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Supply chain carbon programs projected to drive investment for adoption of GHG reducing practices in livestock and dairy

By Athian and Deelo Consulting

In the past decade, the international community has made tangible progress aligning on commitments to fight global warming. The most significant of these commitments, the 2015 Paris Agreement, set an ambition to limit the mean global rise in temperatures to 1.5 °C, which would require greenhouse gas emissions to decrease 45% by 2030 and reach net zero by 2050.[1]

The food and agriculture sector, which produces 19-29% of global greenhouse gas emissions, is a critical component of the GHG emissions puzzle. The industry contends with multiple competing demands: the need to feed a growing population that will consume 70% more food by 2050; the specter of significant climate related risks such as increasing flooding and drought; and public calls for GHG emission reductions[2].

Livestock, which comprises nearly two thirds of agricultural emissions, has become a key focus in the emissions conversation[3]. Methane, which has 80 times the warming power of carbon dioxide, has been a particular target of regulation.[4] The cattle and dairy industry, which has historically received public attention related to animal welfare and antibiotic use, is also now in the public eye because of its meaningful methane emissions.

To get ahead of potential emissions related regulation, many major food companies have made public GHG commitments, ranging from ingredients suppliers such as Cargill, to CPGs such as Nestle to retailers such as Walmart. Many of the commitments made by these large CPG companies mirror the targets set by the Science Based Targets Initiative (SBTi)[5], a voluntary initiative started by the United Nations Global Compact, World Resources Institute, and World Wildlife Fund. While major corporations have started to make bold emissions claims, most companies are still in the process of charting their decarbonization roadmap.[6]

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[1] https://www.ipcc.ch/sr15/chapter/spm/

[2] https://www.worldbank.org/en/topic/climate-smart-agriculture

[3] https://ourworldindata.org/food-ghg-emissions

[4] https://www.edf.org/climate/methane-crucial-opportunity-climate-fight

[5] https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf

[6] https://agfundernews.com/list-of-agrifood-corporate-climate-commitments-accountable

With these public commitments we are seeing the emergence of carbon markets. Within the markets described below, carbon is quantified and transacted on a per metric ton basis. One carbon credit is equivalent to one metric ton of greenhouse gases, on a carbon equivalent basis, removed from the atmosphere.

Today, three types of carbon markets exist: compliance markets, voluntary markets, and inset markets.

Compliance markets, the first established carbon markets, have some involvement in the beef and dairy sector; however, primarily in methane digestion. Commonly known as offsets, compliance markets serve industries where emission volumes are regulated, the most well-known being the Low Carbon Fuel Standard market driven by California's cap and trade market.

Voluntary and inset markets both serve private actors that have made voluntary emissions targets. Today's most well-known voluntary markets also trade like an offset market where credit buyers and credit generators need not have a commercial relationship. Meanwhile, in inset markets, corporations intentionally focus on reducing the emissions of their value chain through their suppliers and buyers. This activity within the food value chain is resulting in investment in GHG reduction projects in agriculture.

The primary differences between carbon offsets and carbon insets are straightforward:

Offsets are when one industry uses carbon reductions generated from another industry to "offset" their own emissions footprint. Whereas insetting projects are interventions with'in' a company's value chain designed to generate GHG emissions reductions.

Today, we're already seeing many CPGs experiment with pilot programs to incentivize producers in their value chains to adopt GHG reducing practices and technologies. For example, in January 2023, Danone launched an initiative to work directly with 58,000 dairy farmers to adopt methane reducing practices and committed to report methane emissions in its financial disclosures[7]. And in March 2023, Tyson launched its Climate Smart Beef program and launched its Brazen Beef brand, the first beef product to receive the USDA's approval for a "climate friendly" claim.[8]

From the livestock producer perspective there are emerging opportunities to leverage the market through publicly available carbon programs- primarily focused on soil health practices today with new programs in animal health, manure management and feeding practices emerging- and project collaboration facilitated through food and agriculture companies and processors.

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[7] https://www.reuters.com/business/sustainable-business/dairy-giant-danone-aims-cut-methane-emissions-by-30-by-2030-2023-01-17

[8] https://www.provisioneronline.com/articles/114418-tyson-foods-rolls-out-climate-smart-beef-program