

Energy publics: Research protocol

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Introduction

This protocol outlines the research design and methodological steps for the project Energy Publics.

To achieve deep and timely cuts to carbon emissions fundamental changes to the way society produces and consumes energy is required. So-called 'sustainability transitions' are large-scale, long-term and multi-actor processes. The involvement of people and publics are key because to achieve a transition will require fundamental changes to individual and collective energy practices, acceptance of the direction and extent of change as well as a willingness to pay for it.

This has led to calls for more and better public engagement in the energy transition. Nonetheless, people are engaging with 'the energy transition', increasingly through multiple means, such as: consultations, opinion polls, public demonstrations, lobbying, the co-design of energy technologies, participatory energy modelling, visioning exercises, open innovation processes, hacker spaces, smart technology trails, community energy schemes and so on.

Recognition of such diverse energy publics inverts our opening position: rather than calls for 'more' and 'better' public engagement, the key challenge becomes how to know, understand and respond to existing, diverse forms of contemporary energy participation. How do publics currently engage in the energy transition? Who is participating? How? And where in the energy system? Ultimately leading to questions of how such diverse forms of participation can be harnessed to create a more sustainable, socially just energy system.

Nowhere is this challenge more pertinent than within the West of England, where diverse public engagements with energy have a rich and varied history. In so much as this is the case, the key challenge lies not in more and better public engagement but in developing a better understanding of where and how participation is currently occurring. The project subsequently seeks to address the question, ***how and where is energy participation occurring in the West of England?***

To answer this question, a rapid review of evidence will be undertaken following the principles of a systematic review. Systematic reviews aim to limit systematic error (bias) by following a set of steps outline at the start in relation to a specific question. Here, the aim is to gather up-to-date information about a particular phenomenon (energy participation) within a particular region (West of England).

Following the principles of a systematic review this project aims to use explicit and transparent methods, follow standard stages and aims to be accountable, replicable and updateable. This research protocol contributes to this end. It outlines how data will be collected and what analysis will be performed. An overview of the key stages to this rapid review is presented below (figure 1). In the following pages these steps are discussed in more detail.

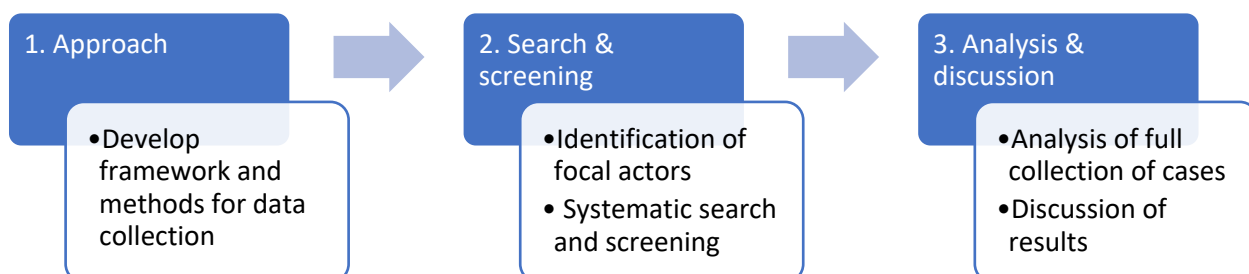


Figure 1: Key stages of the rapid review of evidence

1. Approach

To investigate how and where energy participation is occurring in the West of England this project will undertake a rapid review of evidence. The aim is to map all instances of participation in the energy system during a particular period using a deliberately broad understanding of public participation. To this end, the research builds upon contemporary social science research carried out by Jason Chilvers, Helen Pallett and Tom Hargreaves as part of a project for the UK Energy Research Centre (UKERC) into contemporary forms of energy participation¹. With only minor adaptations the theoretical framework underpinning this project is derived from this prior work. All inaccuracies or confusion remain the responsibility of the current author.

Background

Previously publics played fairly passive roles within energy systems. The public was primarily viewed as a set of consumers to be consulted on at various times. This gave rise to traditional or mainstream approaches to public participation, which tended to adopt fixed ideas about what it means to participate and who is to be involved. In practice this entailed single events on a particular issue or topic, led by experts with participants carefully selected to represent a cross section of society.

Recently, our understanding of what it means to participate has been opened up to more diverse understandings. First, by researchers emphasising relational qualities to participation. Such research emphasises that individuals never participate alone, but always through collective practices and within networks of technologies, infrastructures, meanings, relations, policies and so on. Under this view the form of participation is shaped by the elements involved in and constructing the performative practice. Second, contemporary understanding of participation has been shaped by researchers emphasising systemic, whole

¹ See Chilvers, Pallett and Hargreaves, (2015) *UKERC Decision Making Rethinking energy participation as relational and systemic* (<http://www.ukerc.ac.uk/programmes/decision-making/systemic-decision-making.html>) or Pallett, Chilvers and Hargreaves (2017) *Mapping energy participation: A systematic review of diverse practices of participation in UK energy transitions, 2010- 1–115* (<http://www.ukerc.ac.uk/publications/mapping-energy-participation-a-systematic-review-of-diverse-practices-of-energy-participation-in-energy-transitions-2010-1015.html>).

system understandings of system development and change. Here emphasis is placed not on discrete events but on how multiple engagements interact with the energy system. The resulting aim is not to perfect singular participation events but to build supportive environments where multiple forms of participation can interconnect and flourish.

Framework

Building on both these 'strands' Chilvers, Longhurst, Pallett and Hargreaves have recently outlined an 'ecologies of participation' framework as a means to understand diverse spaces of participation and their interaction with wider energy systems.

This framework conceives energy participation not as something particular, pre-given and discreet but as diverse, emergent and continually evolving. Three elements are conceived as providing a base on which different forms of participation can be understood. These elements include:

- the subjects of participation: who is involved (citizens, activists, experts...)
- the objects of participation: what is participation about (energy technologies, issues or governance)
- models of participation: how participation is organised (e.g. surveys, deliberative spaces or more organic citizen-led processes)

Together these elements are conceived as being able to capture the diversity of forms of energy participation. For each of these elements we can note how different forms of participation coalesce. For instance, issue spaces often open up around different objects of participation (e.g. fracking or onshore wind). Different models of participation (e.g. consultations or petitions) can be grouped across space and time and are often viewed with different amounts of authority. Meanwhile, thinking about the subjects of participation leads to common but differentiate institutional settings (e.g. governments consulting citizens, energy companies consulting consumers). Hence, from the different elements of public participation different common forms of participation with differing authority and legitimacy can be conceived.

Finally, all instances of energy participation are conceived as occurring within the energy system. Again, a broad understanding of the energy system is adopted. Here, it is understood as comprising technical elements and infrastructure as well as political cultures, legal arrangements and social elements that together interact and allow the system to function.

Figure 2 provides a visual depiction of this framework.

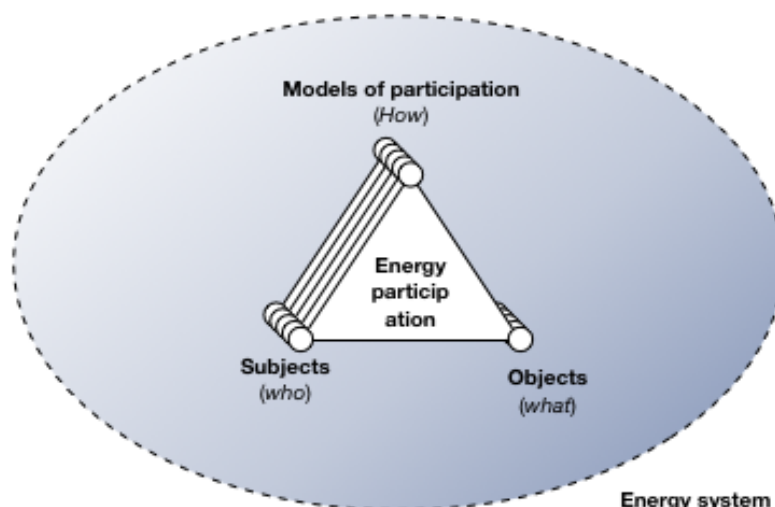


Figure 2: Framework for understanding energy participation (adapted from Pallett, Chilvers and Hargreaves (2017))

Building on this framework public participation in the energy system is understood as *collective engagements through which people address common public problems (i.e. energy issues) whether deliberately or tacitly.*

This framework is useful to the project because it does not define, from the outset, who is participating, how or on what. Instead it opens up a space to look at the diverse forms of energy participation in contemporary energy systems. Negotiating what counts as part of the energy system is of course contested, as is understanding about what counts as legitimate participation. Answers to these questions depend on the position of system actors, the definition of system boundaries and values at stake. With a focus on mapping contemporary forms of participation, the aim is to open up to rather than close down what counts as part of the energy system and what constitutes legitimate participation.

2. Search and screening

To search for evidence of public participation in the energy system a systematic approach will be used. The aim is to gather up-to-date information about a particular phenomenon (energy participation) within a particular region (West of England) over a particular timeframe (2015-2017). Energy participation as conceived within the project is however, diffuse, ephemeral and continually evolving. For these reasons an experimental approach to locating instances of energy participation will be used.

An overview of the search and screening process is provided in Figure 3. In the following the key criteria used to bound the search and screening processes is outlined before justification of the use of social media platforms and the approach to using a social media platform as the search database is provided.

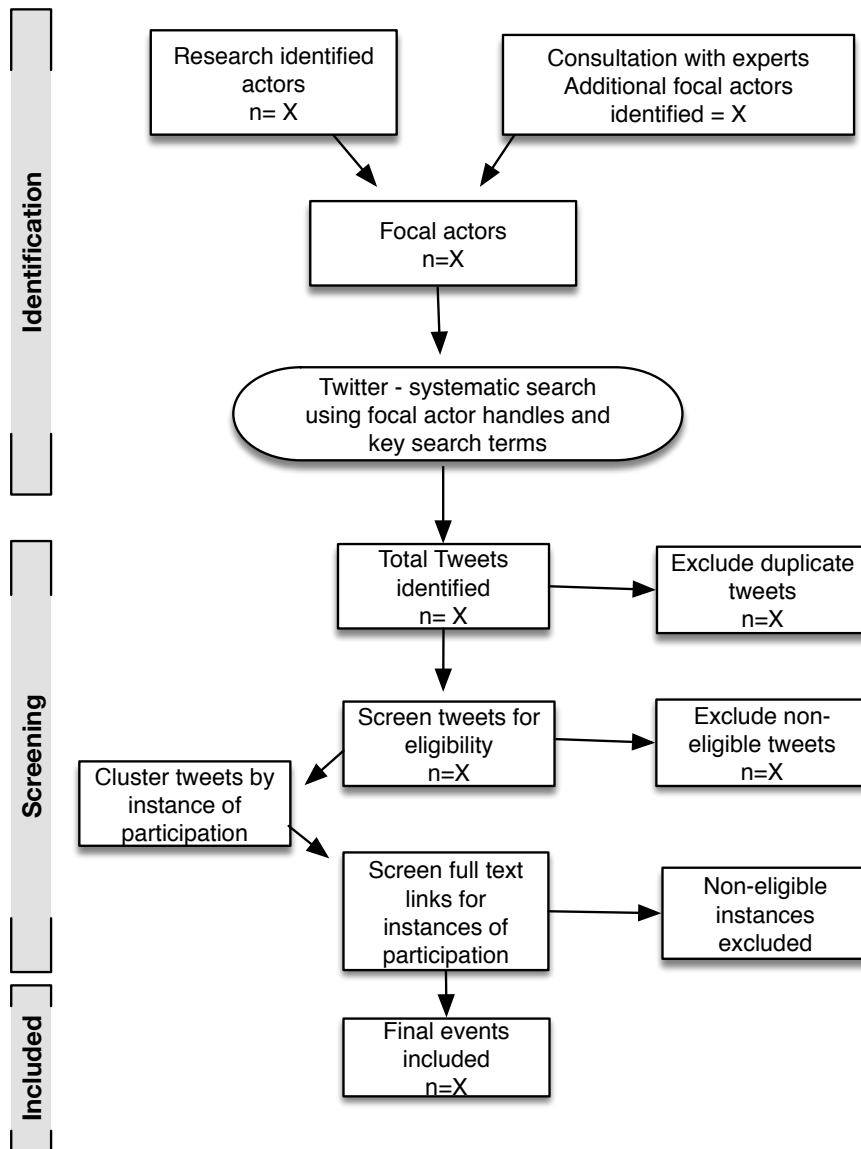


Figure 3: Flow diagram of search and screening approach

To limit and guide the search key criteria will be used:

1. Each case must involve some kind of public engagement with energy transitions.
2. Each case must take place somewhere in the West of England area (i.e. Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire).
3. Each case must have taken place between 2015-2017.

Alongside the definition of public participation (which is deliberately broad and encompassing) the timeframe is also important. Here, the aim is to gather information on as many public engagements with energy as possible within the period. Several reasons underpin the three-year time period, including:

1. It covers a contemporary period.
2. The period is (hopefully) manageable within the time constraints of the project but sufficient to reveal diverse forms of participation.
3. The period includes Bristol's year as European Green Capital, through which we would expect to gather a larger amount of energy participation as a result.

Traditional systematic reviews use academic databases (Web of knowledge, Scopus etc) or search engines (Google scholar or Google) through which to systematically search for relevant materials. This approach is appropriate for reviewing peer reviewed academic literature. Best practice systematic reviews also seek to gather data from grey literatures (i.e. 'unpublished' work). However, search inquires using say, Google, typical stop reviewing results after the first 20, 50 or 100 hits due to the large amount of material returned. As a result this type of approach faces significant challenges when trying to identify all instances of a given phenomenon (energy participation), within a particular location and timeframe. For instance, Google search provides 'about 192,000 results' for the search 'Bristol AND energy AND participation': far too many results to realistically screen for eligibility. In the following project the principles behind systematic reviews (explicit and transparent methods, replicable and scalable) are applied but in an experimental way, with a social media platform providing the database from which to search for a particular phenomenon.

Research on and using social media is becoming increasingly popular. Social media platforms, like Facebook, Instagram, Whatsapp and Twitter provide huge amounts of data – 'Big Data' – that can be employed for a variety of public and private purposes. Social media data mining is becoming increasingly big business, for industry wanting to better understand consumers, for law enforcement to monitor social unrest and for political parties seeking to understand and mobilise voters. Within academia the examination of social media data is also spawning new research avenues. For the present project, social media platforms provide alternative databases through which to conduct systematic searches on contemporary phenomenon.

Twitter will form the primary databases through which instances of public participation in the energy system will be sought. Twitter is my no means the most popular platform in terms of global monthly users. Facebook, YouTube and Whatsapp have the highest number of global monthly users at just over 2200 million, 1500 million and 1500 million respectively. Twitter is currently ranked twelfth, with 330 million average global monthly users². Despite this Twitter is the most popular platform for social media research by academics and industry. This is because unlike other platforms, Twitter is unique in providing access to nearly 100% of its data through APIs (application programming interfaces). Twitter is also more open than other social media platforms, allowing any user to connect or follow any other user.

To limit Twitter search results to those in the West of England the project will first identify focal organisations or actors likely to be involved or have an interest in energy participation within the region. Rather than seeking to identify all actors involved in energy participation the aim is to identify actors who have an interest in energy participation and are likely to have tweeted about a diverse range of energy participation instances. Two approaches will be used to identify such focal actors:

1. Prior research on energy participation has resulted in a broader understanding about the types of energy participation currently occurring within the UK (figure 4). These results can be used to infer organisations and actors who may have an interest in energy participation. For example, organisations typically involved in consultations include local and national governments, universities, platforms like Bristol Green Capital Partnership and some businesses. Organisations involved in smart meter trails are likely to be energy companies or universities, whilst organisations involved in energy poverty or equality action groups are more likely to be energy charities and civil society groups. By making inferences from this existing work a list of focal actors within the West of England can be built up (table 1).
2. To complement and expand Table 1 a range of local experts will be asked to identify additional focal actors.

² <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>, accessed 20 June 2018

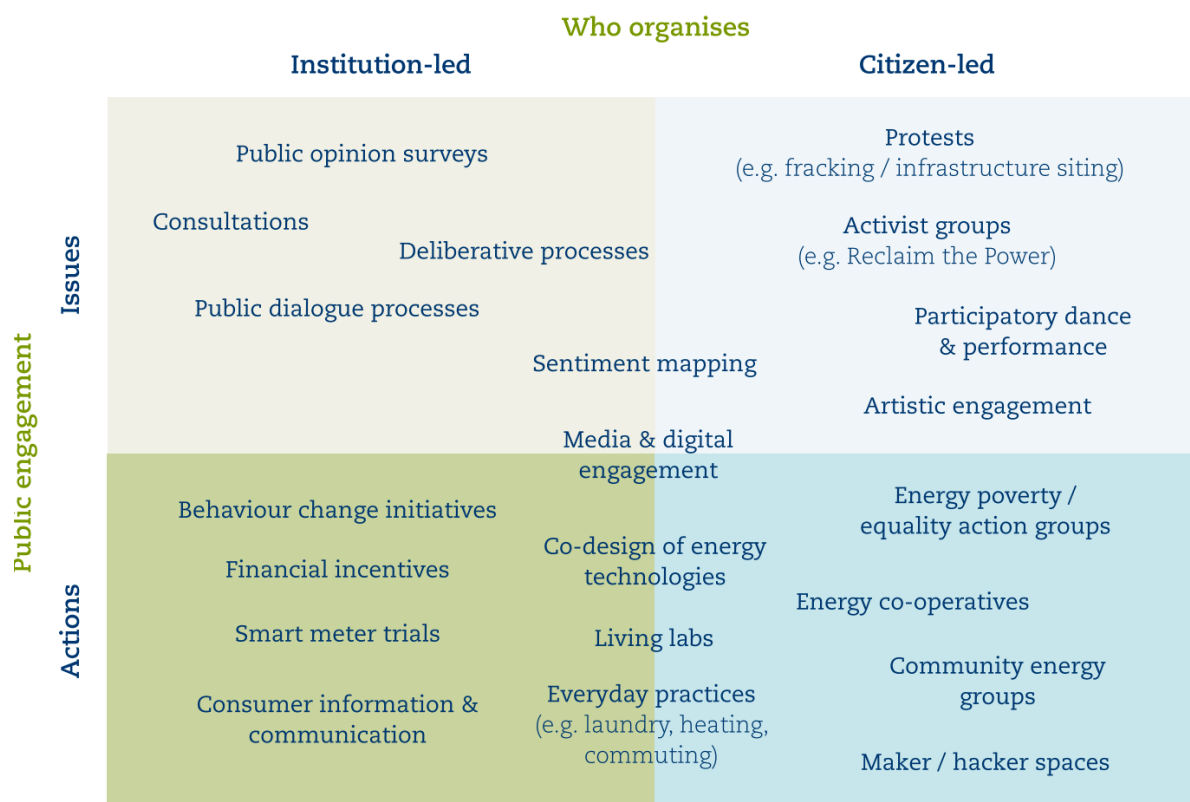


Figure 4: The energy public engagement matrix³

Table 1: Focal actors with an interest in energy participation in the West of England

Group	Actor	Twitter handles
Local government	Bristol CC	@BristolCouncil
	BANES Council	@bathnes
	North Somerset Council	@NorthSomersetC
	South Gloucestershire Council	@sglosCouncil
	West of England LEP	@WofEnglandLEP
Universities	University of Bristol	@BristolUni @cabotinstitute
	University of the West of England	@UWEBristol
	University of Bath	@UniofBath
	Bath Spa University	@BathSpaUni
Regional energy organisations	Centre for Sustainable Energy	@cse_bristol @cse_communities
	Bristol Energy Network	@BristolEnergyNw
	Environmental sustainability network, B&NES	@GreenBathNES
	Bristol Green Capital partnership	@bgreencapital
	Regen	@RegenSW
Grassroots organisations	Bristol Energy Coop	@briznrg
	bath and West CE	@BWCE
	Ambition Lawrence Weston	@ambitionlw
	Low Carbon Gordano	@LCGordano @RegenCommun1ty

³ Adapted from from Chilvers, Pallet and Hargreaves, 2017.... Insert webpage...

Media	Easton Energy Group	@eastonenergy
	Bristol Green Doors	@BrstlGreenDoors
	Demand Energy Equality	@DemandEnEq
	FOE, Bristol	@bristolfoe
	Bristol post	@BristolLive
	the Bristol Cable	@TheBristolCable
	The Spark Magazine	@Spark_Magazine
	Bath Chronicle	@bathlive
	Ecojam	@EcojamB
	BBC West Live	@BBCBristol
Bristol24/7	@bristol247	
Business actors	OVO	@OVOEnergy
	Bristol Energy	@BristolEnergy
	Mongoose energy	@MongooseEnergy
	Western Power Distribution	@wpduk
	Wales and West Utilities	@WWUtilities

Having identified focal actors, a systematic search of their twitter feeds will be undertaken. The key search terms stem from the focal interest, ‘energy’ and ‘participation’. Following the deliberately broad definition of energy participation a wide range of synonyms will also be employed. The full list of search terms is presented in Table 2.

Resulting tweets will be cleaned (duplicates removed) before being screen by the researcher in terms of the key criteria outlined above. Once non-relevant tweets are moved, tweets will be clustered (multiple tweets relating to the same instance of participation will be grouped) before a screening of the full text links for each instance of participation is undertaken. These instances of participation (separated from the tweets that guided the search) will form the final collection of cases to be analysed.

Table 2: Key search terms ‘participation’ and ‘energy’ and their respective synonyms

Participation		Energy		
Engagement	Discursive	Electricity	fracking	Feedback
Survey	Demonstration	Gas	"hydraulic fracturing"	meter
Attitudes	Grassroots	transport	"low carbon"	"time of use tariff"
Dialogue	Communication	Heat	Pylon	DECC
Deliberation	Crowdsourcing	Fuel	Microgeneration	BEIS
"behaviour change"	Makerspaces	"fossil fuel"	Grid	"big six"
Nudge	Hackerspaces	Coal	Smart	EDF
Co-operative	Visioning	Oil	"Green Deal"	Npower
Protest	events	Nuclear	Ofgem	E.ON
"social movement*"	workshops	Renewable	"zero carbon"	"Scottish Power"
Experiment*	talks	Hydropower	"feed-in-tariff"	SSE
Inclusion	festival stalls	"solar power"	"fuel poverty"	
Empowerment	Programme	PV	Eco-home	
Consultation	trial	Biomass	Insulation	
Bottom-up	Initiative	Bioenergy	Efficiency	

Co-design	Living lab	"carbon capture"	"Demand reduction"
Co-production	performance	"radioactive waste"	"demand side response"
Partnership	lobbying	shale	"demand side management"

3. Analysis and discussion

The final database of instances of energy participation within the West of England area between 2015 and 2017 will be analysed as a whole corpus according the following aspects. The aim is build up a picture of contemporary forms of public participation in the energy system: how, where, who and what form participation takes.

1. Where is participation occurring?
 - a. Geography
 - b. Institutional setting (academia, civil society, business, government)
 - c. Institutional funding (academia, civil society, business, government)
 - d. Where in the energy system (supply, distribution, use/demand) (electricity/gas) (issues-based)
2. What are publics participating about?
 - a. Objects of participation (energy policy, energy system, renewables, fracking etc)
 - b. Doing participation (practices, renewables, financing, smart tech)
3. How are publics participating?
 - a. Forms of participation (elicitation, behaviour, activism, domestication)
4. Who is participating?
 - a. Who? (consultative publics consumer citizens, innovation citizens, activists)

Finally, the whole corpus will be reviewed for what it entails for the design of future energy participation in the region and what it implies for the local governance of energy system change.