Engaging the public in the transformation of the energy system

ERP
Energy Research Partnership

The Energy Research Partnership

The Energy Research Partnership is a high-level forum bringing together key stakeholders and funders of energy research, development, demonstration and deployment in Government, industry and academia, plus other interested bodies, to identify and work together towards shared goals.

The Partnership has been designed to give strategic direction to UK energy innovation, seeking to influence the development of new technologies and enabling timely, focussed investments to be made. It does this by (i) influencing members in their respective individual roles and capacities and (ii) communicating views more widely to other stakeholders and decision makers as appropriate. ERP's remit covers the whole energy system, including supply (nuclear, fossil fuels, renewables), infrastructure, and the demand side (built environment, energy efficiency, transport).

ERP is co-chaired by Professor David Mackay, Chief Scientific Advisor at the Department of Energy and Climate Change and Dr Keith MacLean, Director of Policy & Research at Scottish and Southern Energy. A small in-house team provides independent and rigorous analysis to underpin ERP's work. ERP is supported through members' contributions.

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The Energy Research Partnership Reports

ERP Reports provide an overarching insight into the development challenges for key low-carbon technologies. Using the expertise of the ERP membership and wider stakeholder engagement, each report identifies the challenges for a particular cross-cutting issue, the state-of-the-art in addressing these challenges and the organisational landscape (including funding and RD&D) active in the area. The work seeks to identify critical gaps in activities that will prevent key low-carbon technologies from reaching their full potential and makes recommendations for investors and Government to address these gaps.

The views are not the official point of view of any organisation or individual and do not constitute government policy.

⩔ Summary

The public will play an important role in the success of the transition to a secure, affordable and low-carbon energy system, interacting with it at several levels, whether through deployment of technologies in the home or new infrastructure, or changes in behaviour. Engaging with the publics is therefore vital to provide valuable insights that can improve decision making and shape developments, so as to deliver more acceptable and effective outcomes.

However, while the public are largely supportive of the transformation and have strong opinions about what the energy system should look like and how it should be achieved, trust in the government and energy companies to be able to deliver it is currently low. Restoring this trust is vital if the public are to be expected to engage in the transformation, both in terms of informing decision making and implementing changes at an individual level.

This report explores the strategic importance of engaging with the public and the need for those involved in commissioning it, including in government and the private sector, to use it to improve decision making in the delivering of the energy transition. The value of understanding the publics' point of view through good, early engagement is emphasised and a structure for engagement is set out with some basic principles to improve the outcomes.

The report concludes by setting out the need for a Strategic Narrative that can put into context the various programmes necessary for delivering the energy transition. This Strategic Narrative developed through early engagement with the public and stakeholders involved in the transition, would help build trust and understanding of the long-term objectives and in those parties involved in delivering them and would also increase the amount and quality of engagement.

The need for a Strategic Narrative

Delivering the transformation of the energy system will require engaging with the public at three levels; at a national level to develop policies, at a local level to inform decisions about infrastructure projects and at the individual level to develop and enable changes at the household level. Different tools and approaches will be needed at each of these levels, and at the different stages of development, but a priority is to engage early so as to incorporate the publics' points of view and to avoid using dubious assumptions in the decision making.

The scale of the transformation of the energy system, the number of stakeholders and the timeframe over which it will be delivered requires a long-term narrative that can provide coherence to the actions that will be undertaken to deliver the objectives. It would help link national-level objectives to the local and individual. Clarity is needed about the role and expectations of key stakeholders and institutions delivering the transition: For example, explaining how promoting demand reduction measures fit with a utility company's business plan and how the investment for infrastructure will be raised. Explanation is also needed for how the various technology options could fit with the long-term objectives, along with the context, which sets out the technical, economic, environmental, social and historical constraints.

A Strategic Narrative would set out to create a common understanding of the long-term objectives, helping those involved to define their role and how they interact with the transition. It would seek to identify the values that would enable the transition, which may become apparent through interactions and engagement at the implementation levels. The challenges that will be faced and how they will be addressed should also be identified, along with making clear the values that underlie how the transformation will be delivered, setting out the expectations of the various stakeholders, particularly the public. An effective narrative will increase the amount and quality of engagement.

Crucially the Strategic Narrative must resonate with its audiences and address the issues that are important to them, so as to engender trust. Delivering this requires their participation, through early engagements, in its development to understand their values and perspectives. Recent work by UKERC[1] provides a valuable starting point, along with an industry perspective National Grid's Powering Britain's Future[2].

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[1] UKERC 2013 *Transforming the energy system: Public values, attitudes and acceptability*

[2] National Grid 2013 *Powering Britain's Future: Listening and Acting, Interim Report*
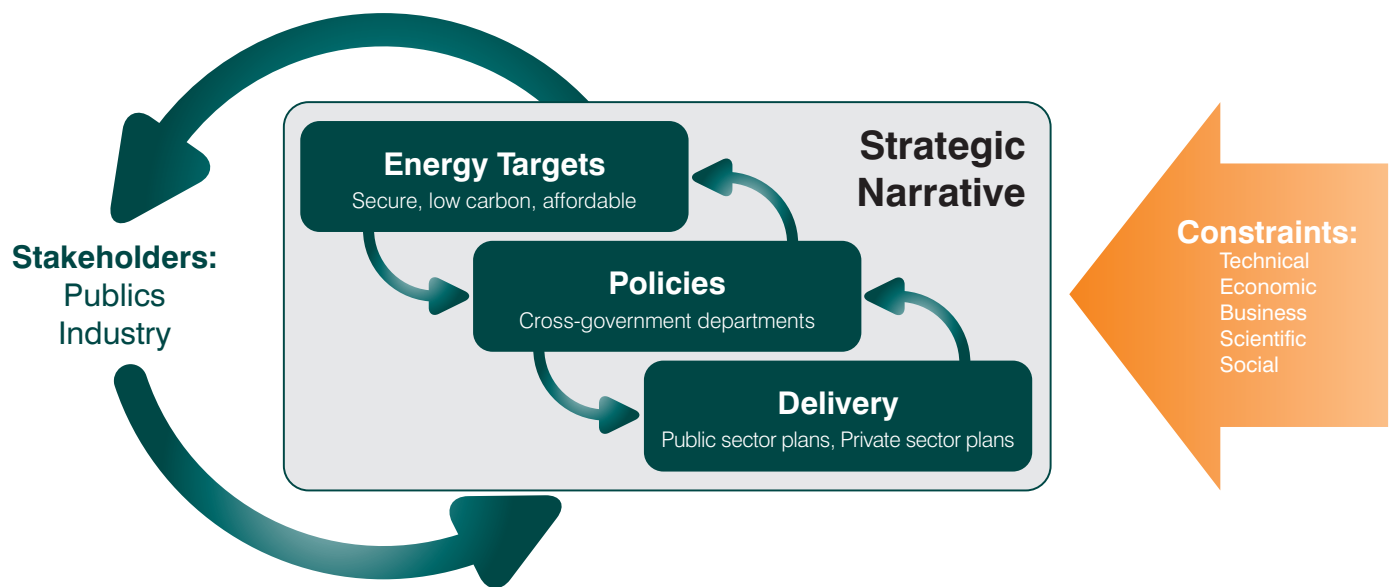
Figure S1: *Based around the operational strategy and delivery plans the Strategic Narrative is a dynamic process that resonates with its audiences, helping those involved to define their role and interact with the transition.*

The Narrative should be owned by all stakeholders, including government, given their role in defining policies. Uncertainties mean it needs to be dynamic (Figure S1), requiring strong leadership to understand and interpret the impact of changing conditions and ensuring that the various stakeholders, including the public, are engaged in decision making so they can integrate it into their activities and remain confident in its purpose.

Actions to deliver the transformation should use the Strategic Narrative as a basis, ensuring that short-term decisions are made in the context of the long-term strategic aims. Communications can use the Narrative to ensure that they address the issues that are important. However, the Narrative should be descriptive and not prescriptive, providing a framework around which the various stakeholders can develop their own delivery plans and communication strategies.

Embedding engagement in the transition

Engagement takes place at several levels: national, local and individual levels. At each level, different issues and values become more salient, so engaging early is valuable so as to understand the publics' point of view and identify the issues that are important.

How the process is conducted is important, with well designed, successful engagement able to build trust and increase participation in the delivery, but it must be integrated into decision making. For any situation there will be paradoxes and dilemmas; identifying and discussing the trade-offs between the technical, economic and social dimensions is important in determining an acceptable and effective outcome.

Recommendations

The strategic importance of engagement needs to be recognised to build trust between the public and organisations and institutions involved in the transition.

Develop a Strategic Narrative

- A Strategic Narrative is needed to describe how the long-term energy strategy is intended to be delivered and the roles of the various stakeholders, including the public. It needs to be developed through engagement with stakeholders and publics and needs to be reviewed regularly. It should not be prescriptive, but it should set out:

  ▸ the challenges that need to be addressed and how they will be approached,
  ▸ the role of engagement,
  ▸ where we are and how we got here and the implications and constraints that puts on the future options,
  ▸ what the various technology options are, the likely changes that will be needed and how they fit into the transition,
  ▸ how national objectives link to the local and individual,
  ▸ what it will mean for the various stakeholders, particularly the public, and the opportunities this presents.

  The Narrative needs to be informed by public and stakeholder engagement and maintained so as to be responsive to changing circumstances.

- On-going high-level engagement is needed with the public, alongside the technical understanding, so as to develop an evidence base of public attitudes about the energy system.
- A stakeholder map should be drawn up to ensure all necessary parties are identified along with an understanding of their roles.
- This strategic approach to energy needs to be coherent with the approach to climate change.
- The approach needs to incorporate requirements of Aarhus convention with respect to participation and access to justice to help build the credibility of engagement practices.

Embed engagement in decision making

For the companies, organisations, research bodies and institutions involved in decisions making and delivering the transformation of the energy system:

- Engagement with the public needs to be regarded as strategic and embedded into energy system development at all levels, if the benefits it can deliver are to be realised and potential conflict and additional costs avoided.
- Engagement programmes need to be designed on a case by case basis. Their design and timing has significant impact on the success of the programme and need to be tailored to meet each situation.
- Public engagement exercises need to be resourced appropriately, if they are to be effective. Engagement exercises are not cheap, but can be cost effective if well designed.

Basic principles can be used to help make engagement more successful:

  ▸ Be clear and honest about why public engagement is being undertaken;
  ▸ From the outset, be prepared to listen and learn;
  ▸ The commissioning agency needs to be committed to acting on findings;
  ▸ It needs to be done early to inform decisions and to avoid surprises later on;
  ▸ To be effective and worthwhile, it requires committing the necessary resources that may not be cheap;
  ▸ Trusted and independent agents are the most effective for carrying out the engagement;
  ▸ Engagement needs to be tailored to meet purpose and targeted to ensure the necessary publics are included.

Research agenda

- The development of energy system scenarios need to incorporate this understanding of social dimensions alongside technical and economic parameters.

Introduction

For the UK to meet its mid- and long-term policy targets of a secure, low-carbon and affordable energy system a considerable transformation over several decades will be needed, requiring new technologies to be deployed along with changes to the way energy is used, distributed and generated. While there are still considerable uncertainties about how this will develop, it is clear that the public will interact with these changes at several levels: whether in deployment of new infrastructure or technologies in the home, or changes in behaviour. Involving the public is therefore essential, but understanding how and why is vital to ensure the transformation to a sustainable energy system is acceptable and successful.

Government and energy companies are regarded as essential for the transition, but mixed messages about the imperatives and a lack of clarity about financing and affordability is eroding the public's trust in them being able to deliver it and leaving the public uncertain about their own role[3]. A clear high-level, long-term narrative is needed to set out the commitment to the transition to a low-carbon energy system.

This report explores the strategic importance of engagement and the need for those involved in delivering the energy transition, including government and the private sector, to engage with the public so as to improve decision making. The report concludes by setting out the need for a strategic narrative, and how it might be developed, to help build the necessary understanding and trust and increase the amount and quality of engagement.

This analysis has been informed by a wide range of publications and interviews, including a workshop that brought together experts from industry, the media and the public sector. Drawing on this expertise the work sets out to understand the current situation in the use of public engagement and identify critical gaps in activities that prevent the delivery of the transformation of the energy system. There is much debate about the definition of engagement and how it should be undertaken, but it is not the intention to explore this in detail here: a number of useful guides are available: Involve (2011), Dialogue by Design (2012), ScienceWise (2012). A Steering Group for the project was formed of ERP members (see page 3): it does not represent the official views of any individual or organisation.

[3] National Grid 2013 *Powering Britain's Future: Listening and Acting, Interim Report*

Transitional challenges

A study by UKERC[4] indicates that the public are broadly supportive of the transition and see it as contributing to a broader vision of a sustainable future. The study also revealed a perception of what the trajectory might look like and how quickly it can be achieved, with an emphasis on renewables and energy efficiency and a corresponding shift away from fossils fuels. However, these values and attitudes may not fully align with the complexities and uncertainties around technical and political constraints. Furthermore, other stakeholders, such as the energy companies, have their own imperatives and perspectives on how the transition should be delivered. This suggests that achieving the transition may be less straightforward.

This broad support also appears to contrast with local opposition to projects and reluctance to take-up low-carbon technologies. One response is to suggest that the public do not understand the bigger picture and need to be educated, responding to an assumed deficit in their knowledge: Simply providing more information has been shown to be unhelpful and can be counter-productive by polarising the debate further and focussing on technical issues or costs, leading to questioning of the broader economic basis and strategic approach and even of the need for the transformation. While these issues are important, the objections typically reflect more fundamental issues as well as shortcomings in how the proposals were developed and presented, or neglecting the other forms of knowledge that the public hold[5].

Some proposals, developed primarily on a technical or economic basis, may appear to contradict the long-term objectives. The justification for a proposal may also appear incoherent with the perceived objectives or with other activities, raising suspicions and undermining the trust in the company proposing it or in the Government's ability to deliver the transition; for example, building wind farms but still pursuing fossil fuels, such as shale gas, or energy supply companies offering free insulation to reduce energy demand.

When challenges and conflict arise around the deployment of a particular project, such as a local wind farm, in the absence of well-planned engagement, public debate can default to a generic dispute about price and whether the technology is a cost-effective option. Different figures can be quoted due to a lack of trusted data from an independent and transparent source.

The national debate about energy pricing and a lack of a coherent message between industry and government about the costs and clarity over the various causes of the price rises (including energy policy, energy costs and profits) adds to uncertainty about policy and technology options[6]. It also undermines trust in those who are expected to be delivering the transformation, raising doubts and suspicions about motives for their actions, for example in promoting energy saving options[7].

In other cases public reticence may not be because they disagree with the change, rather because they do not feel in control and it is being forced upon them[8]. Or concerns that they are being asked to pay the cost at the benefit of someone else and are being treated unfairly. Even if the proposal appears good for the national economy and delivers new jobs, local concerns and values need to be properly understood and addressed.

The pace of change is also important and there is evidence that the public have little appetite – at least in the context of their concerns noted above – for radical and ambitious changes in lifestyle[7]. Some values appear to conflict with the desire to move away from fossil fuels, such as the comforting feeling of a coal fire, or the familiarity and control of gas heating and cooking compared to electrical alternatives, or the aspiration for a large, high-powered car[7]. These issues need to be taken into account and solutions developed to satisfy the underlying needs and values if the transition is to be acceptable and avoid conflict.

Effective engagement can benefit decision making and reduce future costs, improve policy development and increase market pull. There are many examples of where engagement with the public has been successful[9]. Moreover, the risk of delays to projects, additional costs or poor uptake of technologies, can be avoided if engagement is integrated strategically and the information it yields is used alongside other technical and economic data in the development cycle to guide both the content and presentation of proposals. Understanding how and why to engage and who is best placed to undertake it is crucial if the long-term targets are to be met.

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[4] UKERC 2013 *Transforming the energy system: Public values, attitudes and acceptability*

[5] Wynne B 2001 *Creating public alienation: expert cultures of risk & ethics on GMOs.* Science as Culture Vol 10 pp445-481

[6] Stokes LC 2013 *The politics of renewable energy policies: The case of feed-in tariffs in Ontario Canada* Energy Policy 56

[7] UKERC 2013 *Transforming the energy system: Public values, attitudes and acceptability*

[8] Cotton M & Devine-Wright P 2012 *Making electricity networks 'visible'* Public Understanding of Science 21(1)

[9] Involve & Consumer Focus 2011 *Making the case for public engagement*

Engagement and the energy system

Public engagement in the energy system is complex, as it brings together technical and social issues, each with their own language and diverse tools.

A great deal of public engagement is taking place, with a diverse range of methods and tools being used. However, there are differing views on what it is and what it entails (Box 1). Engagement is valuable for the development and implementation of policies, identification of enablers and the deployment and development of technologies and infrastructure. It is also used on an ongoing basis to establish trust between stakeholders.

Engagement is increasingly coming to the fore, partly through planning applications, where applicants for large projects are required to consult the public early, before submitting an application. But there is a risk that it is seen as a requirement rather than an enhancement of the decision-making process. Poorly considered or designed engagement, with assumptions made about what the key issues are, can lead to unsatisfactory outcomes[13]. Basic principles for engagement (Box 2) are often not implemented.

Box 1: Defining Public Engagement

Public engagement is a broad term that covers a range of activities where there is contact with the public to inform decision making[10]. Several definitions exist and as it continues to evolve there is much debate about what it entails and the various aspects it includes. The definition used here is that it is a two-way process that aims to bring mutual benefit to all parties. Undertaking it can build trust, understanding and collaboration, with all parties learning from each other and sharing knowledge[11]. How it is carried out depends on what is being achieved; the emphasis in this report is on involving the public in setting the agenda and informing decision making. For this the main elements are:

- **Participation:** collaboration with the public or publics to develop an agreed outcome.
- **Dialogue:** two-way discussion with the public or publics, where the participants can ask, and be asked, questions to explore particular issues.

Consultation and communication are sometimes included in the definition, but these are often only one-way. While consultation has some value for polling views on particular issues, gathering evidence of behaviour or disseminating information, it limits the depth of understanding of the issues with the content often determined by the sponsor. Similarly communication can be sponsor led, although this may be informed by the outcome of a successful two-way engagement process. Evaluation of the impact of the communication and the whole engagement process can provide valuable feedback for future activities and help instil trust by reaffirming the open approach.

The term 'publics' is used rather than 'general public' to recognise the diversity of interests and concerns expressed by different people and groups of people. Engagement needs to ensure that the appropriate publics are represented and distinguish between them, and also to create space for self-defining publics to participate in ways that seem appropriate to them. This includes engaging with the less vocal members of the community who are likely to be affected but do not normally participate, as well as involving active grassroots groups, which may be developing radically different activities.

The importance of engagement is set out in the Aarhus Convention, which recognises the right of the public to 1) participate in the environmental decision-making that affects them, 2) to be provided with the necessary open and transparent data, and 3) to have access to justice in disputes over such decisions[12]. The primary aim of the Convention is that through improved decision-making it will strengthen support for decisions that are made, with the expectation that it will strengthen democracy and trust in the process.

[10] See for example Dialogue by Design Handbook 2012
[11] Modified from National Co-ordinating Centre for Public Engagement & HEFCE
[12] UNECE 1998 Aarhus Convention
[13] Involve 2011 *People & Participation: How to put citizens at the heart of decision-making*

Building trust

Engagement can also be an on-going activity to establish and support trust between different parties, such as a company and its stakeholders, beyond the timetable of a specific project. This is often in the form of a dialogue to maintain a two-way flow of information to communicate the company's vision and values, but also to identify and respond to concerns that the stakeholders might have, as they arise.

Engagement is not just required for completely new proposals or technologies. Both public values and the context can change, so activities that were previously acceptable may no longer be so. For example, a company that has been operating for many years without any objections may be surprised when their processes are questioned and challenged when they seek to expand, even though the activity is largely unchanged. This can happen for a number of reasons such as a lack of awareness and understanding of the operation, the proposed location, or a lack of trust in the company. Companies need to understand the publics' perspective to identify and address the issues that might arise.

Implementation

Successful engagement, if well designed and integrated so that it informs the project development, can yield valuable information, reduce risks and improve market uptake in the long run.

The design of each engagement programme is different, as it depends on the circumstances and the nature of the proposal that is being developed, whether it is a policy idea, a possible project or product[13]. Awareness of a technology or issue varies, as does the current media coverage. Public attitudes and values can vary depending on whether a proposal affects the individual directly or is more a national or conceptual issue[14]. Translating strategic ideas to the local level requires addressing a different set of concerns and values.

Specialist consultants are often used to undertake engagement exercises, providing valuable expertise and helping present the impression of an unbiased interaction. However, there is a risk that the engagement may fall short if its timing and extent is determined by those commissioning it. These terms of reference need to be discussed and challenged by the consultants, when the work is contracted.

The drivers for the energy system transformation may not be immediately apparent. Personal and local values should not be regarded as contradictory to more pro-social[15] values of a sustainable energy system. The roll out of solar panels in response to the Feed-In Tariffs was rapid and significant. The green benefits of the panels certainly played a role in this; while for some the panels are regarded as an eyesore. However, the financial investment benefit was also seen as a significant influence, particularly as it coincided with rising energy prices. More research is required to understand how the motivations correlate, but the potential to earn money from the incentives and save money from reduce bills is clearly important[16].

This is in contrast to energy saving and management measures, where the uptake is lower than expected, even when it is apparently being offered for free[17]. This may, in part, be due to suspicion about the supplier's motivations - particularly if the utility company is promoting it directly - and the assumption that the consumer will end up paying for it in the end (combined with the fact that the reduction in energy bills is not always immediately apparent)[18]. In addition, the inconvenience of needing to clear the loft space has been raised as a reason not to implement simple measures such as insulation[19]. Here the personal benefits are not perceived as sufficiently greater than the costs.

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[14] Crompton T 2010 *Common Cause: The case for working with our cultural values,* WWF, COIN, FoE, CPRE, Oxfam

[15] Values based on the benefit and well-being of the wider community

[16] Balcombe et al 2013 *Motivation and barriers associated with adopting microgeneration energy technologies in the UK,* Renewable and Sustainable Energy Reviews **22** pp655-666

[17] Energy Saving Trust & Defra (2009) *Survey of public attitudes and behaviours towards the environment.*

[18] IFF Research 2011 *Exploratory research into building regulations in relation to the Green Deal for the Energy Saving Trust* & UKERC 2013 *Transforming the energy system: Public values, attitudes and acceptability*

[19] Caird & Roy 2008 *User-centred improvements to energy efficiency products and renewable energy systems: research on household adoption and use.* International Journal of Innovation Management 12(3) pp 327-355

Box 2: Principles of engagement

Best practice is difficult to define as each situation needs to be considered on a case by case basis.
But a few basic principles can be used to help make engagement more successful:

1. Be clear and honest about why public engagement is being undertaken;
2. From the outset, be prepared to listen and learn;
3. The commissioning agency needs to be committed to acting on findings;
4. It needs to be done early to inform decisions and to avoid surprises later on;
5. To be effective and worthwhile requires committing the necessary resources that may not be cheap;
6. Trusted and independent agents are the most effective for carrying out the engagement;
7. Engagement needs to be tailored to meet purpose and targeted to ensure the necessary publics are included.

Box 3: Reasons projects and engagement can fail

Conflict and resistance towards projects can arise during engagement for a number of reasons[20]. Three main reasons
have been identified that can lead to unsatisfactory outcomes or conflict. They can be summarised as poor engagement
procedure, how fairly the costs and benefits are distributed and the local significance of the area.

Poor procedure
Poorly designed or implemented engagement can lead to people feeling that they are not being treated fairly or decisions are
being imposed on them. This can occur if the public are not consulted early and were not aware that a project was being proposed.
A lack of openness and honesty about what is being proposed and what is up for negotiation can also lead to conflict.

Suspicions can also arise if the proponents are not open about facts or the data is not seen as independent. One of the issues
that fuelled the shale gas debate was that the companies refused to divulge the chemicals they were injecting for fracking, on
the grounds that it was commercially sensitive[21]. This lack of openness raised suspicions and speculation about their safety.

The pace, scale and permanence of change also needs to be considered. Some changes can happen quickly, but for others being
able to review progress by phasing in or being reversible may make it more acceptable, such as for geological nuclear waste disposal.

Distributional justice
Resistance can arise towards projects when the public feel they are bearing the cost, with little or no compensation or benefit,
while others are reaping the benefits. This is an issue of 'distributional justice' where the costs and benefits appear to be
imbalanced. This can apply to infrastructure projects, such as wind farms or shale gas drilling sites, as much as to technologies,
such as smart meters and free insulation. The latter also raises suspicions as it does not immediately appear to fit a utility
company's business plan of selling more.

Resolving this may include offering profit sharing with local communities, or community projects, which are owned by the community.
Costing a project should take into account the social as well as economic costs, including indirect social benefits. However,
consideration is needed as to how and when this is offered as it may be seen as a bribe and become a point of conflict itself[22].

Utilities and developers also need to be open about their business models, in order to demonstrate how projects fit, such as insulation
that is likely to lead to selling less energy. This could be further supported by a coherent message coming from government.

Place
In some cases it may be difficult to put an economic price on the value that members of the public place on land or an area.
Communities and people may have strong psychological associations with particular areas and are not prepared to accept
changes[23]. In some cases this may be regarded as NIMBY-ism, but it is more likely that the developer failed to engage early
enough to identify the issues and to involve the community in identifying and agreeing what was acceptable.

[20] Devine-Wright P 2011 *Renewable Energy and the Public: NIMBY to Participation,* London, Earthscan
[21] Associated Press 28 July 2013 **http://bigstory.ap.org/article/some-say-industry-arrogance-fueled-fracking-anger**
[22] Cass, N, Walker, G & Devine-Wright, P 2010 *'Good Neighbours, Public Relations and Bribes*
[23] Devine-Wright P 2010 *From Backyards to Places*

A Structure for engagement

Engagement with the public is valuable at a number of levels, for example, to inform national policy, developing and deploying infrastructure proposals and in developing new products. Broadly termed a policy, project or product, Figure 1 illustrates, each of these 'spatial' levels have stages of development, from understanding the need to testing the options and finally deployment. Each stage of development determines the purpose of the interaction and requires different types of information and with it a different set of tools. At each stage the engagement will provide valuable information to help determine and inform

the intended development, including whether to continue or not, or to modify the proposal. The project cycle is not a linear process, as stages can feedback to earlier ones or are repeated if necessary. The downstream stages of development, particularly deployment and implementation, are more orientated around disseminating and communicating the outcomes of the engagement, which will be informed by the earlier stages and should therefore understand the needs of the audience. Evaluation of the impacts and process can be used to improve the outcomes and inform future activities.

	Strategic Narrative	Strategic / National	Local / Regional	Individual / Household
Stage of development — upstream →	**Narrative formulation** • Identify priorities & values important to public & stakeholders • Recognise constraints: technical, economic, scientific & historical	**Policy formulation[24]** • Understanding the public need • Political motives • Technical needs	**Project development** Technical assessment • Options, constraints & social assessment • Identify stakeholders & issues	**Market analysis** Technical need • Understand need & social requirements • Identify market
	Narrative development • Participation to develop & agree content & text	**Policy development** • Discuss options • Understand impacts & trade-offs	**Option assessment / selection** • Public participation • Understand trade-offs • Agree preferred option	**Technology development** Market / product testing • Understand interaction with technologies
← downstream	**Narrative implementation** • Communication of the Strategic Narrative • Maintenance of the Narrative	**Policy Deployment** • Awareness raising • Increase uptake • Evaluation of the policy	**Project implementation** • Project updates • Evaluation of the project & the process	**Technology deployment** • Promotion / advertising • Installation • Evaluation of the outcomes & process

Figure 1: The engagement landscape needs to be considered at three spatial levels, with a fourth overarching narrative, and through all the stages of the development cycle.[25]

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[24] This stage can also include engagement to help understand the likely responses and issues affecting acceptance and opposition to a particular technology, such as nuclear or CCS

[25] Source: author's analysis

The early, upstream stages of development are about understanding the constraints and opportunities, bringing together the technical, economic, environmental and social issues to inform new ideas and possible options. It also helps identify any issues that need resolving during further engagement, such as those that cannot be incorporated into early design and what the implications and trade-offs will be for particular options. This also allows identification of enablers that will help to facilitate effective outcomes. Subsequent stages allow testing of the various options[26], using the information gathered to develop and agree the most acceptable option.

The final stage is the promotion and dissemination, which is less about engagement may utilise more one-way communication, but the design of which can draw on the information gathered through previous engagement to increase its effectiveness.

Critically engagement needs to happen as early as possible in the development cycle. Too often, the upstream stages are missed leading to assumptions being made about what the issues are that need addressing, which consequently risks running into conflict or not meeting the market expectations.

National level

The national/strategic level has two dimensions, the preparation of policy and the development of an overall narrative for the energy system transformation. The Strategic Narrative is examined in detail later in this report, but, as the figure illustrates, developing it so that it produces acceptable outcomes requires early engagement and participation in the same way as other spatial levels.

At a policy level early engagement is essential to understand the values and attitudes of the public associated with particular issues and to learn about the trade-offs that they are willing to accept. This understanding is valuable and can be used to inform the development of the policy so that it addresses any concerns: as recognised in DECC's outline for developing their evidence base[27]. DECC's My2050 Calculator and British Energy Challenge

Roadshows are useful ways of engaging with the public to discuss the challenges and trade-offs and to understand their perceptions, preferences and attitudes. But before a policy is implemented, further engagement is important to test if it is fit for purpose, or if it requires modification, or even if it should be cancelled[26]. This can include discussing the issues and understanding the impact of the policy. It may include small-scale trials to give a better understanding of the impacts and interactions. Once a policy has been proven acceptable, the information learnt in the development can be valuable for informing how policies are communicated and promoted, based on a shared understanding of the objectives. The process will also identify information that can be used to help evaluate the effectiveness of the policy, which in turn can be used to improve it further.

Local level

At the local level early engagement will help identify who all the stakeholders are, what issues will influence the proposal and how the project design could be modified to mitigate problems and deliver a more acceptable outcomes. An open approach will also help identify the potential locations and areas where a project, such as wind farm, is more likely to be acceptable and areas where there are deeper associations with the landscape, which might require particularly careful management [28].

Distributional issues may also come up and could help identify the potential for profit sharing or community involvement[29]. Other benefits to the local community, such as secure jobs can be important; although jobs created elsewhere are less likely to be of concern. Subsequent stages can be used to test a range of potential options, debate the pros and cons and agree the most acceptable outcome. Implementation can be sensitive to the concerns that have been identified earlier in the process.

[26] EC JRC 2013 Applying Behavioural Science to EU Policy-making EUR 26033EN

[27] DECC 2014 *Developing DECC's Evidence Base*

[28] Devine-Wright P 2013 *Social acceptance of low carbon energy and associated infrastructure* EDI Quarterly, March 2013 & UKERC 2013 Deliberating energy system transitions in the UK

[29] Joseph Rowntree Foundation 2012 *Wind Energy and Justice for Disadvantaged Communities*

Household / Individual level

At the individual level the early stages are about identifying the product need and constraints, what issues are important in the design and market segmentation. This helps identify the values that a product or activity can appeal to. However, where the product or outcome is requiring behaviour change, which requires appealing to values outside of the personal aspirations, additional activities may be needed to deliver the intended outcome, such as supporting the product delivery.

A review by the European Environment Agency on how to deliver energy efficiency suggests that social norms play a significant role in determining energy demand, which may be driven by other values and goes beyond interaction with technologies[30]. Identification of these issues at an early stage allows approaches

and technologies to be developed and tested early. DECC have identified the need for a better understanding of energy use in the home to support the development and deployment of technologies so as to make them more effective[27]. While the focus is mainly on the interaction with technologies, it also highlights the need to understand how social norms, practices and psychological values and attitudes affect energy use and use this to design better policies.

Caution is needed as the most effective values for such marketing or framing may contradict the broader objective of the transition and focussing on these may prove counter-productive in the long run[31].

Interactions

All the levels interact, with activities at the national level influencing those at the local and individual level, and visa-versa. Ideally this would be positive, orientated around the goal of achieving the national energy objectives. For example, a coherent national message that explains how a technology or option fits with the long-term objectives can put local activities into context. But, as the engagement moves to the right of the table it becomes more personal and other interests and values can become more salient and need to be understood[32]. Acceptance

in principle and public support for a technology or policy at a national level may be quite different at a local level. There is a risk that if a local or household development leads to conflict the feedback to the national level could become negative. For the publics involved this could lead to questioning of the overall policy or the long-term objectives and a reduction of trust in the Government and the companies involved to deliver the transition. While this feedback could be damaging, it can also yield valuable learning that should be used to improve decisions.

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[30] EEA 2013 *Achieving Energy efficiency through behaviour change: what does it take?*

[31] Crompton T 2010 *Common Cause: The case for working with our cultural values,* WWF, COIN, FoE, CPRE, Oxfam

[32] Haggett C 2010 *'Planning and Persuasion': Public Engagement in Renewable Energy Decision Making.* In Devine-Wright (Ed) Public Engagement with Renewable Energy: From Nimby to Participation, Earthscan

Strategic stakeholder interactions

From the public's point of view, the government are regarded as responsible for leading the transition, as they have the power to put in place the regulations and incentives to drive the change and provide the framework for energy companies to implement it. But delivering the transition involves interactions between the public, government and industry. A simplified illustration of these interactions is set out in Figure 2.

For industry this means government setting out the objectives and providing a market environment that encourages the investment. In return they are expected to provide the investment in order to deliver the transition. Industry also interacts with the public, providing affordable energy services, in line with the transition, with the expectation that they are involved in the decisions about infrastructure deployment. The public also inform government about the overall objectives and how it should be delivered and give them the mandate to implement it. In return the public are expected to participate in the delivery.

However, the public's perception is that current efforts are limited, both by government and the energy companies[33]. Trust in the government to act in accordance with delivering the long-term transition to a sustainable energy system is therefore low; only marginally higher than that of the energy companies. This has implications on the degree to which the public are likely to participate in the transition, by informing decisions and making changes to their behaviour. A strategic narrative that takes a long-term perspective could help illustrate the commitment.
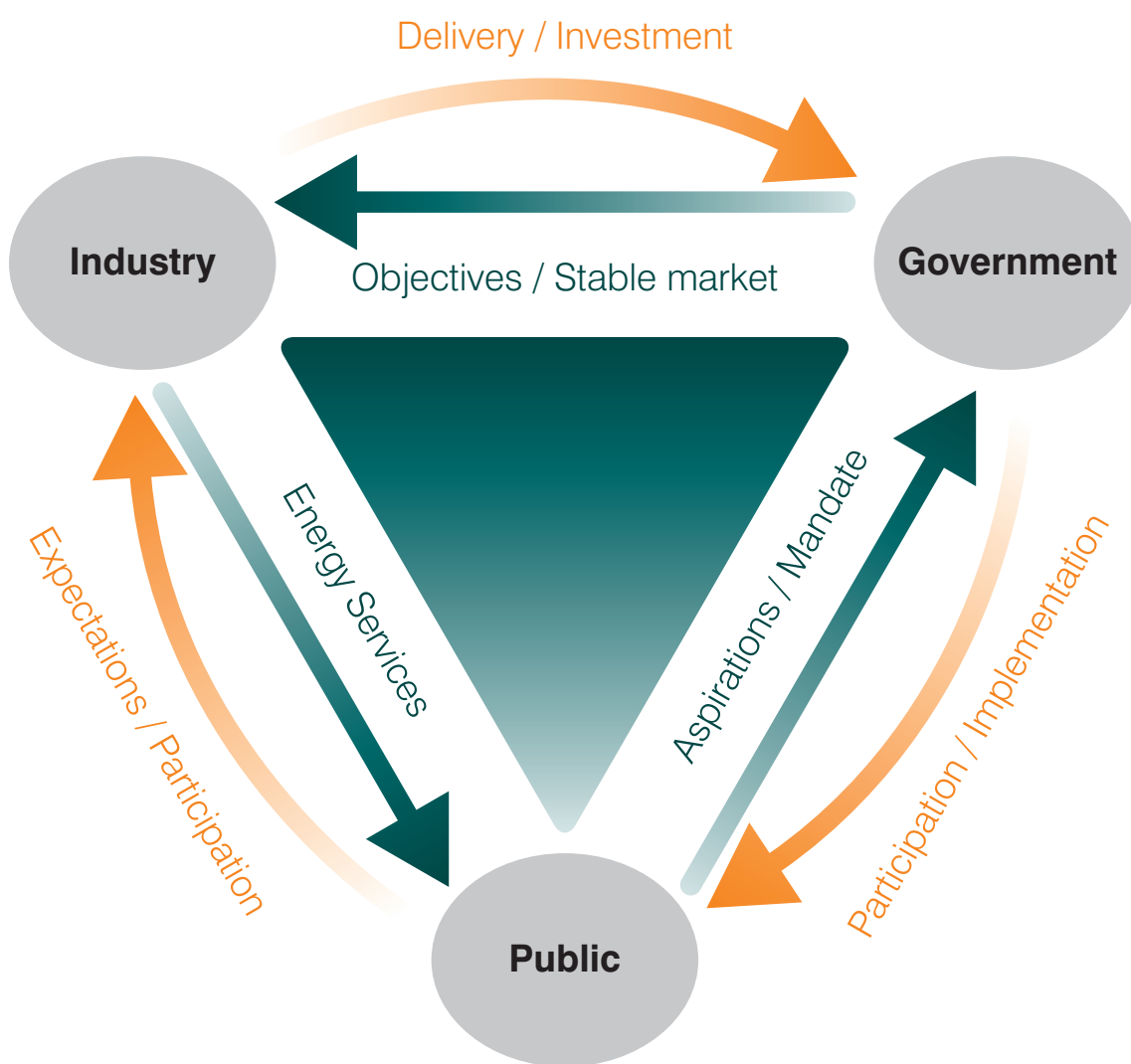

Figure 2: *Interactions between main stakeholders highlighting requirements and expectations.*

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[33] UKERC 2013 *Synthesis report: Transforming the UK energy system: Public values, attitudes and acceptability*

Strategic Narrative

The various spatial levels and interactions discussed above are focussed primarily on how engagement is undertaken for the development and implementation of specific aspects of the energy system and how it needs to be integrated into the process to enhance the outcome. However, there is a need to provide a strategic context for implementation, setting out the overall objective of the transformation and why it is necessary. This was a common theme coming from the projects considered during the workshop that was held to inform this project (see Annex). By putting the various decisions, policies and proposals into a long-term context[34], through the development of a Strategic Narrative, it would provide a broader understanding of how the energy system and industry works, with the aim of building trust in a common overall objective of the transformation and in the stakeholders delivering it. It would also appeal to the values that would enable the transition, which may become apparent through interactions and engagement at the implementation level.

The Strategic Narrative would provide a clear overview, linking the national objectives to the local and individual, but critically it must resonate with its audiences. It will clarify the role of the publics in the transition, emphasising the importance of engagement and setting out how they can contribute to the decisions and delivery of the long-term vision. To do this the Narrative needs to be developed through engagement with the public and stakeholders involved, which starts early, as highlighted in Figure 1. If it is effective, the narrative will increase the amount and quality of engagement.

Purpose of a strategic narrative

A strategic narrative sets out to create a common understanding of the long-term objectives, helping those involved to define their role and how they interact with it. Starting from the current situation, with some history to explain it, the Narrative defines the challenges that need to be addressed and how they will be met. It should set out the technical, economic, environmental and social constraints, as well as an explanation of the role of the stakeholders, including the publics, and their interactions[35]. It will also set out the values that underlie how the transformation will be delivered; these too will be exposed through consultation with the stakeholders and have been highlighted by the UKERC report[34].

For the transformation of the energy system the Narrative will help clarify the role and expectations of key stakeholders and institutions in delivering the different aspects of the transition, particularly industry, local and national government and regulatory bodies: For example, explaining how promoting energy efficiency and demand reduction measures fit in a utility company's business plan. It should also set out the benefits that are expected, particularly for the various publics, and the opportunities that likely to arise. The various technology options could be set out and put into context of the transition.

In addition to setting out the purpose of the transition and the components for achieving it, the narrative will also indicate the challenges that will arise and the implications of different decisions, such as how to raise the finances and distribute the costs fairly across society, with an indication as to how these issues will be resolved, including the role of engagement in determining the outcome.
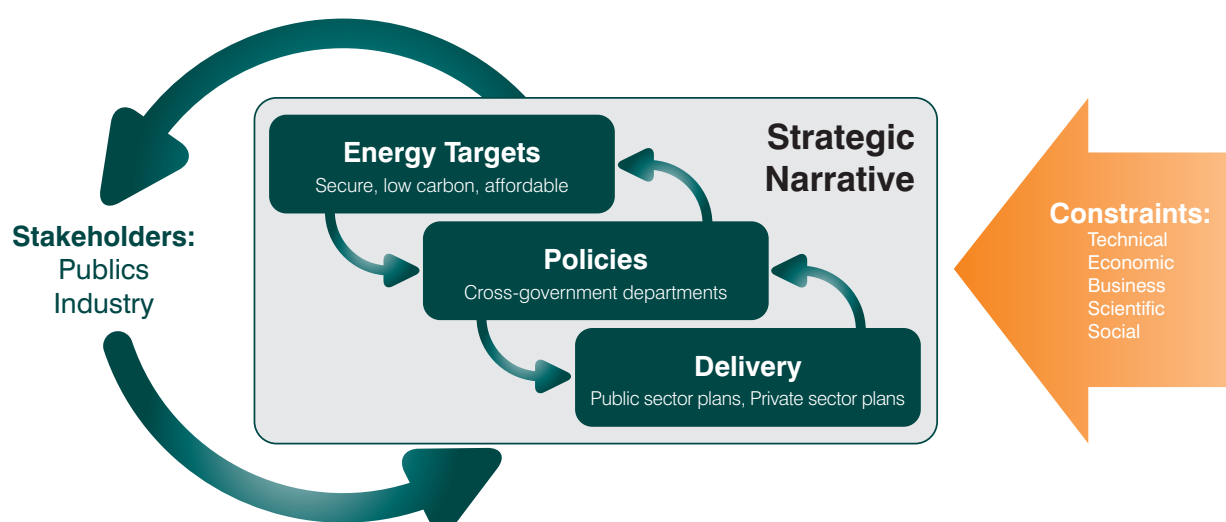

Figure 3: *The Strategic Narrative is a dynamic process, engaging with a range of perspectives to set out, in a form that resonates with its audiences, how the energy system transformation will be achieved.*

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[34] UKERC 2013 *Synthesis report: Transforming the UK energy system: Public values, attitudes and acceptability*

[35] Ancel D 2009 *Strategy-as-Story: How narratives convey strategic intent.* Emergent Solutions Inc

Developing a strategic narrative

The details of how the transformation of the energy system will be delivered is set out in the government led strategy, policies and delivery plans; each of which should be developed through engagement (as outlined in the previous sections). These will provide a basis for the Strategic Narrative, but crucially the content must resonate with its audiences and address the issues that are important to them (Figure 3). To do this means their participation in its development and content, through early engagement, informed both by the technical, economic and social understanding of the transition, as well as an appreciation of the historical context for the current conditions. For the public this means understanding of their values and attitudes towards the transition, highlighted by the recent UKERC work[34]. Its broad nature will require the involvement of a wide range of stakeholders, including the public, industry, regulators, local government and academia.

The language of the narrative is important, as it must be clear and accessible, but should also be compelling. It should relate the various aspects of the narrative, and the components of the transition, to what has been identified as important to the publics and other stakeholders. It must also be transparent and honest, in order to engender trust.

Appealing to the values that are most salient to people regarding the transition, is important if it is to resonate and be compelling. The Government's Carbon Plan[36] sets out in detail how a range of issues across the economy will be addressed, but it could go further in relating these to the issues and concerns that people have and to help them participate in the transition. In contrast, in Germany the objectives of the simple phrase 'Energiewende'[37] are widely understood (even though the practicalities were not well understood at the time). While the latter is far from a Strategic Narrative, its impact warrants further examination. It also highlights that simple words or phrases can quickly 'frame' an issue. This concept of frames is important for how the narrative is written as words, through people's experience and value systems, can become associated with broader concepts and elicit deeply held positions[38].

Developing the Narrative will require the participation of a wide range of stakeholders including government. The resulting narrative should be acceptable to all parties, allowing them to understand and communicate their role in the transition.

Using the Strategic Narrative

Strategic narratives are dynamic, responding equally to changes in the business and technical conditions as well as the social context (Figure 3). It must also be responsive to the scientific information regarding climate change and adjust accordingly. Similarly, the strategy, policies and delivery plans interact and inform each other, for example as forecast costs change and technologies develop. Strong leadership will be required in order to understand and interpret the changing inputs and to make rational choices when determining their influence on achieving the long-term objectives[39]. If changes are needed to the delivery or the Strategic Narrative itself, then other stakeholders will need to be engaged in the decisions, so they can integrate it into their activities, and to ensure that, as the Narrative shifts, they remain confident in its purpose.

The Narrative should be used as the basis for actions to deliver the transition and will also ensure that short-term decisions are made in the context of the long-term strategic aims. Some of the messages from the narrative may be at odds with other government policy or short-term political objectives. Similarly the decadal time-frame of the Narrative means it has to accommodate changes in political leadership. These need to be considered in the development of the narrative and learning needs to be reflected in all areas of policy. Areas where there are likely to be disagreements need to be highlighted in the narrative; including if it is between government departments. However, the value of building trust and participation in the outcomes should not be undervalued.

Communication of actions and objectives should use the Strategic Narrative as a reference point to ensure that they are coherent and address the issues that are important. However, the Narrative should be descriptive and not prescriptive, providing a framework around which the various stakeholders can develop their own delivery plans and communication strategies.

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[36] HMG 2011 *The Carbon Plan: Delivering our low carbon future*
[37] Directly translated as Energy Turn. Energiewende more info at **http://energytransition.de**
[38] Crompton T 2010 *Common Cause: The case for working with our cultural values,* WWF, COIN, FoE, CPRE, Oxfam
[39] House of Commons PASC 2012 *Strategic thinking in Government* 24th report of Session 2010-2012

Conclusions

The public have a vital role in the transition to a secure, affordable and low-carbon energy system. Engaging with the various publics is not just appropriate but can provide valuable insights that can improve decision making and shape developments to provide more acceptable and effective outcomes. However, while the public are largely supportive of the transformation of the energy system and have strong opinions about what the system should look like, trust in the government and energy companies to be able to deliver this transformation is currently low.

If the public are to be expected to engage in the transformation, both in terms of informing decision making and implementing changes at an individual level, it is vital that they can trust the organisations and institutions involved in the transition, including the government and energy companies.

A long-term commitment to the transformation of the energy system to one that is broadly aligned with the publics' values and provides greater transparency as to how it will be delivered needs to be demonstrated. Developing a Strategic Narrative that resonates with the audiences would play a vital role in demonstrating the commitment and would build trust through a shared understanding of the objectives and increasing participation in the delivery.

The need for a Strategic Narrative

A Strategic Narrative should set out why the transformation is necessary and what it is intending to achieve. It should also set out how the various components and actors interact and the roles they are expected to play, along with what it is likely to mean for the various stakeholders, especially the public, and the opportunities it could offer. It is vital that the narrative resonates with the various audiences so as to engender trust.

Developing the Narrative requires another level of engagement with both the public and the companies and organisations involved in delivering the objectives, to understand their values and perspectives. Work by UKERC into public attitudes and values, provides a valuable starting point, along with National Grid's Powering Britain's Future, which has been looking at how the energy industry can build trust.

The scale of the transformation, the number of stakeholders involved and the timeframe over which it will be delivered requires a long-term narrative that can provide coherence to the actions that will be undertaken to deliver the objectives. Given the uncertainties in how this will develop, the Narrative must be descriptive rather than prescriptive, providing a framework for activities and communications.

The narrative should be 'owned' by all stakeholders in the transformation, providing a valuable and agreed reference point for activities. Given the government's role in defining the national long-term objectives and policies, they should be responsible for the narrative and provide the leadership to sustain it.

Embedding engagement in the transition

Engagement with the public is valuable to inform the implementation of the transition. It needs to be undertaken on several levels, whether it is for informing the development of a policy, an infrastructure proposal or the design of products for individual use. Well designed, successful engagement that is open and honest and values the publics' point of view can build trust and increase participation in the delivery.

The high-level trajectory envisaged by the public trajectory may not always align with one informed from a largely technical and economic perspective[40]. Deliberative engagement at this level plays a vital role in exploring and understanding the economic, social and technical trade-offs that might be required. This understanding can be used to inform policy development to make it more effective and to tailor communications so as to address and explain how the proposals fit with the long-term vision. For example, an affordable option may not mean 'least financial cost' if it considers the social and environmental impacts[40].

Understanding the publics' point of view is also valuable to inform local and household level projects. However, the values held by the public, with respect to the transformation of the energy system, do not always translate to interactions at the local and individual level, where the impacts can be more direct and other personal values may become more salient. How the engagement process is conducted becomes important to ensure that it is regarded as fair, honest and transparent. The principle of understanding the proposal from the publics' perspective requires early engagement to identify the issues that need to be considered and debated.

At the household level, personal aspirations may conflict with the ambition for a sustainable energy system. Scepticism may arise as to whether the individual is getting a fair deal, due to uncertainty and mistrust of the supplier's intent. Product development needs to understand how people's various individual aspirations and wider values interact and the implications for design, promotion and any additional support.

[40] UKERC 2013 *Transforming the energy system: Public values, attitudes and acceptability*

The method of engagement varies at different levels, but it is underlined by the principles of understanding the publics' view point at an early stage and demonstrating that it has been incorporated into decision making, along with technical and economic considerations. For any situation there will be paradoxes and dilemmas; identifying and discussing the trade-offs between these three dimensions is an important part of the engagement process, and can help determine an acceptable and effective outcome.

The design of the engagement needs to be considered on a case-by-case basis and follow some basic principles. Engagement should identify the various stakeholders and seek to understand the proposals or development from their point of view.

To maximise its effectiveness the value and importance of public engagement needs to be embedded at a strategic level, which in turn will inform how it is undertaken. While it is not cheap it can reduce costs through avoided conflict and greater uptake of products.

Specific issues

Interviews and discussions held during the course of this project highlighted a few specific areas where public engagement will be important and more attention needs to be given (see Box 4). In many of these areas the publics' perspectives are likely to

have an impact on how the technologies need to develop or are deployed. Taking these perspectives into account in early in the development will provide benefits in the future.

Box 4: Specific areas for public engagement

Interviews and discussions for this study highlighted a number of specific issues and technologies where engagement will be important and concern was raised about current efforts. These are:

- **CCS and its associated infrastructure.** Awareness of CCS is low but increasing, but more needs to be done to understand what issues the technology as a concept might raise and how it is perceived in the context of a transition to a sustainable energy system[41]. This is before needing to understand the implications its infrastructure might raise. While concern about the safety of storage under land, which has stalled progress in Germany, may not apply to the UK, CCS will require an extensive infrastructure of pipelines to transport the CO_2[42].
- **Demand management.** Smart meters have the potential to deliver demand management through a variety of means, such as information display and shifting time of use, but uptake has been slow. Engagement is needed to identify the motivators to improve uptake, how people interact with them and how energy is used in the home[43].
- **Demand reduction and behaviour change.** Much of the focus at the moment is on improving efficiency and helping homes reduce their household energy bills. However, more substantial changes in behaviour and purchasing choices are likely to be needed, for example reducing and reusing material products, consuming less meat or flying less. These present significant challenges to people's personal expectations and aspirations, particularly the latter two, but all are likely to need to be addressed.
- **Expansion of nuclear.** While DECC and local authorities have conducted and participated in extensive national and local consultations, there is a perception that much of the focus has been on the provision of new network to connect the new power stations, and that there has been little or no engagement around the plant itself and little engagement at a national scale on the overall justification of the technology itself, or any options to it.
- **Hydrogen and transport.** Technical advances in performance and cost reduction have led to hydrogen based products starting to enter the market. In transport, the performance criteria appear to be trying to match that of fossil-fuelled vehicles, which is understandable from a product deployment basis. At a local level understanding the concerns that could be raised about the safety of this 'new' fuel, such as how it is transported and stored, need to be understood. However, at a national level there needs to be a broader, more substantial engagement about the future of vehicles and how they are used and owned, to provide an overarching understanding of their role in the future energy system, both in use and manufacturing.
- **Energy storage.** Awareness of this technology is low. It could have substantial impact on how the energy system is operated, which could have significant bearing on the debate about the variability of renewables and on the need for demand-side management. It has been identified as a potential British success story, but this development needs to include understanding how it will be viewed by the public, how it will influence debates and what challenges or opportunities this might raise.

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[41] EASAC 2013 *Carbon Capture and Storage in Europe,* EASAC Policy Report 20
[42] Carbon Connect 2013 *Power from Fossil Fuels* Future Electricity Series Part 1
[43] EG&S KTN (2014) *Engaging People with Energy Technologies*

⊻ Recommendations

The strategic importance of engagement needs to be recognised to build trust between the public and organisations and institutions involved in the transition.

Need for a Strategic Narrative

- A Strategic Narrative is needed to describe how the long-term energy strategy is intended to be delivered and the roles of the various stakeholders, including the public. It needs to be developed through engagement with stakeholders and publics and needs to be reviewed regularly. It should not be prescriptive, but it should set out:

  ‣ the challenges that need to be addressed and how they will be approached,
  ‣ the role of engagement,
  ‣ where we are and how we got here and the implications and constraints that puts on the future options,
  ‣ what the various technology options are, the likely changes that will be needed and how they fit into the transition,
  ‣ how national objectives link to the local and individual,
  ‣ what it will mean for the various stakeholders, particularly the public, and the opportunities this presents.

  The Narrative needs to be informed by public and stakeholder engagement and maintained so as to be responsive to changing circumstances.

- On-going high-level engagement is needed with the public, alongside the technical understanding, so as to develop an evidence base of public attitudes about the energy system.
- A stakeholder map should be drawn up to ensure all necessary parties are identified along with an understanding of their roles.
- This strategic approach to energy needs to be coherent with the approach to climate change.
- The approach needs to incorporate requirements of Aarhus convention with respect to participation and access to justice to help build the credibility of engagement practices.

Embedding engagement

For the companies, organisations, research bodies and institutions involved in decisions making and delivering the transformation of the energy system:

- Engagement with the public needs to be regarded as strategic and embedded into energy system development at all levels, if the benefits it can deliver are to be realised and potential conflict and additional costs avoided.
- Engagement programmes need to be designed on a case by case basis. Their design and timing has significant impact on the success of the programme and need to be tailored to meet each situation.
- Public engagement exercises need to be resourced appropriately, if they are to be effective. Engagement exercises are not cheap, but can be cost effective if well designed.

Research agenda

- The development of energy system scenarios need to incorporate this understanding of social dimensions alongside technical and economic parameters.

Proposed future ERP activities

Organise a workshop to explore the key components of a strategic narrative for the low carbon energy transition and how it could be developed. This will bring together all parties involved in commissioning public engagement work, including government departments, industry, public sector, academia, NGOs and consumer groups.

It should aim to set out what a Strategic Narrative should look like and identify the steps necessary to develop the narrative and how the necessary engagement and perspectives can be acquired.

A useful starting point would be to review the Government's 'Carbon Plan'[44] along with National Grid's 'Powering Britain's Future' programme and Germany's Energiewende.

[44] HMG 2011 *The Carbon Plan: Delivering our low carbon future*

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Annex: Attendees ERP Workshop on public engagement, 10 May 2013

Nick Pidgeon	Professor of Environmental Psychology / Director, Understanding Risk Research Group	Cardiff University
Catherine Butler	Research Fellow, Understanding Risk Research Group	Cardiff University
Sarah Leck	Assistant Economist	Committee on Climate Change
James Ryle	Head of Local and Community Empowerment	Centre for Sustainable Energy, Bristol
John Screeton	Senior Research Officer	Department for Transport
Richard Adams	EESC Member	European Economic and Social Committee (EESC)
Joe Iles	Digital Marketing Coordinator	Ellen MacArthur Foundation
Emilie Carmichael	Head of EU Programmes	Energy Savings Trust
Adrian Evans	Communications Strategy Consultant	Energy UK
Stephen Worrall	Customer and Market Insight Analyst	E.ON
Gavin Salisbury	Senior Portfolio Manager	Engineering and Physical Sciences Research Council (EPSRC)
Duncan McLaren	Advisor on Climate Change and Energy	Friends of the Earth
Lord Jenkin of Roding		House of Lords
Clive Mitchell	Programme Manager	Involve
Julian Rush	Journalist & Consultant	
Kevin Burchell	Senior Research Fellow	Kingston University
Tannith Cattermole	Project Operations Officer	London Sustainability Exchange
Jeremy Draper	Senior Practitioner, Environment Team	Milton Keynes Council
Roseanne Battye	Community Relations Manager	National Grid
Robert Powell	North West Coast Connections Project Manager	National Grid
Sarah O'Hara	Pro Vice-Chancellor	Nottingham University
James Starkie	Consultant	Populus
Ruth Williams	Senior Policy Manager	Research Councils UK (RCUK)
Steve Robinson (Facilitator)	Dialogue & Engagement Specialist	ScienceWise
Dan Start	Dialogue & Engagement Specialist	ScienceWise
Chris Jones	Department of Psychology	Sheffield University
Peter Snowdon	Group HSSE&SP Manager	Shell
Graham Smith	Professor of Politics	Westminster University
John Loughhead	Executive Director	UK Energy Research Centre (UKERC)
Ron Loveland	Energy Advisor	Welsh Government
Stuart Fitzgerald	Head of Communications and Marketing, Sustainable Futures	Welsh Government
Richard Heap	Executive Analyst	ERP
Helen Thomas	Executive Researcher	ERP