Chapter 9
Carbon Offsets and Green Finance:
Understanding Corporate Demand for Carbon Offsets and Mitigation – A Global Literature Review

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ABSTRACT

Understanding corporate demand for carbon offsets is a critical component of sustainable investments in green finance. It reflects companies' and investors' commitment to environmental sustainability, contributes to emissions reduction, supports the development of green financial instruments, and aligns with broader global sustainability objectives. In recent years, the use of carbon offset credits has increased alongside the voluntary carbon offset market with concerns being raised about the cobra effect of offsets vis-à-vis the investment required for abatement and a reduction in gross emission in keeping with the mitigation hierarchy concept. As the demand for sustainable investments continues to grow, carbon offsets will play an increasingly significant role in shaping the landscape of green finance. This chapter conducts a global systematic literature review and synthesis of 303 peer-review studies and grey publications on the demand for and use of carbon offsets, mitigation deterrence, and abatement approaches of firms.

INTRODUCTION

Growth in the use of offset credits has increased concerns that firms may be foregoing opportunities to abate their emissions. The drivers of a firm's decision to offset or abate their emissions are not well understood by policy makers. To consolidate knowledge and provide policy perspectives on offsetting and abatement decisions being made by firms, we conduct a global literature review drawing from a collection of peer-review studies and grey publications on the demand for and use of carbon offsets, miti-

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gation deterrence and abatement approaches. First, we conducted a systematic search across the Scopus and Web of Science databases using carbon offsets, mitigation deterrence and abatement approaches as search terms, obtaining a collection of 303 articles after grey literature was added and duplicates and false positives were removed. Secondly, we organized the collection into three main themes and reviewed the high citation articles under each theme.

The specific objectives of the review included: (a) identifying the drivers of a company's decision to offset, inset or abate (b) understanding the costs of and approaches to abatement of gross emissions.

Through our review, we highlight the major drivers of offset demand and supply discussed by the literature. We also provide a summative description of current industry-specific and cross-industry abatement approaches which are proposed or already being implemented. Finally, we review the policy considerations around the concept of mitigation deterrence and the proposed policy solutions.

We review the literature to tease out issues and identify applications and policy implications in helping firms to meet their emissions reduction goals. The remainder of the chapter is structured as follows: section 2 provides a background to the issues section 3 outlines the protocol for the literature search, section 4 details the results section and 5 concludes with a summary of the findings and literature synthesis.

BACKGROUND

The Political Economy of Carbon Offset Credits

International scrutiny around the use of carbon offset credits has increased in recent times as industry giants seeking to make good on their net zero pledges have ramped up the use of offsets as part of their carbon management strategies and as a means of marketing themselves to be net zero or on track to achieve their net zero targets. An analysis of 35 multinationals found that 66% of them are relying on offsetting to fulfil their net zero pledges (Arnold and Toledano,2021). This demand from corporations no doubt led to the growth of the global carbon offset market from US$0.6 billion in 2019 to US$1 billion in 2020 with the overall carbon credits market projected to be valued at around US$50 billion in 2030 (Blaufelder et al.,2021). This proliferation in the use of carbon credits has raised questions about the credibility of voluntary carbon offsetting schemes and the propensity of cheaply available carbon credits to create a disincentive for firms to make the required investment for decarbonization and carbon abatement within their own operations (Canham,2021). Guidance released by the Science Based Targets initiative (SBTi) argued strongly for abatement as the primary means for companies to achieve net-zero emissions and for the use of neutralization methods only as a means to balance residual emissions when companies have reached the technological limits of abatement. The SBTi guidance has however raised questions around the level of abatement required before companies could be granted a "social license to offset" and whether and how companies will be rewarded for going beyond abatement (Keohane and Seymour, 2021).

Carbon offsetting can take place in either mandatory carbon offset markets (MCM) or Voluntary carbon offset markets (VCM) and has been established as a mechanism to achieve net neutrality. A carbon offset refers to a reduction in GHG emissions (e.g., through carbon capture and storage associated with planting trees) that compensates for emissions from other sources (Broekhoff et al.,2019). Offsets are possible because of the scientific understanding that greenhouse house (GHGs) have a uniform impact