The Role of GHG Emission Offsets in Achieving Corporate Decarbonization Objectives

This Program 201 (P201) back-pocket-insight (BPI) is the third of three BPI's summarizing key issues associated with efforts to develop, procure, and use greenhouse gas (GHG) emissions offsets, and the role that offsets may play in the broader global goal of rapidly reducing global GHG emissions by mid-century.

This third BPI describes the opportunities for offsets procurement available to corporations and other entities, and the role GHG emissions offsets may play in achieving corporate decarbonization objectives. This BPI is based on research completed as part of an EPRI supplemental project on *Exploring the Role of Greenhouse Gas Emissions Offsets to Achieve Corporate Decarbonization Goals* sponsored by Program 201 (*Energy and Environmental Policy Analysis*).[1]

The first BPI describes key technical considerations and conceptual requirements for GHG offsets, and provides a short overview of project monitoring and third-party verification associated with offset project implementation.

The second BPI describes GHG emission offset programs and offset project design, approval, and implementation. It highlights and describes the most common types of offset projects developed in the last 15 years; and compares projects that *reduce* GHG emissions to projects that *remove* emissions from the atmosphere.

Build Versus Buy

Electric companies aiming to incorporate offset credits into their GHG emission reduction strategies have two primary options to gain access to offset credits: (i) build or invest directly in development of offset projects; or (ii) buy emissions offsets from project developers or the market. The primary advantage of building or directly investing in developing projects is the potential to acquire credits at "production cost," without paying added markups and other fees that increase the market price of issued credits. Project investors also have greater control over project quality, and this approach can help to minimize the risk of obtaining subpar offset credits. However, developing offset projects requires substantial financial resources and technical expertise, and involves navigating the complexities of offset project development, credit delivery[2] and other risks.

Buying offset credits is a more straightforward approach for most companies. Buyers can access offset credits in the "primary" markets by engaging in direct transactions with offset project developers before credits are issued, or by purchasing offsets in the "secondary" market after credits have been issued. Secondary market transactions typically involve the transfer and/or retirement of credits on behalf of the credit buyer. This approach offers buyers flexibility in terms of the timing of credit delivery and the quantity purchased, and does not require a buyer to develop internal offset-related technical capabilities. However, buying offsets typically comes at a higher market price that includes markups by developers and other market participants. Also, assessing project quality can be more challenging when buying offset credits on the open market.

Corporate Procurement Opportunities

Offset buyers have several procurement options, including engaging in new methodology development, direct investment in offset projects, or using primary and/or secondary market options. Developing a new offsets methodology offers additional direct control of a new offsets project but is costly and requires a time commitment of at least one-two years or longer. Direct investment can provide buyers with control over project development and execution and lower acquisition costs but developing new projects typically requires a long lead time[3], and the willingness to take on project development and credit issuance risks. Engaging directly with offset developers by purchasing "offtake" of issued credits may offer lower-cost access to credits but involve time and resource commitments and some delivery risk.

Secondary market options include purchasing credits from offset credit brokers, offset credit exchanges and/or offset credit retailers. Brokers can offer buyers access to a range of different types of offset project credits for more rapid acquisition but may be more expensive than purchasing credits in the primary markets. Buying credits from an exchange typically involves less risk than purchasing from brokers with a similar range of project options. Buying credits from retail offset sellers can be suitable for small-scale buyers, but this approach tends to be more expensive with more limited project options. Ultimately, deciding how to acquire offset credits depends on the specific circumstances and objectives of the buyer, including whether the buyer is purchasing offsets to achieve voluntary sustainability goals or for compliance purposes in either existing or future mandatory GHG emissions reduction programs.

Benefits of Using GHG Offsets[4]

Offsets play an important role in mandatory GHG emission reduction programs, such as California's CO_2 emissions cap-and-trade program, by allowing regulated entities to acquire cost-effective emissions reductions from emission sources that are not covered by the program. This flexibility can reduce compliance costs for companies subject to emissions limits. The EPA's analysis of previous climate legislation, such as the Lieberman-Warner

[1] *Exploring the Role of Greenhouse Gas Emissions Offsets to Achieve Corporate Decarbonization Goals: A Compendium of Technical Briefing Papers and Frequently Asked Questions*. EPRI, Palo Alto, CA: 2022. 3002025723. https://www.epri.com/research/products/000000003002025723.

[2] Delivery risks include risk associated with unsuccessful project registration within a GHG program, failed 3rd-party audits, and the potential for fewer credits to be issued than anticipated.

[3] A new methodology must be developed and approved; then projects must be developed, registered, and implemented.

[4] *Overview of Greenhouse Gas Emissions Offset Policies and Provisions in U.S. Cap-and-Trade Programs and Proposals, EPRI, June 2008.* https://esca.epri.com/pdf/ghg-offset-policy-dialogue/workshop01/E229797_BackgroundPaper_062008_Final.pdf

Climate Security Act of 2008[5], demonstrated that access to domestic and international offsets can significantly decrease emission allowance prices and make compliance more affordable.

Furthermore, a well-designed offset program can encourage development and deployment of innovative GHG reduction methods and technologies while providing flexibility through mechanisms like "banking" and spot market purchases. It also offers a means to connect carbon markets worldwide, fostering global cooperation to combat climate change. Overall, offsets are valuable tools that can be used to achieve both mandatory and voluntary emissions reduction goals, and contribute to cost savings, innovation, and greater environmental impact.

By enabling companies to reduce GHG emissions outside of their operations, offsets have made it possible for companies to achieve carbon neutrality and offer carbon-neutral products to consumers by balancing company emissions with offset credit purchases. Companies also can benefit from the public relations value of offset projects that provide social and environmental co-benefits, such as tree planting and forest protection. GHG offsets can allow companies to have a greater impact on global emissions than may be possible by reducing their own emissions, particularly if offsets are more cost-effective than internal abatement.

However, GHG offset usage has faced a myriad of criticisms[6], including doubts about the real emissions reductions achieved, concerns about perpetuating high-carbon infrastructure, and fears about creating incentives to avoid regulating emissions in certain sectors.[7] Critics argue that over-reliance on offsets can lead to "greenwashing," and that companies should prioritize aggressive internal emission reductions over offsetting to be recognized as responsible climate stewards.[8]

Strategies for Using GHG Offset

The landscape of corporate voluntary climate action and the use of GHG offsets is continually evolving, with ongoing discussions and debates around various initiatives and frameworks, including SBTi's Net Zero standard[9], the Integrity Council for the Voluntary Carbon Market[10] and others. One notable recent shift has been the avoidance of the term *offsetting* by some observers to distinguish the use of carbon credits within a mitigation hierarchy from more traditional offsetting, which is often viewed as not contingent on aggressive emissions reductions by the company itself. This shift in terminology is sparking a debate about whether traditional offsetting is an appropriate paradigm for corporate voluntary action or whether use of offsets should be limited to funding external mitigation efforts without making offsetting claims. Given the ongoing controversy around the use of offsets, it is prudent for companies to take a cautious approach when considering using offsets as part of their larger decarbonization strategy. To effectively incorporate GHG offsets into corporate goals, it is helpful for companies to develop clear objectives and communication strategies related to the acquisition and use of offsets. Some key elements of a clear offsets acquisition strategy include:

- Guidelines for evaluating carbon credit quality.
- Project types and sectors to prioritize or avoid.
- Rules or considerations for identifying high-quality projects, including within specific sectors.
- Key risk areas or concerns related to specific project types and how to address them (e.g., non-permanence for forestry and land-use activities).
- Options and guidance for conducting due diligence on specific projects.
- Targeted or preferred procurement options.
- Identification of issues or concerns related to future carbon market developments, including national and international climate policy.

Sharing this offset strategy externally before implementation can help gauge stakeholder reactions and manage potential reputational risks.

Some U.S. electric companies offer GHG offsets for retail sale to their customers to provide a cost-effective way for their customers to reduce their GHG emissions. However, these companies must be cautious about avoiding double-counting GHG emissions reductions when both customers and the selling company potentially could claim the same emissions reductions. One solution is to create a separate pool of offset credits for retail customers that does not count toward the company's own emission reduction goals, a strategy used by some electric companies to complement their emissions reduction efforts.

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[5] EPA Analysis of the Lieberman-Warner Climate Security Act of 2008, S 2191 in 100th Congress, March 14, 2008. Slide 118.

[6] https://www.offsetguide.org/common-criticisms/ .

[7] For example, see (i) Alexeew, J., Bergset, L., Meyer, K., Petersen, J., Schneider, L. and Unger, C. (2010). An analysis of the relationship between the additionality of CDM projects and their contribution to sustainable development. International Environmental Agreements: Politics, Law and Economics, 10(3). 233–48. DOI: 10.1007/s10784-010-9121-y; (ii) Gillenwater, M. and Seres, S. (2011). The Clean Development Mechanism: a review of the first international offset programme. Greenhouse Gas Measurement and Management, 1(3–4). 179–203. DOI: 10.1080/20430779.2011.647014; (iii) Ruthner, L., Johnson, M., Chatterjee, B., Lazarus, M., Fujiwara, N., Egenhofer, C., du Monceau, T. and Brohe, A. (2011). Study on the Integrity of the Clean Development Mechanism (CDM). AEA Technology for the EU Commission.

[7] Although most critical studies of carbon offsets have focused on the CDM and Joint Implementation (JI), many of the same issues may arise in other offset programs as well. Some programs – like Verra (i.e., VCS) and the Gold Standard incorporate CDM methodologies by reference, so there is substantial overlap in the kinds of projects they certify. In other cases, offset programs have used CDM methodologies as a starting point to develop their own methodologies.

[8] For example, see Last Week Tonight with John Oliver, August 21, 2022. https://youtu.be/6p8zAbFKpW0 .

[9] Science-based Targets Initiative (SBTi).

[10] ICVCM - Build integrity and scale will follow .