LIFE COASE

Workshop on the role of carbon markets in reaching carbon neutrality

17 - 21 June 2023

09:15-11:30 | Session 6: Decarbonising industry and agriculture

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Title: Market design options for integrating negative emissions into the ETS

Introduction: Greenhouse gas emissions, which have been found to be a major cause of global warming, are a classic case of a negative externality. Economists refer to a negative externality arising where the production or consumption of a good has a negative impact on others (for example, through pollution), which is not reflected in the price of the good, thereby leading to overproduction. The textbook response to an observed negative externality is to impose a cost on the production or consumption activity that causes the harm, such that the harm is 'priced' and the level of the activity correspondingly declines. In the case of carbon markets— notwithstanding that the intention of various carbon taxation schemes, in Europe and around the world, is to address the negative externality—several factors make it difficult to fully internalise or eliminate this externality by correctly pricing it in. Specifically, there is:

• no single price of carbon—prices vary between a few pounds per tonne of CO2 (tCO2) for some voluntary markets, for example average prices of $4.04/tCO2 (£3.28/tCO2 or 4.25€/tCO2) on Ecosystem Marketplace in 2022 (Ecosystem Marketplace 2023), and around £250/tCO2 (around 290€/tCO2) according to the values used in UK policy appraisals (BEIS 2021);
• no single instrument for carbon—numerous providers of varying quality offer verifications of carbon offsets in voluntary markets;
• no single market for carbon—voluntary markets exist alongside national and European emission trading schemes (ETSs);
• an incomplete understanding of carbon as an asset class and the role of carbon emission reduction projects in facilitating the delivery of wider social benefits that may also be unpriced or only partially priced, such as biodiversity.

While a review of all of the missing markets and market failures in relation to the pricing of carbon would be infeasible here, this paper focuses on one possible route to market for greater uptake of greenhouse gas removals (GGRs). It follows a report on the topic that was produced by Oxera (Oxera 2022) and a shorter article (Shamsi and von Bebenburg 2022). GGRs are technologies that can permanently remove emissions from the atmosphere. Specifically, the article puts forward a framework that would allow the creation of a tradable GGR unit, and sets out market design proposals that would allow these GGR units to participate in the UK ETS. The UK ETS has only been operational since 2021 and has evolved as a separate scheme from the EU ETS following the UK's exit from the EU. While the market design options discussed here focus on allowing GGRs in the

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UK ETS, they allow for integration of the two cap-and-trade schemes; similar market design options are also possible for the EU ETS. The structure of this paper is as follows: First, it briefly sets out the need for incentivising GGRs (section 2). Next, it explains a possible way to create a tradable 'unit' of GGRs (section 3). Finally, the market design options themselves are presented (section 4) and next steps are discussed (section 5).

Webpage and programme here.