Designing effective policies for behavioural change to achieve Spain's 2050 climate targets

KEYWORDS Energy transition; Urban transport; Retrofitting; Energy poverty

TIMEFRAME Fellowship meetings with Associates took place over April and May 2020

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▼ FELLOW'S
  LOCATION

● ASSOCIATES' LOCATIONS

Policy context

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Miriam Bueno Lorenzo works for the Secretary of State of Energy in Spain. Over the last three years, she has been working on the design of Spain's National Energy and Climate Plan (NECP). She is coordinating the modelling group, focusing on the methodological aspects and translating the modelling results to recommendations for policy design.

The key policy challenges she brought to the Energy-SHIFTS Fellowship were related to her day-to-day work in the design of the NECPs in order to achieve energy transition goals for 2050. The process of preparing the new long-term strategy is now at its final stage and the planned measures are ready to be implemented. At this juncture, Miriam is especially interested in better understanding behavioural aspects of the energy transition to achieve effective implementation of the policy measures designed (see quote).

> *What we need now is to design effective implementation of policies taking into account the social aspects*

Miriam Bueno Lorenzo.

For her work, better understanding of social perceptions of the energy transition is particularly important. Through her Energy-SHIFTS Fellowship, and meetings with researchers working across the Social Sciences and Humanities (SSH), she was interested in gaining better insight into what issues are most important for citizens and how these could be best supported by effective policy measures across a wide range of energy matters. For example, she is keen to understand which key factors can induce a change of behaviour in urban transport from the use of individual cars to public transport; she would like to explore how energy poverty could be eradicated; and she would like to understand better behavioural aspects related to retrofitting.

> *There are several cross-cutting issues between governments, society and researchers in energy-related issues. Being part of this programme is a good opportunity to exchange opinions from different disciplines, and by doing so find holistic solutions to deal with the challenge of the energy transition.*

Miriam Bueno Lorenzo

Policy challenges

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The SSH-related policy challenges that Miriam presented to the Policy Associates prior to their meetings concerned three general questions:

- How can national governments design effective energy transition policies addressing behavioural aspects?
- What are the main social dimensions of energy transition, the key challenges and barriers?
- How can we better understand the social perception of the energy transition to design the most effective policy measures?

Underlying these challenges, topics that Miriam was particularly interested in were behavioural aspects relating to urban mobility, the eradication of energy poverty, and citizen awareness around the retrofitting of buildings.

Matched Policy Associates

The Energy-SHIFTS team facilitated matching to five Policy Associates to work with Miriam Bueno Lorenzo and provide her with new insights into her policy challenges. Echoing Miriam's wide-ranging interests, the Policy Associates were selected to represent different SSH research interests and geographic origins, and with particular expertise on the behavioural aspects of energy transitions.

Pepa Ambrosio-Albala - Postdoctoral Research Fellow, Sustainability Research Institute, University of Leeds, UK. Pepa's research work is focused on behavioural changes related to climate change and energy, public acceptance and stakeholders' perception of energy technology, and on energy vulnerability. She is currently developing the methodological and theoretical design for understanding how the UK Steel industry could be decarbonised, starting from the stakeholders' needs and expectations.

Kristiane Lindland - Associate Professor in Change Management, University of Stavanger, Norway. Kristiane has a background in Sociology. Her research interest has increasingly been directed towards how we can realize the zero-emission future, involving both different forms of energy sources, storage solutions, policy development, and business models and consumer behaviour.

Carlos Montalvo - Senior Scientist on Strategy and Innovation Policy, TNO, the Netherlands. Carlos works supporting the energy shift developing and testing new approaches to promote systemic innovation and behavioural change. He is currently developing models to address individual decision making and collective behavioural patterns.

Lisa Schmieder - Member of Scientific Staff, Socio-Technical Energy Futures Research Group, Institute for Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology, Germany. Lisa is a social science researcher working on the energy transition, currently with a special focus on the design and evaluation of energy and climate policy instruments as well as on the current discourse on the future of the mobility transition, she also has expertise working at the interface of science and policy.

Alessandro Sciullo - Research Fellow, Department of Culture, Politics and Society, University of Torino, Italy. Alessandro has a background in Economic Sociology. His research interests include multilevel and multidomain challenges posed by the energy transition, including the development of effective energy policies as well as the engagement of consumers in order to drive changes in individual behaviours and social practices.

Discussion points and SSH insights

Miriam Bueno Lorenzo had bilateral calls with each of her Policy Associates over April to May 2020. This section reflects four key discussion points during her Fellowship.

Context dependent energy transition policy-mixes

The energy transition is in essence a systemic change involving a number of diverse actors and processes at different levels, including the macro- (e.g. regulation, incumbent private/public actors, trading, commercial and industrial relationship), meso- (e.g. culture and values, business models and lifestyles), and micro-level (e.g. individual choices and behaviours). Effective policy design needs to address all these levels and take into account the interdependence of the different levels. This results in a complex policy-mix including a large heterogeneity of policy instruments for the individual sectors of the energy transition (including electricity, heating, mobility, sector

coupling). In addition, the energy transition is very context dependent and thus there is no easily transferable universal policy-mix to achieve the desired change.

Placing behavioural change in a socially acceptable framework

The willingness of people to change their behaviour is only a part of the energy transition challenge. Behaviour of individuals is part of wider socially embedded practises and lifestyles and are not easily replaceable due to contextual factors, rules, or even social sanctions that are guiding the behaviour. Thus, a behavioural change must be first set in a socially acceptable framework before aiming to support the desired change. Important social dimensions include employment and income, energy security for all, affordability of energy and energy technologies, environmental awareness, and energy consumption. The misalignment of these social dimensions can result in injustices or in a transition failing to involve all citizens. Besides, focussing on enabling a just energy transition is not only a matter of values or social inclusion, it is crucial for the transition to occur at all. For example, changing urban mobility habits or raising awareness of building rehabilitation are only partially individual choices but they should be considered as cultural changes that need to be made socially desirable, affordable and reachable for all.

Fostering active involvement of citizens

The energy transition is not likely to be achieved unless citizens become active contributors towards the change. This requires a shift from passive energy consumers towards a collective level of active citizenship and prosumer(ism). Encouraging and providing incentives for citizens to act together (i.e. in energy cooperatives, communities, purchasing groups, etc.) is a way to empower citizens, and share energy investments and costs. Communication campaigns and construction of positive narratives of energy transition are considered effective tools for getting citizens on board. Additionally, new forms (e.g. short films, podcasts) of storytelling to foster behavioural change could support the process of creating desirable images of a future society.

From energy poverty towards energy affordability

New energy solutions that can reduce energy costs are often not available to those who would need them the most. For example, people living in rented apartments do not have the incentive and means to install solutions that can reduce their energy consumption or reduce the costs of their energy consumption. Similarly, there are regions with limited capacity to produce their own energy, and thus are dependent on buying energy at higher cost from other regions. Energy affordability can be guaranteed by creating a holistic regulatory framework (e.g. by allowing prosumers to sell their energy directly to others), incentivising new business models, directly supporting low income households, and by promoting a new energy consumption culture and habits.

Translations to policy impacts

❝ *We now need to implement the policy measures designed; I think better understanding of behavioural aspects is a key aspect for that.* ❞

Miriam Bueno Lorenzo

Miriam looks forward to translating the policy insights she gained from the Energy-SHIFTS Fellowship programme to practice. During Spring 2020, the Spanish Ministry for Ecological Transition was finalising the preparation of drafting a new policy package on climate change and energy transition (the ***Marco Estratégico de Energía y Clima***[1]), which aims to achieve climate emission neutrality in Spain by 2050. **Miriam will use the Fellowship learnings for the implementation of this policy package.** She is convinced that gaining better understanding of behaviour of people related to energy transition is a crucial matter for effective policy implementation (see quote above).

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1   See: https://www.miteco.gob.es/es/cambio-climatico/participacion-publica/marco-estrategico-energia-y-clima.aspx

Reflections from Associates

Associates were asked what they learnt about on-the-ground energy policy challenges from their virtual meeting with Miriam. Here we share some of their reflections, which show clearly the insights it granted Associates into the political process, and indeed their appetite to quiz policyworkers in greater detail.

"*The job of policy advisors, technical officers and staff is undervalued. I think much more effort should be done – raising awareness – so citizens can understand the difficulty in developing and in the policy-making process.*"

"*In my experience it was a **very fruitful discussion**. I would also have found it exciting if we could also have written down and sent questions from science perspective for discussion in advance, so that it is a bidirectional exchange of experiences. Perhaps this would be interesting for the future.*"

"*[I learned] that the **Ministries as well consider the social dimension of the energy transition** as well as behavioural aspects **to be central for the success of this process**.*"

"*Limited resources and poor infrastructure constrain the extent and ability to implement policies. However, state configuration, together with different political colours and interest, can hinder the implementation of policies. I would say that **political willingness is at times a more determinant factor than the availability of economic resources**.*"

"*Interesting discussion on policy challenges and options available. […] **There was genuine interest to hear what we have learnt from research policy practice** and options available to improve the policy process and implementation.*"