The evolution of European CCS policy

Matthew Billson*, Mohamed Pourkashanian

* Energy2050, University of Sheffield

Abstract

The European Carbon Capture and Storage (CCS) industry is still grasping for an effective policy structure which will support deployment of commercial CCS projects. This paper will consider the current context of CCS policy given three significant developments: (a) the agreement in 2014 for a technology neutral 2030 EU emissions reduction target; (b) a binding commitment at COP21 in Paris, Dec 2015, for a global emissions reduction target; (c) the collapse of the UK’s CCS Commercialisation Programme in Nov 2015.

The period 2010-2015 saw continued stagnation in the European CCS industry, with a series of projects proposed but then subsequently cancelled. This hints at three problems (1) an industry which is weak in communicating why CCS is important, and failed to engage a wider stakeholder base; (2) incumbent governments which are not willing to fund the initially high costs of the first CCS projects; (3) weak market based structures which force industrial consortia to rely on government subsidy, thus leaving projects vulnerable to political forces.

The tension within the UK’s Commercialisation Programme could still offer lessons for other potential CCS projects in Europe; and inform policy developments at the UK and European level. Namely (i) payment flows between the emitter / capture plant to the transport & storage provider, and the risk apportionment between those partners; (ii) the cost-benefit of oversized infrastructure and the challenges of a first project to finance the bulk of these costs.

A recent report to the UK government on CCS recommended state-owned companies delivering all aspects of CCS, but such a recommendation makes it all too easy for a centre-right party focussed on smaller government and tight expenditure to dismiss CCS as “too difficult”. An alternative would be normal commercial and market arrangements for the power & capture section; and a regulated monopoly for the transport & storage infrastructure, backed by the state for risk and liabilities.
Keywords: Carbon Capture and Storage; CCS; energy policy; energy infrastructure

1. Introduction

Global consensus remains that CCS is a key technology for global decarbonisation. Figure 1 below shows International Energy Agency (IEA) analysis [1] that CCS could still contribute as much as 12% of global CO2 reductions out to 2050.

However, whilst the number of CCS projects in operation has increased from 7 to 15 over the past 7 years [2], deployment in Europe has stalled with all the major proposals for projects having been cancelled (Norwegian full-scale Mongstad project; UK CCS Commercialisation Programme) or mothballed (Dutch “Rotterdam Capture and Storage Demonstration Project” ROAD project).

The collapse of the UK CCS Commercialisation Programme was a shock to the industry given repeated statements of support by the government of the time, and given the wider context of the decision being taken in the lead up to the COP21 climate negotiations in Paris. A major common factor in these three most significant projects was political fear over the headline “cost” of the projects.

2. Key issues to be addressed and possible solutions

The perceived high cost, and a lack of political willingness to pay it, hints at three problems (1) an industry which is weak in communicating why CCS is important, and failed to engage a wider stakeholder base; (2) incumbent governments which are not willing to fund the initially high costs of the first CCS projects; (3) weak market based structures which force industrial consortia to rely on government subsidy, thus leaving projects vulnerable to political forces.

Political willingness to invest in any kind of projects is a mixture of economics and public pressure. The lack of a coherent stakeholder base as compared to the nuclear and renewables industries meant there was only a quiet voice of the established CCS sector pushing for a timely, positive conclusion of the Commercialisation Programme. The cause of this quiet voice is a combination vested interests – the perception that CCS is stealing investment from renewables, and a lack of active engagement by wider stakeholders who do not grasp the perhaps complex rationale.
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات