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CARBON CAPTURE LEGAL PROGRAMME

CARBON CAPTURE & STORAGE
Public Perception & Law

Introduction

Public participation in the decision-making processes associated with any new technology is essential. In view of this, the Carbon Capture Legal Programme (CCLP) hosted an interdisciplinary conference, bringing together leading experts in the fields of Law and the Social Sciences, in order to examine the public and cultural perceptions of Carbon Capture and Storage (CCS), and their potential impact on the global deployment of the technology.

In association with King's
Centre for Risk Management,
King's College London

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Session 1

What lessons can be learned from other technologies and case studies in moving forward with CCS?

Taking into account a history of public objection to new technologies, the clearest message from this session, and indeed the conference throughout, was the need to connect CCS clearly and consistently with the imperatives of climate change and energy security. A failure to communicate the technology's 'instrumentalism' would render CCS a 'dead issue', especially in view of any unwillingness on the part of the public to meet the costs of deploying the technology.

A reoccurring message throughout the session was the appropriate role of 'science' and 'expertise' in moving forward with CCS. **Professor Robin Grove-White** exposed the limitations of science, stating that uncertainty, ignorance and indeterminacy are endemic to scientific knowledge, and that new technologies such as CCS might be likened to 'uncontrolled experiments – with society itself as the laboratory.'

Nick Schoon's account of 'Brent Spar' exemplified the inability of purely technical risk assessment to capture public attitudes and moods. Objection to disposal of the buoy at sea was, he suggested, rooted in a belief that it was intrinsically and symbolically unacceptable to do so; that such an option was demonstrated to be the 'Best Practicable Environmental Option' (BPEO) was of little concern. Indeed, mere compliance with licensing and BPEO exemplified the limitations of law to provide social legitimacy for environmentally-sensitive actions. Furthermore, persistent reliance on technical risk assessment acted only to inflame negative public opinion.

Clearly, it is public perceptions, not science itself, which will determine what the public believes and how individuals respond to controversial developments. As was noted by **Professor Ortwin Renn**, public perceptions of CCS will be influenced by a range of factors other than probabilities of harm, including familiarity, fairness, voluntariness, institutional control and negative associations (such as coal). Indeed, it was noted how public objections rarely start with issues of safety, but rather safety issues are used as a vehicle

through which to forward other concerns which cannot be accommodated within a narrow technical risk assessment.

The most determinative factor affecting public perception, however, is trust. The perceived alignment of the Government with Shell over the Brent Spar incident seemed to undermine credibility, simultaneously giving Greenpeace and the media an upper hand. **Donald McRae** noted how communication by an 'expert' from Defra, rather than a politician, during the Avian Flu crisis seemed to temper public concern. While trust certainly has the potential to 'compensate' for other concerns, **Rosemary Whitbread** outlined the limited role trusted regulators should play. Ensuring safe operation of installations can be a tool to underpin public confidence, but this must not be mistaken as a proxy for full engagement on the political exercise of balancing any social and economic risks and benefits.

Session 2

CCS Policy – Europe and beyond

Session 2 sought to provide background both to the science of climate change providing the impetus for CCS, together with some of the recent developments concerning CCS internationally. A strong theme throughout was the urgency which underpins the deployment of CCS. **Professor Sir Brian Hoskins** made clear that the UK must have a zero carbon electricity supply by 2030, with there subsequently being 'no role for conventional coal beyond the early 2020s'. To achieve CCS roll-out by that date, demonstration has to start now, 'or it isn't going to be able to make its contribution in the timescale we need it'.

Concern was raised as to whether there was a mismatch between the challenge of climate change and the action which is being taken (or not). **Tim Dixon's** exposition of the political, legal and economic developments gave an indication of significant international, regional and national impetus. Furthermore, climate change and CCS legislative activity in the US at Federal and State level, outlined by **Sallie Greenberg**, provides positive indications that the US is ready to fully engage. However, some doubt was raised in discussion as to whether the enabling approach generally adopted, with a reliance on market mechanisms as opposed to mandating CCS, will be enough.

While there is some work being done at the project-level to engage the public, a question mark was raised as to whether further engagement on the strategic level was required. Comments from the floor suggested that CCS was not an energy option but a climate change imperative, and as such, the role of public engagement is in actuality a challenge of public persuasion. In response, the CCS community was urged to adopt caution in conceptualising the public as a barrier, emphasising the importance of engaging communities in order to understand the rationales underpinning objections.

CCS as a climate change imperative seems to hold particular resonance in India and China, where coal-based energy generation will need to be reconciled with economic development and an increase in consumption. **Sarah Forbes** noted that, while significant R&D efforts need to continue in order to determine CCS potential in India, China it would seem is moving forward with the technology. Crucially, there are examples of public mobility and demonstration, and the CCS community was urged against assuming that the political system in China removes all room for the expression of public objection. Favourable IP practices and technology transfer will be imperative.

Session 3

CCS and the role of risk communication

The care that must be taken in constructing and delivering responsible risk communication for CCS was emphasised in Session 3. **Professor Baruch Fischhoff** placed at the heart of this the development of 'non-persuasive' (as distinct from unpersuasive) communication. Risk communication requires a strategy and philosophy which conceptualises public opinion as a driving force and not an 'afterthought'. It was seen as crucial that any controversies as to CCS risks form part of initial communications, and the information provided must be in a form suitable for public consumption. Importantly, **Dr Wändi Bruine de Bruin** provided an outline of public acceptance work which builds in testing at various stages in order to check participant comprehension.

Some concern was raised in discussions as to the social dissemination of knowledge, in particular the prevalence of resorting to internet search engines. This implied the matching of responsible CCS websites with appropriate

search terms, in light of a study on vaccine perceptions where simpler search terms yielded predominately anti-vaccine websites to the exclusion of more balanced sources. These discussions raised questions of how communication strategies penetrate the less interested sections of society. Building on a preference for the 'familiar', **Peta Ashworth** described a successful word-of-mouth project where individuals volunteer as convenors of meetings, similar to books clubs, to discuss climate and energy issues.

Empirical work carried out so far seems to suggest some brief trends. There is a strong desire amongst the public to compare CCS with other energy options, and individuals' preferences against CCS were often softened through the provision of information from a 'trusted expert'. Trust and fairness can be potentially decisive at the local level also, where past treatment by a particular company or industry can impact positively or negatively on local acceptance. Given the opportunity for variance in perceptions from locality to locality, this process of 'socially characterising' a community will be just as vital important as the technical process of characterisation. Though without time for discussion, the session highlighted the work still to be done in terms of public viewpoints of new-build versus retrofit capture technology and offshore versus onshore storage.

Challenges remain for communication strategies, particularly with regard to a natural reluctance to accept local risks of CCS despite apparent beliefs in the potential global benefits, and bridging the temporal gap between sacrifices made now for seemingly abstract (perhaps for some, non-existent) advantages is also likely to be testing. This may be aided by **Paal Frisvold's** suggestion that the public needs a 'positive and constructive environmentalism' in order to adopt CCS. This ambitious slant on CCS 'instrumentalism' involves marrying CCS with the 'powerful vision' of carbon negative electricity generation afforded by the use of biomass with coal.

Session 4

The role of law

Brendan Beck saw 'endorsement' as vital on the international scale, at least within the context of the renegotiated climate change settlement approaching in Copenhagen, though **Martina Doppelhammer** noted that the EU does this only in so far as CCS being a

'bridging technology'. The realisation of this can be seen in the new EU Directive on the geological storage of carbon dioxide ('CCS Directive'), which includes a Review procedure to reconsider, after the demonstration phase, the status of CCS and its associated regulation in light of technological developments, as well as in comparison to progress with other energy options.

By providing a regulatory framework demanding a high level of protection for the environment and human health, the CCS Directive is seen as a tool in itself to gain public acceptance. Commission review of draft storage permits and the creation of guidelines, amongst other things, are seen at least as a basis for public confidence. The EU has not ruled out further action to address acceptance, but not until after the demonstration phase.

However, as Brent Spar exemplified, there are clearly limits to the ability of regulation to legitimate certain developments. As such, legal rights to participation and information become vital in both laying the groundwork for 'social licences' to operate but also early enough opportunities for the expression of public dissent. The CCS Directive amends the IPPC and EIA Directives to subject capture, transport and storage development to substantial participatory procedures.

Robert McCracken QC emphasised that law clearly has a powerful role to play in ensuring full disclosure of accurate and testable information relating to CCS.

There is some uncertainty in the UK as a result of the new procedures under Planning Act 2008. While its clauses may not necessarily reflect a straightforward reduction in participatory rights, as some have suggested, the presumption against cross-examination may reduce incentives of due diligence in the presentation and communication of information which is capable of withstanding public scrutiny.

Furthermore, while the new Infrastructure Planning Commission and streamlined decision making process under the Planning Act 2008 moves away from the traditional 'inquiry' approach, its application does not extend to offshore storage of CO₂. This instead falls within a separate licensing regime pursuant to the Energy Act 2008, itself to be further supplemented by Regulation. The result is uncertainty as to whether initial offshore storage projects will follow the traditional inquiry model, or whether they will be subjected to streamlined processes on the back of national policy statements.

An important point which followed was the complexity involved in the transboundary nature of offshore storage. Such situations may invoke international instruments which require consultation but where rights are granted not to individuals, but to the state, raising the question of 'who the public are' for such purposes. Indeed, while NIMBYism does not strictly apply, public concerns will no doubt still exist regarding offshore storage though without an obvious legal forum.

The Politics and Policy of CCS

Tom Burke concluded by distinguishing between 'policy' and 'politics'. *Policy* involves a number of route map options in order to get from 'where you are to where you want to be'. At present with regard to CCS, this is a range regulatory options including technology standards and carbon pricing (cap and trade mechanisms or carbon taxing). As distinct from policy, *politics* involves taking the polity on that chosen policy route. The politics of CCS, he suggested, is more brutal; a choice as to the destination of revenues from pricing and, in particular, whether these revenues are investing in advancing the technology standards.

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