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Organisational aspects of public engagement in European energy infrastructure planning: the case of early-stage CCS projects

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Abstract

Recent years have witnessed a proliferation of studies on public perceptions of carbon capture and storage (CCS), accompanied by efforts to translate such knowledge into toolkits for public engagement and communication. At the same time, both literature and toolkits have paid little attention to the organisational dynamics and views of project implementers with regard to public engagement. Here we investigate the views of project development consortia employees in five European CCS projects, focusing on their experience of organisational norms and structures relating to engagement. Finding that planning for this engagement has in several cases been hampered by a lack of shared internal vision on engagement and communication within the project consortia, at least initially, we draw upon the socio-technical approach to technology embedment and new institutional theory, to observe that internal organisational alignment is crucial in multi-organisational projects when seeking effective public engagement and communication. We observe that this aspect of internal organisation is not yet reflected in the toolkits and guidelines designed to aid engagement in CCS projects. Engagement guides need to direct the attention of project implementers not only in specific outward directions, but also towards reflexively considering their own internal structures, perspectives, motivations, expectations and aims in relation to engagement and communication practice.

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Public engagement; communication; CCS; organisational dynamics

1. Organisational practice in public engagement and communication

The literature on public opinion of renewable and low carbon energy infrastructure has variously focussed on the characteristics of the technology involved; the psychological processes of the receiving population; and institutional, planning and governance-related factors (Oltra et al., 2012; for reviews see Bell, Gray and Hagget, 2005; Upham et al., 2009 and Whitmarsh et al., 2011; Wolsink, 2006). Reflecting increasingly nuanced understandings of public opinion in this context, energy infrastructure developers in Europe and elsewhere are now typically encouraged towards early public engagement and to obtain an understanding of the social context of planned developments. In pragmatic terms, early public engagement acknowledges that local acceptance may be contingent on situational, highly local circumstances (Renn, 2008) and that a developer would do well to anticipate some of these.

In general, then, the focus in the siting literature is on affected populations and their environment in a wide sense. It is much less common to examine public engagement in energy infrastructure developments from the perspective of the organisations promoting the development. Responding to this, here we investigate opinion, dynamics and structures within the boundaries of the firms involved in developments as they seek to engage with nearby publics. For broad framing, we draw on theoretical approaches that characterise the relationship of society to technology as one of negotiated embedment, viewing both the formal and informal procedures of organisations and other actors as forms of institutionalisation. As specific themes discussed with corporate interviewees, involved in engagement, we aim to reveal organisational practice, motives, capacities and perceptions, these factors being important for the adoption and elaboration of an engagement and communication strategy and hence for the negotiation of public acceptance. More specifically, we aim to reveal more about internal organisational constituencies, structures and capacities relating to public and

stakeholder engagement in relation to development planning; internal actor views on the objectives of engagement purposes, benefits (or disbenefits) and views of how CCS engagement might develop in the future; what actors view as priorities in engagement; any attitudes to transparency regarding development plans; any use of toolkits that have been produced to facilitate public engagement in CCS development; and any other relevant beliefs and expectations of the project developer.

The companies that we examine are connected as part of large consortia comprising functionally and culturally different firms, differences that we found to have significantly impacted on their ability for effective engagement. The firms are involved in the deployment of a technology – Carbon Capture and Storage (CCS) - that in Europe has been championed by the European Commission, but which tends to be perceived by the public as a risky, end-of-pipe fix (Oltra et al., 2010; Upham and Roberts, 2011). For the public, storage-related concerns may persist even after detailed information has been provided (Brunsting et al, 2013; Upham and Roberts, 2011). Despite this, CCS - the separation and compression of CO_2 from power and industrial plants and its disposal in saline aquifers, depleted oil or gas fields - has come to be seen in many quarters as a key climate change mitigation option (Bäckstrand et al., 2011; Oltra et al., 2012).

Given that we examine the role of internal organisational function, practice and structure in public engagement rather than public psychology, institutional perspectives are particularly relevant and we draw upon new institutionalist thinking here. Consistent with a perspective that takes as its unit of analysis routinized, more or less codified 'ways of doing things', we also deviate here from a psychological approach by adopting a socio-technical stance towards public engagement with technology, viewing the public as part of systems of energy provision rather than independently responsive to exogenous technologies. In line with this, effective engagement and communication are defined in terms of meeting the needs (information - and process related) of the involved stakeholders (including the 'general local public'). While current practices in stakeholder engagement around CCS seem to have met legal requirements to date, this is by no means a guarantee for effective public engagement as defined above. Generally, planning institutions in European countries do not favour

early engagement and communication – where local stakeholders are involved in the planning and design of projects (Breukers and Wolsink, 2007). Typically, local stakeholders are given the opportunity to respond to ready-made plans without having the chance to discuss and influence project design and location.

Despite (and perhaps partly because of) this, several practical toolkits and guidelines for public engagement and participation in CCS and/or wider energy infrastructure planning have been prepared over the past decade (Jolivet et al., 2006; IISD, 2007; NETL, 2009; Raven et al., 2009a; Ashworth et al., 2011; WRI, 2010). In the absence of institutions that strongly encourage timely participation in project preparation, design, planning, implementation and management, these toolkits and guidelines are intended to support project developers or consortia that voluntarily adopt more participatory approaches to the planning, design and implementation of CCS projects. The most prominent and relevant toolkits in a CCS context have been reviewed and compared in detail (Breukers et al., 2011) and their use and non-use is one of the issues considered here.

2. A combined socio-technical and new institutionalist perspective

There are two strands to our theoretical approach. Firstly, building on social construction of technology (SCOT) perspectives (Pinch and Bijker, 1984), we take a socio-technical perspective on energy technology innovation and deployment that views these as the outcome of processes in which technology and society interact and co-shape each other (e.g. Breukers et al., 2009; Jolivet and Heiskanen, 2010; Raven et al., 2009a, 2009b; Walker and Cass, 2010). As Pinch and Bijker's (1984) notion assumes a relevant social group that shares the meaning of an artefact, successful innovation, social acceptance and use of a technology depends principally on how well the innovation becomes embedded in a society via a process of negotiation that eventually arrives at some degree of closure and stabilisation, even if temporary (Kline and Pinch, 1999). From this perspective, engagement and communication serve to encourage the active participation of societal actors in the design, planning

and implementation of new technologies, to support embedding, stabilisation and closure of debates and dissent.

The interaction between project implementer and other local stakeholders entails a confrontation between different preferences, interests and expectations: engagement 'operates between developers and local communities' (Walker and Cass 2010, p. 44; emphasis added). Embedding may not only require local stakeholders to adapt some of their expectations and views when new developments are negotiated: implementing organisations may also need to be flexible enough to scrutinize their own expectations and beliefs if needed, with concomitant adaptations to the project plan, design or management. However, as observed, there is no obligation on developers to act in this way. In the context of CCS, despite the Aarhus treaty that requires the public to be informed of the environmental implications of developments, the options for formal public participation in CCS proposals in Europe are generally limited (Chiavari et al., 2009). <discuss aarhus>

Consistent with the relatively structural focus of sociotechnical theory (relative to psychological approaches to public opinion of new technology), we also suggest that new institutionalism in organisational theory can help to provide insight into project developers' practices of stakeholder engagement and communication. From this perspective, institutions are defined as rules, patterns or procedures that structure behaviour and interaction. These rules can be informal - norms, habits and customs - or formal: written laws, regulations and standards (Hall and Taylor, 1996; Scharpf, 1997; Williamson, 2009). New institutionalism emphasises the importance of shared meaning and norms as structuring behaviours, with actors behaving in accordance with what they think is considered appropriate in terms of their institutionalised role (e.g. March and Olsen's (1989) 'logic of appropriateness').

Yet while formal and informal institutions influence organisational dynamics, actors within organisations can collectively affect internal institutions, such as the norms of organisational change (Hall and Taylor, 1996; DiMaggio and Powel, 1983). Indeed, what is deemed legitimate and

appropriate differs across historical, cultural and organisational contexts (Powell and DiMaggio, 1991): organisational choices and preferences are partly shaped by cultural and historically evolved patterns and norms. In the present case, the project development consortia jointly preparing and planning to realise a CCS project consist of organisations with particular norms and values that are brought together. Difference in norms about motivations behind engagement and communication between these organisations may reflect divergent preferences as to the extent to and the way in which an engagement and communication strategy is designed and implemented.

While companies can be expected to show differences in organisational norms and cultures, particularly in the absence of legal obligations to engage beyond information provision, they are at the same time increasingly subject to global standardisation pressures relating to corporate responsibility and stakeholder 'management' (Kourula, 2010). These external institutional environments affect their daily operating environment through a complex of formal and informal laws, rules, norms and pressures that impinge upon them and which are becoming more homogenous across national boundaries, with many companies now being subject to the same or similar codes of conduct, guidelines and management systems. Guidance offered by ISO 26000 on Social Responsibility is a recent example of this and includes sections on stakeholder engagement and community involvement (sub-clause 6.8.3, see www.iso.org/sr). Societal expectations around stakeholder dialogue and engagement are increasingly widespread and find expression in such global institutions. Hence, we would expect project developers to have responded to the changing external institutional environment by increasingly addressing engagement and communication as important elements of their approaches to project deployment.

At the same time there will also likely be differences in the ways that project developers act in particular cases - due to other institutions influencing engagement practice, such as, for example local (planning) traditions in and expectations of local participation; social norms within and outside the organisations; and organisational cultures within the project developer consortium. Yet despite these differences, new institutionalist theorists have posited that, over time, market or institutional processes

are likely to result in organisational similarity or 'isomorphism', as companies compete, successful forms win out and organisations respond to institutional pressures from within and without (DiMaggio and Powell, 1983). Here the specific aspects of organisational similarity that may be of interest are engagement structures and norms, the latter being in the sense of commitments: in short, both the capacity to engage and the willingness to do so. Non-market-induced isomorphic changes are also understood as a shift to greater legitimacy with stakeholders (Ashworth et al., 2009).

Set against this theoretical background, it is useful to explore how project developers actually view engagement and communication as part of their (changing) company practices and how such practices are mediated by factors that are internal to the company. Since it is our aim to improve our understanding of how project developers (and consortia) view and practice engagement and communication, we focus on these internal factors.

3. Methods

There are a relatively small number of CCS developments planned or in operation in Europe; personnel in at least one of the developers involved in most of these were questioned in the present study, with 15 interviews in total. Of these, five were held in the Netherlands, three in the UK, three in Spain, three in Germany and one in Poland (with two interviewees at the same time). Since we promised the respondents full anonymity - in view of the sensitive nature of some of the issues discussed - we do not disclose the exact locations here.

The respondents were involved in on-or offshore CCS and the interviews were conducted in a period when most of the projects were still in the first stages of project and engagement processes. In addition, we interviewed respondents with the following roles in each country:

- employees tasked with public engagement and communication;
- external consultants hired to support in devising and implementing an engagement and communication strategy;

- employees responsible for the implementation of the CCS project but not actively involved with communication and engagement on a daily basis.

While the analysis is in terms of socio-technical and new institutionalist themes, for interview themes were sourced from related work in the corporate social responsibility literature (Adams, 2002). Adams (ibid) investigated the relationship of factors both internal and external to the organisation in relation to corporate behaviour, such as self-disclosure of environmental and social impacts. These factors may be classified as (i) corporate characteristics (e.g. company size); (ii) general contextual factors (e.g. country of origin, socio-political climate, news media pressure); (iii) internal contextual factors (e.g. a change in company chair and the presence of a corporate social reporting committee). Environmental and social disclosure practice is in many respects analogous to company practice in engagement and communication: both practices are about developing and maintaining social legitimacy and accountability for corporate activity and CSR in general is often researched from an accountability perspective that relates to the social contract between companies and the societies in which they operate (Kuruppu and Milne, 2010). The outward-facing practice of communication and engagement is necessarily initiated and mediated by factors that are internal to the company and Adams (2002) concurs with our own view that the internal contextual factors have received less attention (quite possibly because they are less accessible to observers). The corresponding interview themes are given in Table 2 and the results presented in section 3 are arranged in the same way, structured by themes on which interviewees expanded in detail.

Table 2 Theoretical, interpretative and analytic themes with corresponding interview questions

Theoretical and interpretative approach	Analytic themes	Interview questions
1. Societal acceptance of new technology requires and is defined by successful embedment and debate closure sufficient to permit construction and operation. 2. Closing down debate requires a degree of consistency with social norms and institutions in the broad sense. 3. This applies within the organisation, in the locality and regionally / nationally. 4. Negotiation and hence communication are central to achieving 1-3.	Inward-facing factors: the organisational constituencies, capacities and structures necessary for external communication and negotiation	What is the organisation's perspective on engagement and participation and how have past experiences affected their current perspective and approach?
		What are the perceived needs of the organisation for setting up an effective engagement and communication strategy?
		Does the organisation consider that it has sufficient resources for the communication and participation process?
		Are there differences in practices and attitudes towards engagement among the partners in the organisation?
		What is the role of the interviewee in the project team/ consortium?
		How would the interviewee characterise the collaboration within the project team? Within the organisation? With relevant stakeholders?
	External-facing factors: the organisational approach to negotiation and communication, in particular stakeholder involvement, views on engagement purposes, benefits and disbenefits	What is the organisation's overall strategy on engagement?
		What are the goals of communication and participation?
		Have the actions and interventions been successful so far (and to what extent)?
		Is there room for negotiations with stakeholders? Can they give input to the development process?
		Does the interviewee use existing guidelines or toolkits on engagement and communication?
		How are other external actors perceived?

4. Results: multiple challenges to internal and external communication and engagement

In the following sections we group the interview responses in terms of notable themes, categorised in line with the types of internal factors set out above.

4.1 Organisational constituencies, capacities and structures

As a starting point in understanding public engagement from developers' perspectives, it is important to know who the agents are and how they co-ordinate. As stated, the CCS projects examined here are largely developed by project consortia consisting of different companies that in some cases are working together for the first time. In some of the consortia, a dedicated engagement and communication unit or team has been established, to coordinate communication and engagement across each consortium. In other cases there is cooperation on engagement planning between departments or consortium partners, without any formal arrangement on communications chain of command, but with an awareness that as the project progresses, this will need to change. In others, different partners are responsible for their part of the CCS chain and any engagement and communication tasks are allocated accordingly. In a fourth variant, one large partner or company is responsible for activities along the whole CCS chain. Although there is some similarity between the first and fourth variants and the second and third variants, there are differences in the directions and degrees of accountability and information flow.

Many of the interviewees indicated that differences in organisational backgrounds, cultures and experiences amongst collaborating partners have posed a challenge for both internal and external communication and engagement:

> "Everyone has a different agenda when it comes to CCS as they control different parts of the
> *chain. It's been really difficult to get everyone singing together about messaging."*

All interviewees indicated the importance of being seen to speak externally with one voice, and that this necessitates active internal fine-tuning of views and communication tasks. This fine-tuning can be

difficult even for a single organisation, particularly if no effective communication strategy or task division has been agreed upon. When organisations with different organisational cultures together form the project consortium, internal communications are clearly more complicated. One communications specialist indicates a problem with internal co-operation succinctly:

> *"There is a team but I'm on my own."*

In a different consortium, an interviewee illustrates the role of the uncertain organisational environment in which they must operate as a communicator:

> *"The Communication and public perception strategy is led by X...We are not responsible for* the public perception issues of the Y Project. We have to take into account that we are part of Z... I do not know how the consortium will be organised in the future."

Internal norms, influenced by planning norms, play a part in this:

> *"My approach is softly softly* - we bend over backwards to engage with everyone we need to.. However, X seem to have a different view - they set up pipelines all the time and their attitude *is if people don't like it, we will get a compulsory purchase order. ...The relationship has* been ve*ry difficult, one of the biggest challenges."*

In some cases, what was viewed as a problem by one interviewee would be viewed as unproblematic by another. For example, one interviewee stated that the communications team is highly integrated despite being physically and functionally located at different points in the project, while another considered that the same structure was 'very complicated' and difficult for those outside the organisation to understand. Interviewees from another project attributed a clash of communication cultures in the main partner organisations to different national norms (hierarchical versus consultative norms), which they viewed as compromising the ability of the project to communicate in an effective and anticipatory way.

There were, however, also examples of internally-perceived successful organisational functioning, particularly in the case in which the main company has established a dedicated company that is

responsible for all activities related to carbon transport and storage, and which works closely with the parent company's communications team. This working relationship consists of regularly sharing news and information on communication activities, with people in this dedicated company also functioning as a pool of specialists available for events or discussions, e.g. with local politicians. The CCS-communications team is mainly drawn from a communication team that normally deals with issues around lignite. A consulting agency provides additional support in relation to general strategy.

When asked about their needs in communication and engagement with relevant stakeholders (including general public), most interviewees viewed a well-functioning and collaborative communications team as crucial. Several interviewees were of the view that opposition and project cancellation were in a large part due to not being able to understand and appropriately respond to local concerns. This response requires a communications and engagement capacity, at the least. In three of the five cases, communications capacity was considered relatively well-resourced, supported by external communications consultants. One of these cases illustrates the forward planning capability of a skilled public relations team, with an early prepared, though flexible, communications strategy. This included material prepared with the intention of explaining the purpose of CCS in non-technical terms, and also to help manage concerns about, leakage risk, carcinogen risk from capture chemicals, pipeline integrity and so on. Other respondents indicated that engagement and communication processes could be interfered with at the will of departments external to the engagement planning process.

4.2 Views on engagement purposes, (dis)benefits and future development

Underlining a management (rather than e.g. a planning democracy) discourse, in all of the projects, respondents indicated that the overarching goal of communication is to achieve acceptance and implementation of the project. Moreover, there is multiple and simultaneous instrumentality: the dedicated engagement and communication department of one consortium, for example, was seen by those questioned as existing not just to engage, but to demonstrate a commitment to engaging, with this message intended for both internal and external audiences. In other words, there is a conscious

intent to send the message that engagement matters and to thereby reinforce the effectiveness of engagement practice. Although two interviewees referred without prompting to an awareness of the need for negotiation with the community, and for compensation for any local negative impact of the projects, none expected the public to be able to influence the core objective of CO_2 storage.

4.3 Approach to stakeholder involvement

4.3.1 Timing of engagement

Despite calls for early engagement having become widespread in the academic and advisory practitioner literature, as well as in several of the engagement toolkits reviewed (Breukers et al. 20011), in all cases communication with the wider public is largely (though not entirely) intended for later at the implementation phase, once planning acceptance has been gained. Nonetheless, although early engagement was not practiced widely, several interviewees volunteered that they do have plans for what to do if and when local opposition arises. In fact all expect to meet (or to have already met with) opposition at some point in the development process.

4.3.2 Public engagement methods

The strategies used to engage with local communities and manage opinion include: meetings at storage sites themselves with concerned people; engaging with people who are relatively uninformed about or neutral to CCS, while avoiding opponents and large meetings; trying to avoid opposing groups joining together to form a strong social network against the project. A selective, stakeholder-focussed approach is evident in another project which has targeted six stakeholder groups rather than a less differentiated 'public': academics, environmental NGOs, policy and regulatory bodies, CCS developers working on other projects and financial institutes. Another project also engages with local voluntary fire brigades, which play an important part in the micro-structure of its local community.

One interviewee indicated that the company continually monitors community attitudes, including reactions to other projects and related developments reported in the media. Action is taken as soon any negative attitudes or discussions are identified. One development consortium has been running

public meetings in the area surrounding the power station, along the pipeline and on the coast close to the storage site. In terms of the pipeline, they have focused on areas where infrastructure will be visible on the surface. The most informed communicators are also aware of the dynamics of protest group mobilisation and the need to respond to this at an early stage:

> *"What seems to happen is you get lots of different groups all joining together.* For example you may have an anti-coal group joining together with a save our village group and a pro-renewables. *You have a desperate group who come together and don't necessarily become* anti the project but anti the developer. So my job is to take away the momentum and not give *them the traction."*

These communicators are also aware of the potential value of independent third parties, particularly academic scientists, lending legitimacy to the project via studies of issues that are or may be of concern to local people.

4.3.3 The importance of trust and local relationships

It is widely understood that engendering the trust of local people is critical and that this can be pursued in a number of ways. Communication in one pilot project was initiated by the chief scientist in the storage part of the chain. In several cases, there are long term and strong relationships with the local communities at the capture sites, often arising from a history of engagement between the local power station or mining industry and the local community. In these communities people are familiar with the industry and sometimes economically dependent on it for employment. Interviewees in these latter cases described a relatively high level of trust between the community and the firm. In one example, the power station draws employees from the local area and meets regularly with a group of local councillors. This was originally to monitor and discuss the disposal of ash from the power station, but the group of councillors has since become a more general liaison group between the power station and the local community. The power station also operates activities such as a free car washing scheme to remove the fine ash from vehicles and the sponsoring of a local police car. Indeed the latter form of benefit provision is not unusual: another interviewee stated that the energy industry has provided community benefits, such as equipment for playgrounds. One interviewee mentioned the

offer of collecting geothermal data at the same time as site exploration, so potentially saving a municipality some costs when researching geothermal heating as a supply option.

For the storage sites and transport routes, rather than at carbon dioxide capture points, there tended to be much less prior contact or even no relationship with the local communities at all. In those cases, communication and engagement starts from a much lower base in terms of trust. This is further complicated by the cost-benefit distribution at the storage site, at which the burdens (e.g. worries about risks and costs) are experienced by the local community, with no straightforward benefits by way of compensation.

In one case, the project involves companies and individuals with experience of long term planning for village relocations due to surface lignite mining. However, public communication in relation to CCS is raising new public perception issues and is substantially shortening the time period during which local people will need to accommodate change – albeit sub-surface storage rather than relocation. In this and other cases, fora have been set up in which project-related issues may be raised by and with local stakeholders (including local politicians and NGOs).

4.3.4 Use of the CCS engagement toolkits and guidelines

Most of the consortia interviewees indicated that, rather than using the CCS engagement toolkits and guidelines to design engagement and communication processes, they use these as background checklists, more for reassurance than for information:

> *"...usually, if we look at the things that are presented we come to the conclusion that this isn't anything that's new to us. To some extent, this is certainly reassuring to see, that no one has found some completely new way how to deal with these things."*

One interviewee expressed scepticism of generic messaging on CCS in the toolkits, observing that messages need to be tailored to national or regional conditions, which vary in terms of environmental

awareness, priorities and the extent of NGO influence. He did, however, see a role for generic tools that inform approaches to mediation:

> *"Tools and guidelines* are used in some way, to help avoid making mistakes. Whether they *help us much, that's another question."*

4.3.5 Attitude to information transparency

The interviews indicate that in practice, early public engagement – prior to formal participation requirements under planning law – is usually avoided, with reasons given including: not wanting to 'wake sleeping dogs' (i.e. draw unwanted attention generally); not wanting to draw unwanted media attention given the cancellation of other CCS projects; not knowing how to undertake engagement and not feeling responsible for this; engagement being seen as unnecessary at the early (explorative) stages of a project. One interviewee indicated that use of a low-profile communications strategy as a deliberate approach has been rewarded by steady progress in gaining the necessary permits. They added that this approach is backed by a strategy of staying alert to project related communications and being prepared with appropriate messages and explanations. These can then be deployed as needed and when there is a more pressing need for active communication later in the project. In another project, a pre-test of a broad advertising campaign indicated that this would not help and was postponed, to be possibly used in future.

In a different project, a low key approach to communications and engagement was necessarily converted to a more active approach, illustrating the need for flexibility and responsiveness: initially it was considered unnecessary to explain to the local public why geological examinations would be performed (i.e. to examine the suitability of sites for safe storage of CO_2), as geological examinations had in the past been undertaken without public concern. On this occasion local concern did arise, however, and eventually an extensive communication effort was undertaken and the required permissions for doing the geological examinations were obtained.

4.4 Project developer perceptions of other actors

4.4.1 Perceptions of the public by the firms

The interviewees emphasised that, in their view, in general the public know little about CCS: how the process works technically, what safety issues are (and are not) involved, and why CCS should be considered necessary. The public were also considered to be at times misinformed about CCS and in need of scientifically neutral information. Hence the developers want to provide information concerning the more technical and risk issues of CCS as well as the more generic reasons behind CCS; the contribution and perceived necessity of CCS as a climate change mitigation measure. Much of public ignorance is attributed to government and politicians:

> *"Everybody is in favour of CCS, science and politics as well. However, there is no common* platform *saying, that's what we want (….) such a platform is needed to create the necessary credibility."*

An on-going awareness of how the company is perceived locally is also seen as important:

> *"The most important thing at the moment is that we don't seem corpora*tely arrogant. When we did a study of why so many CCS proposals have failed over the last couple of years it was *very clear that corporate arrogance was a major issue."*

Another interviewee echoed this theme, commenting that early expectations of local people simply accepting company messages about the value of CCS have not been borne out. Instead, the company expects to go through some forms of discussion and negotiation with the public, even if this leads to delays.

4.4.2 Perceptions of government as context-shaper

Respondents were asked about their view of the appropriate role of government (local, regional, national and EC) in fostering effective participation and communication. Most described the role of the national government as being important for communicating the necessity of CCS: for demonstrating political will and commitment. Most also considered that their national government was not yet taking sufficient responsibility in this regard.

Perceptions of the role of local government varied. In some cases local government and local organisations are regarded as having a role to play in emphasising how CCS can contribute to local economic and sustainability goals. Some interviewees see a facilitating role for local government, for example in terms of organising community meetings. Indeed in one locality, the developers asked local leaders to organise community meetings near the potential storage site. Sometimes this led to positive communication with local people, but in other cases the information about the meeting was not communicated to the community in a timely fashion, contributing to an initially negative attitude towards the project.

5. Path-dependent organisational practices and a shared instrumental view on engagement

From a socio-technical perspective on the interface of people and technology, processes of negotiation may result in a degree of stability sufficient to secure funding, construction and deployment of a logistically and geographically extended operation that inevitably has uncertainties attached. For the developer and advocates of CCS, including those at policy, such a scenario can be described as a situation of successful lock-in, bearing in mind the need to maintain flexibility in the longer term if CCS is to function as a bridging technology to a future with low reliance on fossil fuels (Shackley and Thompson, 2012). In general, this approach points to the need to look for, and at, instances and degrees of debate, negotiation, contest, resolution, reconciliation and acceptance both within the boundaries of project development organisations and outside of these in their relations with the public and wider stakeholders (in DiMaggio and Powell's terms (1983), the organisational field).

In other words, controversy, discussion, debate and contest are not tangential but are inherent to obtaining enough social acceptance to allow a project (or a technology) to proceed. Avoiding (or even actively stifling) debate may succeed for some time: we refer above to the deliberate strategy of some CCS developers to avoid publicity and debate at the exploratory stages. While this risks postponing rather than dealing with problems, it has allowed some forward movement for the projects. In the medium term, however, it is arguably in private and societal interests for relatively widely shared,

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definitive decisions to be made on energy policy directions, even if full consensus will never be possible. This requires government-led communication on why particular options are favoured and corresponding, consistent policy support for their implementation – neither of which have been particularly obvious at a European level in the case of CCS, despite supportive legislation in terms of Directive 2009/31/EC.

5.1 Internal structures

New institutionalist perspectives emphasise the role of formal and informal procedures that theory suggests will be adopted for their perceived rationality and appropriateness (Meyer and Rowan, 1977; Zucker, 1977). As mentioned, some new institutionalist theorists have also posited that, over time, market or institutional processes are likely to result in organisational similarity or isomorphism as companies compete, successful forms win out and organisations respond to institutional pressures from within and without (DiMaggio and Powell, 1983). While we did not set out to probe isomorphism in particular, the issue of structural appropriateness in terms of instituted public engagement structures did emerge as a key issue and the abutment of dissimilar cultures and norms, including the complexity introduced by multiple chains of command or accountability structures, did emerge as a problem. The effects of this on the capacity of the consortia to engage meaningfully with the public were largely negative. This is not to say that diversity in approaches to engagement is to be avoided, but there is a body of theory and practice that is available to firms and which it would be advisable to draw on, be this for instrumental or normative reasons.

The companies within the consortia vary in terms of pre-existing cultures and norms and as a result also in perceptions of engagement and communication strategies. Those tasked with managing the outward-facing profile of the consortia have sometimes had to argue strongly to maintain consistency in company behaviour and message. Of particular note is the tension between the differing historic practice of a pipeline company, accustomed to a 'decide-announce-defend' modus operandi, and the historic practice of a power plant company, with its culture of developing and maintaining positive, long term local relationships. This difference in pre-existing logics – a form of organisational path

dependency - may itself arise from the differing levels of embeddedness in particular localities. Historically, it seems that pipeline installation firms have perceived less of a need for an on-going relationship with local people than have power plants, with their more obvious and tangible potential to pollute in the form of chimney stacks, gaseous emissions and large quantities of fly ash.

Whereas toolkits and guidelines on public engagement implicitly assume that project developers are unitary bodies, in the sense of one organisation with one vision, in practice this is often not the case. The toolkits that we reviewed (Breukers et al., 2011) give little attention to the way in which prospective end-users of these toolkits and guidelines differ in background, skills, knowledge, resources, cultures and objectives. This is particularly the case for a relatively novel engineering project such as the deployment of CCS, where the consortia involved are likely to consist of different organisations or at least different units of a large organisation. More specifically, disalignment may come (inter alia) from differences in organisational cultures (e.g. in terms of hierarchy, history in engagement, openness to change); views on engagement and communication (e.g. opinions on timing, openness and transparency in communication efforts); the involvement of spatially dislocated departments, complicating internal communication and understanding. Although some guidelines emphasize the importance of arriving at an internally shared vision, no tools are offered to accomplish this.

5.2 External negotiation

Despite the public arguably being key stakeholders in the organisational fields of the consortia, several have in effect adopted an avoidance strategy in the early stages of geological exploration, while site geology was investigated and associated initial permits sought. Thereafter, the communicators in several consortia have plans for communication and stakeholder management. No interviewee really expected to give substantial ground to stakeholders or the public (or at least, would not admit to this possibility), in terms of co-deciding on aspects like the exact location. In as far as space for negotiation was foreseen, this would rather centre on issues such as: on-going access to information, compensation, emergency preparedness, landscaping etc.

In this respect, in terms of the socio-technical approach to encouraging acceptance, we can see that, paradoxically, avoidance of negotiation is perceived as critical by the developers: their shared view is that the overall process of acceptance will be advanced by tightly controlling the opportunities for, and instances of, public engagement. This places the socio-technical assumption of a role for negotiation in a particular light: this is not negotiation in the sense of a confrontation between different preferences, interests and expectations - engagement operating between developers and local communities - but rather an approach that in essence is similar to a 'decide-announce-defend' strategy, leaving no room for (re)negotiating costs and benefits nor allowing changes to the project design.

The interviews show that most respondents (if not all) regard engagement and communication from a very instrumental point of view – intended to win support or at least gain acceptance of the project. There is little interest in local views and concerns as valuable inputs that may actually result in project or process improvements. And in view of the perceived necessity of CCS to counter climate change among several interviewees, the room to consider alternative perspectives on this is limited. In line with this is the perception that a proper communication strategy is in the end about communicating the necessity of CCS. Although there is also talk about and initiative towards dialogue, listening to concerns etc, the overarching communication idea is implicitly one-way.

Whether communication is one-way information provision or about alignment of diverging perspectives, depends not on instruments used (e.g. dialogue workshop, focus group meetings, community board instalment). It rather depends on what is being done with the stakeholder inputs gathered. If these are mainly used to further fine-tune the message directed at the local stakeholders, then this is in line with a one-way communication strategy of informing, educating, reassuring and persuading people. The toolkits reviewed offered no elaborate mechanisms for costs-benefit sharing, which is what negotiations also should address if needed (aligning expectations should be followed by attempts to align interests)

The study also begs a variety of governance questions about the role of functional and normative motives of isomorphism in public engagement that merit further investigation. Public engagement in technology development and infrastructure siting deploy a wide range of procedures, the use of which may or may not be replicated across firms. For affected local communities, however, use of any particular method is likely to be less important than the responsiveness of the companies involved. Hence isomorphism in methods is less important than the internal structures that allow at least two way communication when required and – according to deliberative democratic planning ideals of impact assessment (Dietz, 1987; Parkins, 2011) – some degree of responsiveness to local views. Questions arise, for example, as to whether the types of toolkits and guidelines that we considered above should also direct the attention of project implementers towards reflexively considering their own internal structures, perspectives, motivations, expectations and aims in relation to engagement and communication practice: to a greater awareness of "the thoroughly social phenomena of organisational knowledge and learning" (Marshall, 2008). Even more fundamentally, a consideration of pressures and processes in this context begs the question of whether voluntarily deployed methods and structures can ever fully substitute for legislation at state or sub-state level that provides engagement rights to affected communities.

6. Avenues for further research addressing organisational structure in relation to public engagement

We have described and discussed public engagement by firms involved in carbon capture and storage in Europe, drawing on socio-technical and new institutionalist perspectives, informed by interviews with personnel involved in the main planned and actual CCS operations of Europe (Breukers et al., 2011). Documenting the practices and experiences of those involved, and emphasising the use and non-use of toolkits and guidelines intended to help the firms, we have identified internal, structural misalignments as a key problem in most of the CCS project consortia. This is understandable as a result of the coming together of different organisational cultures, logics and structures and is likely to also be a generic issue for other development consortia, both within the energy sector and beyond it.

Within the CCS consortia, there appeared to be little recognition for this as a crucial issue that needs to be addressed before meaningful engagement can start.

The study has begun to explore perspectives that are relatively little-explored in the siting controversy literature, with the twin objectives of documenting new empirics and opening up lines for further investigation, specifically relating to the relationships between organisational structure and public engagement by firms involved in energy transitions. The perspectives used are social constructivist and the methods are interpretivist, seeking to understand and characterise the experiences of those involved in public engagement on the corporate side. We have mooted, inter alia, the concept of isomorphism as worth pursuing in this context as an explanatory concept, particularly in further work: to our knowledge, measures of this (e.g. Ashworth et al., 2009) are non-existent in the literature on energy infrastructure planning. Yet isomorphism introduces ideas of common logics, shared pressures and a limited set of functionally successful responses that arguably resonates with the reality in which infrastructure developers generally find themselves. While there may in principle be an infinite variety of ways of engaging with the public, in practice there are tried and trusted methods, key among which is consistency in messaging. This in turn requires supportive internal structures. While none of this can guarantee to win over publics where there is deep mistrust, supportive internal structures are at least a necessary even if not sufficient condition for successful engagement.

We offer here, then, some avenues for further work. Similarly, it would also be fruitful to better understand the evolution of competing (or simply different) norms in relation to public engagement in energy and other infrastructure firms. At the very least, we hope to have provided some ways of thinking about these topics that have been little-used in the energy siting literature.

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