Mapping alternative participatory data sources

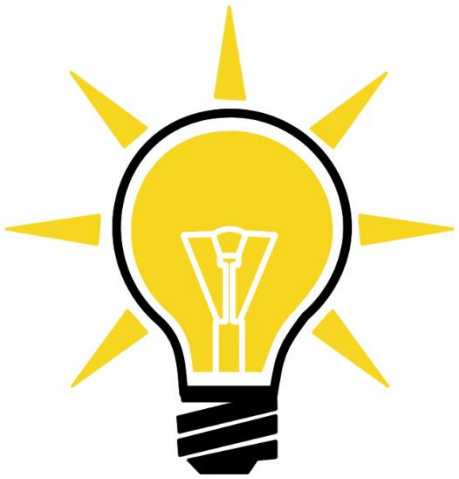
Spaces of energy vulnerability in Barcelona

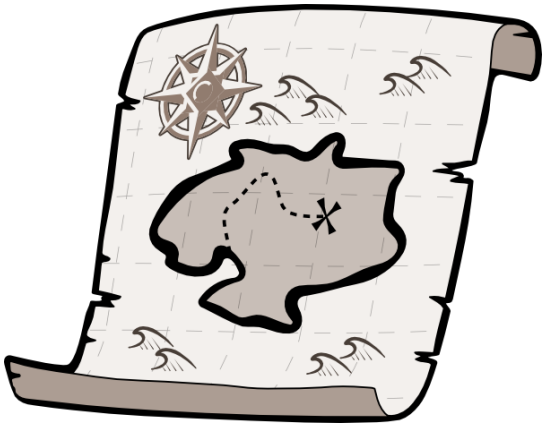
Cait Robinson | Newcastle University | @caithrobin

Structure of today's session

1: Introduction to key themes
2: Participatory mapping of vulnerabilities
3: Reflecting on the mapping process
4: Digitising our discussions

Energy vulnerability
Spatial approaches
Participatory mapping





Energy vulnerability

Domestic energy poverty

An inability to access energy services that allow for participation in society (Bouzarovski and Petrova, 2015)

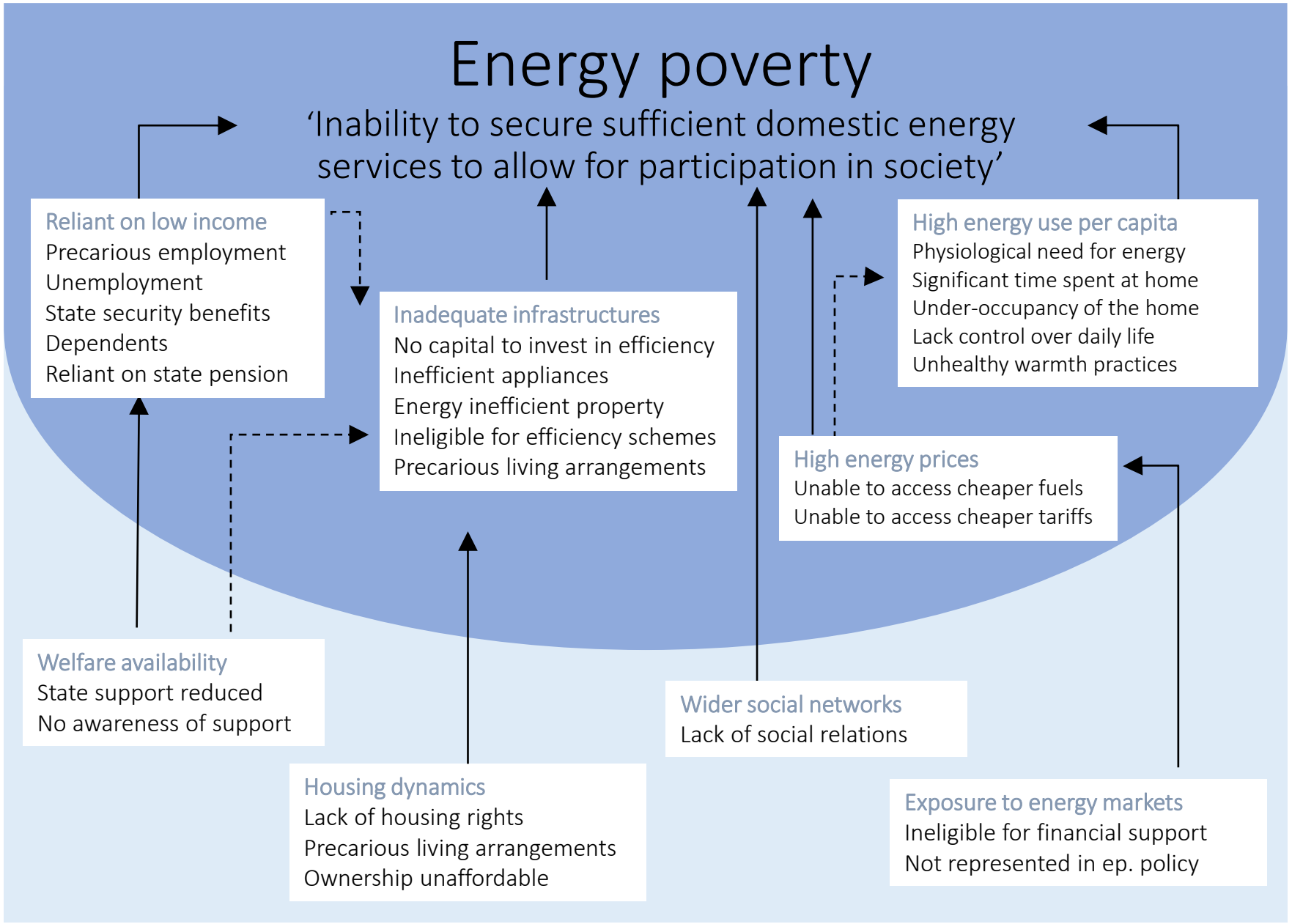
Energy vulnerability

The likelihood of a household falling into energy poverty (Middlemiss & Gillard 2015)

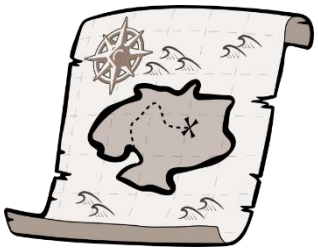
Multi-dimensional

Socially and spatially variable

Adopt a broad definition!



Robinson et al. 2019



Spatial approaches

Spatialized energy poverty debates

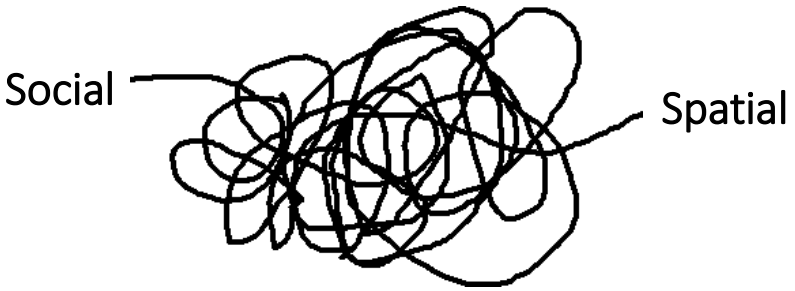
Part of a wider ambition to understand issues of energy through a geographical lens (Broto and Baker, 2018)

Space as relational

Broad shift in geographical thought

From space as a container → Space as mutually constructed through interactions with the social (Massey, 1992)

Neighbourhood unit



Growing body of evidence of spaces of energy vulnerability

Participatory mapping

"Democratization of GIS"

Ownership over geographical information

Greater privilege and **legitimacy** to local spatial knowledge

"Alternative" visualisations of space/place

A socially aware GIS"

Widening participation to the public/marginalised groups

Inclusion of **messiness** of spatial information and human-environment relations

Participatory mapping and energy

Researchers interested in energy geographies/energy poverty rarely engaged with these methodologies (with notable exceptions! https://www.ejatlas.org/)

Energy vulnerability
Spatial approaches
Participatory mapping

What do we already know about energy poverty in Barcelona?

11% of 1.5 million population are estimated to be energy poor
Higher in disadvantaged districts and among vulnerable sub-populations
Disconnections, electricity-based heating, and housing insecurity
(Tirado Herrero and Kallis, In Press)

Support mechanisms for energy poor households
"The fight against energy poverty gains momentum in the neighbourhoods"
(Barcelona City Council, 2018)

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Before lunch

Energy vulnerability themes

Infrastructures

Housing stock, Networked infrastructure, Technologies

Demographics

Age, Health, Ableness, Ethnicity and Tenure

Support Networks

Welfare, Advice centres, Co-ops

Affordability

Income, Energy prices, Fuel types

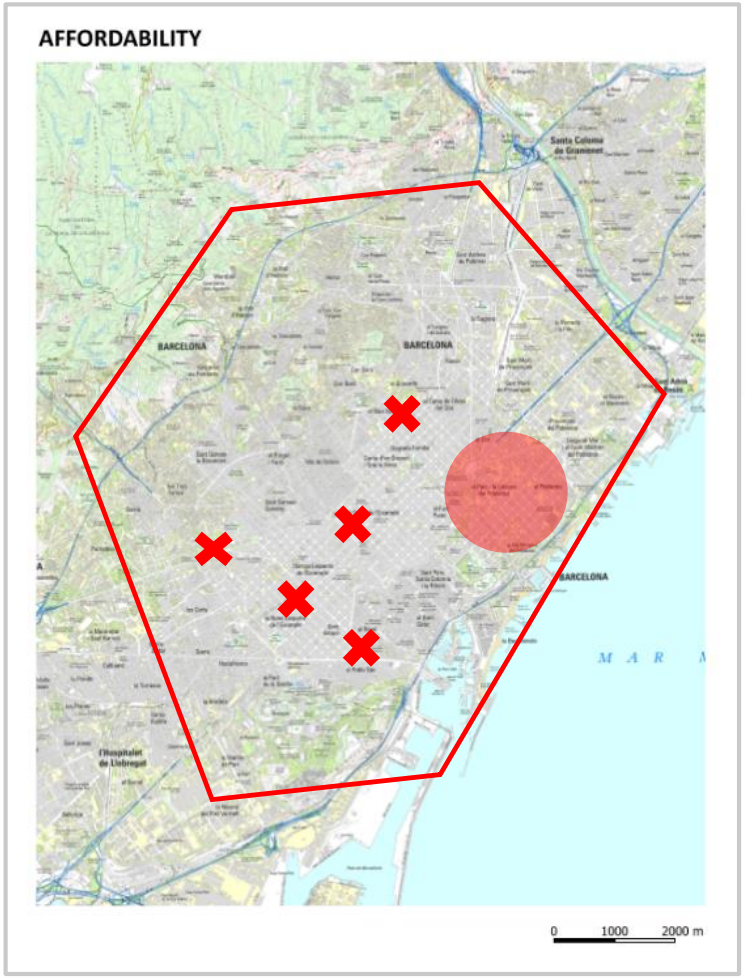
1 Participant with local knowledge

7 Workshop participants

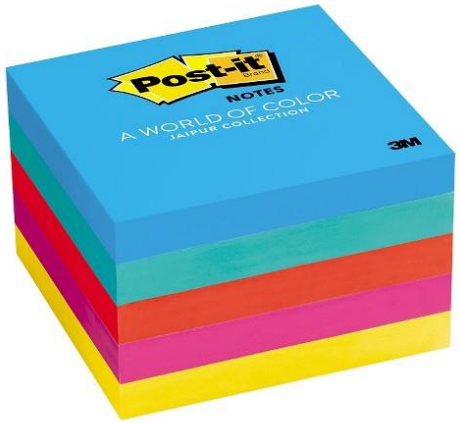
On each table…

Add detailed attributes to your map of the city

Indicate certainty



Reflections on other national contexts



What will we get out of the session?

(Hopefully) some interesting conversations

Vulnerability in different national contexts

New methodological approach

Various applications in energy-related research

A new, collaborative & thoughtful dataset

Spaces of energy vulnerability

<u>This is an experiment!</u>

What do you find most easy/difficult to map?

What is likely missing from your map?

How does the data differ from conventional GIS datasets?

Was there any overlap between the themes?

What other themes might have been useful?

Digitising our discussions

The SprayCan Tool

Participatory mapping platform Map-Me *Mapping Meanings* (Huck, 2016)

Based upon a "spray and say" approach

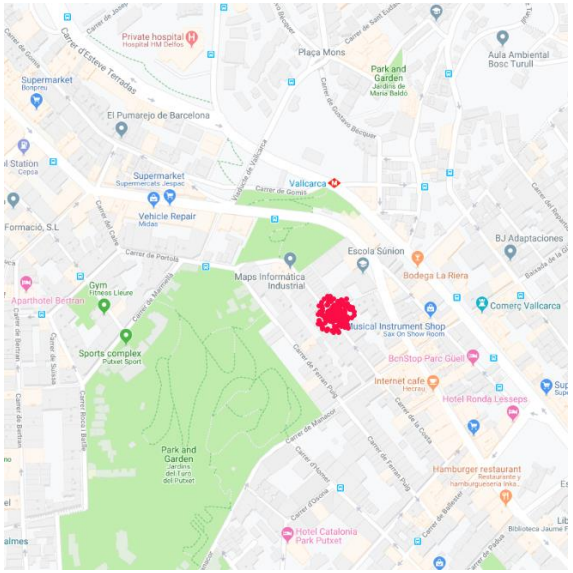
Digitising our discussions
The SprayCan Tool

Allows for collection of **fuzzy, spatial data**
Can **answer vague spatial questions** without enforcing precise boundaries on data
Designed to be **more reflective** of the way that people think about the world

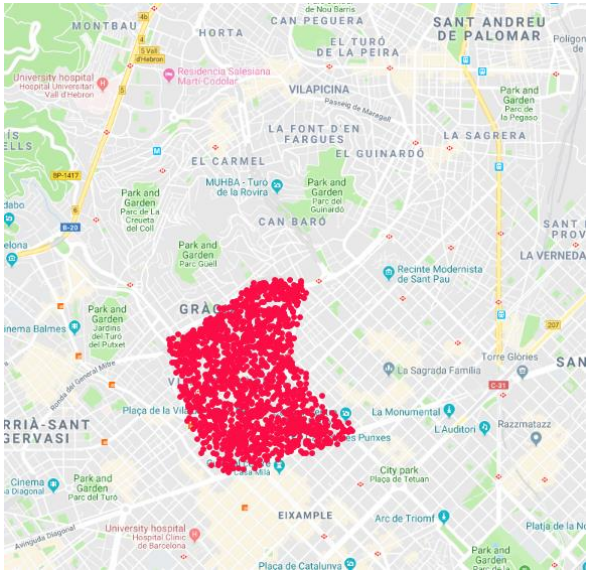
Fuzziness
fuzz'i-ness

1. The quality of not being clear to see or hear
2. The quality of not being detailed enough

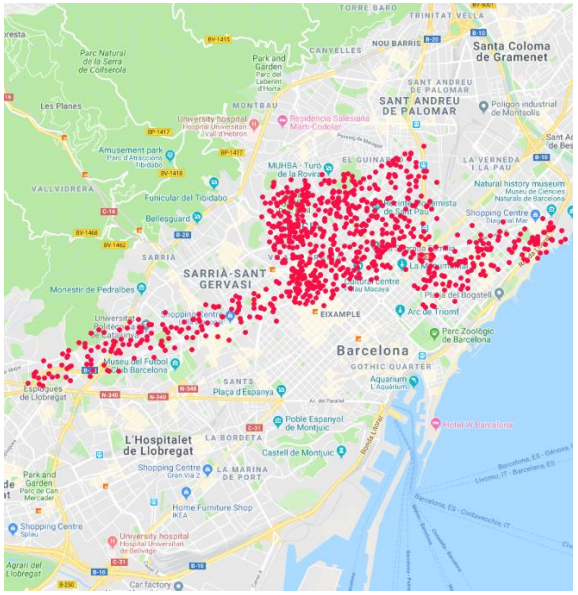
A particular place



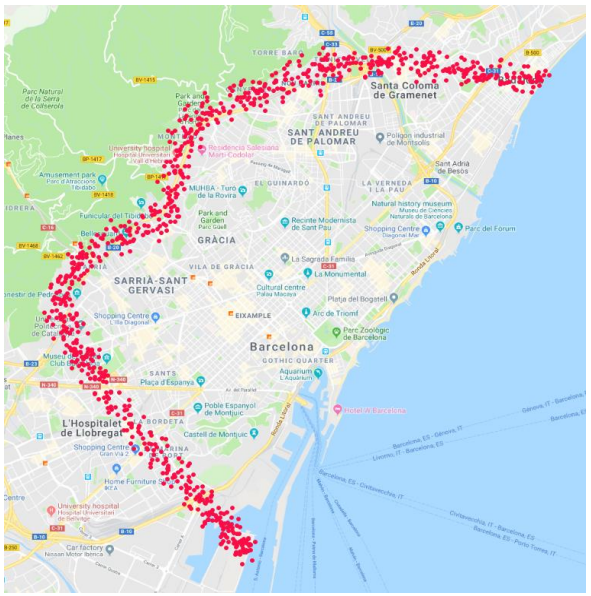
A neighbourhood



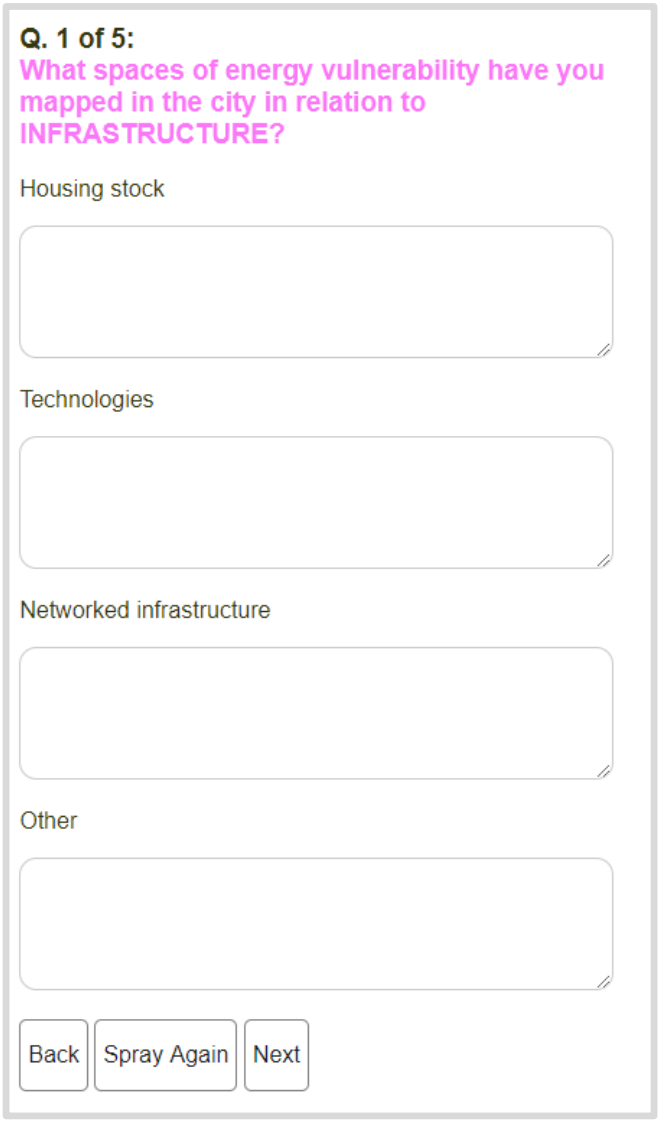
A large area of the city



The whole city region



Digitising discussions using the SprayCan



Q. 2 of 5:
What spaces of energy vulnerability have you mapped in the city in relation to DEMOGRAPHICS?

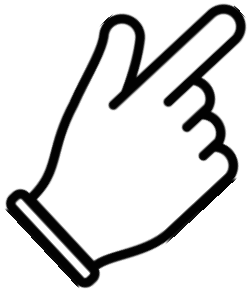
Q. 3 of 5:
What spaces of energy vulnerability have you mapped in the city in relation to AFFORDABILITY?

Q. 4 of 5:
What spaces of energy vulnerability have you mapped in the city in relation to SUPPORT NETWORKS?

Q. 5 of 5:
What OTHER spaces of energy vulnerability have you mapped in the city?

Spaces of energy vulnerability

http://map-me.org/sites/energyV



How useful was the Spraycan tool?

What do you find easy to represent with the tool?

What do you find more difficult to represent with the tool?

Was there much deliberation in your group about the mapping process?

How might you apply this in future research?