The Global FoodBanking Network®

A Primer

Carbon Markets and Financing Mechanisms for Food Banking Organizations

Food loss and waste is a critical yet often overlooked factor at the nexus of climate change and sustainable development.

With about one-third of all food produced globally going to waste, the environmental consequences are profound, particularly in terms of greenhouse gas emissions (GHG). Methane, a potent greenhouse gas released during the decomposition of organic waste in landfills, plays a significant role in accelerating global warming. Diverting food waste from landfills can significantly mitigate these methane emissions, which helps achieve climate goals while putting food in the mouths of millions. Investing in efforts to reduce food waste—and the food banks that lead them—can clearly yield substantial economic, social, and environmental benefits, which is why it has rapidly emerged as a pivotal strategy in the context of climate finance.

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FOOD WASTE IMPACT IN THE U.S.

Every year in the United States, approximately **31% of the overall food supply is wasted** (~133 billion pounds), which impacts food security, resources conservation, and **contributes to the 18% of total U.S. methane emissions** that come from landfills. From that amount of food disposed of in landfills, **more than 75% comes from restaurants and households**.

For a more detailed explanation of carbon market mechanisms, financing opportunities, and regional implementation strategies, reference the full paper at **foodbanking.org/frame-methane-methodology**.

Climate finance refers to local, national, or transnational financing—drawn from either public or private sources—that supports efforts to address climate change. It has become increasingly relevant in the wake of the Paris Agreement, as more and more nations adopt strategies to meet their obligations under the treaty; many have enacted policies such as mandating emissions caps for private businesses, placing a price on carbon, or creating a market for the sale of carbon credits. All of this opens a window for food recovery initiatives to access an additional and flexible source of financing by generating intangible assets in the form of GHG emission reductions or carbon credits, which can later be traded with companies and governments that require carbon footprint reductions.

While this is an appealing opportunity for many food banks, there's much to understand before jumping in.

OPPORTUNITIES AND CONSIDERATIONS

The voluntary carbon market, while still nascent at approximately $2 billion in size, is projected to reach around $35 billion by 2030. This growth is driven by increasing corporate commitments to achieve net zero emissions and greater participation from market speculators.

In the world of climate finance, there are a variety of financial opportunities with potential application for food banks.

Nationally determined contributions are the emissions-reduction targets individual nations commit to under the Paris Agreement. Food bank activities can become part of a country's strategy for achieving these targets. However, some governments impose limits on the transfer of credits across national borders.

Carbon pricing mechanisms are government schemes enacted at either a national or subnational level that include carbon taxes and emission trading systems (e.g., cap-and-trade) that incentivize or compel companies to reduce their emissions. These mechanisms are becoming increasingly common globally, with various implementation models emerging in different regions.

Voluntary carbon markets are private ecosystems where individuals, organizations, and businesses voluntarily purchase or invest in carbon credits to mitigate their GHG emissions by supporting projects that reduce emissions. The market is dominated by corporate buyers, with the top 100 issuers accounting for 60% of total credit retirements since 2020. Demand primarily comes from E&P, utilities, and transportation sectors, with European and North American companies leading purchases (~39% and ~30% respectively).

Insetting is when one organization promotes projects at another to reduce its own emissions profile. For instance, a restaurant might offer project-based financing for improving activities at a food bank on the condition that associated emissions reductions are transferred back to the restaurant (which then utilizes the donated food).

Green bonds are issued by governments, municipalities, corporations, and other entities to raise funds for climate-focused projects. They offer food banks access to a broad pool of investors with the ability to provide capital and liquidity.

However, before food banks attempt to access these financing opportunities, there are a variety of factors and tradeoffs that should be taken into consideration.

Regulation: National regulations, international treaties, and technical guidelines can restrict operations and the number of credits that can be claimed.

Scaling: Projects may not have the scale to generate enough credits to justify either their costs or the logistics necessary to validate and issue them.

Monitoring: Tracing and tracking the operation of food waste loss may not be as simple and straightforward as expected, especially if sophisticated baselines are set.

Timing: The gap between the execution of activities that result in reductions and the issuance of credits can take months or even years.

Liquidity: The generation of assets for future sale does not ensure there will be enough actual demand at the time of issuance.

Access: Access to markets with higher carbon prices is critical for any project's cost-benefit equation, as it directly affects the selling value of credits.

ENABLING STRATEGIES AND RECOMMENDATIONS

Carbon pricing mechanisms only represent a secure financing option for food banks and food recovery projects if they are accompanied by proper planning. That means fully understanding the credit issuance process before jumping in and preparing to deploy a robust commercial-communication strategy throughout. It also means accepting that a shifting political environment will always pose a risk and could definitively close the possibility of generating or trading credits within a specific region. For food banks that are prepared to accept these risks, there are several factors to keep in mind that can heighten chances for success.

Prices in the voluntary market vary significantly by project type and quality. Nature reforestation projects have historically traded at a premium, currently around $12.5 USD/tCO2e, while other projects, including renewable energy, trade in the range of $2-7 USD/tCO2e. High-quality projects can command prices of approximately $12 USD/tCO2e.

Choosing the right certification program

The selection of certification program will significantly influence the proportion of reductions deemed admissible for sale. It is often a significant factor in costs too, as each program has a fee schedule for activities such as registration, accreditation, and verification. These costs can present a barrier for small-scale projects or those with less liquidity, as several must be addressed before the issuance or sale of certificates.

Selecting the right program can be decisive for the admissibility of a project within a national or subnational market, as it must be previously recognized by each jurisdiction for subsequent ratification (both for the local marketing of certificates as well as their international sale).

In the global market, five registries dominate credit issuance:

- Verra/VCS (64% of issued credits)
- Gold Standard (15%)
- ARB (12%)
- ACR (5%)
- CAR (4.2%)

The choice of program and methodology can also have a direct impact on prices in voluntary carbon markets, as many buyers prefer to purchase certificates from programs with strong governance and environmental integrity.

Preparing for MRV implementation

Monitoring, reporting, and verification (MRV) systems are the primary tool to prevent double counting and claiming of reductions. Since it's an unavoidable cost, the selection and deployment of a high-standard system is fundamental to the success of any program.

MRV costs must be integrated into the decision-making process before attempting to enter any carbon market which makes the strategic selection of an MRV model and proper planning for its implementation essential in minimizing costs over the long term.

The implementation costs of MRV systems will vary based on several factors such as the scale and sophistication of models in a chosen methodology (MRV will eventually become part of operational costs in terms of maintenance, training, etc.).

Securing favorable selling opportunities

The sale of carbon credits in regulated markets generally exhibits the most favorable price signals, which is why it's important for food banks located outside these markets to be able to access them. However, the ability to export carbon reductions depends on enabling mechanisms set by a host country to recognize food banks as a legitimate emission-reducing activity and allow the export of their emissions to foreign jurisdictions.

The commercialization of credits often requires a bilateral agreement between countries to enable the export of emissions in the form of Internationally Transferred Mitigation Outcomes (under Article 6.2 of the Paris Agreement).

Credits can also become eligible for sale simply with the approval of the host country, allowing them to be issued in the corresponding mechanism's registry (under Article 6.4 of the Paris Agreement).

In cases where access to attractive external regulated markets is unavailable, food banks can explore selling their GHG reductions locally, within voluntary markets, or via insetting in which another business will support part of its operations in return for acquiring the emission reductions generated though that intervention.

In Latin America, which represents the second-largest source of carbon credits globally (28% of total), it is particularly important to consider the need for bilateral agreements to enable emissions export under Article 6.2 of the Paris Agreement, and the possibility of obtaining direct host country approval for issuance in the corresponding mechanism's registry (under Article 6.4).

Generating sufficient demand

The quantity of carbon credits sold directly relates to the number issued and the demand for emission reductions. Access to demand often depends on establishing strategic relationships with potential buyers and intermediaries. For instance, companies that consider food banks within their supply chain may be interested in accessing a financing stream via insetting.

In regulated markets, food bank operations must be recognized activities in the jurisdiction where the certificates will be issued and sold.

Only reductions not intended to fulfill national climate targets are eligible for sale across borders, though food banks exceeding the compliance threshold of their local jurisdiction are still allowed to export reduction certificates.

Many certification programs impose admissibility conditions, such as only recognizing reductions stemming from a food bank's efforts to increase capacity or lower emissions intensity via retrofitting rather than business-as-usual operations.

The food and beverage industry, while currently representing only ~3% of credits retired since 2020, is projected to significantly increase its demand relative to other sectors according to market research. This represents a particular opportunity for food banks seeking strategic buyers aligned with their mission.

ABOUT THE GLOBAL FOODBANKING NETWORK

Food banking offers a solution to both chronic hunger and the climate crisis. GFN works with partners in over 50 countries to recover and redirect food to those who need it. In 2023, our Network provided food to more than 40 million people, reducing food waste and creating healthy, resilient communities. We help the food system function as it should: nourishing people and the planet together. Learn more at foodbanking.org.