



RedPE
Red de Pobreza Energética

**ENERGY POVERTY
RESEARCH NETWORK**

Online

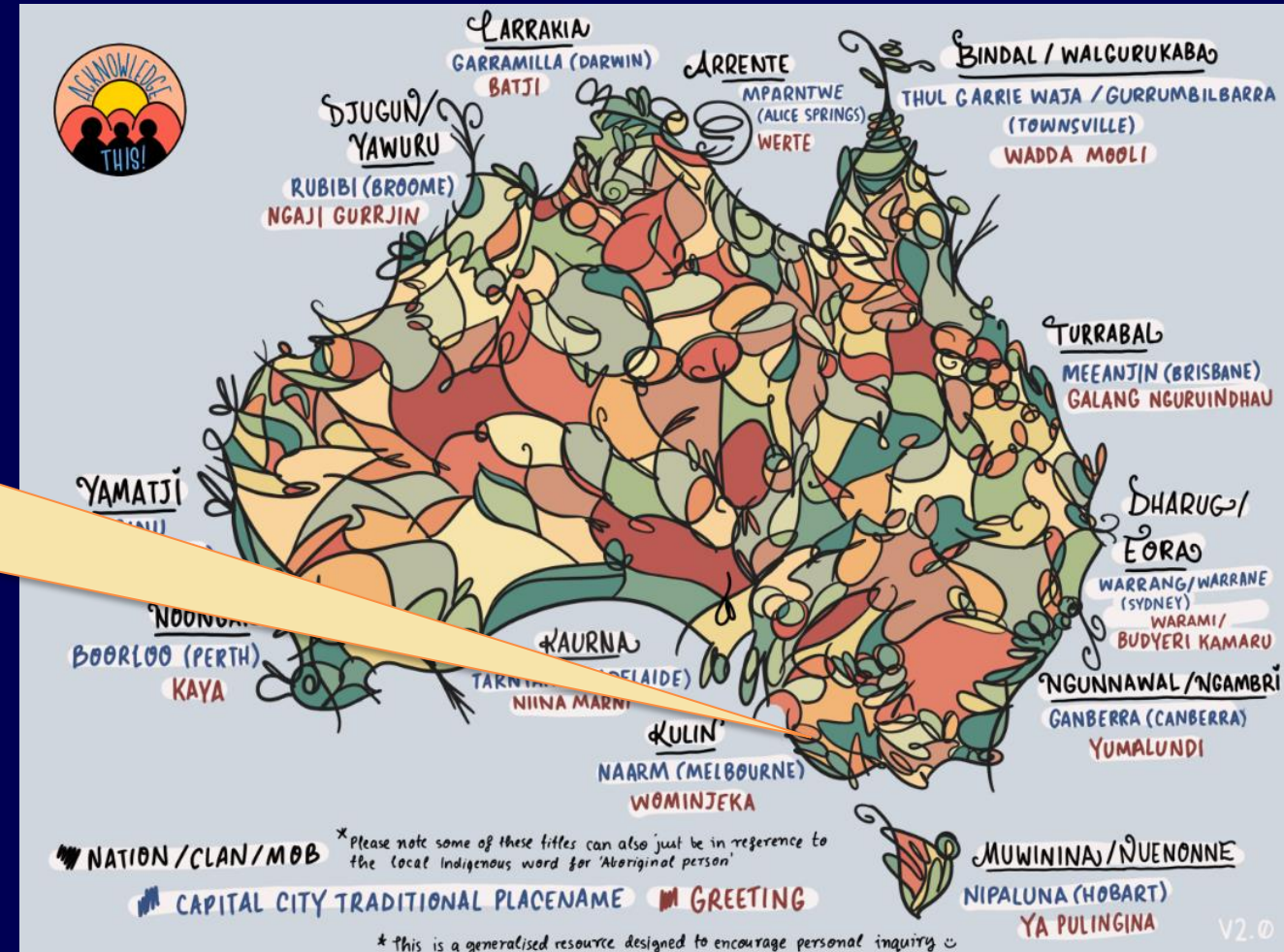
TRANSITIONS TOWARDS INTEGRATING ENERGY POVERTY INTO THE PUBLIC AGENDA:

Research, Community Inclusion and Public Policy
Challenges in Chile



Acknowledgement of Country

Kulin nation
Capital: Naarm
(Melbourne)



- 322 members worldwide
- trustees in the UK, Australia, Canada and France
- Research bulletins
- Blogs
- Webinars
- Directory of Energy Poverty Researchers & Practitioners
- Support of EP
- Conferences – with international hubs

www.energypovertyresearch.net

The Energy Poverty Research Network (EPRN – formerly the Fuel Poverty Research Network) brings together students, researchers, policymakers and other professionals concerned with fuel poverty. Fuel poverty is an urgent societal challenge. A robust evidence base is needed in order to inform effective measures that are targeted at those who need them and informed by what works.

We support the development of a vibrant community that gathers evidence, informs policy, and advocates for action to reduce levels of fuel poverty and support vulnerable people to move out of, or away from, fuel poverty. We do this by providing funding, organising opportunities for discussion and debate, and disseminating and promoting the work of a diverse and international research community in order to share learning and opportunities.

Please note that, as of January 2026, we have changed our name from FPRN to EPRN, as **we feel this better reflects the field and our network**. We are currently updating our web content and social media accounts to reflect this.

Find us on [YouTube](#) | [Linked In](#)



Energy poverty research: looking back, moving forward (Conference)

Join us for our 2026 conference bringing together research, policy and practice. **Call for contributions now open!**

Energy poverty research: looking back, moving forward

27th & 28th October 2026
Manchester UK and online

with Asia-Pacific hub



ENERGY POVERTY
RESEARCH NETWORK



Building energy poverty research connections: Reflections from a visit to Chile

Nicola Willand and Alejandra Cortés
December 2025

Reflections on a visit to Chile



From band-aid energy bill support to longer term change: energy affordability in Australia

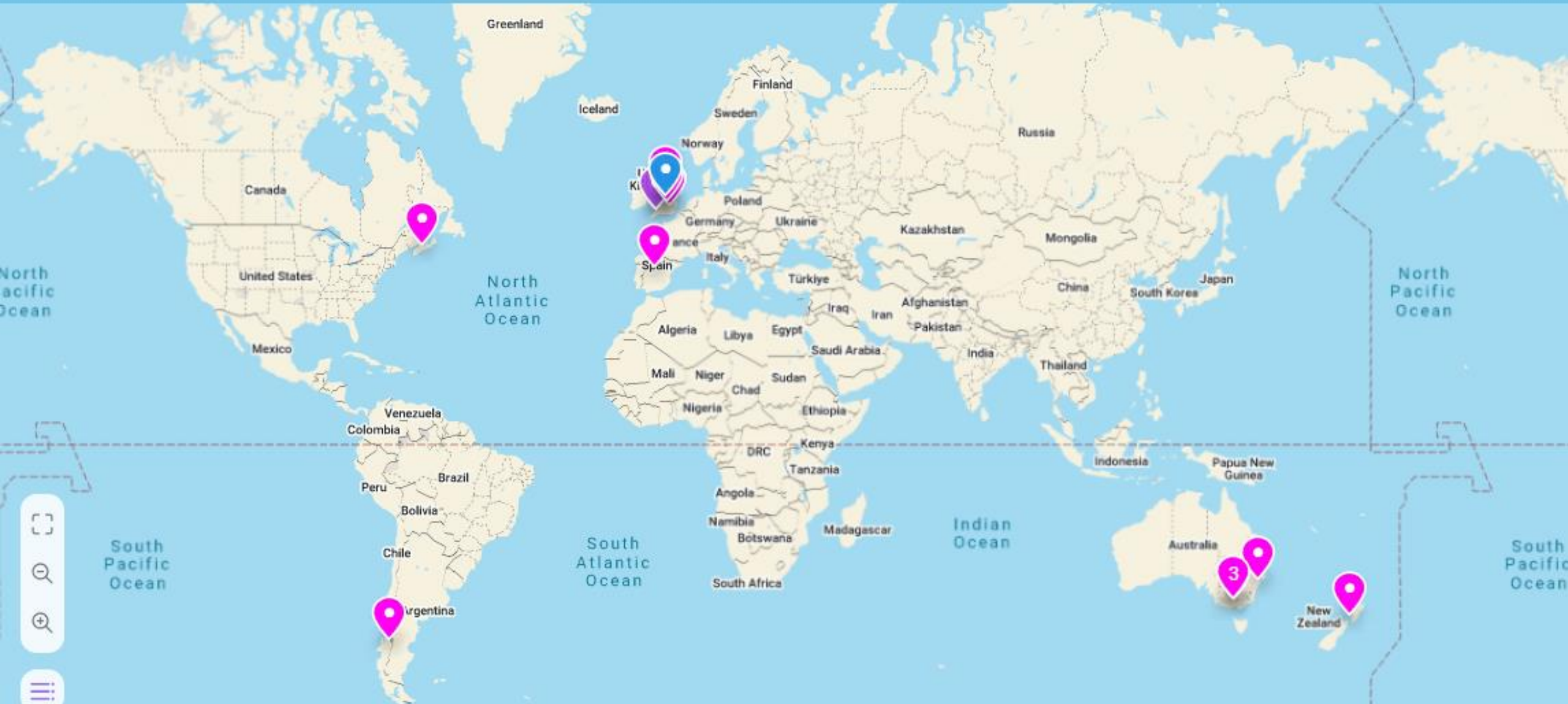
Trivess Moore reflects on recent developments concerning renewable energy and bill subsidy in Australia.





Mapping energy injustice around the world

Please click onto the cross in the right-hand corner of the map and then define your location. Then you can share the causes and consequences of energy injustice on individuals and communities in your location. You can write, find photos on the web or use the 'I can't draw' option to have AI draw your image. Have fun!



Link: https://padlet.com/rmit_university/mapping-energy-injustice-around-the-world-s8t8a14pzu56ikep

Welcome



**NICOLA
WILLAND**

RMIT UNIVERSITY

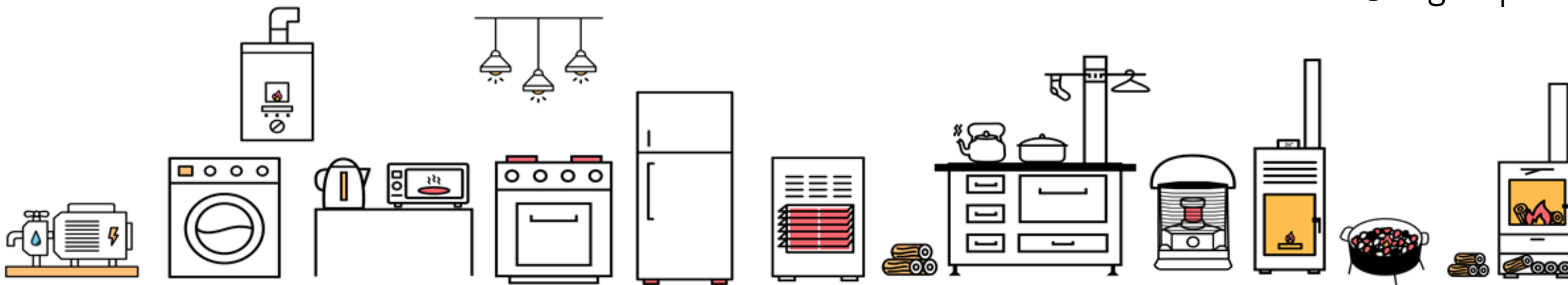


**CATALINA
AMIGO**

UNIVERSIDAD DE
CHILE

The Energy Poverty Network in Chile and Latin America: bridging knowledge and action

Catalina Amigo Jorquera
coordinacion@ongredpe.cl



24th April, 2026

What is RedPE

Transdisciplinary collaboration platform

Connects academia, the public sector, private sector, civil society, and international networks to address the challenges of energy poverty in Chile and Latin America in the context of climate change.

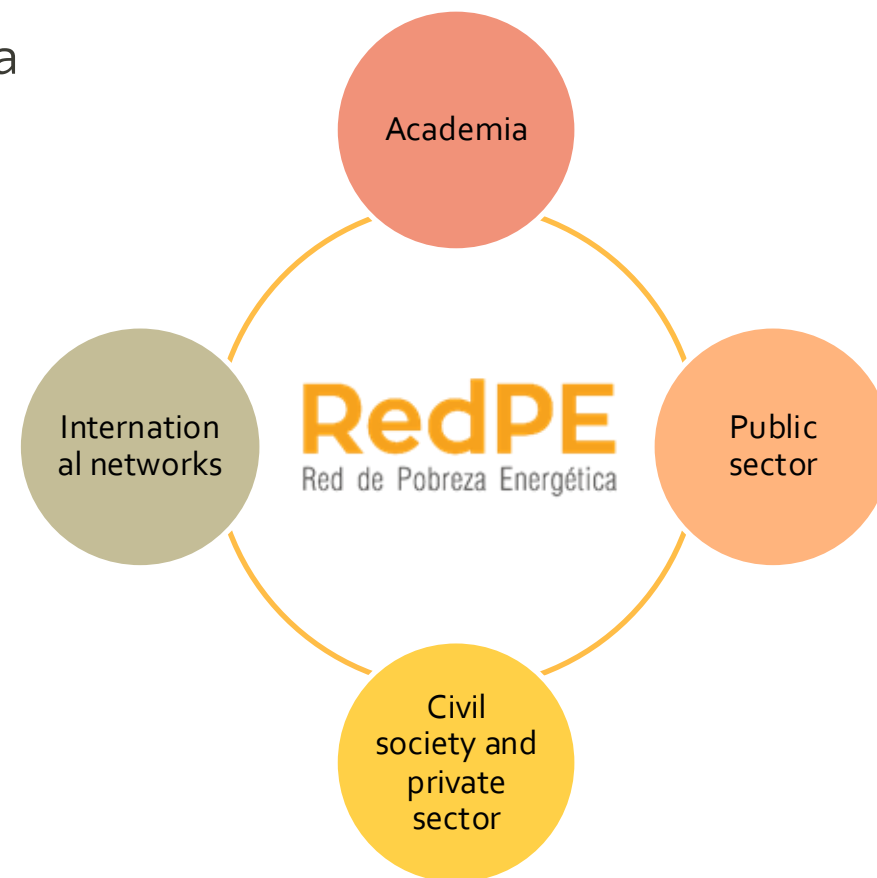
~200

members

50+

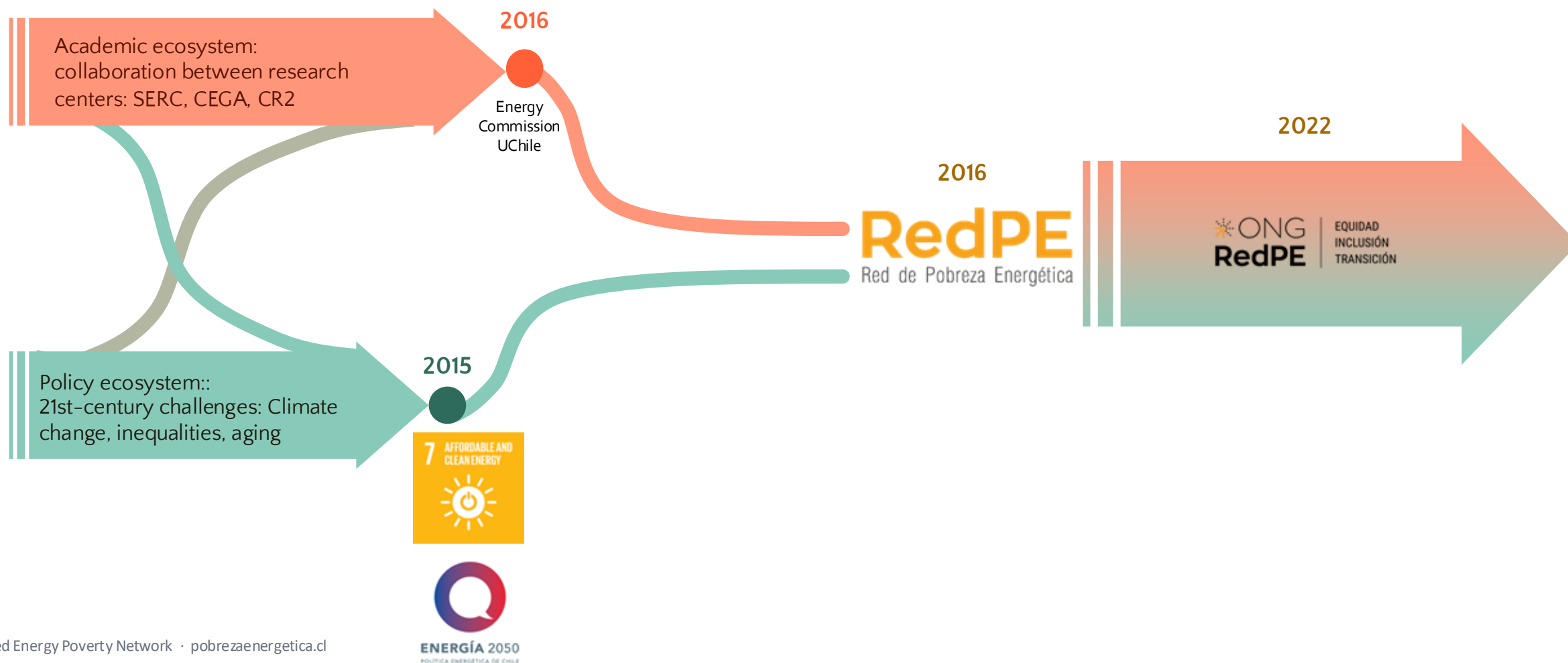
organizations

Historical participation at national, international, and multi-sectoral levels



Origins:

from roots to the birth of RedPE

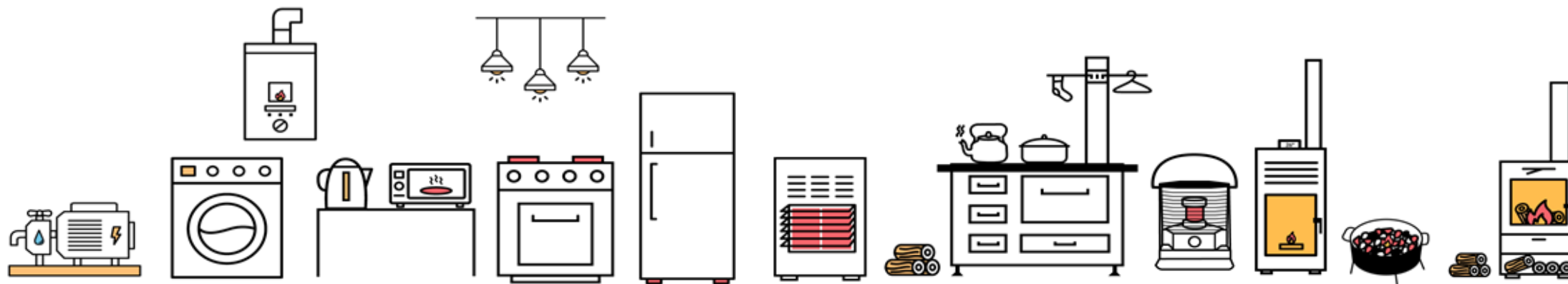


Energy Poverty Network

Transdisciplinary collaboration platform

"There are no simple solutions to complex problems — we need collaboration for transformation."

- **Acknowledge:** EP is a complex problem requiring a holistic, integrative approach from multiple disciplines
- **Discuss:** Defining energy needs, satisfiers, and quality standards require expert and local knowledge, and participation.
- **Collaborate:** Evidence-informed decision-making in cross-sectoral coordination



Mission

*To promote energy equity in a context of socio-environmental crisis, driving the **generation and dissemination of knowledge** alongside the **development and articulation** of tools, methodologies, and interventions with **territorial relevance** through **collaborative work transdisciplinary**.*

RedPE
Red de Pobreza Energética

Articulation

Operation

ONG
RedPE
EQUIDAD
INCLUSIÓN
TRANSICIÓN



Public Outreach and Positioning



40+

seminars



100+

events



50+

opinion columns



30+

press outlets nationwide

Reports, infographics, videos, podcasts, and an open energy poverty indicator dashboard

Public Outreach and Positioning



Impact on the Public Agenda

24 HORAS Actualidad Internacional Deportes Proceso Constituyente Regiones Tendencias Noticiarios Programas

Convención aprueba norma que establece el derecho a un "mínimo vital" de energía asequible y segura

El artículo, que integrará el borrador de nueva Constitución, señala que "es deber del Estado garantizar el acceso equitativo y no discriminatorio a la energía que permita a las personas satisfacer sus necesidades".

24 Horas, Tm



#CHAO TARIFA DE INVIERNO



Adopted Definition

The energy poverty definition built by RedPE and its dimensions has been a fundamental basis for the definition adopted by the Ministry of Energy in its long-term policy

A collaborative construction that crossed ministries, academia, civil society, and the private sector.

CAMPAÑA
#CHILE
SINCORTES



RedPE in Latin America and the Caribbean

- Consolidation of **international linkages**. Latin American Energy Inclusion Network - IEL Network.
- Collaboration with **CEPAL**, engagement with consultants on diagnostic projects, definitions, and energy poverty indicators for Argentina, Uruguay, Panamá, Colombia, and the Dominican Republic (developing).
- Collaboration with **OLACDE**, in their regional training courses, strengthening energy poverty training for professionals across the region.





EQUIDAD
INCLUSIÓN
TRANSICIÓN

RedPE
Red de Pobreza Energética

CONTACT

red.pobreza.energetica@gmail.com

coordinacion@ongredpe.cl

www.pobrezaenergetica.cl



redpe



RedPE_Chile



**VALESKA
CERDA**

UNIVERSIDAD DEL
BÍO BÍO



**SEBASTIÁN
ORELLANA**

UNIVERSIDAD DE
CHILE



**ALEJANDRA
CORTÉS**

UNIVERSIDAD DE
CHILE

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**ENERGY POVERTY
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TRANSITIONS TOWARDS INTEGRATING ENERGY POVERTY INTO THE PUBLIC AGENDA:

Research, Community Inclusion and Public Policy
Challenges in Chile

**Consumption Indicators, Reflections on Energy Poverty
and its Effect on Environmental Conditions,
a Case Study in Central-Southern Chile.**

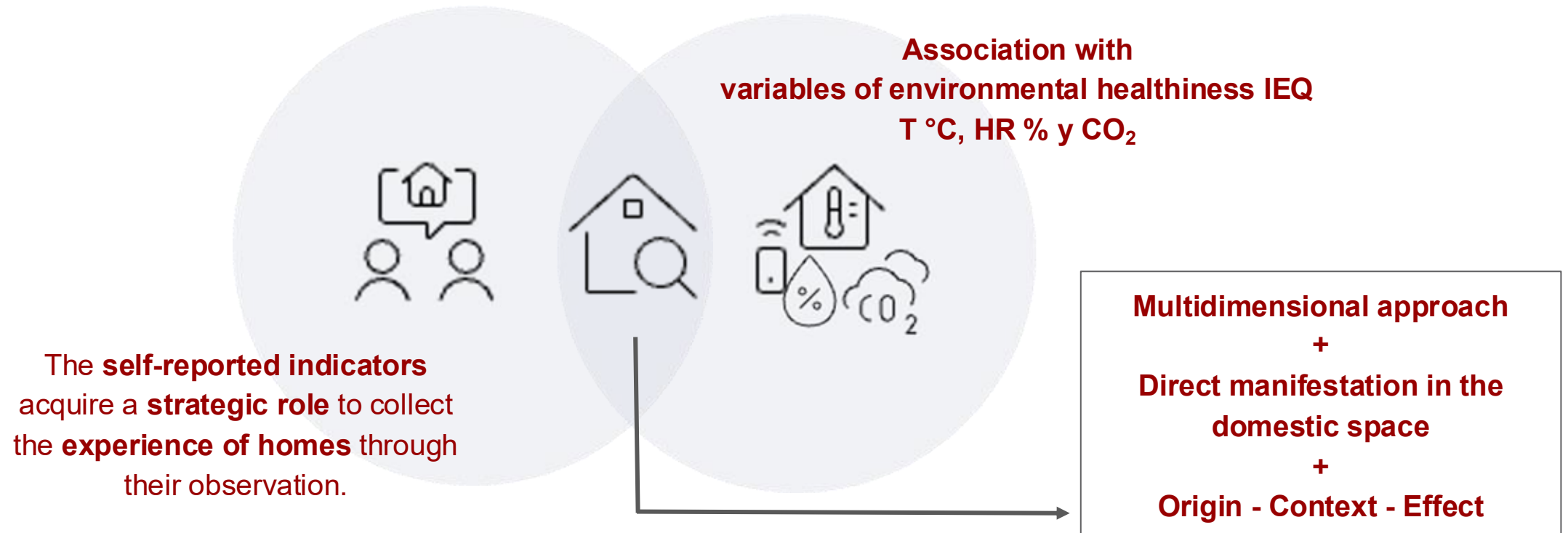


Dra. Valeska Cerda-Fuentes
Universidad del Bío-Bío - Universidad Católica del Norte
valeska.cerda@ucn.cl

Energy Poverty Phenomenon

→ Originally understood as a **household's inability to meet its heating energy costs** (TPR %, Boardman, 1991)

- ★ The inherent and **multidimensional complexity** of energy poverty has posed significant challenges as current **indicators do not capture the effect of this phenomenon** on the environmental quality of homes.



→ Simplified diagnostic instruments that suitably identify and measure hidden energy poverty, and, as a consequence, the formulation of the most effective public policies and tools to address this.

Objective

Propose simplified, self-reported indicators, from a multidimensional perspective, associated with the environmental health of dwellings related to indoor environmental quality, in order to identify hidden energy poverty.

OE1

Characterize and identify groups of households, by their energy consumption for heating and their indoor environmental quality, temperature, relative humidity, and CO₂ levels.

OE2

Determine the condition and relationship between indoor environmental health and energy consumption.

OE3

Identify and prioritize indirect indicators linked to environmental health that demonstrate a state of energy poverty.



Data collection

- General Survey and Survey on Perceived Thermal Comfort
- Installation of instruments in the living room (S1) and bedroom (S2)

- 22 homes-
Cities that require
heating systems due to
their climatic conditions

Iquique
Antofagasta
Calama
Copiapó
La Serena
Santiago
Valparaíso (C)
Chillán
Concepción (E)
Temuco (F)
Valdivia (G)
Puerto Montt
Coyhaique
Punta Arenas

Methodology

OE1

OE2

OE3

Definition of indicator categories.

Median energy consumption (HEC) and healthiness thresholds (IEQ) WHO & UNE-EN 16798-1:202 and ranges of categories of self-reported indicators (CDH & TCS)

Descriptive and correlational statistical analysis between groups (C1,C2,C3 / Categ.1 & 2).

Multiple correspondence analysis and Concordance analysis using factorial distribution maps.

1. Direct measurement indicators

1.1 Heating energy consumption (HEC)

- C1 : ($\leq M/2$): equal to or less than half of the median.
- C2: ($> M/2$ and $< 2M$): between $M/2$ and $2M$.
- C3: ($\geq 2M$): equal to or more than twice the median.

1.2 Indoor environmental quality (IEQ) T °C, RH % and CO2

- Categ. 1: T ≥ 18 °C; RH $< 65\%$; CO2 $< 1,350$ ppm
- Categ. 2: T < 18 °C; RH $\geq 65\%$; CO2 $\geq 1,350$ ppm

2. Indirect measurement indicators (Self-reported).

2.1 Dwellings and household characteristics (CDH)

Socio-demographic information.

- Monthly income range

Energy efficiency of dwellings.

- Dwellings year of construction (year < 2000 =WTR or year > 2000 =TR)
- Dwellings surface area range (31 - 42 m²; 48 - 60 m²; 63 - 70 m²; 75- 90 m²)
- Type of window (SG; DG)
- Dwellings orientation (north; south; east; west)

Use of energy sources for heating.

- Type of energy sources (electricity; electricity+ kerosene; gas; kerosene)

Health of the dwelling's occupants.

- Respiratory events range (0; 1-3; > 4)

Dynamics of the household.

- Have you had to limit or restrict the use of appliances to heat or cool your home due to energy costs? (Yes; No)
- Have you been able to maintain an adequate temperature in the spaces you occupy in your home? (Yes; No)
- Have you stopped ventilating to keep your home warm? (Yes; No)

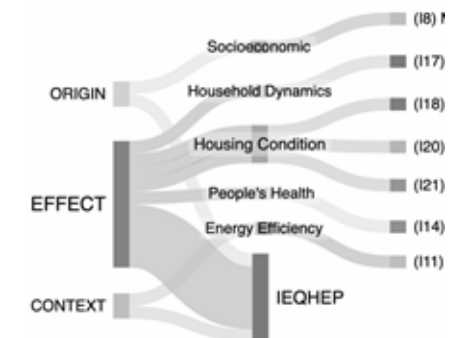
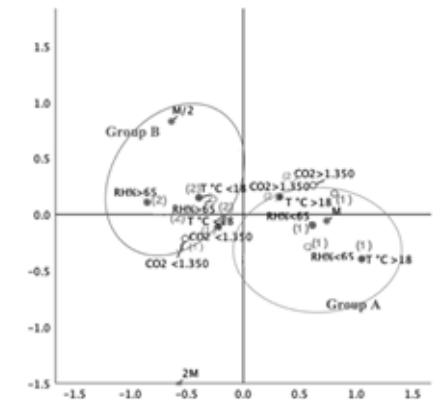
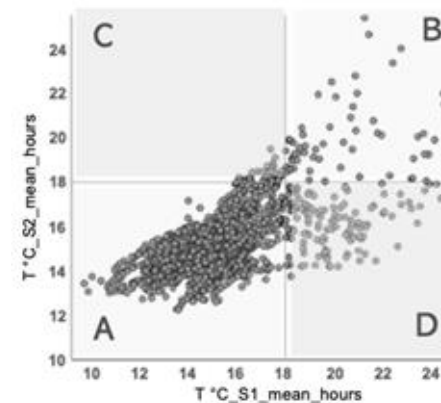
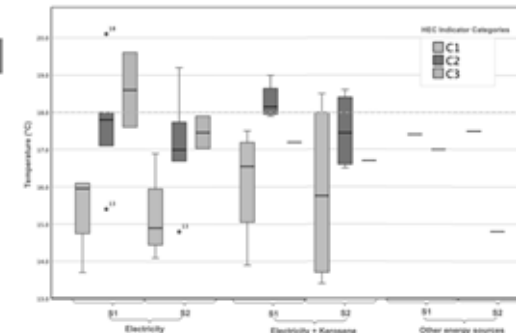
Condition of the dwellings.

- Have you noticed condensation inside your home? (Yes; No)
- Have you noticed draft inside your home? (Yes; No)
- Have you noticed mold inside your home? (Yes; No)
- Have you smelled damp inside your home? (Yes; No)

2.2 Thermal comfort sensation (TCS)

Sensación de confort térmico.

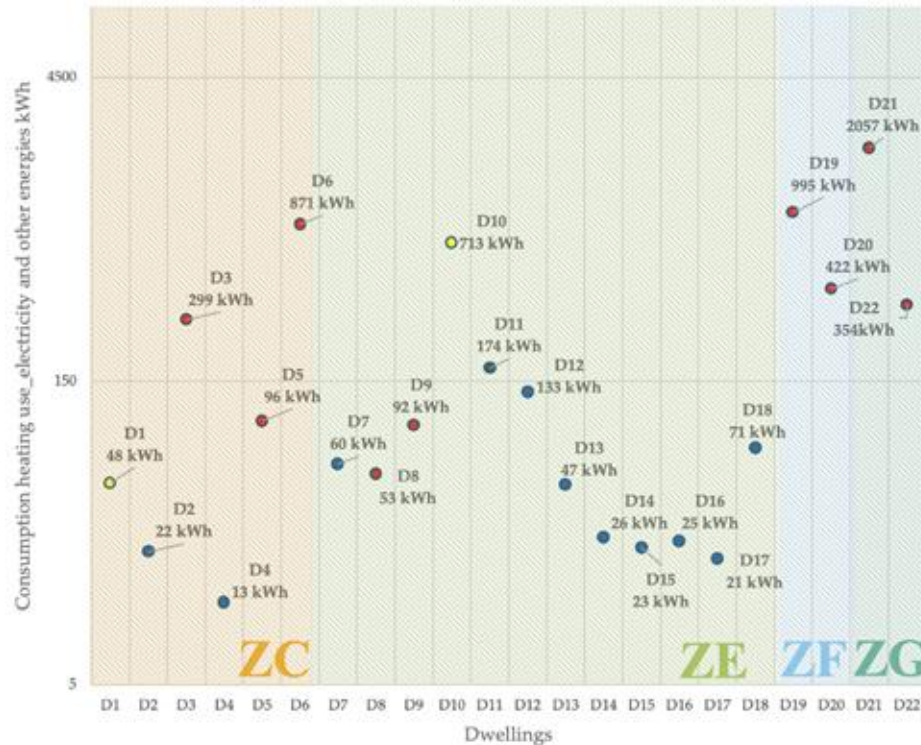
- What are you feeling now?
- At the moment, what do you feel in your feet and ankles?
(-3 = cold; -2 = cool; -1 = slightly cool; 0 = neutral; +1 = slightly warm; +2 = warm; +3 = hot)



Results

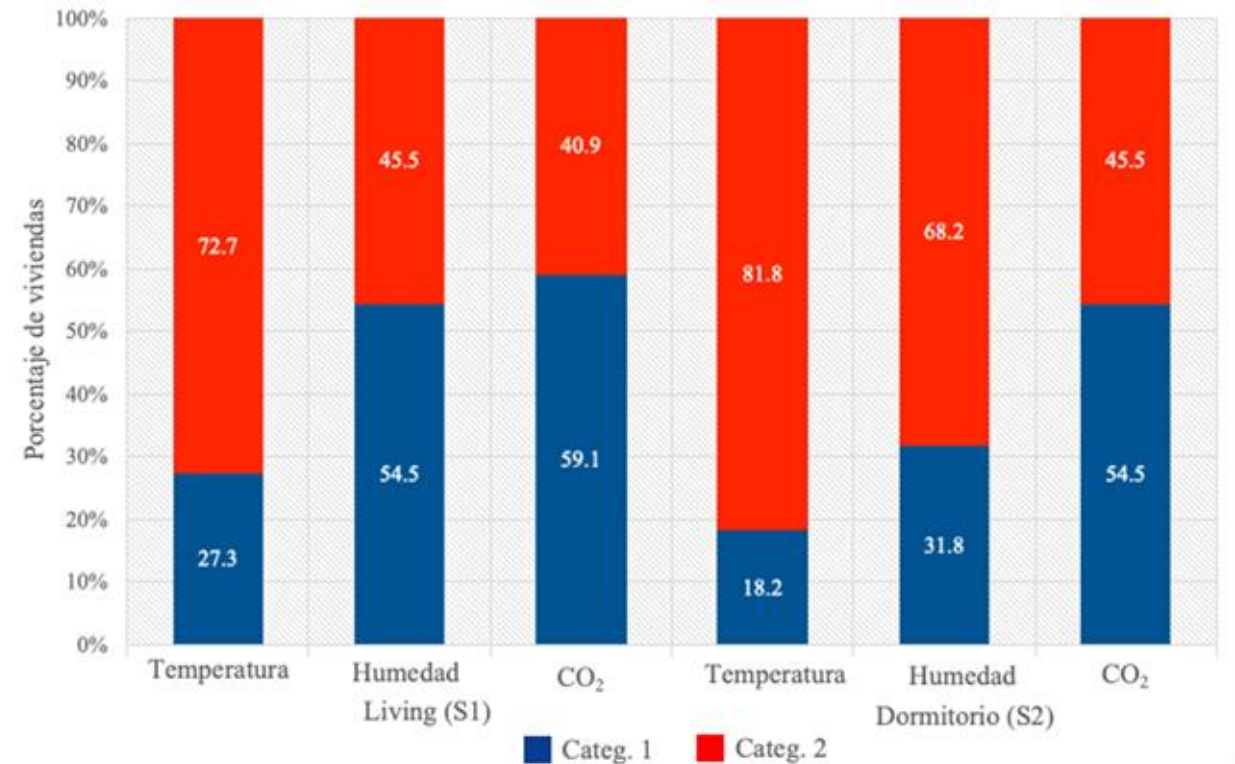
OE1

- Characterize and identify groups of households, by their energy consumption for heating and their indoor environmental quality, temperature, relative humidity, and CO₂ levels.



- C1 : ($\leq M/2$): equal to or less than half of the median.
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- Electricity (50 %): 45 % (C1), 36 % (C2) and 18 % (C3).
- E&K (41 %): 33 % (C1), 44 % (C2) y el 22 % (C3).
- Other energy sources (9 %): were classified within categories C1 and C2.



- Categ. 1: $T \geq 18^\circ\text{C}$; $RH < 65\%$; $\text{CO}_2 < 1,350 \text{ ppm}$
 ■ Categ. 2: $T < 18^\circ\text{C}$; $RH \geq 65\%$; $\text{CO}_2 \geq 1,350 \text{ ppm}$

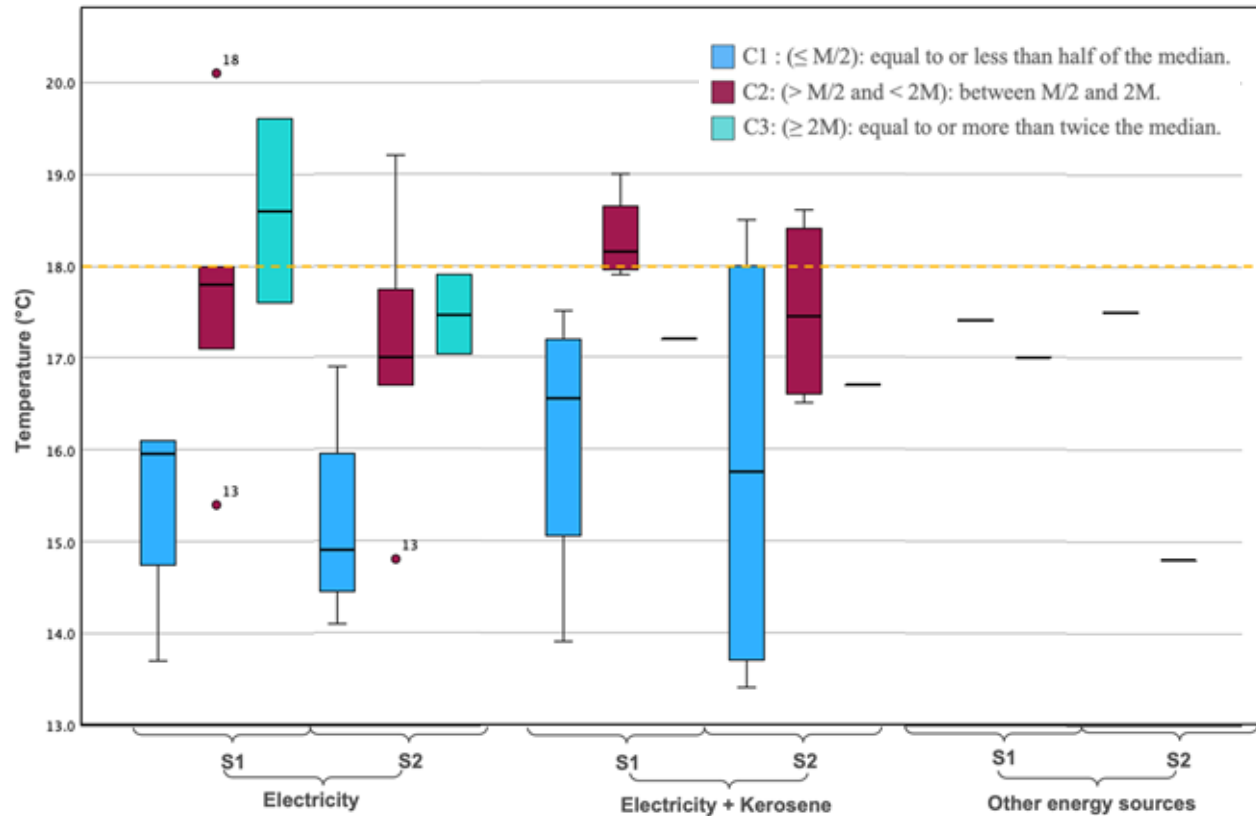
- ✓ Predominance of Category 2 in most of the analyzed variables.
- ✓ Less favorable temperature and humidity conditions in the bedroom.
- ✓ Similar CO₂ conditions observed in the living room and the bedroom.

Results

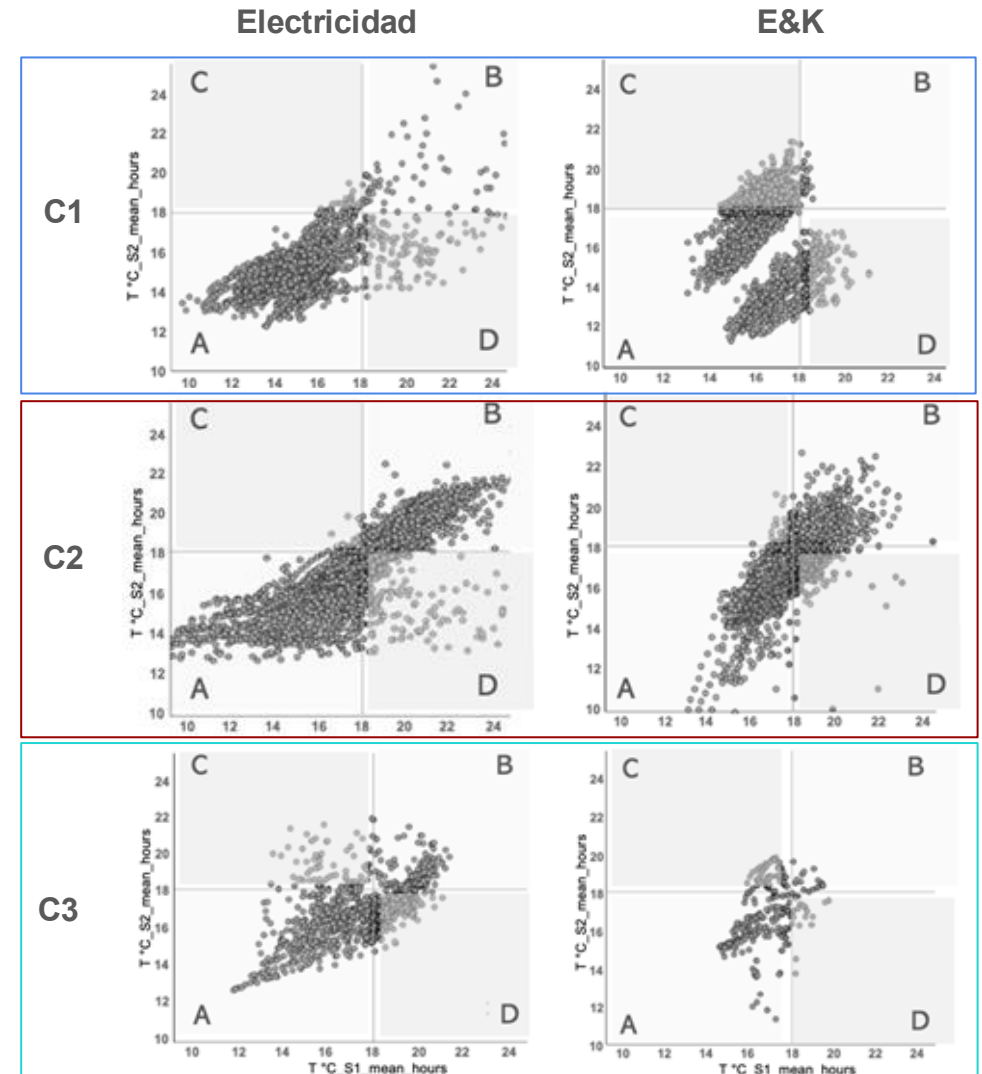
OE2

- Determine the condition and relationship between indoor environmental health and energy consumption.

A (unfavorable) and B (favorable): environmental stability (similar conditions).
C (unfavorable) and D (favorable): dispersion (different conditions between spaces).



- ✓ Significant differences between groups C1, C2 and C3.
- ✓ C1 (electricity and E&K) present the most unfavorable conditions.
- ✓ C2 and C3 - higher thermal load.



Results

OE3

- *Identify and prioritize indirect indicators linked to environmental health that demonstrate a state of energy poverty.*

1. Direct measurement indicators

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2. Indirect measurement indicators (Self-reported).

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Socio-demographic information.

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Energy efficiency of dwellings.

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Health of the dwelling's occupants.

- Respiratory events range (0; 1-3; > 4)

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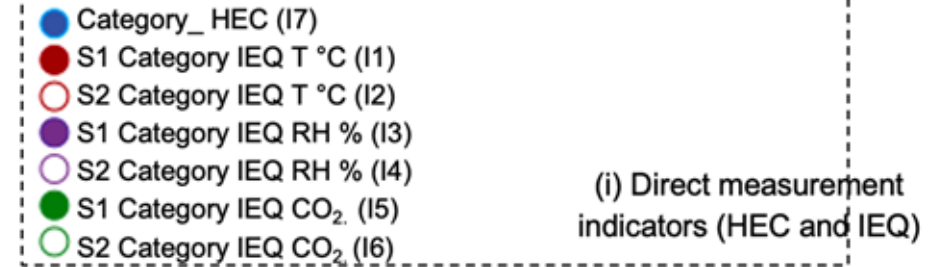
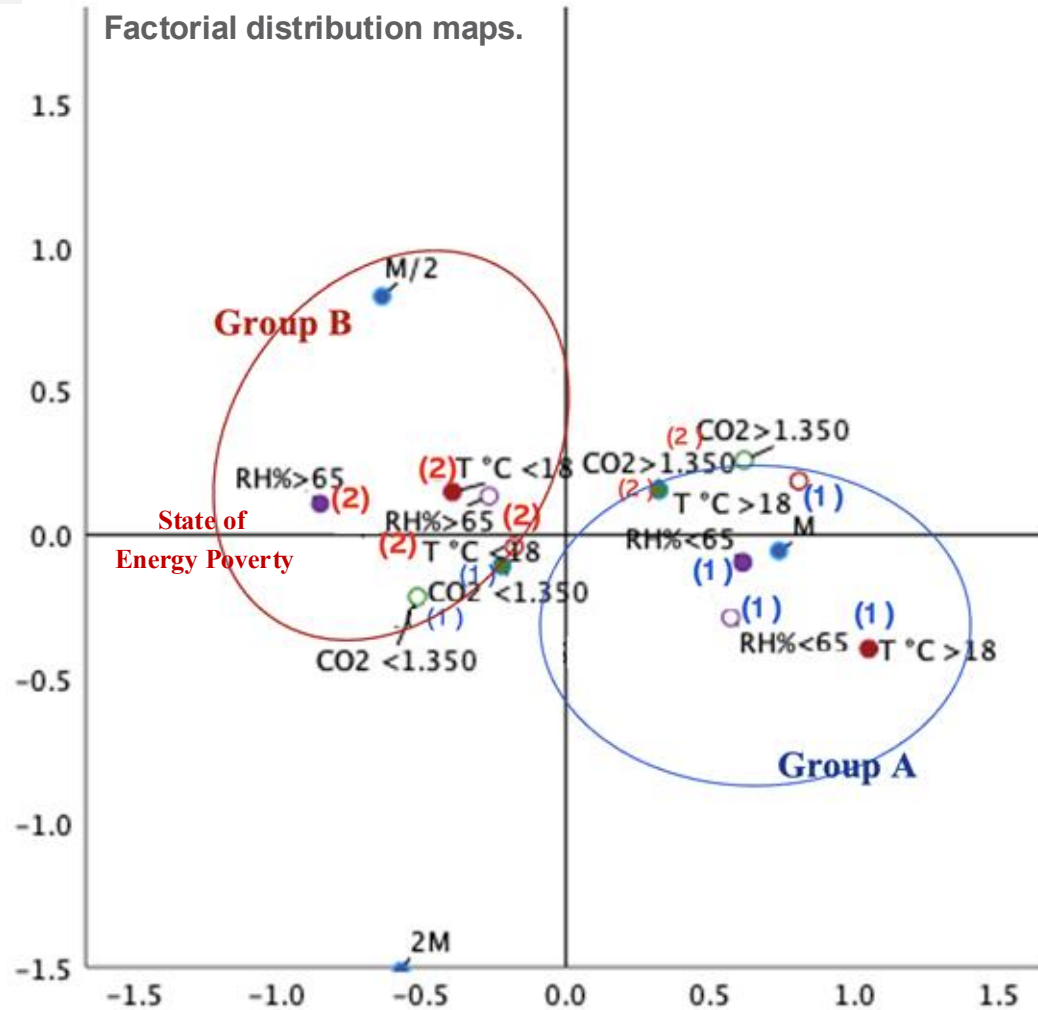
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Results

OE3

- Identify and prioritize indirect indicators linked to environmental health that demonstrate a state of energy poverty.

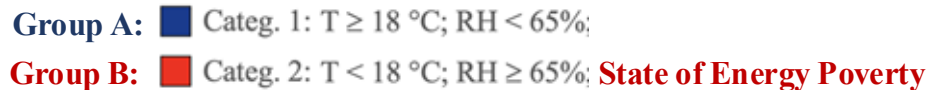


Group A: ■ Categ. 1: T ≥ 18 °C; RH < 65%;

Group B: ■ Categ. 2: T < 18 °C; RH ≥ 65%; **State of Energy Poverty**

OE3

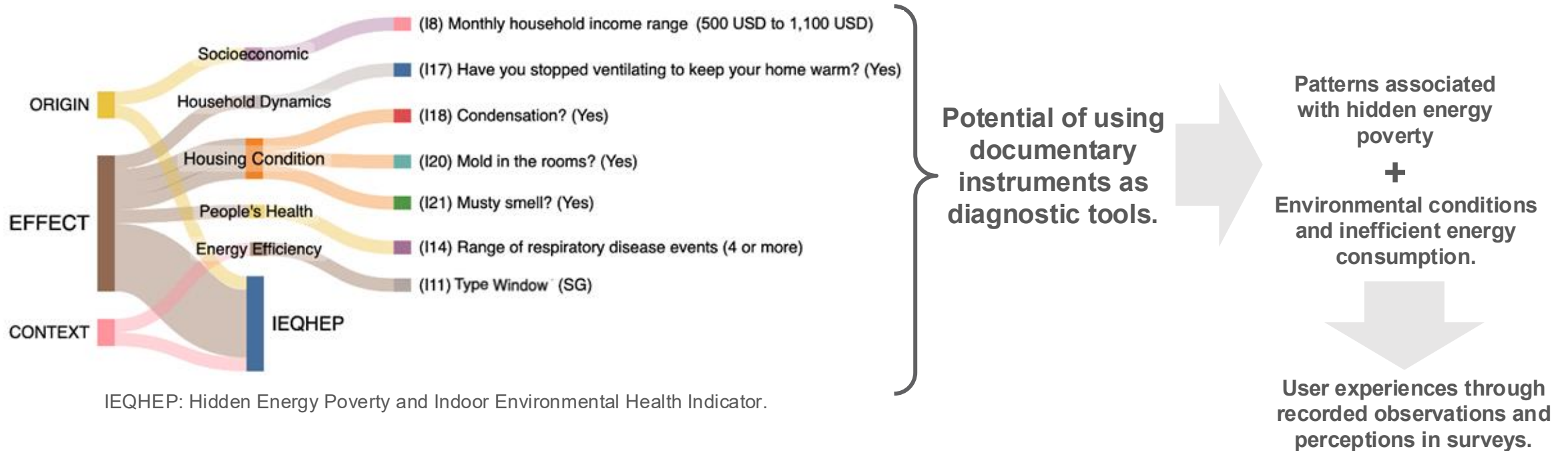
- # OE3



- 26

Conclusions

- The integration of direct and indirect indicators allowed making a multidimensional characterization of the households and the identification of a group of self-reported indicators that define a state of poverty.

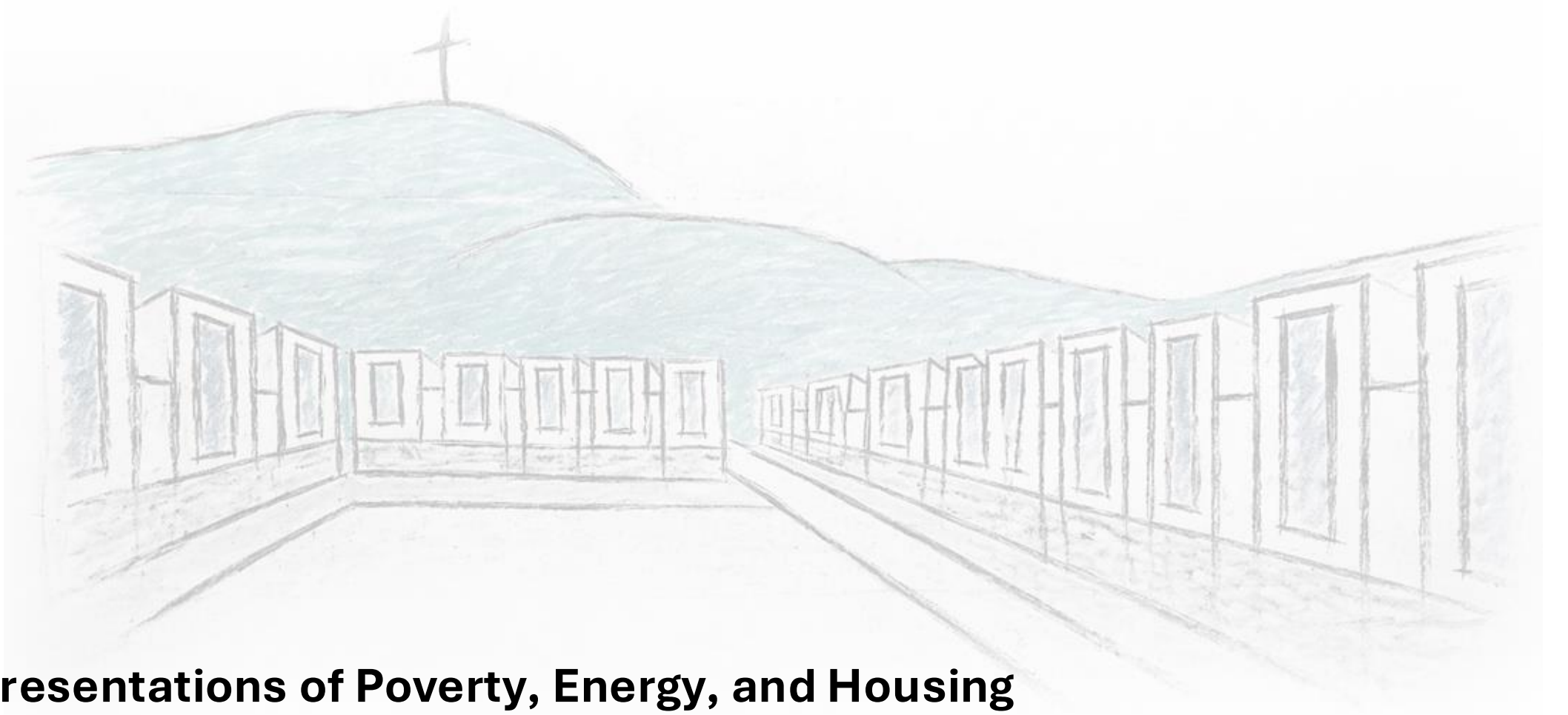


- This underlines the importance about the inclusion of this type of indirect evaluation instruments to collate information and establish systematic early detection mechanisms for energy precariousness, when it is not viable to implement direct environmental monitoring.



Valeska Cerda-Fuentes
Universidad del Bío-Bío
Universidad Católica del Norte
valeska.cerda@ucn.cl

THANK YOU
for your attention



Representations of Poverty, Energy, and Housing in Incremental Housing: Implications for Energy Equity and Self-Build Practices

Sebastián Orellana
sebastian.orellana@ug.uchile.cl

Abril 2026

Energy Poverty in Incremental Social Housing



The case study proposed for this research is the Altué Sur Condominium, located in Renca (A peripheral Municipality in Santiago, Chile). This condominium dates back to 2010 and constitutes a form of social housing initially delivered as **two-story units of approximately 60 m², designed with the possibility of facilitated expansion**. While some of the houses remain in their “original state,” most homeowners have chosen to increase the size of their dwellings. However, these **modifications generally have negative implications for thermal insulation, ventilation, natural lighting**, among other aspects.

(Nexo Pobreza-Energía-Vivienda, 2021).

Energy Poverty in Incremental Social Housing



- **The Neoliberal Model:** Since 1979, the Chilean state shifted from being a "producer" to a "subsidiary" facilitator, focusing on quantitative targets over qualitative habitability.
- **The "Half-House" Logic:** Incremental housing provides a "minimal solution" (approx. 60 m²) where families must complete the structure with their own resources and labor.
- **A "Con Techo" Problem:** While solving the housing deficit, families often remain in conditions of material precariousness and social isolation
- **Energy Efficiency** burden is transferred entirely to the household

Incremental (Social) Housing:

“**An alternative to resource** constraints in addressing the housing deficit emerges through incremental housing, delivering a minimum solution so that **families, with their own means, can complete their homes**” (Millones Segovia, 2017). In the words of ELEMENTAL’s architecture office, “if the budget does not allow for more than 40 square meters, why don’t we consider that, **instead of a small house, this could be seen as half of a good house?**” (Aravena & Iacobelli, 2012, p. 17).

(Encinas et al., 2021, p. 47).

- **Self-building:** “A process in which the final user directly participates in producing their own home”

(Hiernaux, n.d.).



It is essential to understand how self-building processes unfold and how they relate to users’ perceptions of their home, energy use, and conditions of precariousness.

Social Representations Theory (SRT)



Social Representations Theory (SRT), developed by Serge Moscovici, explains how people collectively construct and share meanings about the world. These representations are not just individual opinions but **socially produced frameworks that shape how reality is understood, communicated, and acted upon.**

Functions of Social Representations:

- 1) Knowledge functions:** enable individuals to understand and explain reality.
- 2) Identity functions:** define identity and allow for the safeguarding of group specificity.
- 3) Orientation functions:** guide behaviors and practices.
- 4) Justificatory functions:** allow for the a posteriori justification of positions or behaviors. *(Cegarra, 2012, p. 4).*

Qualitative Analysis



1. Energy as Social and Cultural Mediation

Rather than being merely an economic resource, energy structures ways of life and power relations. Practices in home and energy management, such as firewood use, transcend economic rationality, acquiring strong identity-based, affective, and territorial meanings.

2. Energy and Housing Management as Care Work

Understanding that **energy management is fundamentally a form of domestic and care work**.

Gender dimension: This labor disproportionately falls on women, who assume the mental load of managing the well-being of dependent household members (children, older adults) in contexts of vulnerability.

3. Energy Culture and Agency

Energy culture emerges from the co-production of everyday practices, social norms (what is considered a “decent home”), and the materiality of housing.

4. Energy as Lived Experience

Energy is not only a resource, it connects the body, the climate, and infrastructure systems.

The house and its inhabitants trajectories are deeply intertwined; each self-built expansion adapts the house to the families needs and reshapes thermal conditions, lighting, and airflow within the dwelling.



Case Study: Key Findings

1. The Incremental Tension: Spaces vs. Habitability

Incremental housing enables households to expand beyond the initial 44–60 m² unit—reaching a median of 85 m²—**but this growth often undermines habitability**. In the absence of technical support, **families prioritize adaptins spaces to current household members over the house’s performance, resulting in poorly insulated, unsafe, and inefficient extensions**. The model effectively transfers the responsibility—and risk—of achieving adequate living conditions to residents.

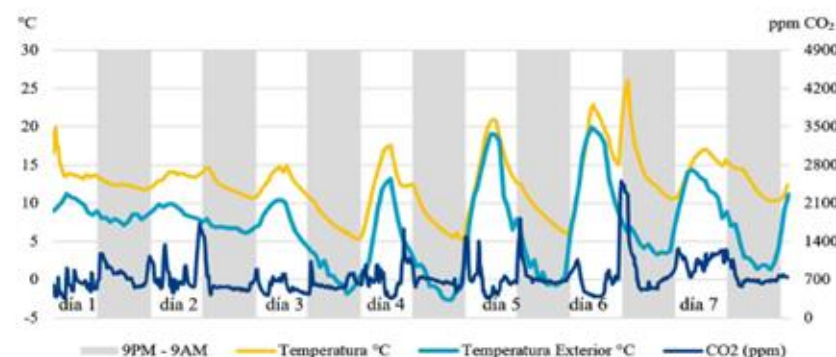
2. Incremental Housing as a Vulnerable Solution.

Incremental housing produces a highly uneven built environment, where some homes remain unchanged while others expand significantly. These differences reflect **unequal capacities for self-construction and result in differentiated vulnerabilities to fluctuations in material costs and household income**. Housing thus operates as a dynamic socio-technical system in which inequality is materially embedded and continuously reproduced over time.

3. Hidden Energy Poverty as Forced Under-consumption

Despite being connected to energy networks, households often limit consumption due to high costs, engaging in everyday energy management that combines constraint and negotiation. **Cold is not always perceived as a strict limitation; instead, families adjust routines, redistribute heat, and redefine acceptable indoor conditions**. Thermal comfort thus becomes a shaping agent in household practices

Gráfico de temperatura y concentración de CO₂. Caso 1: Dormitorio ubicado en el piso tres con techo intervenido. Registros del 24 junio al 1 julio de 2021.



“Mi hija me compró una estufa eléctrica, pero se gastó mucha luz... la eliminamos... nos acostamos temprano...”

“My daughter bought me an electric heater, but it used too much electricity... so we got rid of it... we just go to bed early...”

“Los niños no están ni ahí... si tienen frío se van a acostar”

“The kids don't really mind... if they're cold, they just go to bed.”

Case Study: Key Findings

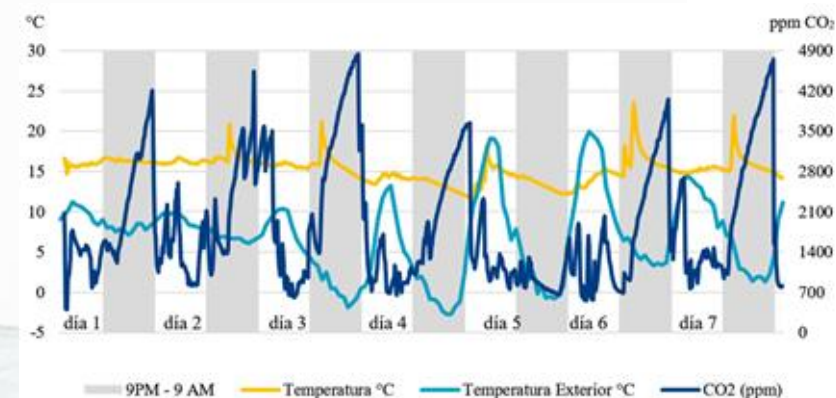
4. Dignity and Aesthetics of the house.

Residents' housing decisions are guided not only by technical considerations but by dwelling as a process of belonging and emotional value to the house.

Choices such as installing large windows reflect desires for light, openness, and connection to place, even at the expense of energy efficiency. The home is experienced as a personal biographical and emotional space.

5. Gendered Thermal Care and Everyday Energy Management

Energy management within the home operates as a form of unpaid, gendered care work. Women assume responsibility for maintaining thermal comfort, managing limited budgets, and protecting vulnerable household members. This “thermal care” involves both physical labor and sustained mental effort.



Es que yo soy fanática de las ventanas grandes. De hecho tu subes a mi dormitorio y mi dormitorio es un ventanal inmenso, de piso a piso. Que a las chiquillas les fascina

"I'm really a fan of large windows. In fact, if you go up to my bedroom, it's this huge floor-to-ceiling window—something the girls absolutely love."

"Mis hijos dicen: esta casa no la van a vender, mi mamita batalló tanto por esta casa"

"My children say: this house won't be sold, my mom fought so hard for this home."

- *How can we bridge the gap between institutional standards of "technical efficiency" and the dwellers' "aesthetics of wellbeing," ensuring that energy improvements respect the home as a biographical project of sacrifice and dignity?*
- *How can public policy move beyond the "individualistic and subsidiary" model to create an integrated governance that treats users as co-producers of thermal knowledge rather than mere passive recipients of subsidies?*
- *How can we redefine energy indicators to capture the systemic "social gains" of incrementality—such as ownership and independence—while simultaneously addressing its technical risks?*

“Es que en la casa bien, tranquila, feliz porque tengo mi casa, tengo donde estar”

“At home, I’m well—calm and happy because I have my own place, I have somewhere to be.”

“Me costó mucho tener nuestra casa entonces de aquí me sacan en cajón”

“It took me a lot to have our home, so they’ll take me out of here in a coffin.”



Energy Efficiency Policies in Conflict: When Housing Retrofit Programmes Overlook Local Energy Culture and Energy Poverty

Research Insights from a Case Study in Coyhaique, Chile

Friday 24th of April 2026
8.00-10.30h Chile

Alejandra Cortés Fuentes

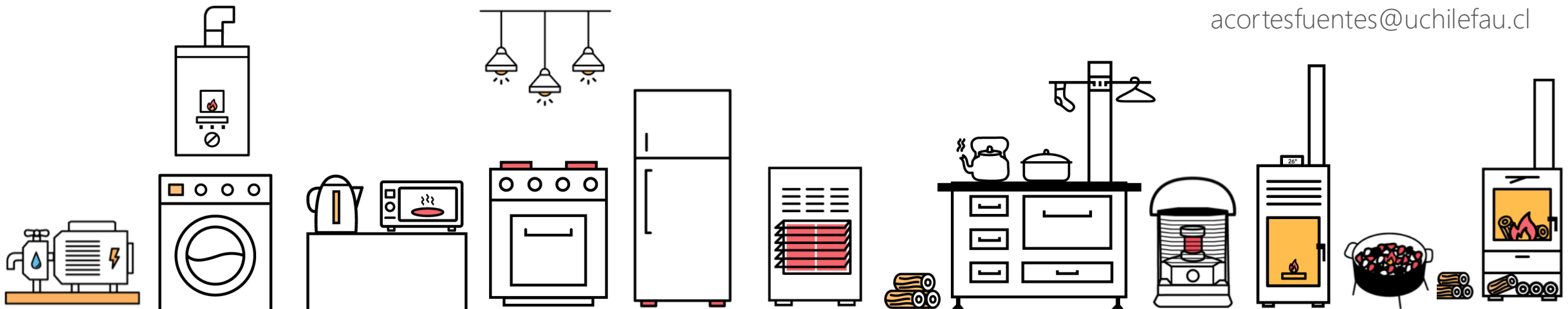
PhD MSc Architect

Associate professor

Faculty of Architecture and Planning

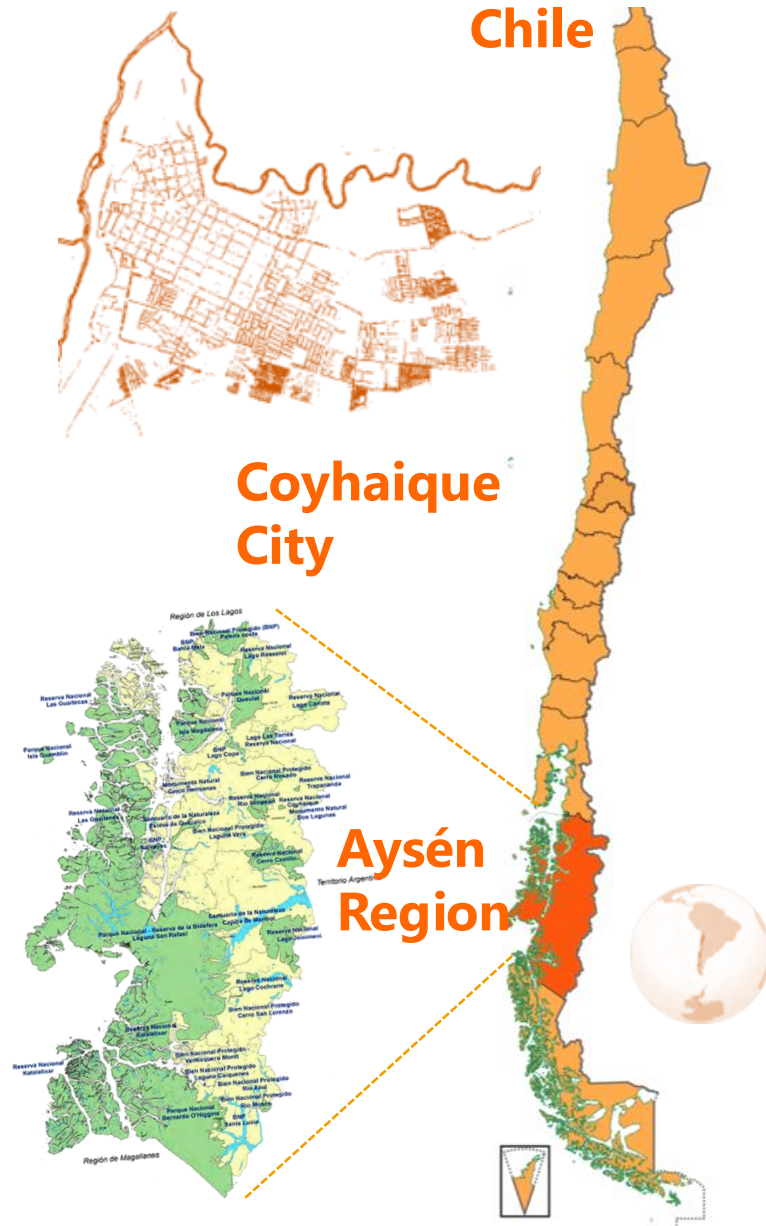
Universidad de Chile

acortesfuentes@uchilefau.cl



Context of Research: Coyhaique city, Chile

40



Two Retrofit Programmes in the ADP

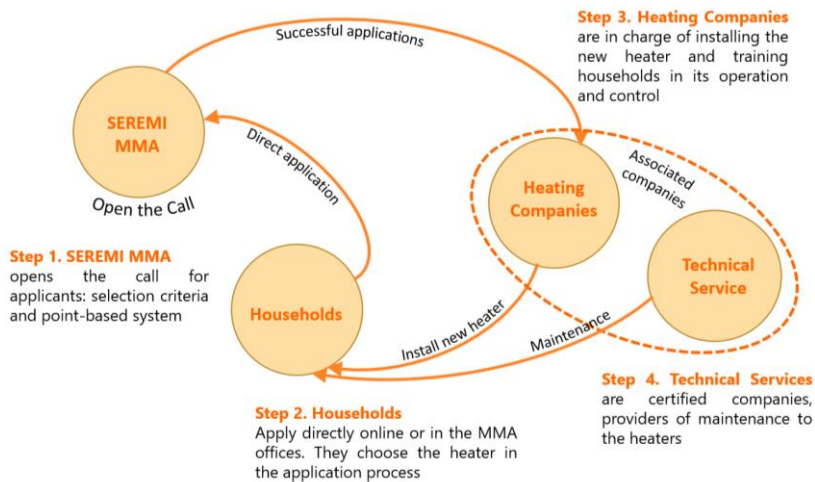
Atmospheric Decontamination Plan (ADP)

The main strategies of the ADP includes:

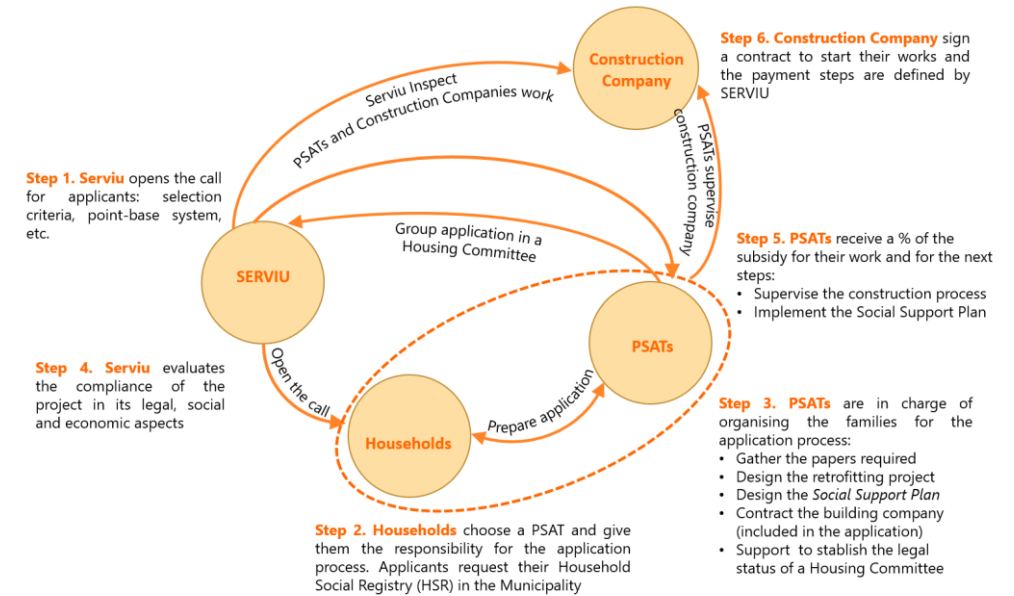
- Heating appliance replacement
- Residential thermal retrofits
- Control of the firewood market
- Educational campaigns

EEI

Stakeholders involved in the Heating Appliance Replacement programme – Ministry of Environment



Stakeholders involved in the Thermal Retrofit programme – Ministry of Housing and Planning

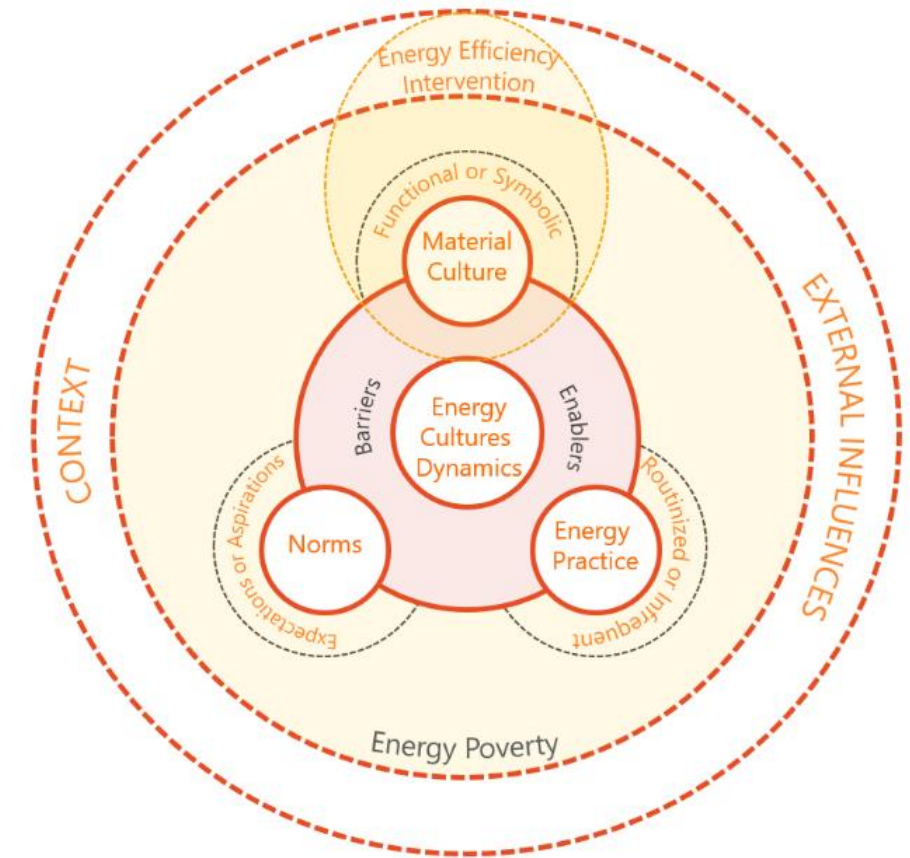
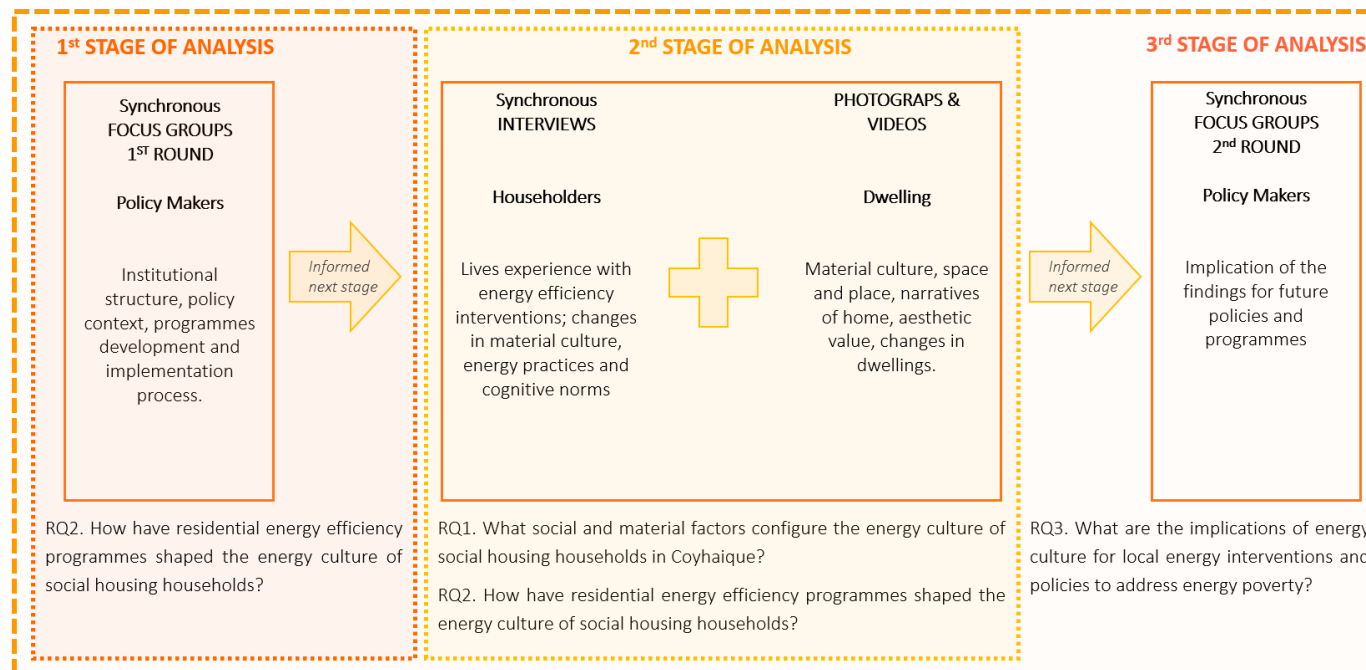


Conceptual Framework: Dynamics of Energy Culture

Energy Culture Framework

- The energy culture framework is a culture-based approach to understanding the factors that influence energy behaviour. It suggests that this behaviour can have multiple interpretations as it is influenced by the interaction between cognitive norms, energy practices, and material culture (Stephenson et al., 2010, 2015).

Methods



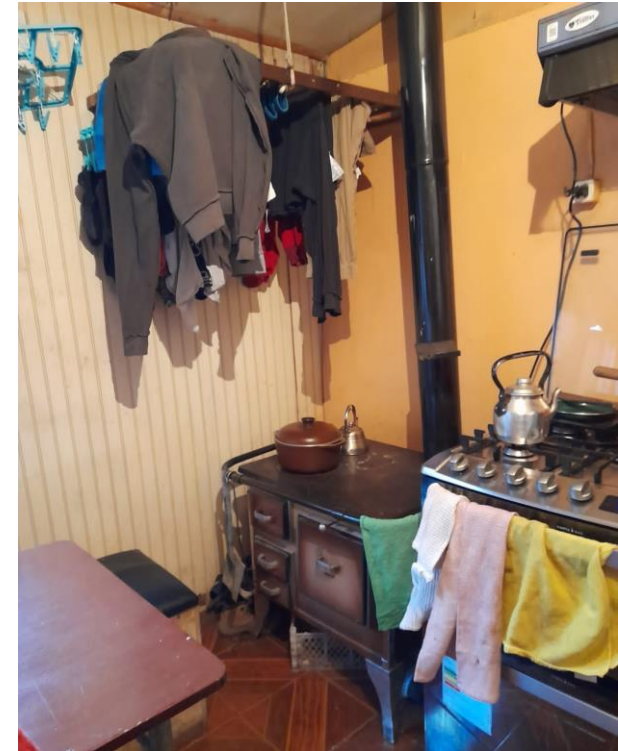
These three core concepts as shaped by external influences, which are a set of circumstances that form the context from which an energy culture emerges and is sustained.

Findings Insight

Local Energy Culture – Engrained Habits

After the implementation of the EEI, some cultural patterns of energy use persisted:

- Cooking and heating with firewood remain deeply rooted in childhood memories linked to the kitchen and family gatherings.
 - An emotional attachment to fire persists over time.
 - Some families replaced the firewood heater but kept the cookstove.
- Some users experienced difficulties adopting the new heater technology.
 - The most vulnerable participants reported not understanding the settings and control system.



Findings Insight

Local Energy Culture – Engrained Habits

- Fear of wood pellet supply shortages during COVID-19 led to mistrust of new technologies.
 - In some cases, families maintained their habit of stockpiling fuel, as they had previously done with firewood.
- Self-constructed extensions continued after retrofitting and may compromise the programme's energy efficiency gains.
- Trickle vents were installed, but many users do not understand how to use them.
 - This may compromise indoor air quality (IAQ), as more airtight homes can increase mould growth.
 - Existing practices, such as drying laundry indoors, remain unchanged.

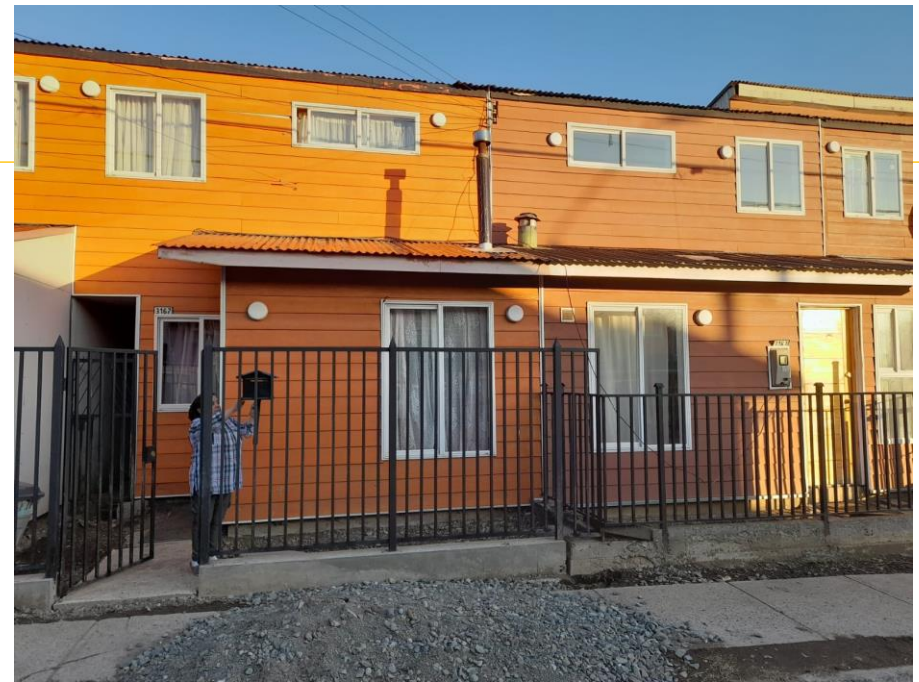


Findings Insight

Local Energy Culture – Programmes Implications

Thermal Retrofit Programme: Key Impacts

- Strengthened households' emotional attachment to the home
 - Linked to homeownership, improved aesthetics, and better thermal comfort
 - Increased understanding of insulation materials
- Mistrust towards builders and the public sector emerged
 - Due to a lack of clear problem-resolution mechanisms



Findings Insight

Local Energy Culture – Programmes Implications

Heating Upgrade Programme: Key Challenges

- Exacerbated energy poverty among the most vulnerable groups
 - Households reported worsening energy conditions, since they can't afford the new fuel.
 - Inability to pay for pellet or kerosene fuels
- Increased fuel dependency without adequate support
 - Issues with affordability, stable supply, technical support, and long-term sustainability



Conclusions

Considering the research findings, a more socially inclusive approach to energy policies could entail the following:

- Design a gradual transition away from firewood to avoid backsliding and recognise households' different stages of technological transition and fuel stacking. The one-for-all solution does not meet everyone's energy needs and preferences.
- Develop adequate handover procedures to minimise the hazards of enduring routines on indoor air quality.
- Recognise recipients as active actors in the decision-making of energy retrofits by providing consultation and participation activities beyond the mere provision of information.
- Design and implement communication mechanisms between recipients and stakeholders for a transparent problem-solving procedure so that households' opinions and complaints can be heard and solved.

THANKS

Gracias

Alejandra Cortés Fuentes

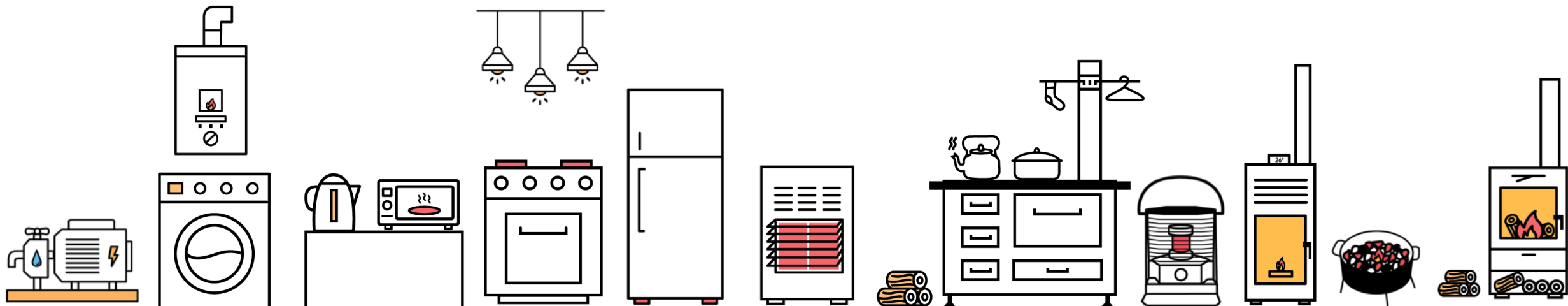
PhD MSc Architect

Associate professor

Faculty of Architecture and Planning

Universidad de Chile

acortesfuentes@uchilefau.cl



Community-based insights



**PAZ
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SUSSEX



**CARMEN
FREED**

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GUARDIANAS DEL CALOR

MUJERES Y CUIDADO DEL
CALOR DE HOGAR

Guardians of the warmth

Solidarity and knowledge among women in
southern Chile

Paz Araya



Context: Warmth Care framework

- Warmth care: The active, ongoing, and situated practices through which thermal well-being is produced and maintained.

VIERNES
26/05
2023

 **16:00**
HORAS



GUARDIANAS DEL CALOR

**Te invitamos a compartir, conversar,
y aprender cómo mantener nuestra
casa abrigada**

Contaremos con actividades para niños y niñas.
Información e inscripciones al **+56927477731**

TRAIGUÉN
 **CAFÉ VIENTO NORTE**
Saavedra 478

ORGANIZA:



café conversatorios

- 4 events in 4 cities
- Café conversatorio functions as a catalyst that allows women to discover their own technical expertise through dialogue and community cooperation, through:
 - Equality in the valuation of knowledge and recognition of authority.
 - Collective peer validation and technical exchange and empowerment. This exchange transforms individual vulnerability into collective competence.
 - Attentive listening and mutual admiration. This transmission of knowledge generates emotional reactions and admiration, fostering a genuine interest in delving deeper into the topics discussed.

Poster Design by Josefa Rauld

"We've been taking our time, adding more insulation bit by bit. For example, fiberglass, filter paper, and if we have it: foam. So that it stays nicely insulated. To keep the warmth. Now we have a slightly bigger house, **gotta dress her up, so she keeps us warm, you know?**

Some neighbors were throwing away the foam, and I'd ask them for it. I'd be like, 'Why throw it away if it works just fine for insulation, can you give it to me?' and they'd say, 'But it looks ugly!' But I'll cover it up. I put a little clothing on it, and it looks great. We'd put on the foam, then filter paper, then fiberglass, and then comes the other panel."

Marcela



Gendered tensions

1. The Mental Load: The Cost of Invisible Care

- Constant negotiation with the environment and infrastructure
- Acquiring expertise under pressure
- This work is the result of an economic system that depends on unpaid and invisible domestic labor, which falls primarily on women.

2. The Transformative Potential

- Solidarity and Resilience
- Autonomy and Creativity
- Community Cooperation
- Despite the strain, caregiving is a practice that reflects essential principles for building more just societies.



Illustrations by Valentina Seguel



"My house became cozy because I was looking for all means to seal those gaps, and in the end, we'd end up covering them with whatever we could find. Then, you start giving your house a certain vibe, so it feels welcoming, you know?"

I think we've all used our wits to get by. In one way or another. And it's always the woman who figures out how to make the house cozy. One uses intelligence, skills, and everything.

We all have a lot of history with our homes. Because we're from old houses, we come from these types of materials, these kinds of homes. I think 70% here have recycled, whether it's from Tetrapak boxes, foam, egg cartons. All of that is recyclable."

Haydee



Scopes and manifestations of warmth caring tasks

The scope of these practices is simultaneously material, social, and political, since it is not only about physically insulating a home, but also about how people relate to their thermal environment to challenge or reinforce existing inequalities.

- Family and home care
- Selfcare
- Caring for friends
- Caring for traditions

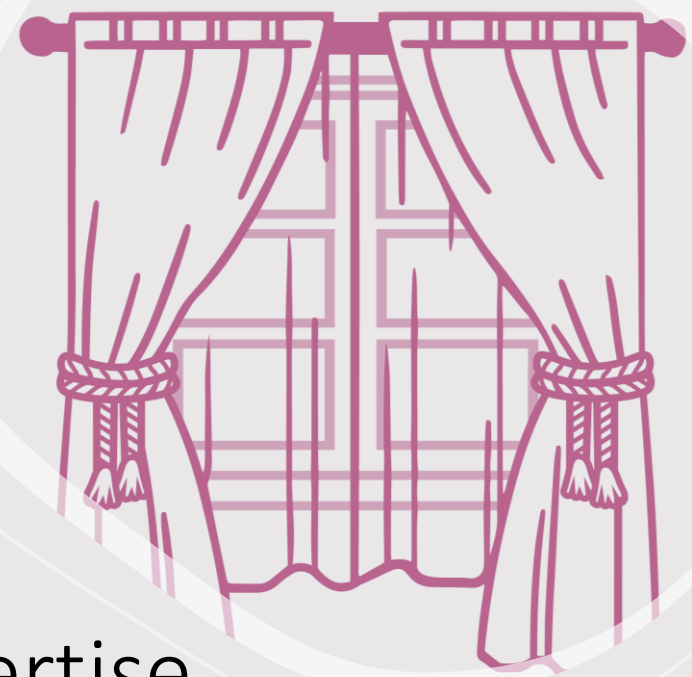
Illustrations by Valentina Seguel

"It all depends on how the house is. Because if the house is good, there's no heat leakage. That's the most important thing. And then the warmth stays.

I built that house there, and I took care of that. For example, to make sure no air gets in. Only if you open the windows and doors. And I took care of the lining myself, what comes next, the filter, all of that. I made sure to be there when the builders were working on my house. And it's true that the heat from the fire doesn't escape. It all depends on the surroundings of the house, that there are no leaks. You have to pay attention to where the doors go and everything because of drafts. That also cools the house."

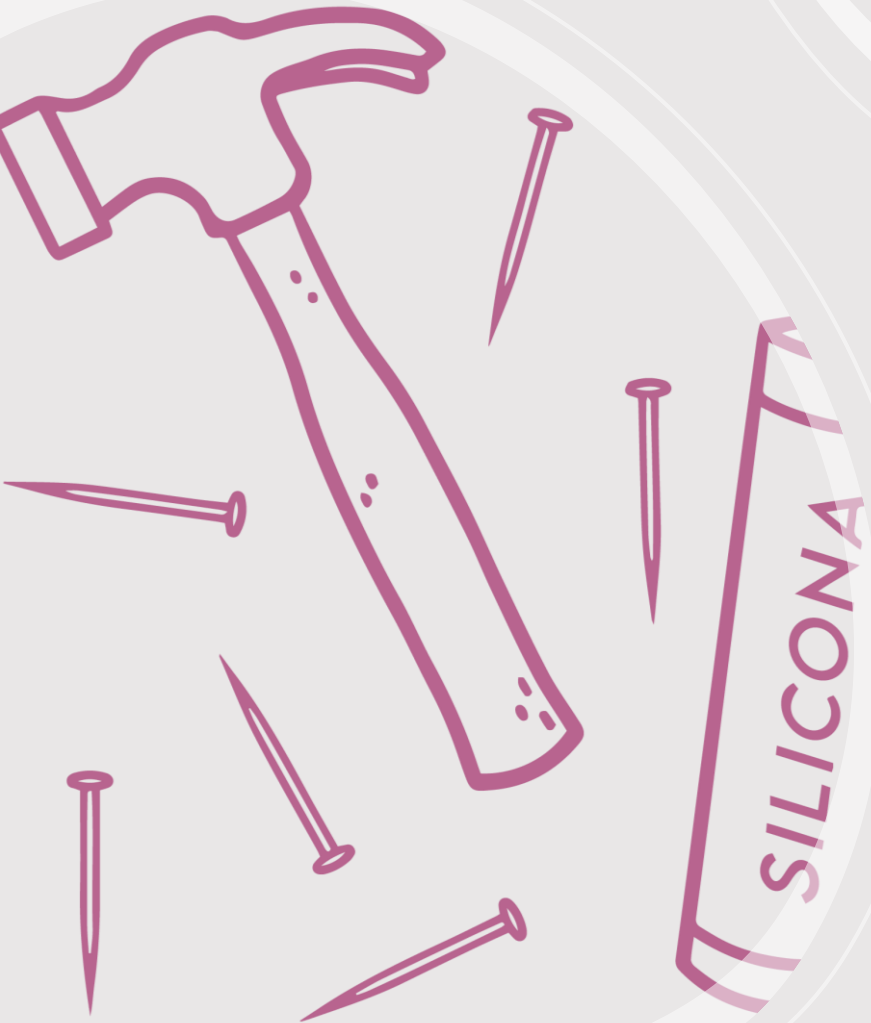
Silvia





Warmth caring expertise

- The recognition of women as experts in warmth management is not usually immediate, as neither they themselves nor society initially value their technical knowledge. This recognition emerges through specific processes of validation and collective dialogue:
- Peer validation. Admiration and attentive listening.
- Mastery of specific technical language. Research and the search for effective solutions.
- Recognition of ingenuity and creativity. The transition from vulnerability to collective competence.





Illustrations by Valentina Seguel

"My house is good because I built it with thermal insulation. I added insulation #50 on the sides, fiberglass in the attic, sealed it with silicone, put guards on the corners, and asked the builder to close all the leaks, inside, outside, and under the frames. That's why I don't have any issues. It's because my parents' house had none of that, those old country houses, and we spent our whole lives with cold, wind, and rain.

For my son, I had to look for everything within reach to provide him with a suitable place because he has caudal regression, so he can't withstand freezing temperatures. I couldn't apply for the subsidy because I didn't meet the requirements. So, I had to go and build. And I had to search and go everywhere to see what would work for me, something more economical but effective. That's how I got to know all the hardware stores around here."

Angela

Cooperation and community in warmth care



- Cooperation and community play a transformative role in addressing housing needs, enabling a shift from an individual struggle against precariousness to a collective effort based on solidarity and technical exchange.
- Mutual care can reflect principles of solidarity and autonomy. By organizing and sharing resources, the community builds forms of resistance against an economic system that often ignores unpaid domestic work.
- In conclusion, community is the cornerstone that allows housing needs to cease being merely an individual "mental burden" and become a collaborative effort that generates effective housing solutions and lasting social bonds.



Illustrations by Valentina Seguel



**Download the book
(in Spanish)**



Community Energy and Ecosocial transitions

A comparative study of Chile
and the United Kingdom

Carla Douglas González

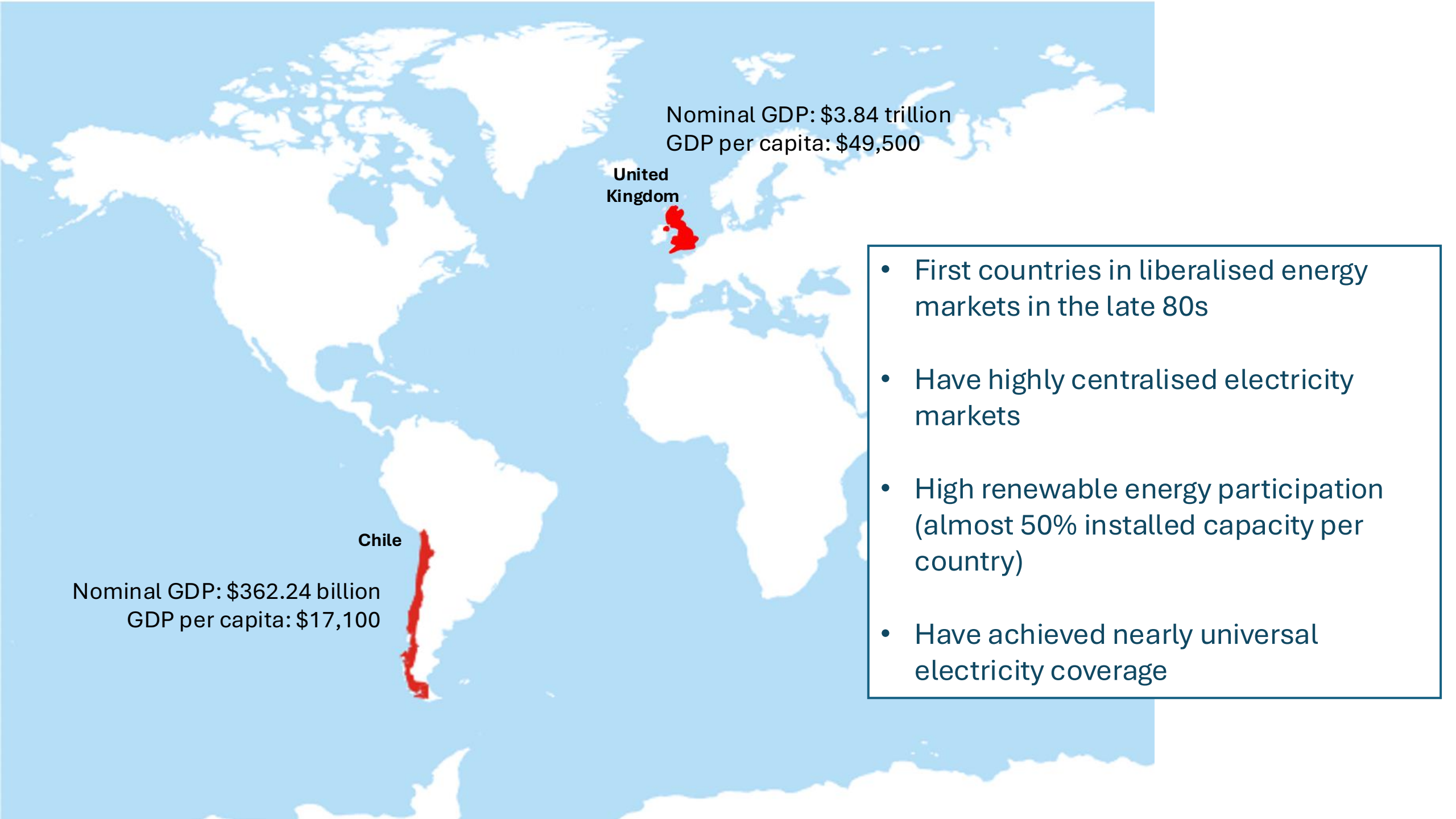
PhD© in Science and Technology Policy Studies

SPRU – Science Policy Research Unit

University of Sussex

c.douglas-gonzalez@sussex.ac.uk





Nominal GDP: \$3.84 trillion
GDP per capita: \$49,500

United
Kingdom

Chile

Nominal GDP: \$362.24 billion
GDP per capita: \$17,100

- First countries in liberalised energy markets in the late 80s
- Have highly centralised electricity markets
- High renewable energy participation (almost 50% installed capacity per country)
- Have achieved nearly universal electricity coverage

Energy transitions in Chile and the UK

- Mainly driven by large-scale projects → **Citizens are not getting the benefits**
- Chile: intensive **extractivist model** has created environmental "sacrifice zones," even in emerging technologies.
- High levels of **Energy Poverty** in both countries
 - **3.17 million households** in England, disproportionately affecting **women**.
- Highly vulnerable to price spikes (international conflicts) → **high energy/electricity prices**



London, United Kingdom, December 2022.

Community Energy

Community-owned wind turbine,
Devon, United Kingdom



*Community energy could be defined as initiatives based on **collective ownership** or governance of energy projects that promote broad and equitable **citizen participation**, **local control**, and shared **community benefits**, and promote **alternative approaches** to conventional energy models, **empowering communities** and enhancing collective **well-being**.*

First collectively financed project: Solar Buin 1, Chile



(Baigorrotegui, 2021; Bauwens et al., 2016; Becker et al., 2017; Bertinat & Chemes, 2018; Chemes et al., 2024; F. Fuentes et al., 2019, 2020; Hoicka et al., 2021; Parker, 2020; Walker & Devine-Wright, 2008)

Community Energy in Chile and the UK

Community Power Cornwall, UK



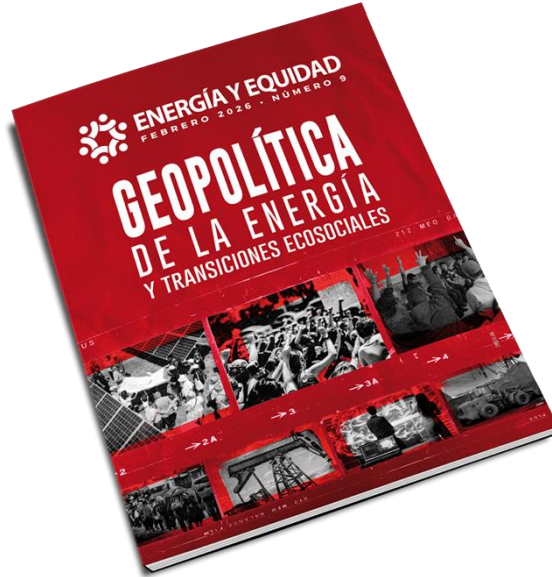
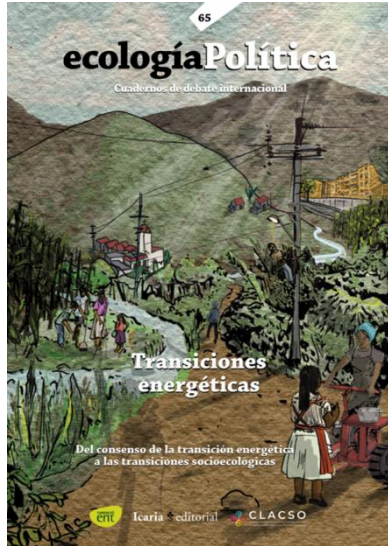
- It emerged 15–20 years ago from local activism and climate action
- 614 community energy organizations (2024)
- 411 MW of installed renewable capacity ($\approx 0.7\%$ of the UK's renewable capacity)

Titan community project, Coyhaique, Chile



- Emerged when the first distributed generation law took effect in 2018 (on grid)
- Currently: ≈ 10 -15 projects (<1.5 MW total)
- Represents $\approx 0.005\%$ of the country's renewable capacity

Ecosocial energy transitions



- Developed by researchers and social movements from the Latin America & Africa
- Challenges traditional energy transition frameworks
- Emphasizes socio-ecological interdependence and care for nature
- Critiques capitalist, extractivist, and colonial legacies
- Incorporates a feminist perspective (collective care and well-being)

(Bertinat, 2016; Bertinat & Chemes, 2018; Brand & Lang, 2023; Buitrago, 2024; Burger et al., 2020; Dunlap et al., 2024; Escobar, 2022; Fuentes et al., 2020; Poo & Sepúlveda, 2024; Svampa, 2022)

Ecosocial energy transitions: 5 Principles

1. Transformation

Beyond substitution

Dismantling systemic inequalities, colonial dynamics

Redefining our relationship with natural resources.

2. Reparation

Local: Address socio-environmental injustices, energy poverty

Global: Redress extractivism & colonialism in the South

Requires finance, structural change, cooperation

3. Decentralisation

Challenge power concentration

Overcome supplier resistance; enable community-led models

Strengthen distribution and support local economies

4. Democratic autonomy

Ensure people directly benefit

Democratize governance; empower communities

Local participation (CE) should have a bigger place

5. Feminine perspectives

Challenge patriarchal model → care over profit

Promote cooperation & reproduction logic

Tackle gender gaps

Results: Transformation Principle

“build economic networks with values, with an ethic, and with an organizational model different from that of the capitalist market” (CC8)

"the existing incumbents... don't want this change" and "they have the power to influence government"
(UC1)



Source: Campaign Briefing. The Left in the European Parliament

Results: Reparation Principle

*“the most vulnerable households are the ones who suffer in the heat, suffer in the cold, and suffer because their income is not enough to cover all their basic needs”
(CC6).*



London, United Kingdom, December 2022.

Results: Feminist Principle

*“I am the one who provides the information, because sometimes neighbours ask me, ‘is it true that I don’t have to pay anything?’
(CC13)*

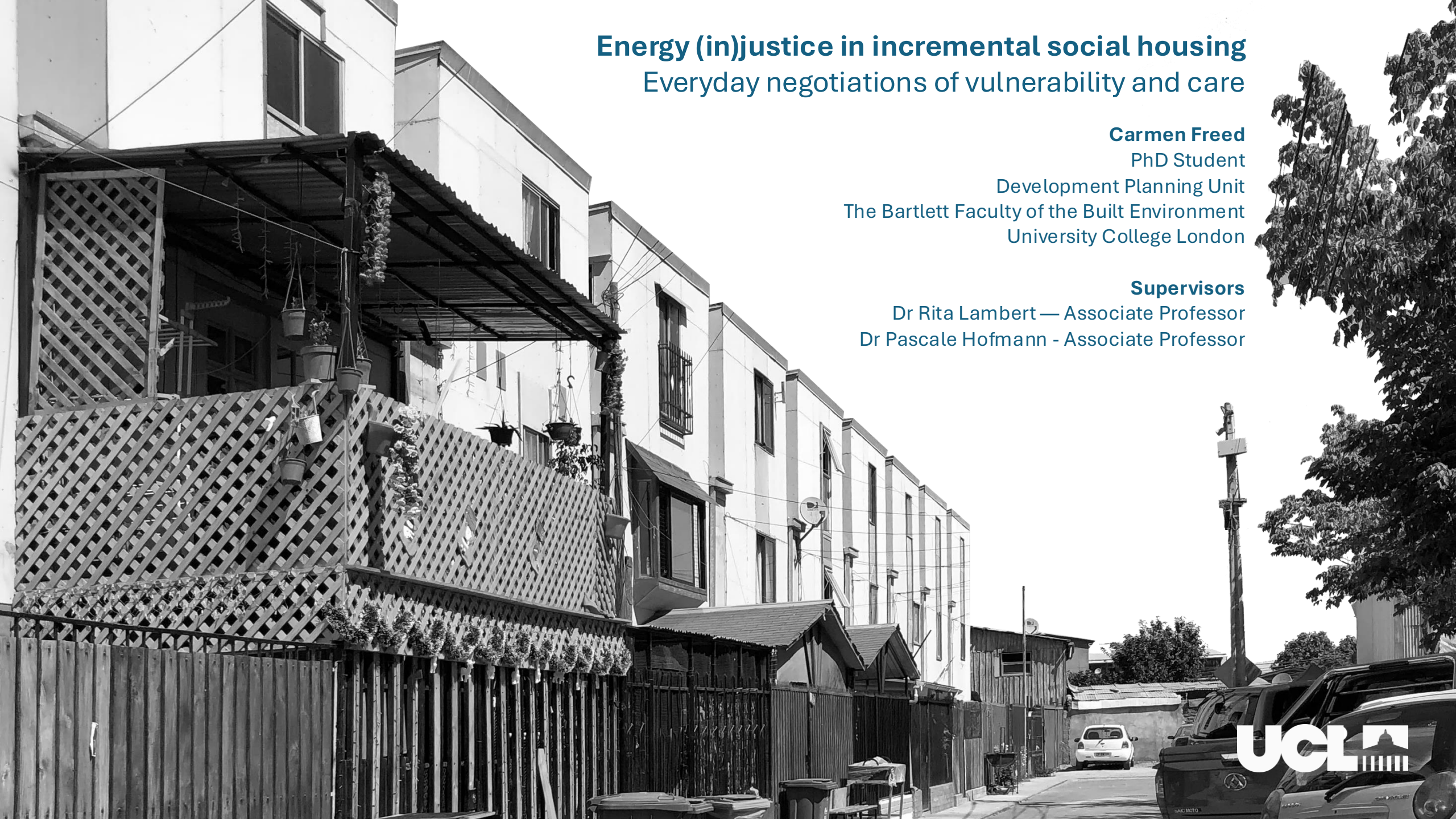
“[when people] are getting heat for their home and they’re more comfortable... it improves their mental health, and they can go to work... re-enter society and become a functional and contributing person” (UC6)



Source: ONG Energía Colectiva. Capacity-building for rural women in Chile to develop Community Energy projects, 2024.

Discussion and conclusions

- CE delivers **local benefits** but rarely challenges broader **structural inequalities**
- CE is **necessary but insufficient** for advancing ecosocial energy transitions (EET)
- The UK serves as a **cautionary case**, showing how mature CE sectors absorb participatory ambitions into **top-down governance**
- In Chile and the UK, CE contributes primarily through localised practices of **reparation, care, and community support**
- **Further research:** expand studies in Latin America and Africa to explore diverse political-economic contexts
- Integrating **feminist** and intersectional perspectives, and recognising **care**, is crucial to fully understanding CE's value and potential



Energy (in)justice in incremental social housing

Everyday negotiations of vulnerability and care

Carmen Freed

PhD Student

Development Planning Unit

The Bartlett Faculty of the Built Environment

University College London

Supervisors

Dr Rita Lambert — Associate Professor

Dr Pascale Hofmann - Associate Professor

It's summer in Santiago, Chile. Temperatures are over 30 degrees...

*My daughter **can't sleep at night because it's so hot...** Sometimes she's only just falling asleep at 8 o'clock in the morning, because **it's only just starting to cool down then;** the heat really concentrates upstairs... (Andrea, 34 years)*

I go to bed and I'm sweating; I have to get up in the middle of the night to take a shower. I get up at 2 a.m. to take a shower because I'm sweating... (Ana, 64 years)

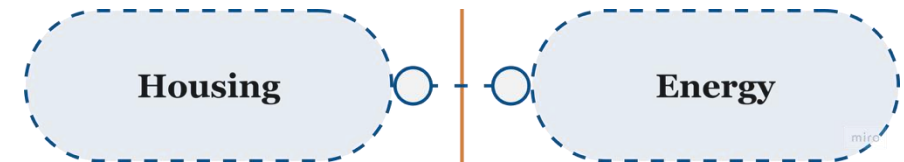
I. Argument

The energy and housing nexus

- **Housing is the space where energy vulnerability is produced, experienced and negotiated**
- The literature and public policy have tended to treat these issues separately (Bouzarovski et al., 2023; Robinson et al., 2023).

Literature on energy and housing

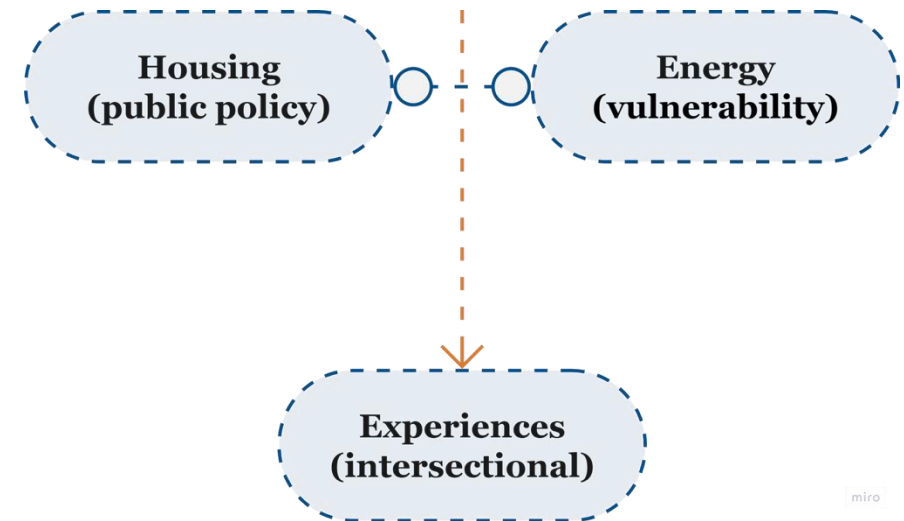
- **Housing** is viewed from a **technical or provision perspective**, Meanwhile, **energy** is analysed in terms of **efficiency and expenditure** (Gill, 2001; Longhurst and Hargreaves, 2019; Shove et al., 2012).
- **Households are treated as homogeneous units**, without considering the differences between their members and internal negotiation.



II. Incremental social housing

Incremental housing | DS174 – Dynamic social housing without debt

- **Incremental housing (half good house):** It provides a solid foundation that allows for future growth (Aravena et al., 2016). **It transfers the responsibility for expanding and completing the dwelling to households.**
- **Adequate housing is not guaranteed from the outset; it must be developed progressively.**



miro

III. Research question

How are **housing and energy experienced and negotiated in incremental social housing**, through socio-material conditions, differentiated household relations and everyday domestic care practices?



Incremental housing - Summer – Santiago, Chile, 2026

IV. Analytical framework

Relational approach

- **Housing and energy as co-constitutive processes** shaped by experiences, everyday practices, material conditions and institutional structures.

Lenses

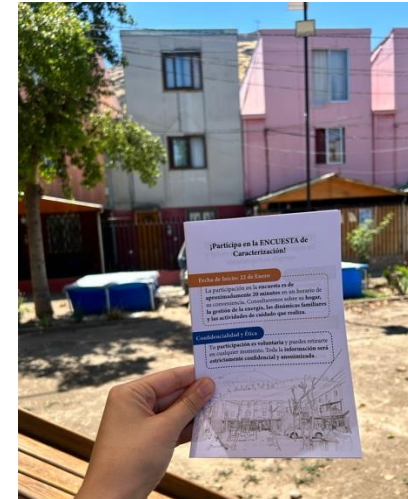
- **Socio-material:** Material conditions and everyday practices.
- **Intersectional:** Diverse experiences and relations within the home.
- **Temporal:** Housing as a process.
- **Scalar:** Relation between the domestic and the institutional scale.



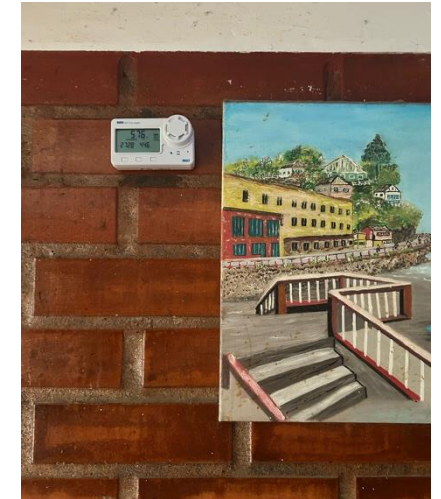
Incremental housing - Summer – Santiago, Chile, 2026

V. Methodology – Mixed-method approach

- **Domestic – Individual perspective (11 households)**
 - Daily oral histories
 - Narrative mapping
 - Environmental monitoring
 - In-depth interviews
- **Community perspective:**
 - Interview with social leaders
 - Communal workshops
- **Institutional perspective:**
 - Interviews with national and local authorities and stakeholders.



Difussion



Environmental monitoring



Narrative mapping



Housing and energy workshop

VI. Case study

Renca, Metropolitan region, Chile

- **Incremental social housing complex**
 - Delivered in 2010 – 16 years of development.
 - The community is characterised by the presence of large families with five or more members and a high proportion of school-age children.



Stage I. Incremental housing complex – Image from 2012 – Google earth



Stage II. Incremental housing complex – Image from 2025 – Google earth

Adequate housing and energy justice are not guaranteed from the beginning, rather they are negotiated.

Institutional perspective – Interviews with national authorities

*The problem is the privatisation of housing (...) I give you a **house to own and you sort it out yourself.***

MINVU official

*Incremental solutions are a good option, **but there need to be manuals, technical assistance and support; they can't do it on their own (...)** –*

MINVU official

Community perspective – Interviews with social leaders

“They (SERVIU) shouldn't have left us to face this alone for at least a year”

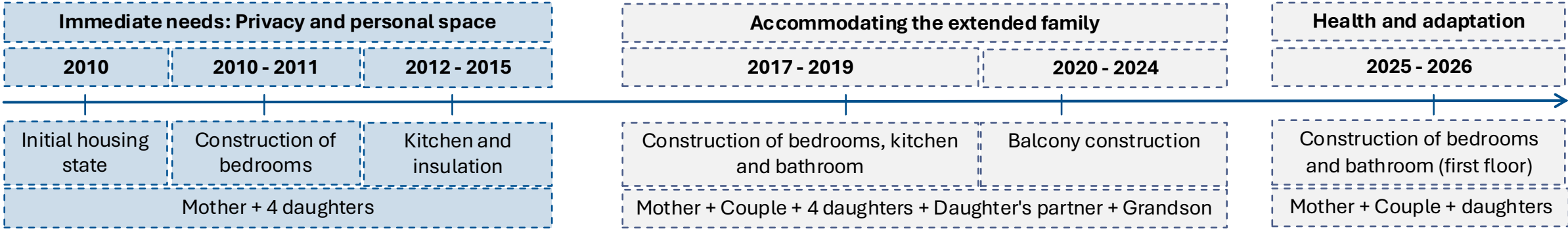
Former Chair of the Housing Committee.

“(The houses) were freezing cold, really freezing, freezing, freezing (...) those who had a stove would light it; those who didn't would use a small brazier”. - Secretary of the Condominium

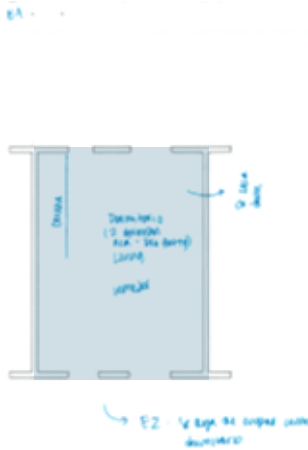
(...) We spent seven years in a sort of standby mode, with everyone doing what they could.

Chair of the Condominium Committee

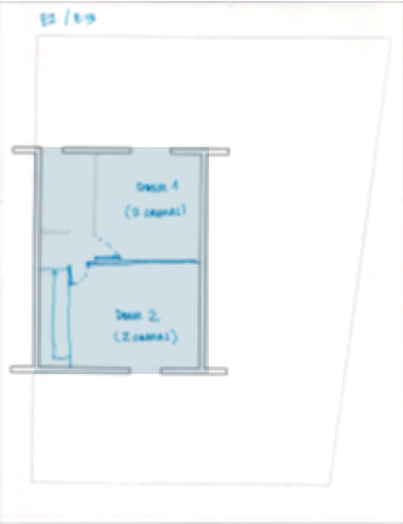
Socio-material negotiation processes under conditions of constraint



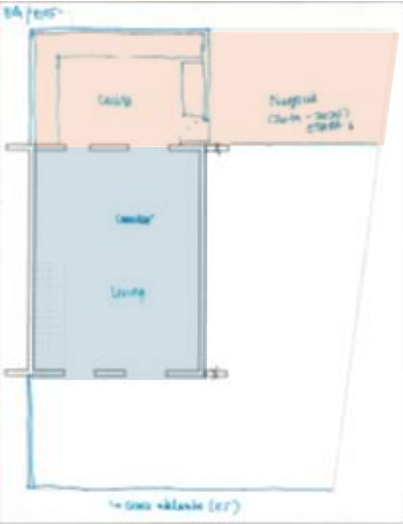
Ground floor - 2010



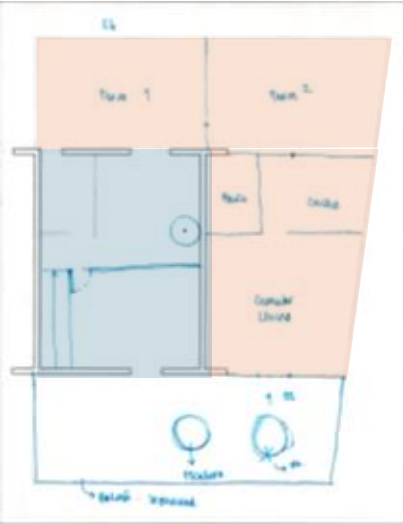
First floor - 2011



Ground floor - 2017



First floor - 2017



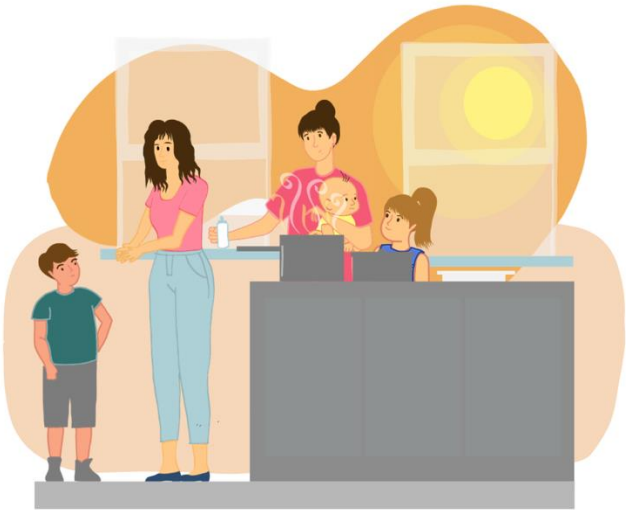
Ground floor - 2025



Narrative mapping – Santiago, Chile, 2026

VI. Preliminary findings: Living home

Everyday life reveals that housing and energy are not evenly distributed, but rather negotiated and experienced in unequal ways.



Inhabiting the second floor

Both of them (10- and 7-year-old children) have problems with nosebleeds (...) but the heat also seems to make the nosebleeds worse. (Head of household, 28 years old).

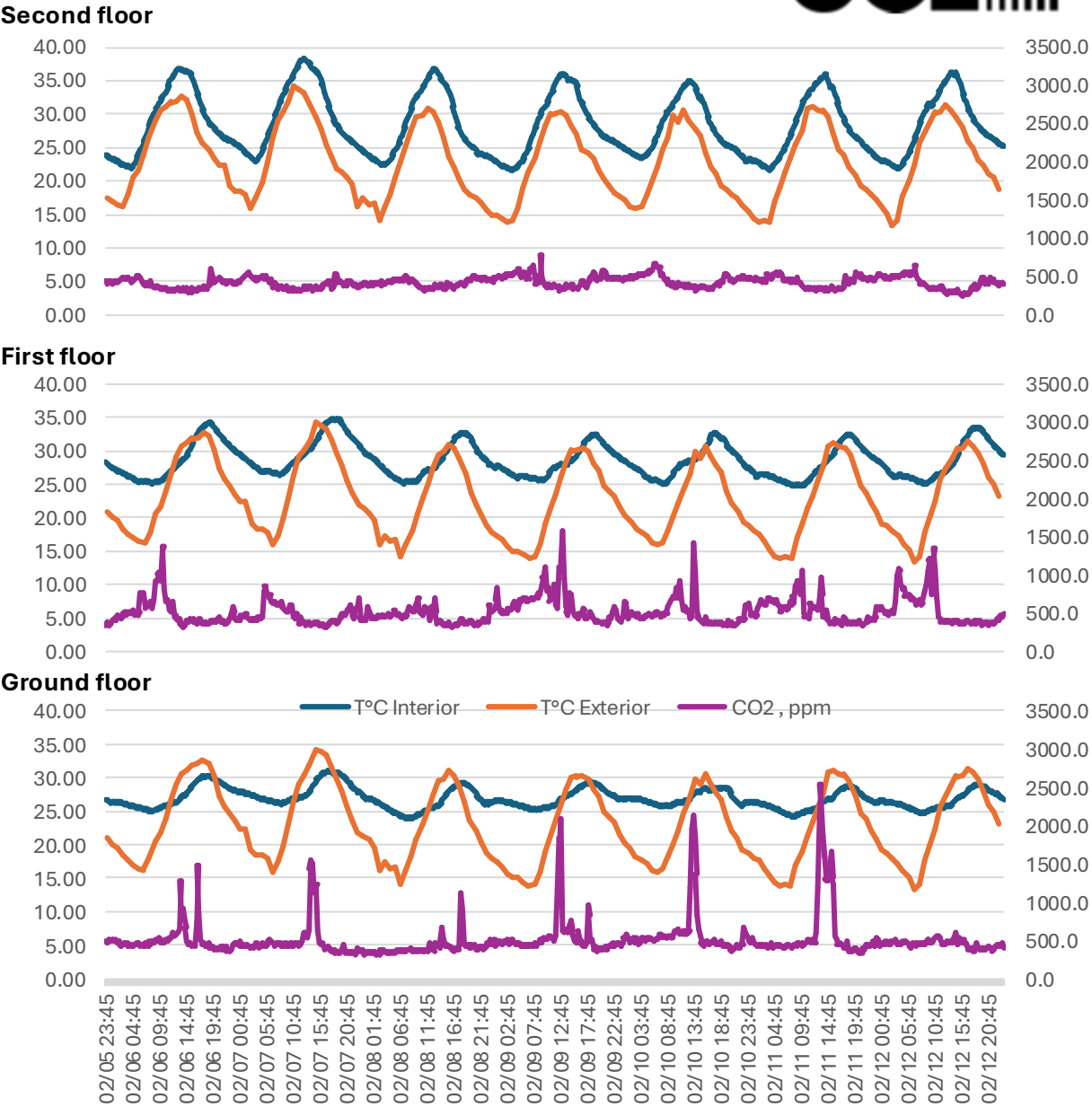
Negotiating everyday life

I avoid going up to the bathroom (...) because it's like an oven, I'd rather hold it in than go in (Head of household, 61 years).

Daily oral histories – Santiago, Chile, 2026



Environmental monitoring – Summer – Santiago, Chile, 2026



VII. Preliminary insights



Incremental housing - Summer – Santiago, Chile, 2026

Energy (in)justice in incremental social housing
Everyday negotiations of vulnerability and care

Thanks!



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CHILE



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**ALEJANDRA
SCHUEFTAN**

UNIVERSIDAD
AUSTRAL DE CHILE

RedPE
Red de Pobreza Energética


**ENERGY POVERTY
RESEARCH NETWORK**

Online

TRANSITIONS TOWARDS INTEGRATING ENERGY POVERTY INTO THE PUBLIC AGENDA:

Research, Community Inclusion and Public Policy
Challenges in Chile

TO ADDRESS ENERGY POVERTY

BRIDGES BETWEEN SCIENCE & POLICY



Francisca Herrera Neira
RedPE
Centro de Energía, Universidad de Chile

OVERVIEW

12

Preliminary
Meetings

3

Thematic
Workshops

55

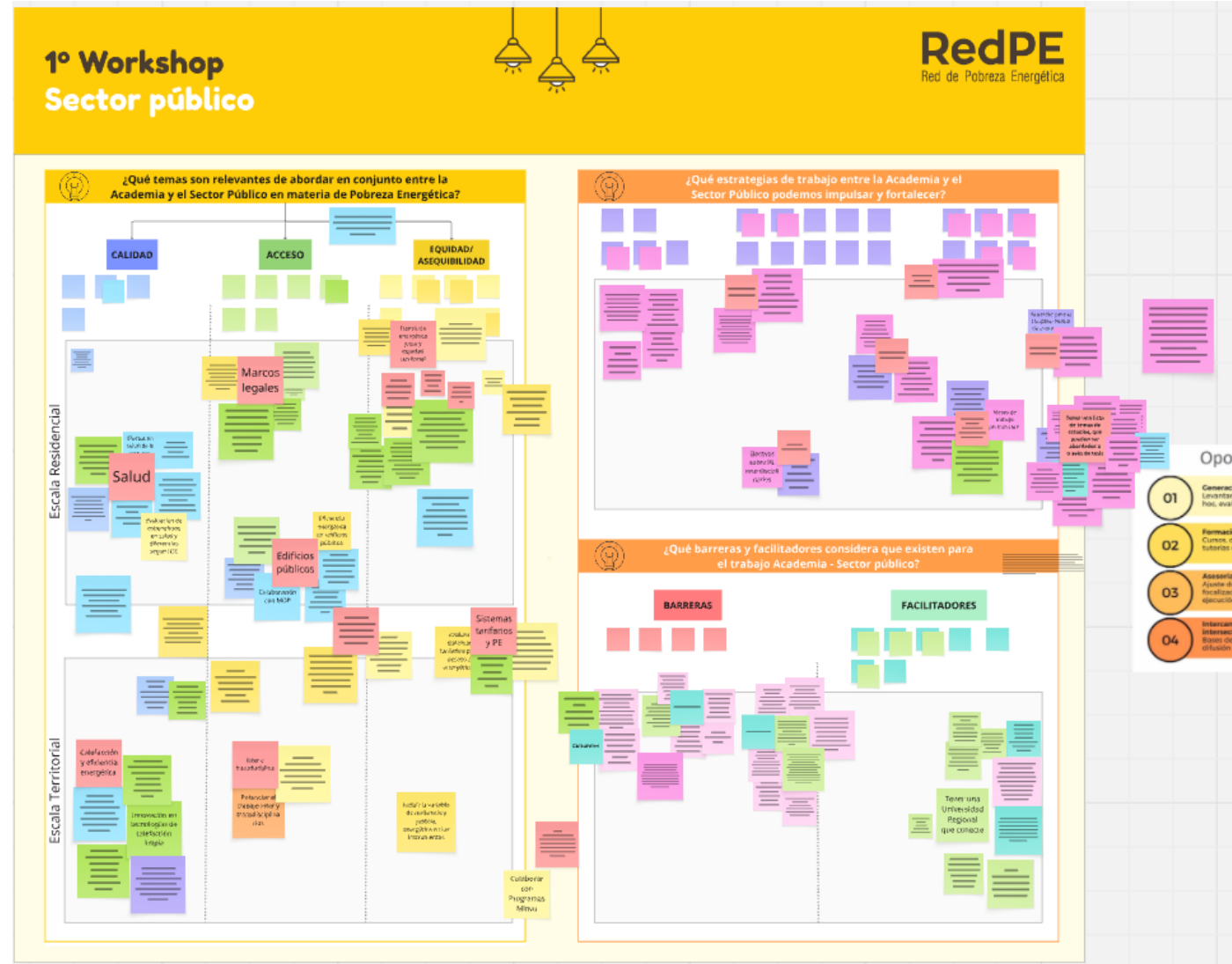
Total
Participants

6

Public
Institutions

Institutions Involved:

Energy Sustainability Agency +
Ministry of Social Development +
Ministry of Housing + Ministry of
Energy + Ministry of
Environment (and Regional
Ministerial Secretary of Los Rios
and Aysen regions) + Ministry of
Health



L

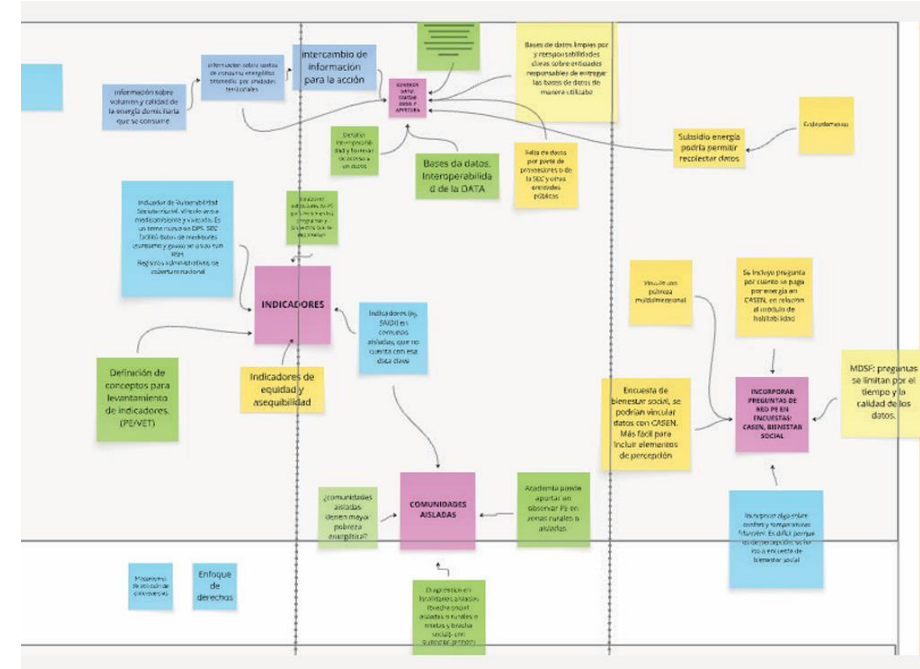
17 participants · Focus: data governance, interoperability between databases, social poverty indicators, and isolated communities.

2

20 participants · Focus: thermal subsidy impact, composite energy poverty index, territorial pilots, consumption pattern analysis.

3

18 participants · Focus: indoor pollution, health impacts, thermal standards, legal frameworks, community energy & early warning systems.



PRIORITY THEMES FOR PUBLIC ACTION

①

Data Governance & Interoperability

Shared protocols across ministries, standardized indicators, open-access platforms

②

Territorial Evidence Generation

Data with local relevance, especially for rural, isolated & extreme climate zones

③

Energy Poverty Indicators

Design equity & affordability metrics; embed PE questions in CASEN & Bienestar Social surveys

④

Health-Energy Nexus

Indoor pollution, thermal discomfort, co-benefits of PE reduction in health outcomes

⑤

Public Buildings & Legal Frameworks

Energy performance in schools, clinics; minimum vital energy standard; tariff reform

⑥

Clean Heating & Just Transition

Thermal efficiency, district heating, community energy, distributed generation

STRATEGIES TO STRENGTHEN THE SCIENCE–POLICY INTERFACE

1

Establish Permanent Working Tables

Collaborative platforms between scientists and policymakers

2

Training & Capacity Building

Energy poverty indicators, diffusion strategies for public sector

3

Student Engagement

Internships and theses aligned with government information needs

4

Designate Focal Points

Institutional representatives to facilitate communication per ministry

5

Joint Publications

Policy briefs, intersectoral success case documents, annual trend reports

6

Formalize Collaboration Agreements

Explicit objectives, roles, timelines, and coordination mechanisms

7

Review & Build Indicators

Shared measurement frameworks for territorial energy poverty

8

Create Observatories / Territorial Labs

Regional institutions to monitor and implement applied research

BARRIERS TO THE SCIENCE - POLICY INTERFACE

STRUCTURAL

Heavy institutional workload; limited staff hours

University bureaucracy slows down agreements

High professional turnover, especially in regions

Budget rigidity; no incentives for mixed studies

RELATIONAL & CULTURAL

Lack of mutual knowledge of working styles

PE seen only as an electricity access problem

Low tradition of inter-sectoral coordination

Academia struggles to produce actionable proposals

PROCEDURAL

Data dispersed, no clear governance

Timing mismatch: academic vs. policy cycles

No systematic impact evaluation frameworks

Mismatch between research output and policy needs

ENABLERS & FACILITATING CONDITIONS



Collaborative Attitude

Strong willingness from both academia and public sector;
realistic expectations



Existing Agreements & Funds

Active collaboration agreements and research funds
oriented to public tools (e.g., Fondef Idea)



Working Tables & Advisory Councils

Existing participatory spaces (COSOC) as starting points



Diverse Expertise

Complementary professional profiles offer high
multidisciplinary potential



Academia as Connector

RedPE bridges public sector inquiries with applied
research and connects ministries with territories



Regional Universities as Bridges

Closeness to local actors and communities in smaller
regions facilitates trust and collaboration

PRIORITY LINES OF ACTION

01

Technical Data Committee

Install a committee to drive energy poverty data interoperability and build shared indicators across ministries

02

Pilot Key Instruments

Test a Composite Energy Poverty Index for territorial targeting and an Early Warning System for at least one macrozone

03

Formalize Coordination

Establish agreements and a permanent working table between public sector, academia, and RedPE

04

Integrate PE in Evaluations

Develop energy poverty criteria in social, environmental, and health assessments; run sector-specific training programs

05

Recognize RedPE's Role

Consolidate RedPE as the key technical and institutional articulator between research, policy, and territories

CONCLUSIONS

- Three workshops produced a shared roadmap between academia and 6+ government institutions.
- Energy poverty is recognized as a matter of social justice, health, and territorial equity, not only infrastructure.
- Strong consensus on data governance, evidence generation, and legal frameworks as urgent priorities.
- Key enablers exist: collaborative will, existing agreements, and complementary expertise.
- The challenge now is to convert this shared agenda into stable mechanisms: tables, agreements, funding, and participation spaces.

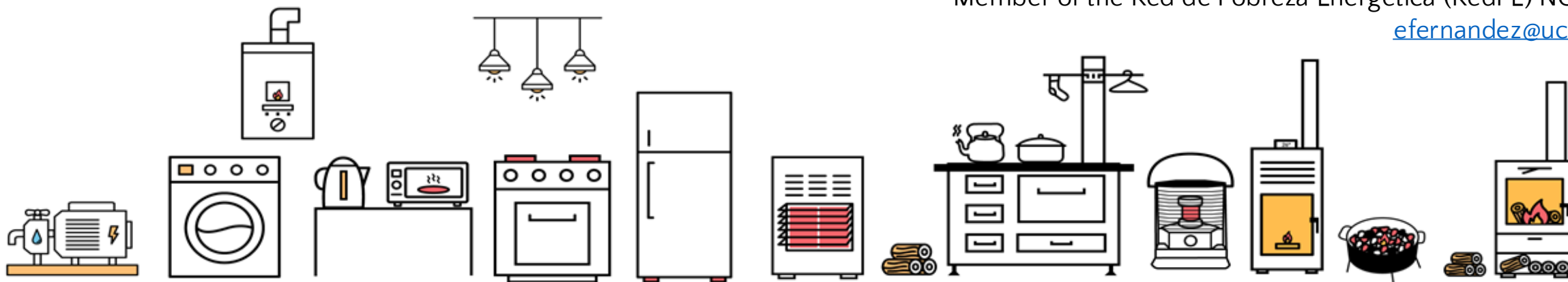
From Local to Global: Multiscale Energy Policies and Energy Poverty in Latin America and the Caribbean

Eduardo Fernández Soto

Researcher at the Territorial Planning Laboratory,
Universidad Católica de Temuco.

Member of the Red de Pobreza Energética (RedPE) NGO.

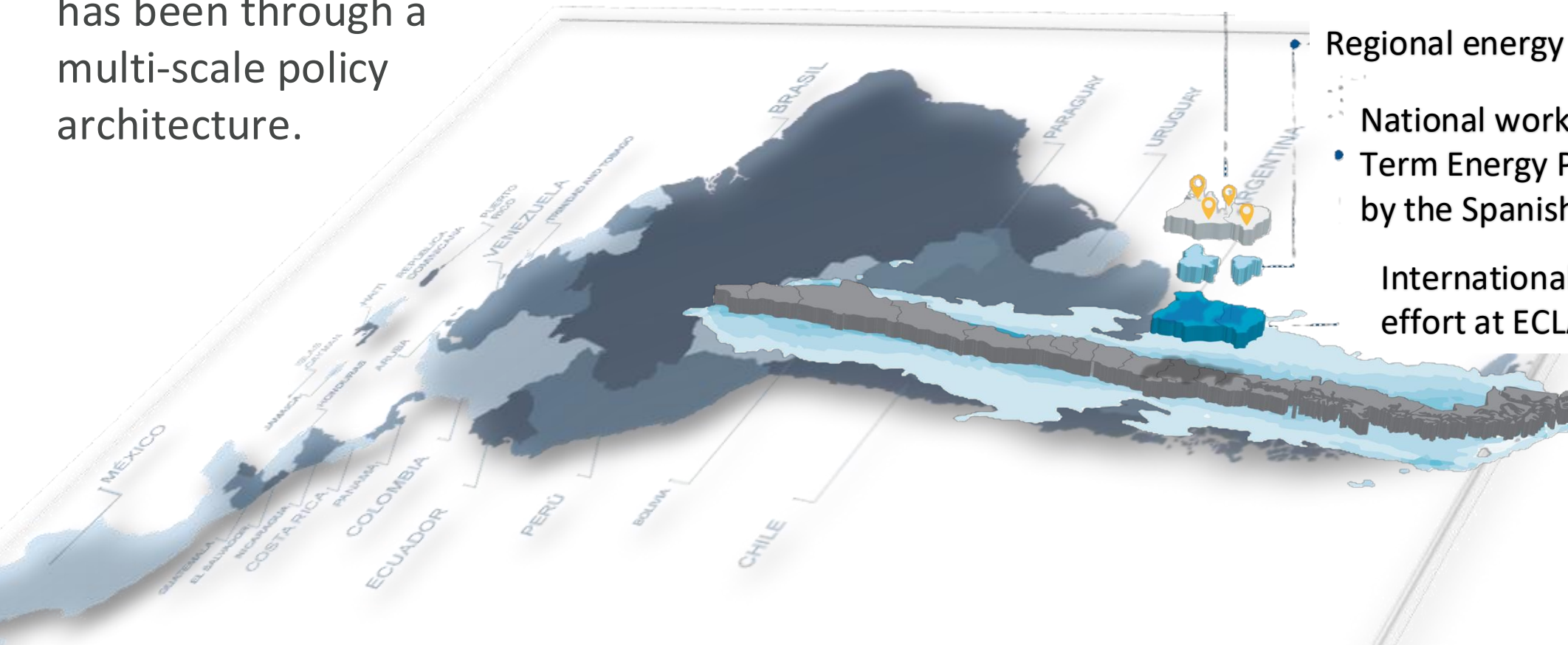
efernandez@uct.cl



www.pobrezaenergetica.cl
Chile, autumn, 2026

The way RedPE has addressed energy poverty has been through a multi-scale policy architecture.

- Local energy strategies.
- Regional energy plans.
- National workshops for Long-Term Energy Planning, known by the Spanish acronym PELP.
- International indicator-building effort at ECLAC.



“Comuna Energética” Programme



- It is an initiative driven by the Ministry of Energy and the Energy Sustainability Agency that strengthens local energy management in the municipalities of Chile.
- It supports municipalities in designing Local Energy Strategies, defining action plans and implementing concrete initiatives in energy efficiency and renewable energy.
- It seeks a sustainable, low-carbon energy transition at territorial level.





Local Energy Strategy

- Is a tool designed to enable municipalities to analyse the local energy context
- It includes processes of support, evaluation and certification through the Comuna Energética Seal.
- This instrument allows the different local authorities to make decisions.
- It is developed in a participatory way with the inhabitants of the territory.

GUÍA METODOLÓGICA PARA EL
DESARROLLO DE ESTRATEGIAS
ENERGÉTICAS LOCALES

COMUNA
ENERGÉTICA



ORATORIO DE
NIFICACIÓN
RITORIAL

Diagnostic

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Energy poverty

Access.

- Households without access to electricity.
- Households without access to energy sources.

Quality.

- Power interruptions.
- Use of firewood for cooking and domestic hot water.
- Use of firewood for heating.



Habitability.

- Dwelling built to code.
- Households living in informal settlements

Affordability or equity.

➤ Poverty



Diagnostic



Energy poverty

Territorial Energy Vulnerability

➤ Socio-ecological system.

- Limited access to energy resources and dependence on traditional sources.
- Geographical and climatic factors that heighten territorial vulnerability.



➤ Socio-technical system.

- Limited connectivity.
- Fragility of the energy infrastructure and low resilience.
- Improvement of public spaces and infrastructure.



➤ Socio-natural system.

- Socioeconomic dimension and population ageing.
- Capacity for self-transformation and local governance.
- Low levels of tourism promotion.





Regional Strategic Energy Plan

- It is an indicative instrument that seeks to address, from the regions, the challenges posed by the national energy vision.
- It seeks to guide energy development, in this example, in the La Araucanía Region, using a territorial approach.

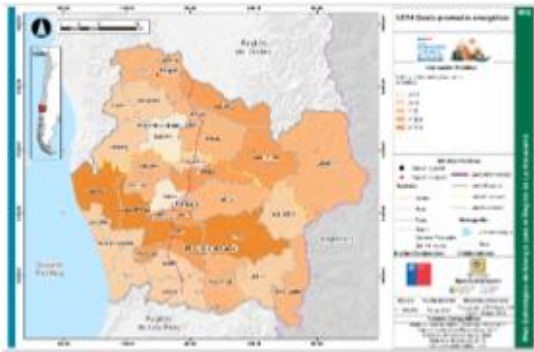


- Updating the territorial strategic diagnosis.
- Identifying territorial interests.
- Surveying variables for regional energy development.
- Defining strategic guidelines.
- Delineating Priority Energy Macro-zones (PEM).
- Designing Energy Management Areas (EMA).
- Describing the citizen participation process.

LET 4. Acceso universal y equitativo

AGE: Garantía de suministro de electricidad y combustibles a población en condición de pobreza energética. Consumo y gasto de energía.

Cartografía



Descripción

- El gasto en energía incluye electricidad, leña y GLP. Para la electricidad se considera un consumo mensual promedio de 69,8 kWh por habitante. Para el consumo de leña se considera el consumo anual promedio por hogar de 7,7 m³. Para el GLP, se utiliza el valor de 57,53 kg/año per cápita.

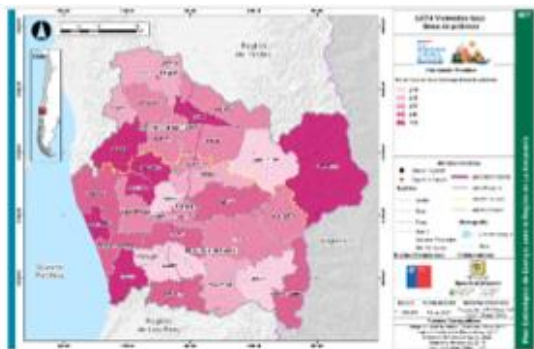
Detalle geoespacial

Consumo promedio por vivienda según el diagnóstico. Tarifas por comuna según CNE. Ingresos por hogar según CASEN. Consumo y tarifa leña según Min. Energía. Consumo y Tarifa GLP según CNE. Personas por vivienda según INE.

LET 4. Acceso universal y equitativo

AGE: Garantía de suministro de electricidad y combustibles a población en condición de pobreza energética. Condición de pobreza.

Cartografía



Descripción

- Se considera el porcentaje de los ingresos que se utilizarían en energía para la población en situación de pobreza y de pobreza extrema.
- A partir de la estimación de gasto energético, se estima que la población en situación de pobreza, utilizaría alrededor de un 16% de sus ingresos en energía. Para el caso de la población en situación de pobreza extrema, el porcentaje del ingreso destinado a energía sería de un 24% aproximadamente.

Detalle geoespacial

Regional Strategic Energy Plan

- Example of fact sheets for the energy management areas under the “universal and equitable access” guideline.
- Guarantee of electricity and fuel supply for people in a situation of energy poverty.
 - Energy consumption and expenditure.
 - Condition of multidimensional poverty.

The Long-term Energy Planning

- Long-term energy planning led by the Ministry of Energy (every 5 years, 30-year horizon).
- Explores multiple future scenarios for energy supply and demand, especially electricity.
- Looks at generation hubs, distributed generation and international energy exchanges.
- Integrates environmental policies and energy efficiency targets into planning.
- Uses regional strategic energy plans as inputs to national analysis.
- Guides a sustainable, orderly expansion of Chile's energy system.



- For example:

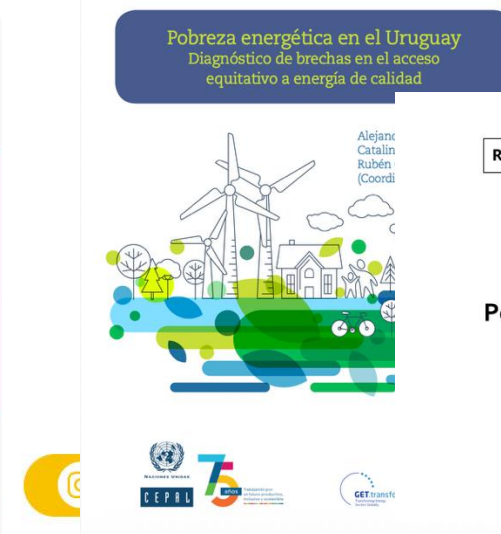
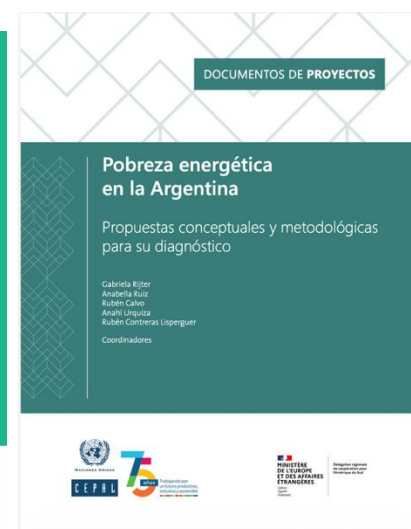
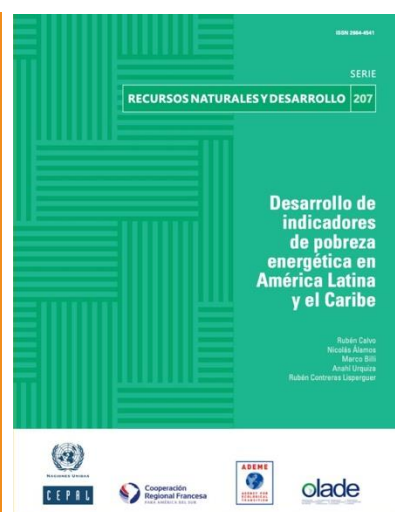
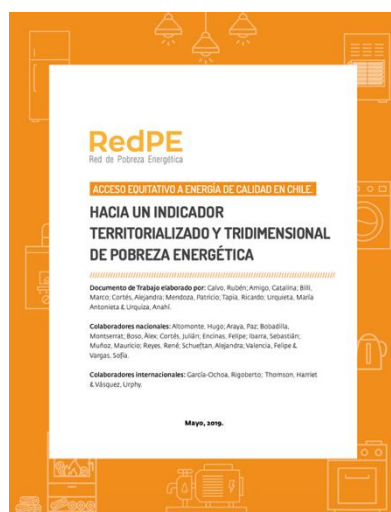
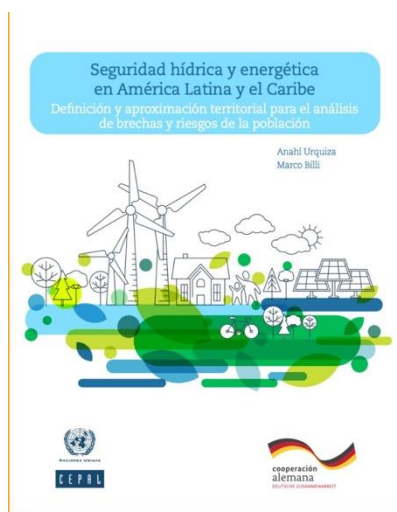
GROUP	FACTOR	RECOVERY	CARBON NEUTRALITY	ACCELERATED TRANSITION
Cross-cutting	Resilience and adaptation to climate change			
External	Economic growth	Low	Medium	High
	Fossil fuel prices	Low	Medium	High
	Decreasing costs of NCRE technologies	Slow decrease	Medium decrease	Rapid decrease
Local and global emissions	Climate GHG mitigation commitments	NDC and CN 2050 uncertain	NDC and NC 2050	NDC and NC advance
	Dry firewood	High in urban area	High in urban area Long-term use decreases	Substantial decrease in the use of firewood, the remaining is dry
	District heating	Base	Medium	High
	Replacement of heaters	Base	Medium	Medium
	Thermal insulation	Base	Medium	High + net zero buildings
	Carbon price	Low	Medium	High
	Closure of coal-fired power plants	Current	Accelerated	Accelerated +
New technologies	Electromobility	Current strategy	Carbon neutral levels	Greater than carbon neutral
	Green hydrogen (H2V)	Natural trend	Carbon neutral levels	Green H2 strategy
	NES storage	Medium	High	High+
	Distributed generation	Base	High	High+
	Energy system + decentralized /user user control	Intelligent demand demand	Air conditioning management EM Time Management Climate management	Intelligent EM management HVAC management
		H2V production	Low on-grid production Low export	High on-grid production Optimistic export
	Cost of Gas with Carbon Capture and Storage (CCS)	High	Medium	Low
Energetic efficiency	Efficient use of CCS	EE Law	EE+ Act	EE+ Act and Net zero buildings
	Efficient use in Transportation, Industry and Mining	EE Act	EE+ Act	EE++ Law High penetration of renewables in thermal/motive uses
International integration	Energy import/export	Current	H2+ export	H2+ and synthetic fuels export

The RedPE has played a central role in developing energy poverty indicators for Latin America and the Caribbean in collaboration with ECLAC

LAC – Chile – LAC – Argentina – Uruguay – LAC - Colombia – Republica Dominicana

In the process
of being
finalised.

(Spoiler alert):
Getting started



SERIE
RECursos NATURALES Y DESARROLLO 148

Pobreza energética en América
Latina y el Caribe:

situación y avances

Catalina Amigo Jorquera

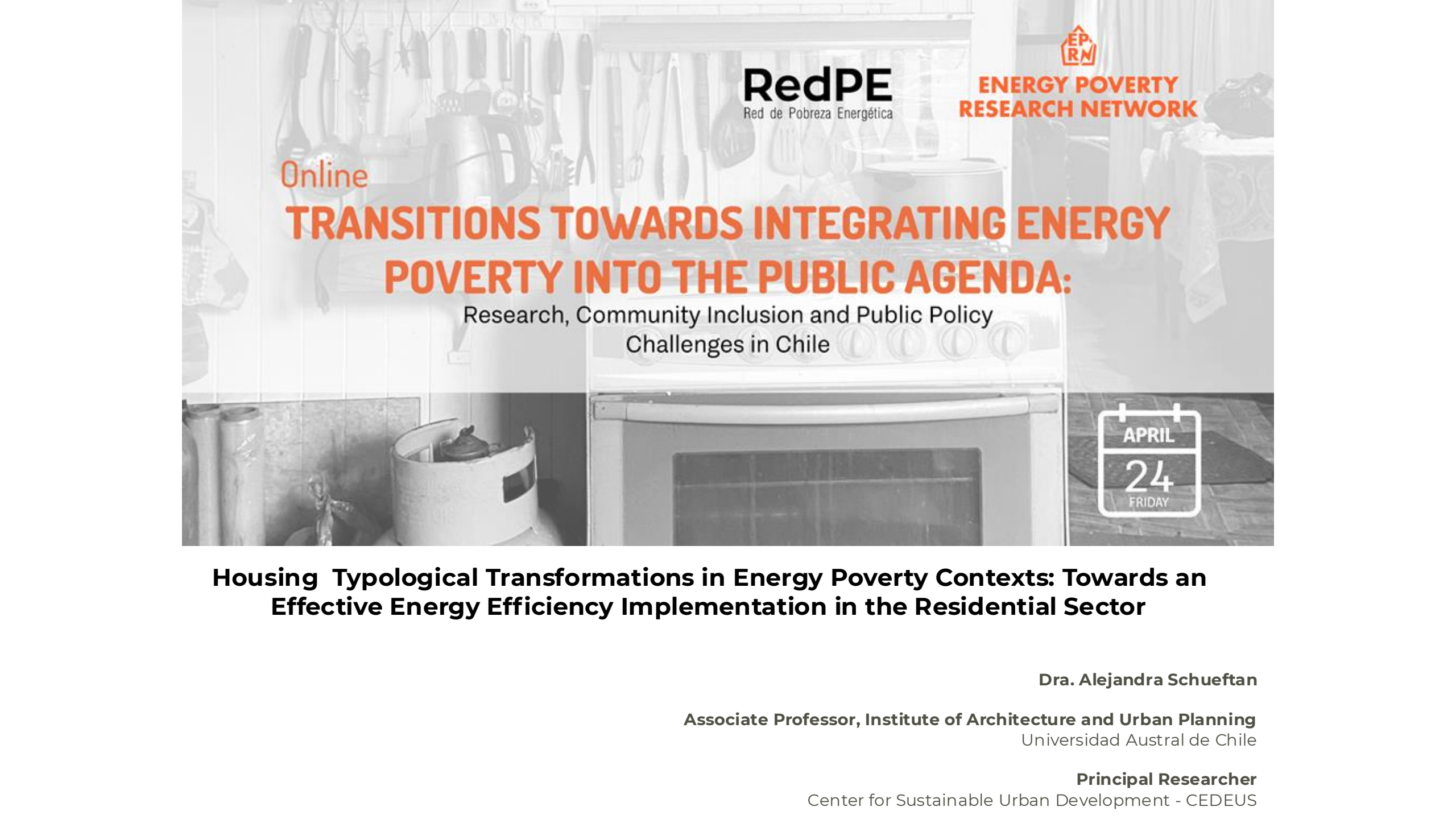
Eduardo Fernández Soto

Paz Araya Jofré

Some conclusions

- Energy policy must go beyond plans and deliver real decentralisation.
- Effective territorialisation requires resources, powers and local implementation capacity.
- Energy regimes are shaped not only by infrastructure and markets, but also by territorial configurations of demand.
- Transitions are situated processes: local dynamics are part of the change itself, not just local variations.
- RedPE has helped bring Energy Poverty into Chilean and Latin American public policy agendas.
- In response to changing ways of living, RedPE continues to strengthen its work to support wellbeing





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**ENERGY POVERTY
RESEARCH NETWORK**

Online

TRANSITIONS TOWARDS INTEGRATING ENERGY POVERTY INTO THE PUBLIC AGENDA:

Research, Community Inclusion and Public Policy
Challenges in Chile



Housing Typological Transformations in Energy Poverty Contexts: Towards an Effective Energy Efficiency Implementation in the Residential Sector

Dra. Alejandra Schueftan

Associate Professor, Institute of Architecture and Urban Planning
Universidad Austral de Chile

Principal Researcher
Center for Sustainable Urban Development - CEDEUS

Energy Poverty

In south-central Chile, firewood is widely used as a heating source in large urban areas (90% of households) due to the cold climate, low energy efficiency of buildings, and its low cost compared to other fuels.



This creates structural difficulties in meeting basic energy needs.



Energy Poverty

Multi-dimensional Approach

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Difficulty of households in meeting their energy needs and living in adequate comfort conditions

Exposure to pollution

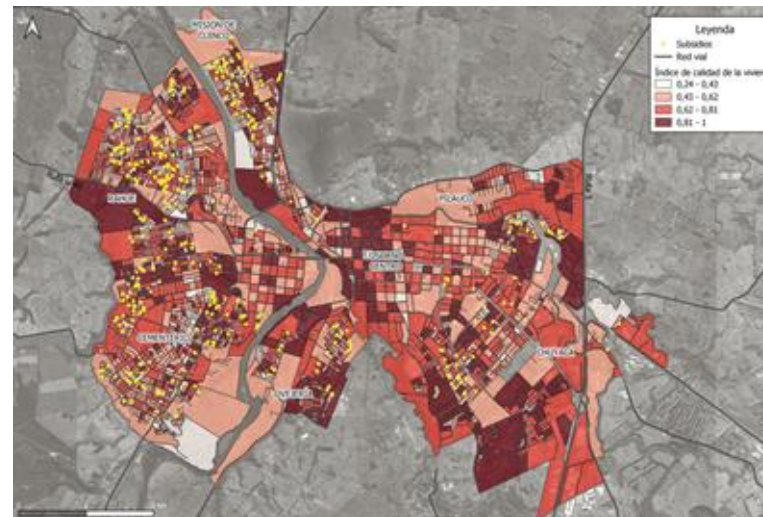
Poor comfort conditions

High heating costs

Low income

High energy costs

Low energy efficiency in housing



Energy Poverty

Multi-dimensional Approach

Difficulty of households in meeting their energy needs and living in adequate comfort conditions

→ Exposure to pollution

→ Poor comfort conditions

→ High heating costs

↓
Low income

High energy costs

Low energy efficiency in housing

Improving EE could reduce a significant percentage of energy demand



Public Policy

Implementation gap

In response to this issue, the State has implemented Atmospheric Decontamination Plans (ADP), which aim to reduce emissions and improve housing conditions.

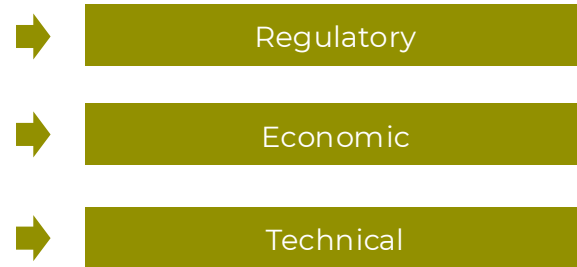
↓
PDA

- Thermal improvement
- Heater replacement
- Regulation of firewood use



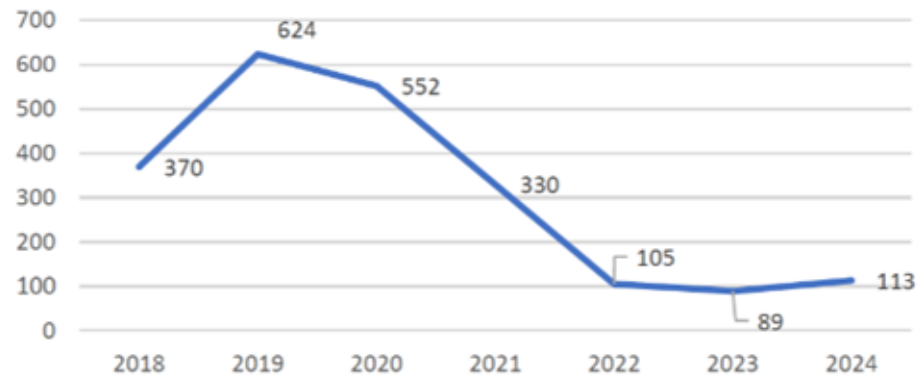
Public Policy

Implementation gap

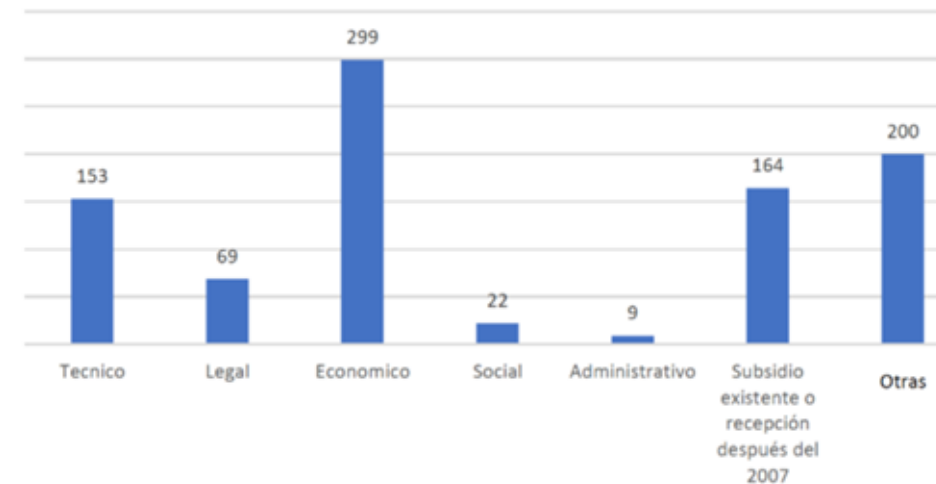


- There is a significant gap between policy design and its effective implementation.
- Thermal retrofitting programs show low levels of execution and progress.
- This is explained by regulatory, financial, and technical barriers that hinder their application in existing housing, reaching very low execution levels in some cases

Thermal improvement subsidies implemented per year – Valdivia PDA

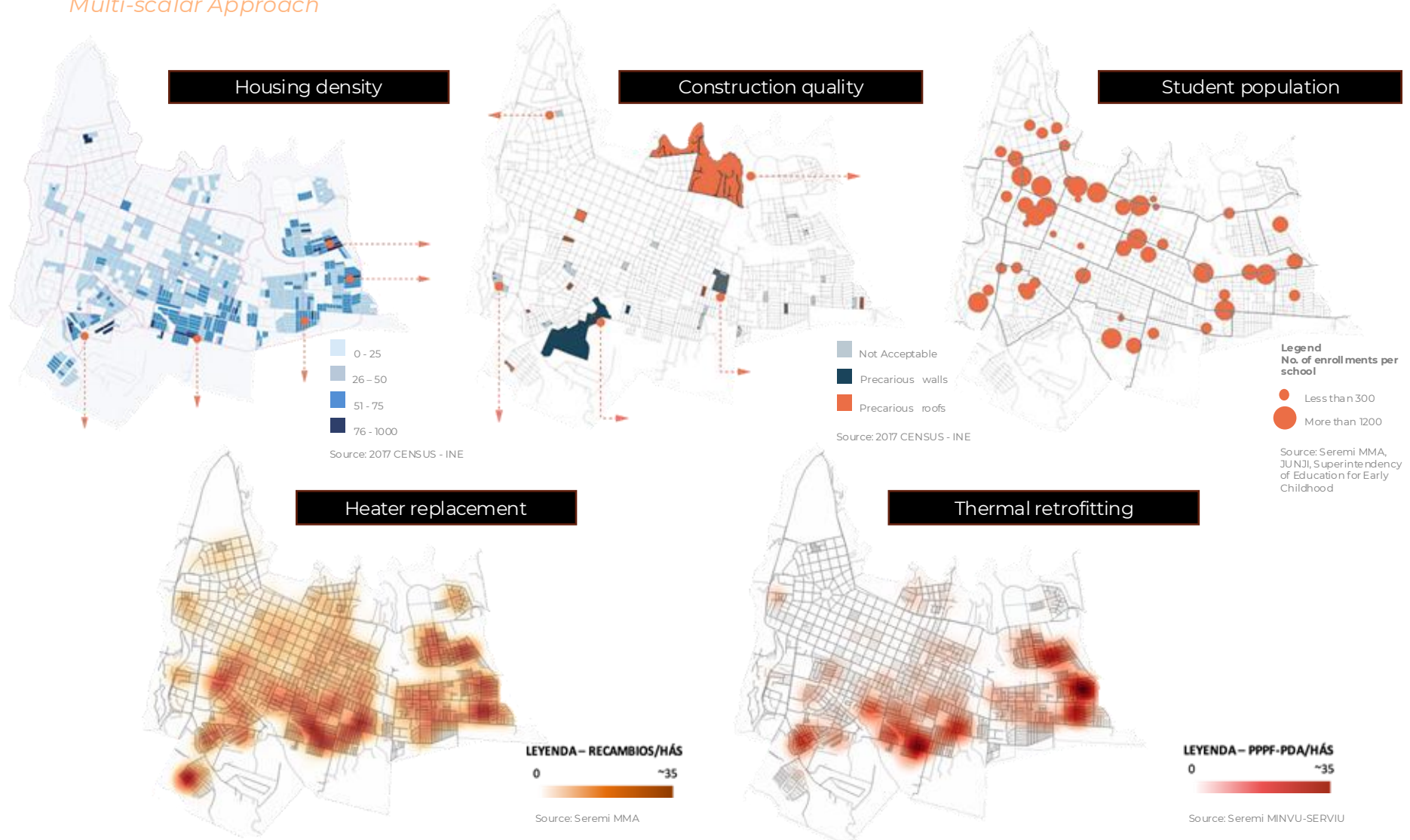


Reasons for non-qualification for the thermal retrofitting subsidy – Valdivia PDA.



Socio-environmental Vulnerability

Multi-scalar Approach



Socio-environmental Vulnerability

Multi-scalar Approach

Neighborhood scale:

Residential density

Construction quality

Vulnerable population

Public program coverage

- **Vulnerability is not homogeneous**
- **The effects of public policy depend strongly on the housing and urban context**



Housing transformations

Plot densification



Year 2005, Valdivia southern sector, Source: Google Earth.



Year 2025, Valdivia southern sector, Source: Google Earth.

- One of the main problems is that actual housing no longer matches the original typology.
- Extensions, subdivisions, and additional constructions have created new sub-typologies and forms of plot occupation.
- Programs are still designed around a static initial dwelling.

Housing transformations

Plot densification

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Growth of
built
volume

Progressive
plot
occupation

Emergence
of new sub-
typologies



Mismatch with public policy



Adapted housing in regional sector, Valdivia
Source: Own photographs, 2026.

Energy vulnerability vs architectural value

Heritage and energy

Heritage-interest housing

Energy vulnerability

Architectural value

Daily use practices

- Cannot be addressed with standardized solutions
- Energy efficiency strategies must engage with architectural values, cultural dynamics, and user perceptions



Energy vulnerability vs architectural value

Heritage and energy



In heritage-interest housing, intervention decisions do not depend solely on technical criteria:

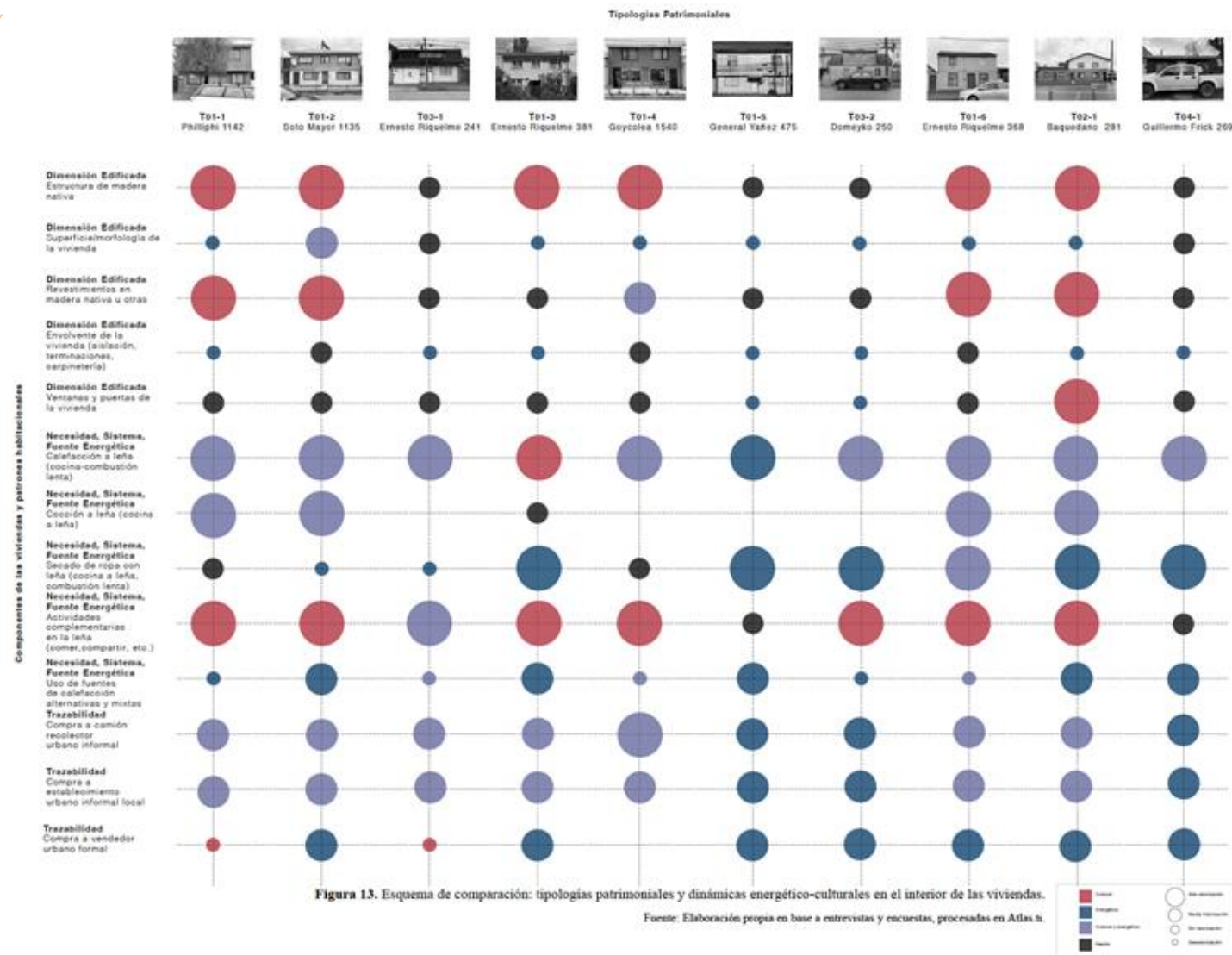
Symbolic values

Use habits

Perceptions of comfort and identity

Therefore, public policy must **incorporate the users' perspective**, especially in contexts of heritage value that is not formally protected.

Heritage and energy



Public Policy

Proposals

**Moving toward
differentiated solutions**

- Based on socio-technical characterization of dwellings and households

**Developing flexible
programs for housing of
architectural-
constructive interest**

- Articulating flexible energy efficiency solutions with heritage and cultural instruments

**Designing programs
that recognize changing
household needs**

- Expression in new sub-typologies and forms of plot occupation require adapting program design



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**TRANSITIONS TOWARDS INTEGRATING ENERGY
POVERTY INTO THE PUBLIC AGENDA:**

Research, Community Inclusion and Public Policy
Challenges in Chile

APRIL
24
FRIDAY

Thank you!
alejandra.schueftan@uach.cl

Welcome



**NICOLA
WILLAND**

RMIT UNIVERSITY



**CATALINA
AMIGO**

UNIVERSIDAD DE
CHILE

Energy poverty research: looking back, moving forward

27th & 28th October 2026
Manchester UK and online

with Asia-Pacific hub



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