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Gathering around stories: Interdisciplinary experiments in support of energy system transitions

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ABSTRACT

This paper explores the creative uses of stories and storytelling to engage groups and individuals with consideration of changes in energy systems across time and place. It summarises three story-based experiments that responded to the theme of 'energy utopias'. These are drawn from the three core strands of a much wider body of work undertaken within the Stories of Change project. This took stories as a central motif and organising device to refresh public and political conversations about energy and decarbonisation. Our hypothesis was that stories could offer a popular and engaging route into thinking about the past and present of humanity's lives with energy and a lively way of imagining possible futures. We also wanted to test the degree to which stories could offer a shared intellectual space that might support both interdisciplinary and co-productive working for a core team that includes social science, humanities, media, computing and design researchers as well as creative and community partners. The paper considers some of the practical, methodological and theoretical considerations and reflects on the strengths and limitations of stories as both motif and technique in supporting action on climate change.

1. Introduction: stories of change

Climate change represents a major collective risk. However there is a widespread sense that the scale of this peril is not reflected in public or political responses. This paper gives an account of an experimental and interdisciplinary project, Stories of Change, and its approaches to exploring public perspectives on climate change mitigation actions, specifically as they relate to energy systems. The project has been developed and delivered via extensive partnerships with arts and other community partners. 'Stories' provided us with a cohesive and productive motif and also a family of techniques around which we could build our project, but this paper seeks to do more than describe a portion of our methodological quilt: it also makes space to reflect critically upon the use of stories and narratives in approaching complex long term issues of public significance.

This first part of the paper introduces the project and the interdisciplinary team. It briefly outlines the approaches taken in our three 'story' sub projects based in three locations (London; the English midlands; south Wales) and introduces the Stories web platform (our data repository). The second part expands specifically on the theoretical and methodological footing of the project in stories and narratives. The third part of the paper seeks to illustrate our approach, and some of our learning to date, through an account of work on the theme of 'energy utopias'. The final, fourth, section offers a discussion of the work and its capacity to inform approaches to energy systems changes, and a conclusion.

The project revolves around the device of 'stories', including history, digital storytelling, fictional narratives and future scenarios. It looks at the past, present and future of humanity's relationship with energy in order to invite more people to engage with change in energy systems. In addition to our 'standard' research activity we have developed partnerships with community and arts partners across each of the three strands of the project. Principles of co-production sit at the heart of the research design, introducing challenges but also unpredictable but

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rewarding opportunities. In addition, the project has explicitly sought to extend invitations to participation in complex long-term environmental policy issues beyond existing communities of interest that are convened around energy, environment or climate change themes. This approach was signalled at our launch event, co-organised with Peter Gingold and Mark Goldthorpe of TippingPoint [1] which brought together 150 arts, media, environmental research and policy people for a two-day workshop in Oxford in September 2015.

The different strands of the project set out to invest in experiments that might extend engagement and co-production of research on energy issues. This section briefly summarises the three strands (*Demanding Times*, *Future Works* and *Everyday Lives*), the nature of the team, our varied approaches to co-production and the scope of the activity.

Demanding Times is the strand that explores the past, present and future of energy policy through a body of unusual creative partnerships. It is centred on London. The team for this strand comprises Joe Smith (with a background in environmental social sciences, based in a geography department, also Principle Investigator of this strand and across the project as a whole), Bradon Smith (who explores energy futures from a literary perspective) and, as a consultant, Luke Dickens (a human geographer whose research centres on urbanism, young people and culture). Photographer Tim Mitchell has supported the photography and media training. This strand has worked with young Londoners from the Greater London Authority's Peer Outreach Team (POT), and coached them in climate and energy issues, interviewing and media production. The Peer Outreach Team are generally not in employment, education or training and are drawn from across the London boroughs. The POT have interviewed senior policy and business figures, resulting in a playful inversion of the awkward phrase 'hard to reach communities'. These young Londoners also co-devised, with the academic team, an 'energy questions photo booth' that they used both to take energy-themed portraits of their interview subjects. They also versioned this approach to take it out onto the streets of London to gather vox pops. The POT have gained new skills and understanding, but also generated novel research data and expanded the scope of the project demographically and thematically. In separate but related activity *Demanding Times* has also worked with veteran journalists from the BBC and the Climate News Network [2], and created a context and approach that has supported them in developing factual interviews and stories about energy policy in new ways, including open ended broadcast-style interviews, and investigative but positive case-based storytelling.

The second main strand of the project is titled *Future Works*. The title plays off the fact that works' is also the colloquial term for factory or workplace in the English midlands and north of England. This strand explores the future of energy in industrial making in this region. It is sparked by popular interest in industrial heritage and landscape, as well as widespread concern about the future of energy, work and production in a region that is often characterised as the hearthstone of industrial manufacturing. The team comprises architecture and design academic Renata Tyszczuk (Principle Investigator of this strand), historian Nicola Whyte, Joe Smith and architect Julia Udall. *Future Works* has gathered communities together at a series of factory sites in or near the cities of Derby and Sheffield, in the Derwent and Don valleys, to explore accounts of past, present and future energy system changes. The project was developed through connections with three distinctive industry communities that have been under-recognised and under-researched in relation to energy debates: apprentices (through SMEs, University Technical Colleges and the AMRC); employers and employees (through unions, the Chambers of Commerce and businesses, including Gripple Ltd.); and volunteers (through industrial heritage and museum organisations, primarily Derby Museums). It also worked extensively with Masters level architecture students in exploring participatory design methodologies and visualising future energy scenarios for the region.

Future Works convened energy stories (past accounts, present experiences and future projections) with these three communities via workshops, audio-visual interview, film, performance, scenario-making, participatory mapping and small group discussions – all of which took place at the sites of industry. The intention was to generate a body of energy stories that could support a sense of shared ownership of the dilemmas and choices faced by a range of present-day industries (large or small) with the prospect of a carbon constrained future. The factories involved in the project have shown that they are far from static or stable entities that can be easily directed. Rather, they are part of the change and can be understood as dynamic and evolving. The co-produced creative outputs that explore changes in energy and industry include animator Bexie Bush's short film *the Rumour Mill*, set at the world's oldest continuously running factory on the same site, John Smedley Ltd at Lea Mills, Derbyshire. The film is based on over 60 interviews at the factory and has been made with help from volunteers and Mill workers. Folk singer Lucy Ward has written and performed an EP based on historical material gathered by the team and developed in residencies with project partners and researchers in the Derwent Valley. Photographer Tim Mitchell (also originator of the photobooth concept used across the project) has produced a series of landscapes and portraits that explore themes of energy and change in this charged setting. The project has also captured 3D film in six factories and run future scenario workshops that have included people working in varied roles across the industrial system, from apprentices to researchers in advanced manufacturing to CEOs. These activities have generated rich mappings of possible futures and a body of interviews and 'cloud photo booth portraits' (visible on the Stories of Change Platform [3]). The project has worked in partnership with Derby Museums, and our co-productive research design has shared much in common with their approach to reinventing the Silk Mill industrial museum as a Museum of Making.

The third strand of the project is entitled *Everyday Lives*, and explores the interrelationship between energy and community in South Wales. This work has been led by digital storytelling specialists Karen Lewis and Hamish Fyfe. The team also includes community development specialist David Llewellyn and Rosie Day and Mel Rohse working from a base in geography, and arts partner Yvette Vaughan Jones. The design of this strand is informed by the strong Welsh traditions of poetry and storytelling. *Everyday Lives* has worked with communities that have been formed and shaped by the production of energy resources. The communities of Ynysybwl, Treherbert, Butetown Cardiff, Tairgwaith and Penyrenglyn have co-produced oral histories, fictional narratives and poetry and shared stories or generated ideas about varied energy futures.

Creative partners Storyworks UK worked with the team and community partners to create temporary 'story studios', including one in an abandoned library. The Story Studios gathered hundreds of community members of all ages and created a powerful space where people could reflect on the centrality of energy in the creation and evolution of their communities. The spaces were decorated with evocative objects and images that could support the unlocking and sharing of stories. People could both listen to and share their own oral histories. Separately the team worked with Welsh and Somali traditions of poetry in the Butetown area of Cardiff − formerly a key site in supporting a huge flow of coal exports from South Wales; and with creative writing in the village of Tairgwaith, proximate to an active opencast mine and a community wind turbine project. In a final piece of work professional writer and actor partners produced a new play for voices, derived from the oral histories and other materials generated from the community research. These threads were gathered together in a celebratory retelling of these stories at an event in the Welsh Assembly, the Senedd, in Cardiff.

The three project strands were supported by an overarching body of work titled *Energetic* which explored theoretical, methodological and thematic questions, and supported training, via seminars and publications. All researchers participated, guided by environmental humanities scholar Axel Goodbody, supported by critic, journalist and geography

researcher Robert Butler, and Bradon Smith.

The experimental design of the project as a whole extends to its main online presence– the Stories of Change platform [3]. All of our material, from 15th century court reports detailing arguments over access to renewable energy, to interviews, songs, photos and sketches of future scenarios are gathered together on the platform. This has been produced by the Open University's Knowledge Media Institute (Matteo Cancellieri and Zdenek Zdrahal) and designed with the support of Bullet Creative, the design house that has supported the project as a whole. All of the material is held as linked open data, and under Creative Commons (non commercial) rights terms, with the exception of a small number of items produced by arts partners who have retained rights. The Stories platform is intended to be more than an open research data repository. It is available to other researchers and organisations to use the platform to hold their own material. Furthermore, on account of the semantic web tools that provide the foundation of the Stories platform any users can pick a selection of pieces of content and thread together and share their own new energy story.

2. Stories as theory and method

2.1. Co-production and change: the potential and limits of stories

People tell stories to make sense of events, to confirm their understandings and their feelings about them, and to explore alternative choices, leading to feared or desired futures [4]. Stories play a role in notions of community building [5], in constitutions of the self with community [6], and in the expression of identity and experiences of place through objects [7]. The stories told about climate change and energy hold a particular latent charge: natural science research in the field has presented the world with a body of potentially far reaching hazards. Yet at the same time 'climate change is too here, too there, too everywhere, too weird, too much, too big, too everything' [8], 47 to be shaped into one unified story. Hence '(c)limate change is not a story that can be told in itself, but rather, it is now the condition for any story that might be told about… our inhabitation of this fractious planet' (47).

The normative commitments that lie at the core of the project are not ours, but derive from the cross-party political commitments contained in the UK's 2008 Climate Change Act [9]. At the heart of the Act is a cross-party commitment to cutting carbon emissions. The goal of decarbonisation has been given further impetus by the international agreement signed in December 2015 in Paris at the United Nations Framework Convention on Climate Change Conference of the Parties 21 [10]. However, public and political conversations about energy seem to rarely reflect the scale of the challenges implied by the Act and the Paris Agreement. Hence our project has sought to experiment with approaches to engagement that might, delivered at scale, return some momentum by looking in a fresh way at stories of the past, present and future of humanity's often fast-changing relationships with energy.

Nevertheless, the team recognises that the Stories project carries an inherent but creative tension around what it means to understand the world better, and to change it through the practice of research. This tension has been identified as a common feature of work within the UK Arts and Humanities Research Council's (AHRC) Connected Communities programme through which the project has been funded, as evidenced in Keri Facer and Bryony Enright's review of the programme. They found that there is a widely shared 'desire for a space that combines connection and reflection, that enables engagement with the world as well as the ability to step back and ask how it might be otherwise' [19,52]. We have often found that we have sought to avoid settling the status, or indeed mission, of the academic researchers and community and creative partners in this form of action research, and our driving motif of 'stories' has helped to 'leave things loose'.

Developments in energy policy and politics have to some extent raised the profile of often-unseen dimensions of energy supply and demand, but our work has sought to experiment with new ways of uncovering these systems with a range of communities. Changes to energy production and use are central to UK climate change policy commitments that stretch to 2050. The targets in the Climate Change Act suggest far more than merely the development of marginally cleaner or more efficient products and services [9]. Rather they imply significant transformations of society, with implications for geopolitics, livelihoods, technologies, consumption and production patterns and tastes and cultural norms. However, imposed changes to energy systems can further polarise and alienate [12], they can neglect the diversity of everyday energy needs and consumption practices [13,14], and they can ignore its uneven geographies [15]. Furthermore contemporary UK domestic energy discourses seem oddly static when considered next to the vitality of other aspects of contemporary culture, or indeed the pace and scale of international deliberation of long term climate change policy debates. The exceptions have tended to relate to forms of provision (above all the UK Government's decision to progress with nuclear energy investment, or to permit shale gas development), rather than to decarbonisation itself, or indeed to demand reduction.

The Stories of Change team's response to this is to focus above all on the contribution that the human imagination can make to the task of revealing and presenting accounts of energy-society relations of the past, present and future. This work is founded on current progress in the social sciences on, for example, energy configurations as socio-technical systems [16], but it also acknowledges, channels and charts emotional, imaginative and symbolic territory in ways that the social sciences tend not to. At the core of the Stories project's interdisciplinary approach is the idea that the activity itself (as opposed to purely its outputs) should directly engage and connect communities around these debates and issues [17]. Nevertheless, we recognise that 'community' is itself a charged and difficult term [18,undated,19].

Hence we have sought to ensure that the project does not seek simply to 'neutralise opposition' or enlist support for a particular position, as communications or campaign-based approaches tend to do. Rather it seeks to test new ways of connecting with very varied communities and revealing erstwhile hidden and unvoiced perspectives about, and points of contact with, transitions of the past, present and future. Looking at its own internal functioning, the team have increasingly recognised that the centrality of stories to the project has been an important element in forging an alliance of humanities, the social sciences, creative practice and diverse community partners.

The project's research design is built around a deep commitment to co-production, and hence rooted in an inductive approach. The co-productive approach has been a strong element of the prior work of a number of members of the team (including in their digital storytelling, design, media and social research), albeit from different disciplines. But it was also clearly invited by the Connected Communities programme within which the project sits [19]. Hence Stories of Change set out from its earliest meetings to work with communities to elicit the stories that they want to tell, and the questions they might want the team to explore further by drawing on its interdisciplinary capabilities. Although we did make clear how our project was guided by existing national and international imperatives concerning, for example, the decarbonisation of the economy and society, we sought to apply devices that opened out consideration of these challenges rather than drove people towards answering how they would implement them.

Stories of Change also responds to varied calls for investment in interdisciplinary practice and connection. The implication by senior policy figures has been that the country is not sufficiently 'ready' for energy system change, and has not been culturally primed for decarbonisation. For example, in 2008 the then UK Government Chief Scientist David King called for humanities and social science academics to leave their disciplinary comfort zones and take up the holistic challenge of climate change [20] and in June 2014 Julia Slingo, the Chief Scientist at the UK Met Office, made a similar appeal [21]. These are just two examples in a steady flow of incitements aimed at the arts

and humanities, but there has been a tendency for these calls to be embedded in highly instrumental views of cultural work that see it as the last stage in a process of communication 'to' publics.

By contrast, Mike Hulme offers one of the fullest accounts of the potential for such cultural work. Hulme [22] is a climate scientist who has taken a purposeful cultural turn. He suggests that 'however our contemporary climatic fears have emerged… they will in the end be dissipated, reconfigured or transformed as a function of cultural change' (2009, 5). Indeed, there has been a steady flow of calls within interdisciplinary climate change journals to expand and extend the range of humanities and arts voices in climate research (e.g. [23–25]). The nascent field of energy humanities, including the particularly active body of research around petro fiction, is one highly relevant example of this call being answered (see for example Szeman and Boyer's anthology [26]), or Caroline Edwards' contribution to a panel on Environmental Futures: Oil, Ecology, Petrocultures [27]. As Boyer and Szeman put it: 'Energy humanists contend that our energy and environmental dilemmas are fundamentally problems of ethics, habits, values, institutions, beliefs and power… solving our dilemma requires the humanities' involvement – not as an after-thought to technology and policy, but as a fore-runner researching the cultural landscape around us and imagining the future relationship between energy and society that we need to strive toward' [75] (their 2014 contribution).

The Stories of Change project seeks to both explore and further catalyse cultural changes in relation to climate change and energy-society relations, but it sets out to do so in the knowledge that the work of the project is also likely to result in a more complex story than the instrumental calls for the arts and humanities to 'do their bit' anticipate. The commitment to an open and participatory process combined with a normative commitment (albeit one rooted in national political consensus) is by nature uncontainable and unpredictable. The researchers on the project can choose which stories to listen to, how they are edited, connected and presented, but they cannot dictate what is said. The way we are holding and sharing our data on the Stories platform [3] further supports this. In order to try to correct any tendency to select 'self-affirming' stories in this process of editing, we committed from the start to sharing almost all of our data in public under creative commons licences, and to creating an online platform on which others can create stories from our material, and post their own. The exceptions were generated in instances where participants requested anonymity, by instances where some forms of intellectual property were generated by creative partners, or by situations where we were recording processes via research diaries or other forms of personal research record. In addition to a radical openness in our data generation and sharing we also committed ourselves to work hard to open out the possibilities regarding what the word 'community' might mean in relation to energy and systems change.

2.2. Methodology: stories as experiments in digital and public scholarship

This section expands upon the reasons we have drawn upon 'stories' as both motif and method. One very significant risk in the prominent deployment of stories as a device in a project that explicitly seeks to support change is that stories tend to be considered to do more to describe the world than to support academic or popular agency. Our starting proposition, informed both by team members' previous empirical and theoretical work, and some of our key reference points, was that stories could generate more plural and dynamic accounts of energy systems rooted in the things that are important to these communities and how they see the world with respect to these issues. However this carries with it an implicit hazard, further discussed below: that is, that such a project constructs a rich and telling mosaic about how the world is, but does little to change it.

The project has been spurred on by some strong currents in debates about public and digital scholarship. Scholars from a range of disciplines argue that researchers need to find new ways of 'being in public' [28,29,19,30,31], with digital scholarship generating distinctive new opportunities to pursue this goal [32–34]. Others stress the need to listen out for, notice or acknowledge parties that are frequently, even systematically excluded. These might be people [35] or things [36,37] in the past as well as the present [38]. Furthermore, feminist theory stresses the need to 'tell stories differently' [39], and notions of digital citizenship open up further novel practices and concepts [40].

There is a body of work that has sought to draw attention to and explore diverse energy stories, narratives or imaginaries from a social science perspective. Specifically social psychologist Nick Pidgeon and colleagues have worked across more than fifteen years to develop sensitivity to public understandings at the intersection of energy, climate policy and everyday lives. Recently this work has explored the role of digital scenarios tools in informing public preferences [41]; explored imaginaries of future low Carbon housing [42] and have taken similar approaches to investigating how publics engage with different scenarios of energy systems change [43]. Haworth [44], in this volume, has applied a stories/narratives approach to explore scenarios of low carbon futures in the UK context (2017), and artists engaged in the Culture and Climate Change: Scenarios networked residencies have taken up an invitation to apply, in their case, theatre and lens-based arts to opening up consideration of climate-changed futures. They have responded to an invitation to apply the arts to the task of generating 'more open and imaginative, but also more purposeful, responses to the challenges of climate change in the present' [45]. Perhaps closest to elements of the Stories project's work, particularly on the *Everyday Lives* strand, is research that has progressed consideration of 'energy biographies', specifically focusing on the opportunities for emissions mitigation presented by lifecourse transitions [46].

Both our team and our approaches are varied and interdisciplinary, but the work has included analysing and ordering materials in terms of narrative types, finding some parallel with the findings presented in the papers by Bergman [47] and Muto [48] that are also published in this special issue. Our preliminary conclusions drawn from material that now appears on our Stories platform [3] corresponds with findings in the papers by Goodhew et al. [49] that worked with narratives of the management of thermal comfort derived via interviews, and Darby [50] who drew upon accounts of fuel transitions in the Central Scotland context that also appear in this special issue. As with those authors, we have found the application of story and narrative devices surrounding energy transitions to be helpful in terms of either following processes, or in encouraging people to talk about apparently 'unseen', forgotten or neglected dimensions of our lives with energy.

The project is rooted in the proposition that stories offer a way of nourishing more open and plural framings of sustainability (answering the call of, e.g. Leach et al. [51]). This driving purpose has been built upon the prior experience of several members of the team. Digital and social media are generating compelling new opportunities for collective sense-making and debate through storytelling, with new forms and nodes emerging all the time. Relevant previous initiatives generated by members of the research team include: a digital storytelling project engaging with climate adaptation themes [52]; Interdependence Day, a body of events, reports and publications that experimented with new narratives and reference points at the intersection of globalization and global environmental change [53], and a decade long open access body of video and other diaries summarising evolving understanding and action on climate change [54].

It is also clear that digital and social media offer opportunities for communities of opinion to gather, but in doing so to possibly become enclosed (see for example Pearce et al.'s study of Twitter streams related to climate change [55]). This represents a hazard in the face of any complex questions that generate potentially controversial responses. Our response to this challenge goes much further than meeting the obligation for publicly-funded researchers to make data freely available: it positively invites others to work with and share responses to it. In addition: we intend and hope that other researchers will hold

and hence share data on the Stories of Change platform.

Our starting point was that stories could give this project its tone and its technique primarily because they could offer more expansive ways of allowing demands to be heard and actions to be considered concerning ambitious goals around energy system changes. Hence we set out to explore how stories can serve to connect communities, researchers, arts practitioners, policy makers and others in a shared exploration of the relationship between society and energy. The project has been drawing together stories and other responses that are deemed relevant by our community and other partners to shared challenges or threats (including those generated by actions in pursuit of decarbonisation). We are exploring these via the surfacing of memories, experiences and ideas that are held by specific people and places. And their power doesn't just lie in their potential for specificity: stories enable expression and empathy (e.g. [56,57]), and permit a range of perspectives to be heard in a way that makes room for respectful listening. We sense that this is an important but neglected consideration in the context of the cultural politics of climate change (a notable exception being [58], with its constantly shifting and rarely accounted array of vulnerabilities and responsibilities [59].

The fact that our prime unit of data is 'stories' keeps the epistemological status of our data open and permits us to treat it in different ways, using varied techniques yet allowing for dialogue. We are working to discover and create stories not least because they offer popular and engaging routes into thinking about possible energy futures: everybody can gather around stories. But they also allow novel syntheses and permit different disciplines to come together around a shared object of study. In other words, we think that stories are powerful in the work they can do in permitting new forms of academic collaboration as much as in enabling collaboration between academic and civil-society partners.

However stories are also hazardous materials. 'Truth' is not presumed and in analytical terms, stories need careful treatment. They may be listened to, as an empathy exercise, they may be analysed as social science data, or they may be analysed through literary or historical methods. They may be deployed within strategies for impact and public engagement, or used to collectively imagine a different shared future. There are also senses in which stories, while providing a strong motif and a way of 'coming together', not least for the research team, can just as easily raise questions about research ethics, or generate obstacles to sharing and understanding. In other words, 'my story of change is your story of a reconfigured status quo'. This has surfaced in different ways in each of the examples drawn from the three different 'story' subprojects that make up our work. For example, in *Future Works*, the strand set in the English Midlands that explores energy in industrial making, the status of the outcomes of the energy utopias prototyping exercises described in more detail in Section 3.2 can be slippery. Who will they serve? The participants? Policymakers? The Stories team? From the point of view of the Stories researchers the design of such initiatives is primarily intended to generate a range of voices and visions for future energy systems from amongst a diverse grouping, with the intention of representing this range in our work (including publications and the Stories platform) rather than to provide a source of formal advice to policymakers. These experiences find parallels in Janda and Topouzi's [60] argument for 'learning stories' as well as 'hero stories' in 'the deployment of different kinds of tales' in energy policy (2015).

Given the allure of 'story' as a reference point it is important to acknowledge these ways in which stories can also be problematic as motif and method. Despite being a valuable way to communicate about and collaborate on a project such as this, the prominent use of this device also introduces specific threats and challenges. While stories and narratives were recognised as offering outwardly appealing common ground, we have also been made aware of the danger that differences in analytical and methodological approaches – from disciplines and practices that range across design and community development, the social sciences and arts and humanities – can become obscured. For example terms such as framing, representation, or even the concept of data (in the context of the Stories of Change platform), could serve to create a false sense of common ground.

3. Three utopian stories

The breadth and ambition of the project as a whole is difficult to capture within a contained space, hence this section serves to offer an account of just three pieces of work conducted in the summer of 2016. Each is derived from the Stories of Change project but represented an extension of our initial plans in that they represented our response to an invitation by the Arts and Humanities Research Council (AHRC) to engage with the theme of 'utopias'. Our response was to invite people to develop their ideas about 'energy utopias'. These activities formed elements of the AHRC's Connected Communities Festival, which ran through the course of the summer of 2016 and was commissioned to mark the 500th anniversary of the publication of Thomas More's work *Utopia* (2011). Free public activities were held in project locations around the UK and also brought together at the Utopias Fair at Somerset House, London on 24th–26th, June 2016 [11]. The fair was marketed, but participants included a substantial body of 'passing publics' who were visiting this London landmark.

3.1. Model London: generating playful stories of a city's energy future

The *Demanding Times* strand of the Stories of Change project is based in London, and works with themes of policy and politics, and has sought to invite generally excluded citizens into consideration of and participation in energy policy futures. This found one expression in a game activity about London's energy futures designed specifically for the AHRC's Utopia Fair. Developed in collaboration with participatory theatre makers fanSHEN [61], players were invited to help build a utopian London, by developing ideas for 'green' energy generation, or through energy demand reduction or energy efficiency measures (Fig. 1). The game design had two phases. The first asked teams of players to write a suggested idea, and then, swapping proposals, consider a 'narrative of consequences' resulting from the proposal through a series of 'But…' and 'And…' prompts. For example, reducing street lighting might make streets less safe, or a ban on cars might disadvantage those unable to walk. Teams then responded to these consequences, refining their idea. Having considered these narratives, a vote was taken on the proposals to find the 'least worst' idea.

In a second phase of the game, the opposing teams then collaborated to build the proposal (or an object representing the proposal) out of Lego, Plasticine and other building materials (Fig. 2). This object was placed in an appropriate location on a large-scale map of London that

Fig. 1. Model London at Utopia Fair: building a future energy utopia with Lego and sticky notes.
Photo: Gorm Ashurst 2016.

Fig. 2. London energy mapped and modeled at Utopia Fair.
Photo: Gorm Ashurst 2016.

covered the tabletop, and labelled with a sticky note. As the game progressed through numerous iterations the map became populated with a growing number of proposed solutions to London's energy challenges.

This game design was informed by a number of strategies. No constraints were put on players to produce realistic, or even plausible, proposals; instead the playful tone promoted speculative, imaginative and sometimes absurd suggestions, opening up space for utopian thinking and collaborative storytelling to consider the challenges around energy generation and consumption. However, the process of criticism in the first phase of the game also worked to highlight the complexity of addressing energy generation and consumption, and the possible consequences of interventions. Although no one genre of response was solicited from players, the collaborative modelling exercise, and the large-scale map of London worked with in the second phase of the game, were intended to promote concrete and located proposals.

The *Model London* game was designed to enable a process of collective utopian storytelling around London's energy challenges. The result was a collectively imagined story of a low-carbon future for London, with the objects themselves representing their own narratives of both the benefits and also the unforeseen consequences of each intervention. This strand of the project has found that energy policy and energy infrastructure is widely seen as abstract and impersonal: the modelling and map features of the game design helped make energy issues more tangible and locally relevant.

Energy policy may not, at first glance, seem an area in which stories or narrative would have obvious relevance. But in fact, the process of creating policy on regional, national and international levels is one predicated upon scenario building, future scoping or modelling – even if only implicitly; it is imagining a desired future, and identifying the narrative that leads there. All these are forms of story-telling in a speculative mode. It is no coincidence, then, that many of the questions and creative activities developed by the project team explicitly focussed on the future. By engendering a 'cognitive estrangement', or by allowing readers or listeners to imagine the present as history, future narratives create 'an opportunity for thinking differently about something we might otherwise take for granted' [62–64]. It was this mild defamiliarisation that our creative interventions sought to induce, opening up imaginative space to reconsider the energy systems that we currently take for granted.

The imaginative policy space created by the activities for the Utopia Fair saw stories offer playful, brief and fragmentary experiences of thinking into energy policy futures. These processes don't in themselves 'create new policy', or even offer much time or space for formally learning about or engaging with policy processes. But being placed in a position of responsibility, even if only for plastic people on a vinyl map for under an hour, helps to widen the sense of shared opportunities and dilemmas around energy futures. The emphasis on serious play in this process of futuristic story-building is conscious: this is very clearly not an invitation to participate in a decision, but rather to rehearse what it is to make decisions. This playfulness can serve to develop the confidence of participants not just to learn about the issues, but also to be demanding about them. Hence this has included making demands of themselves as citizens well as of officials and elected politicians (Fig. 2).

3.2. Utopia works: prototyping accounts of future industrial energy systems

In parallel with the preparations for *Model London*, the *Utopia Works* [65] initiative was planned as a branch of the *Future Works* portion of the Stories of Change project. Thomas More's account of a typical day of well-balanced work and 'congenial activity' in Utopia [66] offered guidance in the development of the concept of the *Utopia Works* event that was held at the Derby Silk Mill in May 2016 where the museum was turned back into a factory for the day: *Utopia Works*. This event was devised as an 'energy hack'. The term hack in this context is drawn from computer hacker culture, and means a demonstration of ingenuity to respond to a given problem in a novel, often brisk, perhaps messy, but nevertheless efficient way. The event sought to explore how everyday life and work is formed by and forms changes in humanity's relationship with energy.

The team's invitation to the fifty participants from among the project's industry and community partners in the region noted that 'Thomas More was the first to give a name and form to the idea that… by imagining a better world is possible, we are empowered to create it.' The goal of the *Utopia Works* event was to create a space where creative and participatory processes can help provoke thinking about new and alternative energy futures'. The location and design of the event were intended to support a collaborative process of prototyping of utopian futures. A prototype is a sample, model, or product that is built to test and develop a concept or process. It can also be a tool for learning. The team that devised *Utopia Works* was driven by the idea that humanity needs prototypes that support transformations in thinking, making and innovating around energy production and consumption. In this process the notions of both making and storytelling were viewed as integral to this utopian energy prototyping (Fig. 3).

The *Future Works* team worked with partners from Derby Museums, designers Bullet Creative and a number of other creative collaborators to devise a sequence of work stations' for the utopian factory.These were attended in a cycle by six working groups of around six members including makers, hackers, artists, academics, students, volunteers, designers, museum professionals, energy experts, and employees from the regions' industries.

These diverse groups grappled with a series of tasks that were all oriented towards the generation of alternative accounts of how society might live with energy. Stations included:

1 a guided tour exploring the stories held by energy-related objects in the museum's stores;
2 a photo-booth exercise that generated concise energy-transformation statements or questions;
3 a pamphleteering workshop led by an early modern historian and a leading environmental campaigner (Fig. 3);
4 a letterpress printing workshop that allowed phrases and slogans from the newly drafted pamphlets to be printed in bold physical form, and (Fig. 4)
5 a prototyping exercise that made use of the museum's maker space to generate prototypes and props for a final performance.

Each group had a gap in the programme – their sixth station, which allowed them to enjoy 'congenial activity' as described in More's Utopia.

The range of life experiences and formal knowledge held by the participants was vital. A participant reflected that this was an 'impressive dynamic of the "music" of the event… There was no

Fig. 3. Drafting pamphlets, Utopia Works, Derby Silk Mill.
Photo: Gorm Ashurst 2016.

hierarchical authority. Everyone was a team player and brought their unique knowledge, experience and limits to the table; we just worked together genially toward the team goal' [67]. A literature PhD student described the conclusion to the event in another blog post:

> 'Everyone comes back together again at the end of the afternoon, as all the groups have created prototypes, proposals and performances to share… involving music, canaries, fun fairs, poetry and puppets. Perhaps the overriding theme that emerges from the day is the need for us all to be made more aware of the connection between energy creation and its use.'
>
> [68]

Our goal was to gather a diverse cast that could bring different skills and insights to hack the long-dominant energy story of a fossil fuel based industrial system. As with other elements of the *Future Works* strand, participatory design methodologies were applied to support free-form evolution of a series of narrative accounts – stories – of a zero/low carbon future. These took their most polished form in the pamphlets that were devised and printed on the day. This activity encouraged participants to generate highly condensed, aphoristically oriented stories. To close the day each group presented a scratch-performance of their scenario for an alternative energy future.

However the narratives of the pamphlets and presentations were not intended to be understood as the conclusion or destination of the *Utopia Works* energy system hack. Rather it was hoped that participants would have been drawn into a playful terrain in the company of others, and hence detach themselves from some widely entrenched assumptions about energy usage, sources and future trends. There was however a research and policy driven purpose behind the design, and that was to seek to identify any consistent themes concerning absences and opportunities regarding the ways in which industry and making are represented within energy narratives. As with *Model London*, *Utopia Works* was not designed to generate an alternative future, but rather to take participants through a process that rehearsed possible futures so as to, among other things, loosen the grip of the recent past on the stories we tell about our current and future energy systems.

3.3. *Ynysybwl: a creative energy festival*

In May 2016, in collaboration with creative and local partners, members of the south Wales based *Everyday Lives* strand of the Stories project organised a three-day event, the *Creative Energy Festival*, in the village of Ynysybwl in south Wales. Its main focus was a two-day Story Studio where we invited local residents to engage with the work we had done in the region up until that point, including Ynysybwl itself, exploring the past, present and future of energy in the South Wales valleys. The Studio followed a format that had been deployed in an earlier

Fig. 4. Printing pamphlets on the letterpress, Utopia Works, Derby Silk Mill.
Photo: Gorm Ashurst 2016.

Fig. 5. Listening to digital stories, Ynysybwl.
Photo: Lisa Heledd Jones, 2016.

Fig. 6. The Story Studio, Ynysybwl.
Photo: Lisa Heledd Jones, 2016.

phase of the *Everyday Lives* work. These valleys have been physically, economically and culturally shaped by coal extraction, and more recently have been the site of some of the biggest wind turbine arrays in the UK. After consultation with community partners, we chose the local community centre as the Studio's location, taking it over for the duration and transforming it into an interactive space designed to present our research and to invite people's responses to it. We created a setting for people to listen to short versions of oral history interviews that the team had conducted in the village in the summer of 2015, one year previously, which had specifically addressed the topic of energy (Fig. 5). Visitors could pick up wireless headphones playing the stories on a loop and listen to as much or as little as they liked. We also provided laptops and invited visitors to watch digital stories we had created with participants in separate research activity in another valleys village, Treherbert, in the previous summer.

To encourage people's recollections but also their anticipations of the future, we exhibited a range of objects from the past (e.g. a miner's lamp; vintage-style tea pots and kitchen utensils) and archival material from the area, including 1960s television footage of the colliery, maps, and pictures of the local landscape of shaped by coal production by the colliery. On white panels, we posted some questions to visitors (e.g. Do you have any concerns about energy and the future?) and provided them with post-it notes to gather their replies.

Stories were a central part of the exhibition itself in the form of the edited oral histories and the digital stories. They served as an invitation to reflect on the evolution of the relationship between large scale systems of energy production and consumption and the changing nature of the communities and their environments in the valleys in a contextualised way. Indeed, we worked with stories because they allowed narrators and listeners to relate energy to their own personal lives and their everyday experiences. Much has been written about energy being a difficult topic to discuss due to its 'invisibility' (e.g. [69]). We found that asking people to talk about energy through sharing their life stories enabled them to surface a range of emotions about the energy challenges that their community has faced over the years and is still facing now. In turn, this was useful when we used these oral histories and other stories as prompts to generate yet more material in the context of the Story Studio.

Such personal and localised accounts allowed visitors to connect with the topic of energy through the narrators' experiences. As a result, listeners then shared their own stories of living in a community that was shaped by energy production, and the individual and collective challenges they face due to the legacy of the coal mining industry. Some were captured in brief glancing sentences on post-it notes as people responded to an image or something they had heard. In other cases people took time to share their oral histories with the research team, generating a more formally structured and recorded body of qualitative data. It was notable that while visitors were at ease sharing recollections about the past of energy or discussing current attempts at transforming energy production using renewable forms of generation they were less easily drawn to exploring the future. This was possibly due to the extensive use of archive material within the design of the Studio. Yet, it was clear that this content was also crucial in engaging local people and arguably it was useful in getting them to think about change through visualisation of that which had already occurred. However, when asked explicitly about the future, whilst some people had little trouble articulating specific views or concerns, others needed more time and encouragement to do so and still others reverted to past memories, with which they appeared more comfortable. This highlighted the challenges involved in using memory-driven story devices to explore future scenarios (Fig. 6).

Whilst the reprise of the Story Studio was the festival's core activity, stories and narrative also featured in other elements of it. A local community group organised a 'Village Voices' event in the evening immediately prior to the Story Studio where poetry and recitation formed part of the performances, whilst a local energy landscape walk led by another community group engaged walkers around stories related to local landmarks that were shaped by coal and water power.

The culmination of the festival was a theatrical performance. Through team member Yvette Vaughan Jones and her organisation, Visiting Arts, and additionally supported by the Arts Council of Wales, we commissioned playwright Louise Osborn to write a 'play for voices', inspired by and drawing directly upon the qualitative data that had been gathered in the previous 18 months in south Wales. Project participants gathered at the newly-created firepit on the site of the former Lady Windsor Colliery to watch and hear three professional actors represent their energy stories of past and present, and of people's hopes and ideas regarding what the future might hold for the Valleys.

The festival, and the wider work of the *Everyday Lives* strand of the Stories project has proved an important catalyst in the communities to explore new future energy opportunities. The South Wales valleys that have been the focus of this strand of the project's work are charged, sometimes difficult, places to talk with people about the past, present and future relationships that communities have with energy in the region. The rapid decline of the coal industry, and now, after a considerable gap, the insertion of large-scale renewables investments, has proceeded with little reference to or participation of the communities that inhabit the region. The coal and its ancillary industries were the prime employer from the time when most of these towns and villages were built. The support of the festival by the community partners served to show that the deployment of storying devices could create a 'safe', even enjoyable, setting within which to explore these issues. Such story-based practices can serve as routes to an expanded repertoire of insights, and modes of engagement, with communities that have often felt excluded from decisions that have had far reaching consequences for livelihoods and everyday life. However they do not amount to a path

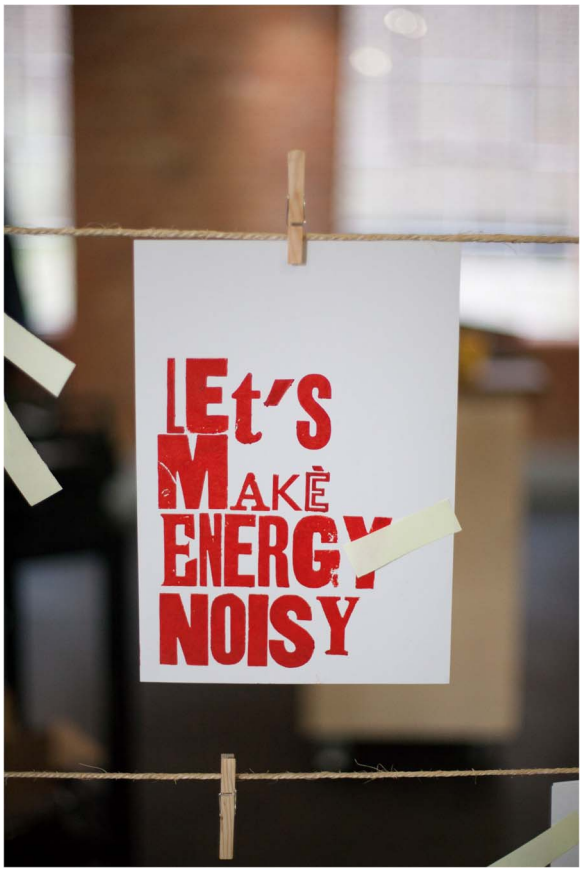

Fig. 7. 'Let's Make Energy Noisy': one of the pamphlets produced at Utopia Works, Derby Silk Mill.
Photo: Gorm Ashurst.

to resolution of current or past conflicts or frustrations. Stories, in other words, can do powerful work in surfacing a wider range of understandings of a theme or problem, or enable empathy with affected people. They do not in and of themselves resolve such issues (Fig. 7).

4. Conclusion: can stories help make energy 'noisy'?

A driving purpose of the Stories of Change project is to help to support more plural and more dynamic public and political conversations around energy. An informal strapline is 'change is coming – what sort of change do you want?' These goals have shaped the integrated academic research, community engagement and arts strategies. The fact that stories allow empathy and different points of view to be expressed and heard supports engagement with what are often understood as marginalised social groups or communities that are distant from policy processes. These include groups of people that the project specifically sought to work with in the three sub-projects, including apprentices or heritage volunteers in the English midlands, older people in south Wales and young Londoners. We have also sought ways to encourage policy networks and the energy industry to understand themselves as communities. Hence our only faintly ironic tendency to talk of business and policy networks as 'hard to reach'.

We acknowledge the tensions and hazards in any claim to 'give voice', and the skills of listening required [70–72]. However the team have sought out creative partners who have a particular sensitivity, aptitude and appetite in relation to 'giving voice', or perhaps better, listening out for and attempting to represent, such communities in novel ways. The historians, social and political scientists, literature, media and design researchers on the team have been working together with a mix of creative writers, composers/singers, artists, journalists, designers and sound, stills photography and video specialists to co-produce stories. These practices of co-production have involved past, present and future communities. Co-producing with the past and future requires that the imagination is a prominent tool in much of our work. The historians, literary and design researchers on the team point out that this does not simply involve the novel introduction of techniques that invoke imaginative realms, but also demanding recognition of the fact that any conjuring of the past or future is explicitly imaginative. This has been evident in all of the work associated with the three Utopia projects discussed in section three of this paper. The act of making the invitation to very different communities to be part of, and active within, an unfolding story has tended to be an enjoyable experience for all involved, evidenced by willing and sustained participation. But the diversity of approaches, responsive to participants and contexts, deployed across the project have proven crucial. In this sense our preliminary results strongly confirm Janda and Topouzi's argument in favour of drawing on complementary story types in policy related work [60], 531.

However, these approaches are not common features of energy and climate change policy debates – to say the least. Indeed, despite being run-through with perhaps some of the greatest hazards of any of the stories humanity has ever told, the risks associated with climate change and the consequent need for energy system transformations (some of which themselves introduce new risks) have in the past struggled to capture public imaginations. One of the things that can be traced across the very varied practice and content generated to date by the Stories project is that such an approach can generate a shared understanding amongst participants that change in energy systems is a constant, and that it can be engaged with and influenced, for good or ill. For example the photo booths & interviews for *Demanding Times*, the future scenarios and prototyping workshops for *Future Works* and the oral histories and storytelling generated in the *Everyday Lives* strand all presented animated accounts of energy-human relations in the past, present and future.

The stories generated have regularly placed prominent emphasis upon the difficulty of 'seeing' energy. This in turn makes it difficult to treasure it, and hence gives license to profligacy. This was to be expected: it is a common proposition in both energy research and policy discourses, however the project has given these ideas lively and novel expression. Following from this, there is regular acknowledgement of a sense of energy systems being distanced from everyday life, and hence most organisations and households feel little stake in the nature of the physical and economic structures that shape those systems. Again, more conventional social scientific methods or deliberative tools have arrived at these conclusions in other forms and by other means, to date.

However the playfulness of the design of the utopian activities described here, and in the Stories of Change project as a whole, has found that imaginative modes of interaction or intervention can make it possible or even easy for them to 'see' energy, or rather to perceive its presence, and in turn to 'take more care' of it. There are many instances where participants have been able to 'envisage' and envision energy in a way that is a counterpoint to their 'normal' understanding of energy in their everyday lives or society more widely. The nature of our experiments are such that their results are presented in a different register to the natural or even qualitative social sciences and we are early in the process of exploring how to present and relate them digitally. However they leave us with a duty to find ways of expressing how they have generated a sense of openness to change and positive future possibilities amongst many of the participants in our work across the project. We are also left with a responsibility to investigate how some of these experiences could be delivered at a much larger scale.

These interim conclusions have directly informed the design of activities that will conclude the Stories of Change project as a whole, including the projects' targeted participation in a distributed network of national and local energy events, brought together under the title Community Energy Fortnight. These are being convened in

collaboration with national networks of major UK NGO and civil institution partners, where the project is helping to shape the overarching narrative devices that underpin focused media and advocacy work. Second, we commissioned interactive games writer Ken Eklund (who devised *World Without Oil* [73] and *Future Coast* [76]) to help us develop a digital storytelling game. Members of the team worked with Eklund to find novel ways of encouraging people to 'see' and hence care for energy, resulting in the online writing game based around an imagined personification of energy: Jules. *My Friend Jules* saw its first edition run in June 2017 [74]. The game has seen participation from a very wide demographic, from school age workshops at fairs to a (mostly) retired group of creative writers based around a Workers Education Association course. A selection of the resulting stories have been performed by professional actors and presented online to a wider network. Hence the playful and experimental processes of developing alternative energy stories in a handful of contained settings with quite small bodies of participants in the project have directly informed events with much wider reach, and that are generating models capable of being scaled up.

Our experience suggests that listening to and telling stories can play a powerful role in energising engagement in policy issues that are important, but also complex and at first glance uninviting. The approaches we have taken have drawn variously on fun, memory, emotion and connection to place, family, friends or work in order to expand the terrain of public conversations about energy systems change. These devices have been deployed alongside very targeted invitations to participate and/or painstaking relationship building. This has helped to garner participation amongst, for example, the young Londoners of *Demanding Times*; the factory workers and apprentices of *Future Works* or the participants of all ages who joined the Story Studios and other narratives-rooted practices of *Everyday Lives*. These are all people that are only very rarely drawn explicitly into consideration of energy or climate change. An unplanned outcome however was that we have also noted that these playful approaches have also helped to address jadedness amongst the 'engaged'.

Furthermore, these processes of gathering, supporting and sharing stories have also nourished a much more fluid and interdependent notion of the relations between 'past, present and future' in a way that seems not just apt but vital in the context of the distinctive cultural politics of climate change. The 'serious play', undertaken through the generation, listening to and sharing of stories of varied forms can support better foundations for participation in complex problem solving by much wider constituencies. It can also mix these constituencies up in productive ways. The young Londoners who played a central part in interviewing top policy specialists about current policy options; the apprentices and bosses who participated together in building future scenarios and the members of former coal mining communities who shared their oral histories and other stories with the team, and in due course with members of the Welsh Parliament were all offered engaging but purposeful means of participating in consideration of energy futures. While we must be wary of over-claiming, this feels like the most important conclusion we have to offer. Our experience suggests that it is not so much that stories in themselves drive transformations. Rather we propose that stories have the capacity to invite many more constituencies to engage in imagining change and consequently offer both the motive and confidence to participate in it.

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