



ICTA

Institute of Environmental  
Science and Technology - UAB



# MOBILISING DATA FOR ENERGY POVERTY RESEARCH AND ACTION

First ENGAGER training school  
Institute of Environmental Science and  
Technology (ICTA)  
Universitat Autònoma de Barcelona (UAB)  
3 - 7 June 2019

COST Action CA16232  
European Energy Poverty: Agenda Co-Creation  
and Knowledge Innovation (ENGAGER)

**TRAINING SCHOOL HANDBOOK**

# Mobilising data for energy poverty research and action

## Concept

For a long time, energy poverty research has revolved around quantification methodologies and indicators. Metrics have been and still are instrumental for the societal and institutional recognition of energy poverty. They bring issues of domestic energy deprivation to the fore and, as evidenced by the history of official fuel poverty indicators in the UK, shape public debates and policy action. In the EU, the European Energy Poverty Observatory (EPOV) is laying the groundwork for common measurement frameworks in response to EU legislation that will soon introduce an obligation for Member States to report periodically on national energy poverty rates. The institutionalisation of selected indicators has occurred in parallel to the multiplication of alternative measuring approaches, often critical of and conflicting with each other. All these efforts have mostly relied on national statistical data sources such as the Household Budget Survey or the Income and Living Conditions Survey that offer solidly built samples of representative data at the EU, national and sub-national scales.

Indicators have fuelled collective action around issues of affordable energy, energy injustice, right to energy and other sources of grievances and discontent related to inadequate access to domestic energy services. Activists and civil society organisations often rely on available energy poverty metrics to support their claims and demands. But they also engage in the collection of own data to fill the gaps in available statistics, better understand local realities or shed light on matters that have not been identified as relevant by researchers and statistical offices. The result is a myriad of unconventional data sources, much of which still lies scattered and unrecognised. Often compiled through purposive sampling strategies, these datasets do not always comply with random sampling and statistical representativeness criteria. Yet in absence of other sources they are the only available way to inform about unrecognised issues that they illustrate with an unparalleled level of actuality and realism. All these often unmapped and untapped sources of information have a considerable potential for communication purposes, for sparking public dialogue and for leveraging renovated public energy poverty action. They connect with new research approaches such as scientific crowdsourcing and citizen science aimed at more participatory, democratic forms of knowledge co-production.

The Barcelona ENGAGER training school aims to develop skills for mapping, evaluating and making use of unconventional, unstructured data sources; and to provide tools for realising the potential of untapped data for enhanced energy poverty research, communication and action.

## Lists of speakers and trainers

Dr Brenda Boardman (University of Oxford)  
Dr Andrea Saltelli (University of Bergen)  
Dr Caitlin Robinson (University of Manchester)  
Dr Daniela del Bene (Autonomous University of Barcelona)  
Dr João Pedro Gouveia (NOVA University of Lisbon)  
Dr Patrik Oskarsson (Swedish University of Agricultural Sciences)  
Dr Rosie Robison (Anglia Ruskin University)  
Antonio del Río (Bombers UGT)  
Carles Sagué (Plataforma Sant Roc-Som Badalona)  
Cèlia Dotú (Fundació ABD)  
Gemma Busquets (BAU School of Design)  
Maria Campuzano (Alliance against Energy Poverty)  
Marilyn Smith (EnAct project)  
Marta García (Ecoserveis)  
Yannick Deniau (Geocomunes de Mexico / Universidad Federal Fluminense)

Dr Harriet Thomson (University of Birmingham) – **co-organiser**  
Marlies Hesselman (University of Groningen) – **co-organiser**  
Dr Siddharth Sareen (University of Bergen) – **co-organiser**  
Dr Hyerim Yoon (Autonomous University of Barcelona) – **co-organiser**  
Dr Sergio Tirado Herrero (Autonomous University of Barcelona) – **lead organiser**

## Field visit – Sant Roc neighbourhood, Badalona

A field visit to [Sant Roc neighbourhood in Badalona](#) is planned on the afternoon of Thursday June 6<sup>th</sup> followed by presentations on the local policies and collective actions on energy poverty that are taking place in Barcelona. The visit is expected to foster on-site discussion about energy debt, access to housing, irregular connections and fire risk with the neighbours' association, local activists and the fire service.

## Group work and assignments

In the application to the training school, participants were asked to provide in advance an energy poverty research and/or action topic to work with during the training school. Based on this information the participants will be divided in to six teams of five trainees to jointly reflect of the knowledge and skills delivered in the training school. Throughout the week, there will be allocated time for group work during which each team will be asked to focus on tasks related to one of the three main themes of the school.

1. Tools and techniques to measure and monitor EP data at multiple scales
2. Scope for adjusting and refining existing datasets to be more EP relevant
3. Data-driven approaches for visualising EP to inform and impact policies

On the last day of the training school (Friday June 7) all teams will be sharing the outcome of their collective work in a 15 minute-presentation of their assignment in a format of their choice.

Trainees will be also contributing to capture the content of the sessions and field trip through summaries and reflections of their learning experience with the aim of making the outcomes of the training school available to broader audiences – details to be provided during day 1.

## Programme, activities and suggested readings

### Day 1 – Monday June 3

Location: ICTA, UAB room Z022/023

- 14:00h – 14:15h     **Welcome and introduction**  
Xavier Gabarrell (ICTA-UAB) and Sergio Tirado Herrero (ICTA-UAB)
- 14:15h – 15:00h     **Setting the scene**  
Harriet Thomson (University of Birmingham), Siddharth Sareen (University of Bergen) and Sergio Tirado Herrero (ICTA-UAB)
- 15:00h – 16:45h     (Keynote) **A conversation with Brenda Boardman** **Open session**  
Brenda Boardman (University of Oxford). Chaired by Harriet Thomson (University of Birmingham) and Sergio Tirado Herrero (ICTA-UAB)
- Suggested reading:  
Liddell, C. (2012). [The 'missed exam': Conversations with Brenda Boardman](#). Energy Policy 49, 12–18.
- 16:45h – 17:15h     Coffee Break
- 17:15h – 18:00h     **Ice breaker activity: Getting to know each other**
- 18:00h – 19:00h     **Welcome drinks and snacks**

### Day 2 – Tuesday June 4

Location: ICTA, UAB room Z022/023

- 9:30h – 10:45h     **Expertise, participation, evidence** **Open session**  
Andrea Saltelli (University of Bergen)
- 10:45h – 11:00h     Break
- 11:00h – 12:00h     (continued) **Expertise, participation, evidence** **Open session**  
Andrea Saltelli (University of Bergen)

Suggested readings:

Clark, W.C., Majone G. (1985). [The Critical Appraisal of Scientific Inquiries with Policy Implications](#). Science, Technology and Human Values 10(3), 6–19.

Rayner, S., 2012. [Uncomfortable knowledge: the social construction of ignorance in science and environmental policy discourses](#). Economy and Society, 41(1): 107-125.

Saltelli, A., Giampietro, M. (2017) [What is wrong with evidence-based policy, and how can it be improved?](#) Futures, 91, 62-71.

- 12:00h – 12:15h Break
- 12:15h – 13:00h **Citizen science and participatory research** *Open session*  
Patrik Oskarsson (Swedish University of Agricultural Sciences)
- 13:00h – 14:00h Lunch break
- 14:00h – 15:45h **Citizen science and participatory research**  
Patrik Oskarsson (Swedish University of Agricultural Sciences)
- 15:45h – 16:15h Coffee break
- 16:15h – 17:30h **GROUP WORK**

### Day 3 – Wednesday June 5

Location: ICTA, UAB room Z022/023

- 9:30h – 10:45h **Mapping environmental conflicts. Rationale and Challenges for creating a global database** *Open session*  
Daniela del Bene (ICTA-UAB) and Yannick Deniau
- 10:45h – 11:00h Break
- 11:10h – 13:00h **Mapping non-conventional, participatory data: spaces of energy vulnerability in Barcelona** *Open session*  
Caitlin Robinson (University of Manchester)
- Suggested readings:  
Broto, V. C., Baker, L. (2018). Spatial adventures in energy studies: An introduction to the special issue. *Energy Research & Social Science*, 36, 1-10.  
Elwood, S. (2006). Critical issues in participatory GIS: Deconstructions, reconstructions, and new research directions. *Transactions in GIS*, 10(5), 693-708.  
Dunn, C. E. (2007). Participatory GIS—a people's GIS?. *Progress in human geography*, 31(5), 616-637.
- 13:00h – 14:00h Lunch break
- 14:00h – 14:45h (continued) **Mapping non-conventional, participatory data: spaces of energy vulnerability in Barcelona**  
Caitlin Robinson (University of Manchester)
- 14:45h – 15:45h **Mapping Energy Poverty Vulnerability in Portugal: multidimensionality, big data use and connections with local and national policy** *Open session*  
João Pedro Gouveia (NOVA University of Lisbon)



#### Suggested readings:

Gouveia, J.P., Palma, P. Simoes, S. (2019). Energy poverty vulnerability index: A multidimensional tool to identify hotspots for local action. Energy Reports (5) pp. 187-201

Openexp (2019). [European energy poverty index \(EEPI\). Assessing Member States' progress in alleviating the domestic and transport energy poverty nexus.](#)

Gouveia, J.P., Seixas, J., Long, G. (2018). Mining households' energy data to disclose fuel poverty: Lessons for Southern Europe. Journal of Cleaner Production 178, pp. 534-550.

15:45h – 16:15h Coffee break

16:15h – 17:30h **GROUP WORK**

## **Day 4 – Thursday June 6**

Location: ICTA, UAB room Z022/023 and field visit to Badalona

9:30h – 11:30h **Communication through data visualization and infographics**

**Open session**

Gemma Busquets (BAU School of Design)

11:30h – 11:45h Break

11:45h – 13:00h (continued) **Communication through data visualization and infographics**

Gemma Busquets (BAU – Barcelona School of Design)

13:00h – 14:00h Lunch break

14:00h – 15:00h **Energy poverty policies at the urban scale in Barcelona** **Open session**

Cèlia Dotú (Fundació ABD), Raquel Rodríguez (Ecoserveis) and Marta García (Ecoserveis)

15:00h – 16:00h **Collective energy poverty action in Barcelona** **Open session**

Maria Campuzano (Alliance against Energy Poverty)

#### Suggested reading:

Guiteras, M. (2018). [Alliance against Energy Poverty, Catalunya. Standing up to human rights abuses by energy corporations through advocacy and mutual support.](#) Transnational Institute (TNI):

García Lamarca, M. (2016). [Energy struggles: combating energy poverty in Catalonia.](#) ENTITLE blog:

Angel, J. (2019). Irregular Connections: Everyday Energy Politics in Catalonia. International Journal of Urban and Regional Research, 43(2), 337–353.

[Bus transfer from ICTA-UAB to the Sant Roc neighborhood in Badalona]

17:00h – 19:00h **Field visit to Sant Roc, Badalona** **Open activity**

20:00h - **Networking dinner at La Guingueta de La Rambla restaurant**  
(Passeig de la Rambla, 19, 08911 Badalona, Barcelona)

## Day 5 – Friday June 7

Location: Lleialtat Santsenca community centre (Carrer d'Olzinelles, 31, 08014 Barcelona)

9:30h – 10:30h **Social Sciences & Humanities evidence for policy impact** **Open session**  
Rosie Robison (Anglia Ruskin University)

### Suggested reading:

Please take a look at the SHAPE ENERGY publications (e.g. cross-cutting theme reports, call for evidence, or energy lexicon):

<https://shapeenergy.eu/index.php/publications/>

Foulds, C., Robison, R. (2018). [Advancing energy policy: lessons on the integration of social sciences and humanities](#). Palgrave-Macmillan.

10:30h – 10:45h Break

10:45h – 13:00h **Using data in Storytelling** **Open session**  
Marilyn Smith (EnAct project)

### Suggested reading:

Openexp (2019). [European energy poverty index \(EEPI\). Assessing Member States' progress in alleviating the domestic and transport energy poverty nexus](#).

13:00h – 14:00h Lunch break

14:00h – 15:30h **GROUP WORK**

15:30h – 16:00h Coffee break

16:00h – 18:00h **Course assignment presentations by participants**

18:00h – 18:10h **Wrap up and conclusions**

18:10h - **Farewell drinks and snacks**



## Short bio of speakers and trainers

### **Dr Brenda Boardman (University of Oxford)**

Brenda Boardman is an Emeritus Fellow at the ECI following her retirement in September 2008. At the ECI, Brenda was the former head of the Lower Carbon Futures team and a co-director of the UK Energy Research Centre. Her main research focus is on how to achieve demand reduction in energy across the UK economy, but in particular the built environment and by low-income households, i.e. fuel poverty. She considers the economic, social and technical aspects of the subject and her work has a strong policy emphasis. She is widely viewed as one of the most experienced in her field and was awarded an MBE in 1998 for her work on energy efficiency and received the Energy Institute's Melchett Medal in the same year. Brenda is actively contributing to current policy debates on energy access and affordability and has delivered keynote speeches in nine different European cities in the last two years – a reflection of the growing EU interest in energy poverty.

### **Dr Andrea Saltelli (University of Bergen)**

Andrea Saltelli has worked on physical chemistry, environmental sciences, applied statistics, impact assessment and science for policy. His main disciplinary focus is on sensitivity analysis of model output, a discipline where statistical tools are used to interpret the output from mathematical or computational models, and on sensitivity auditing, an extension of sensitivity analysis to the entire evidence-generating process in a policy context. He is an adjunct professor at the Centre for the Study of the Sciences and the Humanities (SVT) - University of Bergen (UIB). He lives and works in Barcelona, and is visiting fellow at Open Evidence Research, Universitat Oberta de Catalunya (UOC), Barcelona.


### **Dr Patrik Oskarsson (Swedish University of Agricultural Sciences)**

Patrik Oskarsson works as teacher and researcher on resource politics. His research examines coal mining and land use in ongoing energy expansions in India and Mozambique, and the possibilities to tackle environmental pollution via participatory environmental monitoring. His research interests include changes to land and resource uses and what these mean to rural populations in the Global South. His analysis of these large-scale resource projects has often explored the intersection of the natural resource base with the way that the politics of knowledge work to frame such problems and shape them into particular, often technical, solutions. Much of his work has been carried out together with different activist groups where they jointly explore and learn about complex problems and what can be done to accomplish positive change in rapidly unfolding and uncertain situations.

### **Dr Daniela del Bene (Autonomous University of Barcelona)**

Daniela del Bene recently obtained her PhD at ICTA-UAB with a dissertation on Hydropower and ecological conflicts. She is also the main coordinator of the EJAAtlas. She holds a Master degree in Cultural Anthropology at the University of Turin (Italy) and a BA in International Relations and Diplomacy at the University of Trieste (Italy). She also studied Ethnology, History of Southern Asia and Politics at the South Asian Institute at University of Heidelberg (Germany). Her main research topics are conflicts related to water resources and river basin management, dams and hydropower, social movements. Her work will be carried out mostly in Southern Asia (Indian Himalayas), Europe (Alps) and Latin America.





### **Dr Caitlin Robinson (Newcastle University)**

Caitlin Robinson is a Research Associate of Centre for Urban and Regional Development Studies at Newcastle University. She holds a PhD from University of Manchester. Her research uses a range of socio-spatial analyses to understand the geographies of vulnerability to fuel poverty in England. Her PhD project has been part of the Centre for Doctoral Training in Power Networks, funded by the Engineering and Physical Sciences Research Council (EPSRC). The research mapped vulnerability to fuel poverty within the UK, forecasting future demand for energy on this basis. It incorporated both qualitative and quantitative techniques allowed for consideration of the complex spatial, social and political dimensions associated with future scenarios of increased or decreased fuel poverty. The research has been aimed to inform the development of network infrastructure in the UK, enabling policy to adapt to the multiple uncertainties associated with future demand for energy.

### **Dr João Pedro Gouveia (NOVA University of Lisbon)**


João Pedro Gouveia is a researcher and integrated member of the Center for Environmental and Sustainability Research (CENSE), under the Department of Sciences and Environmental Engineering of FCT NOVA University of Lisbon. He holds a Ph.D. in Climate Change and Sustainable Development Policies – Sustainable Energy Systems, from Nova University and Lisbon University. Prior to his Ph.D., he completed his Master's in Environmental Engineering from FCT NOVA, Portugal, where he also completed his Bachelor's in Environmental Engineering Sciences. His topics of research are on smart cities, low carbon energy transitions and related economic and policy analysis; vulnerability and adaptation of energy systems to global warming, energy efficiency topics, energy poverty and thermal comfort mapping, and smart meters data mining. He has worked in several EU and national projects on these topics both focused on research and policy outcomes. Currently, João is part of Climate KIC Sustainable Historic City Districts project and he is a senior fellow for Project Drawdown – 100 Solutions to Reverse Global Warming.

### **Dr Rosie Robison (Anglia Ruskin University)**

Dr Rosie Robison is Principal Research Fellow of the Global Sustainability Institute at Anglia Ruskin University. She has led the Consumption & Change research theme at the GSI since 2011. She draws primarily on social science approaches (psychology, science & technology studies, psychosocial studies, human geography), informed by her technical training in applied mathematics. She is co-lead of the €1m Horizon 2020 project Energy-SHIFTS (2019-2021); she also co-led the €2m Horizon 2020 project SHAPE ENERGY (2017-2019), working closely with the European Commission's energy strategy unit within DG RTD. She is also Co-Investigator on the UKERC funded Energy-PIECES project working with early career SSH researchers undertaking secondments within energy policy-related organisations such as BEIS. An experienced facilitator, Rosie regularly leads interdisciplinary workshop programmes. Her facilitation approach is informed by psychosocial understandings of group and interpersonal dynamics.

### **Gemma Busquets (BAU School of Design)**

Gemma Busquets is the art director of the Master's in Digital Publishing and director, coordinator and teacher of the Master's in Infographics and Data Visualization at BAU, a Barcelona Design University. Currently based in Barcelona, she works for studios and as a freelance on a variety of projects, sectors, clients around the world since 2008. She studied graphic design in Elisava with an Erasmus at Central Saint Martins. She loves projects that



involve working with information such as digital publishing apps, websites, user interfaces or infographics and enjoys the work involved in identifying order and narrative in complexity.

**Marta García (Ecoserveis)**

Marta García is CEO of Ecoserveis.

**Cèlia Dotú (Fundació ABD)**

Cèlia Dotú is the coordinator of Barcelona City Council's Energy Advisory Helpdesks (*Punts d'Atenció Energètica*). She holds a Master's degree in Management and International Development and Cooperation Projects from Polytechnic University of Catalunya.

**Maria Campuzano (Alliance against Energy Poverty)**

Maria Campuzano is the spokesperson of Aliança contra la Pobresa Energètica (APE) – Barcelona's Alliance against Energy Poverty. She is also a member of Enginyeria Sense Fronteres (ESF) - Engineers without Boarder.

**Antonio Del Rio (Bombers UGT)**

Antonio del Río es the spokesperson of *Bombers UGT* – a trade union of the Catalan fire service.

**Carles Sagués (Plataforma Sant Roc-Som Badalona)**

Carles Sagué is the spokesperson of the *Plataforma Sant Roc-Som Badalona* – a local community group of the city of Badalona.

**Marilyn Smith (EnAct project)**


Marilyn Smith is Executive Director of EnAct. She has more than 15 years of experience as a science journalist, editor and communications advisor. She also served three years (2009-12) as Chief Editor at the International Energy Agency (IEA), during which time she became aware of the energy information gap. While thousands of experts worldwide tackle the challenge of transforming energy systems and improving energy access, a large portion of the population relies on energy every minute of every day, without ever giving it much thought. EnAct aims to raise awareness of energy's vital role in economic and social development, and how personal energy choices ultimately affect the planet.

**Dr Harriet Thomson (University of Birmingham)**

Harriet Thomson is a Lecturer in Global Social Policy and Sociology in the School of Social Policy at the University of Birmingham. She is also the Director of Postgraduate Taught Programmes and the Programme Coordinator for the MA in Social Research (Social Policy), and MA in Social Policy. In addition, Harriet is an Honorary Research Fellow in Human Geography at the University of Manchester. Her research expertise concerns energy poverty and its monitoring. She has significant policy engagement experience, and leads the European Commission funded EU Energy Poverty Observatory, working directly with Member States to implement new policy frameworks to mitigate and alleviate energy poverty.

**Marlies Hesselman (University of Groningen)**

Marlies Hesselman lectures on Public International Law at the University of Groningen while finishing a PhD on the topic 'Realizing universal access to modern energy services within a framework of public international law' and teaching. Marlies' research focuses on the place



of access to energy within the current international legal framework on the one hand, and an exploration of the further contribution of international law towards the realization of the goal on the other, i.e., can international law contribute to providing a framework for action? Main research interests include: international and European human rights law, economic, social and cultural human rights, environmental (sustainable) development issues, legal theory/IR-IL theory, access to energy, migration, global (social) justice and public international law, 'human rights and environment' and 'new human rights'.

### **Dr Siddharth Sareen (University of Bergen)**

Siddharth Sareen works as a human geographer at the University of Bergen, where he holds a Postdoctoral Research Fellowship at the Department of Geography and the Centre for Climate and Energy Transformation. During 2018 and 2019, he also work as a Researcher at the Centre for the Study of the Sciences and the Humanities. He focuses the governance of energy transitions, lead a project on solar uptake in Portugal, and support another on smart grid development in Norway. He has worked in six countries and established an international, interdisciplinary research profile on resource and energy governance.

### **Dr Sergio Tirado Herrero (Autonomous University of Barcelona)**

Dr Sergio Tirado Herrero is a Marie Curie Research Fellow of the Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona (UAB). Prior to joining ICTA-UAB University, Sergio has held various research, business development and project management positions at RMIT Europe, the Centre for Urban Resilience and Energy (CURE) at the University of Manchester, the Center for Climate Change and Sustainable Energy Policy (3CSEP) at Central European University (Budapest, Hungary), the University of Alcalá (Madrid, Spain) and the Regional Environmental Center for Central and Eastern Europe (Szentendre, Hungary). Sergio is the lead author of four high-impact reports on energy poverty in Spain, and a contributing author of IIASA's 2012 Global Energy Assessment. In September 2018 he was also appointed Lead Author of the Mediterranean Experts on Climate and environmental Change (MedECC) First Assessment Report 2018-2019.


## **Local organizations participating in the training school**

### **ICTA-UAB**

The Institute of Environmental Science and Technology of the Universitat Autònoma de Barcelona (ICTA-UAB) is a multidisciplinary centre that promotes academic research and postgraduate education in the environmental sciences. It aims to improve our understanding of global environmental change, and the nature and causes of environmental problems. In addition, it studies policies, strategies and technologies to foster a transition to a sustainable economy.

### **Ecoserveis**

Ecoserveis is a non-profit consultancy specialised on energy issues. We work since 1992 on local and international level to promote a sustainable energy model. Our work aims to promote renewable technologies, to implement measures that allow the efficient use of energy and to ensure a fair access to energy. We train social agents, we seek solutions for professionals and public administrators and we develop social interventions in house of vulnerable users to ensure a conscious and transformative energy use. We provide rigor as experts in energy and social commitment through our long-lasting bond with the



third sector. We promote individual and collective empowerment in energy through innovation and social transformation.

***Fundació ABD (Action, Well-being and Development Foundation)***

The Action, Welfare and Development Foundation is a non-profit social initiative organization that works for projects and actions aimed at promoting and improving the quality of life and well-being of citizens and, especially, those groups that they are in vulnerable situations or at risk of social exclusion. The Foundation orientates its activity in different lines of action such as management of services and resources of attention to people; training and knowledge exchange; social innovation; research and dissemination.

***Aliança contra la Pobresa Energètica (APE) – Alliance against Energy Poverty***

APE is a Barcelona-based social movement formed in 2013 by the alliance of 10 different social entities including the neighbourhood associations, workers' assemblies and water and housing rights platforms. They fight for a guaranteed universal access to basic services (water, electricity and gas), against indiscriminate service cuts and to defend human rights.



## About the ENGAGER COST Action

[European Energy Poverty: Agenda Co-Creation and Knowledge Innovation \(ENGAGER 2017-2021\)](#) is a research network funded via the European [Co-operation in Science and Technology](#) (COST) scheme. It is aimed at developing and strengthening an international community of researchers and practitioners focused on combating [energy poverty](#) .

*ENGAGER draws together scholars and practitioners based both within and outside Europe who focus on various aspects of complex energy poverty challenges, using the full suite of [COST](#) networking instruments.*

*COST is a funding agency for research and innovation networks. COST Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.*