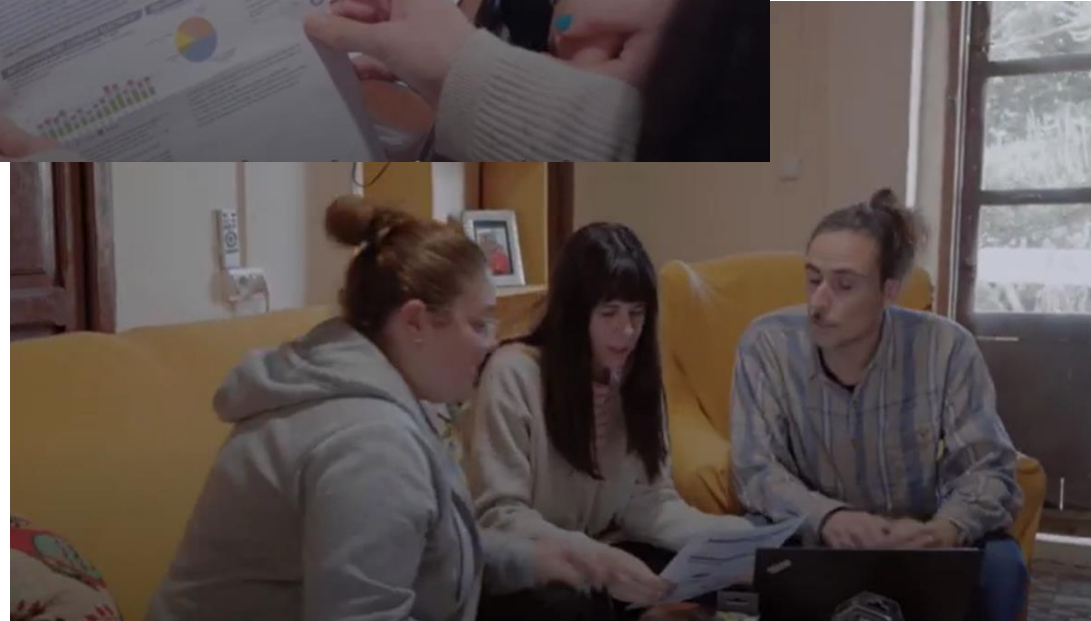
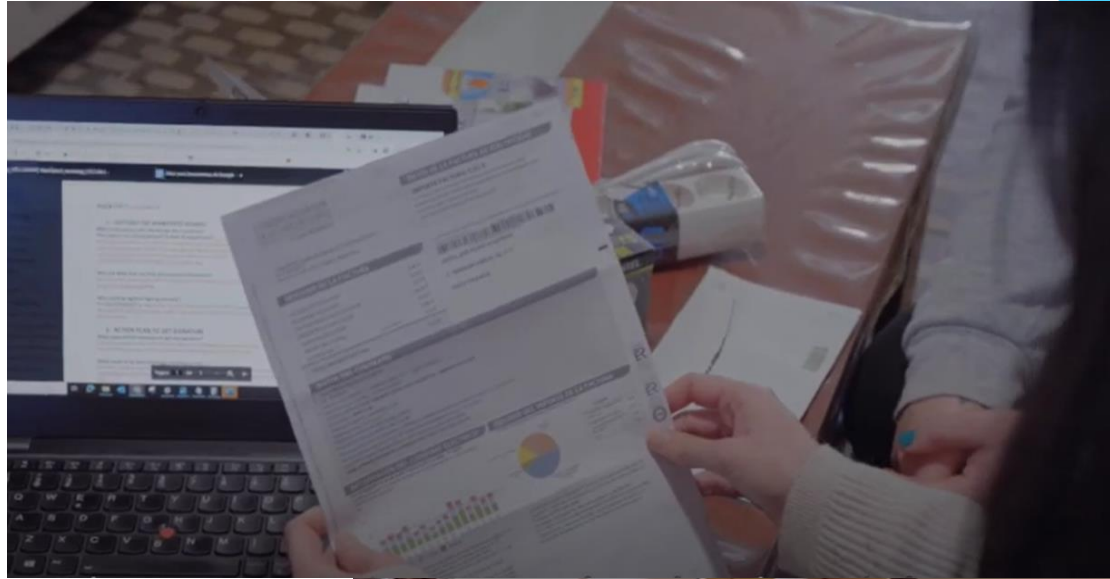
# Pilot Intervention





# Layer 1: individual lifestyle factors

- **Bill optimization**
- **Socio-energy audit**
- **Debt support**





# Pilot Intervention

- **Home sensor** monitoring T/H/CO2
- Monthly **health screenings** (blood pressure, heart rate and O2 saturation)
- **Questionnaires:**
  - Health
  - Sleep quality
  - Energy bill
- **Qualitative interviews**



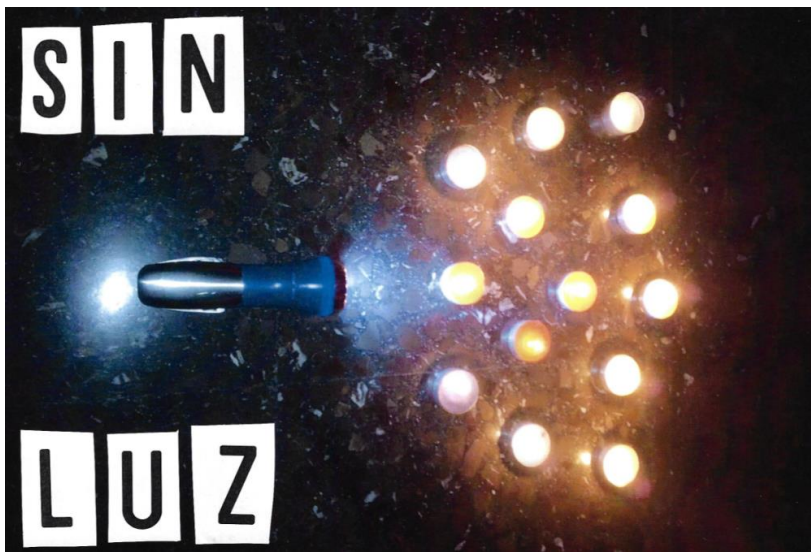


# Layer 2: Social and Community Networks

- **The Citizen School for the Right to Energy**
  - Learn about **energy and health**
  - Share **experiences, tricks, good practices...**
  - **Empower** participants
  - Build community and **improve mental health**









## Participants say...



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*"For a person like me, who is alone, learning and understanding my bills means a lot. Before the project, I could not even read them. Those workshops have been very useful. They take you out from darkness, from disinformation".*





# Layer 2: Social and Community Networks

- **The Citizen School for the Right to Energy**

**Trainings with professionals  
on how to detect Energy Poverty**

- Healthcare workers
- Teachers
- Social Workers
- NGOs and volunteers



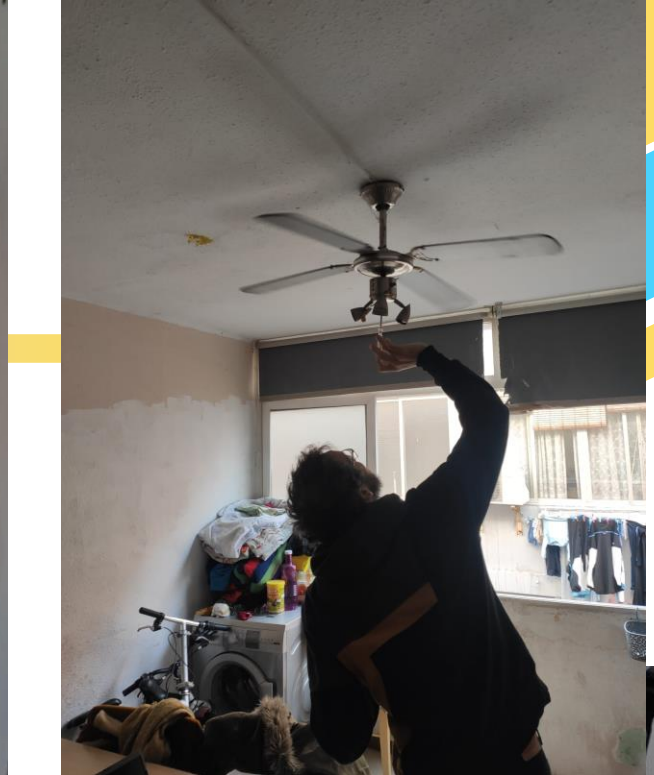


# Layer 3 : living and working conditions

- **Delivery and installation of an Energy Efficiency kit**
- **Other pilots: isolation, heating systems...**









# Layer 4: Macro Level

- Mapping of **programs and initiatives** to improve quality of life
- Creation of an **action protocol** in the healthcare system
- **Awareness campaign** on the Right to Energy
- **Policy recommendations**







## Workshop

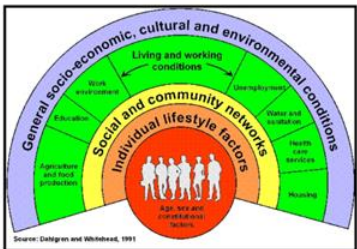
How to introduce health in urban programs fighting Energy Poverty?



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# FRAMEWORK FOR WELLBASED URBAN PROGRAMMES: THE ACTION



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# VALENCIA URBAN PROGRAM

Focus on community and individuals empowerment

## LAYER 1 · Individual Lifestyle factors

- ▮ Socio-energy audits
- ▮ Bill optimization
- ▮ Debt support

## LAYER 2 · Social and Community networks

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## LAYER 3 · Living and working conditions

Delivery of Energy Efficiency Kits

## LAYER 4 · General socio-economic, cultural and environmental conditions

- ▮ Citizen campaign for Right to Energy
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# Workshop: how to introduce health in urban programs fighting Energy Poverty?

## Set up of the workshop

1. Division in groups
2. Write down your entities in the group (municipality X, researcher at Y, etc)
3. Each group works on two layers of the framework - 10 minutes each
4. Each layer is represented by a color. Each group works on two layers – 20 min total
5. Groups share their experiences



## Activity

Think of **interventions** for each of the four layers of the socio ecological model.

Interventions from **different action and policies fields** (housing, social services, health promotion, training programs, energy, etc) that can address the problem and its impact on physical and mental health and wellbeing.

- **Layer 1 Individual Lifestyle factors**
- **Layer 2 Social and Community networks**
- **Layer 3 Living and working conditions**
- **Layer 4 General socio-economic, cultural and environmental conditions**



# Looking at the interventions: what makes it a health issue? who should you work with?

LAYER 1 - INDIVIDUAL LIFESTYLE	Elements for holistic urban programs	Potential partners to include in urban program
<p><i>How to include health dimension in these interventions:</i></p> <ol style="list-style-type: none"><li>1. One-stop shops: <u>energy assessment</u></li><li>2. Trainings <u>on energy efficiency</u></li><li>3. <u>Bills optimization</u></li></ol>	<p><i>Health dimensions of the interventions:</i></p>	<p><i>Partners to include in the urban program, or stakeholders to inform about the program</i></p>



# Thanks



If you want to get in contact with us please write to:  
**[noemi.garcia@lasnaves.com](mailto:noemi.garcia@lasnaves.com)**



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