ENOUGH
EUROPEAN FOOD CHAIN SUPPLY TO REDUCE GHG EMISSIONS BY 2050

Policy Brief
2025

# The run to sustainable food operations in the EU: Insights from Producers

There are varying levels of adoption of sustainability practices, significant gaps in energy monitoring and resource efficiency investments, and there is a need for harmonized reporting standards.

The presence of a sustainability department is beneficial for companies. It facilitates reporting of energy use and promotes a number of energy efficient measures along the operational system.

Companies often rely on a mix of financial sources to invest in R&D, technology and sustainable practices; however, they are more reliant on public governmental or public-sector resources.

The European food supply chain (FSC) is a cornerstone of global food security and economic activity and is likewise a significant contributor to greenhouse gas (GHG) emissions. Approximately one-third of global anthropogenic GHG emissions originate from food systems, driven by energy use, industrial operations, and waste management (Crippa et al., 2021). Post-farm gate stages such as processing, packaging, and distribution remain critical hotspots for emissions, highlighting the need for targeted decarbonization strategies (Moreira-Dantas et al., 2023).

## The survey

**Consultation period**
**15 January 2023 to 1 August 2024**

**Objective**
**Examine sustainability actions, energy use, and funding mechanisms, to guide solutions and effective practices for reducing emissions in the EU FSC**

**Target group**
**European food small and medium enterprises (SMEs) and multinationals**

**Questions**
**33 in Three blocks (firm characteristics, sustainability, and energy)**

**Responses**
**46 full, 20 partial**

The Farm to fork strategy (F2F) sets fundamental changes across all stages of the food supply chain, however, emissions reduction efforts have primarily focused on agricultural production. Post-farm gate activities, in turn, have received limited attention and funding. For example, only 2% of the Horizon 2020 food-related project budget has been allocated to processing and transport, compared to 31% for food production. Achieving carbon neutrality will only be possible with more efforts to reshape industrial operations within and beyond the farm gate with integrated strategies based on solid plans for emission reductions. So far, there are no harmonized tools for measuring and reporting EU emissions. Standardized reporting frameworks are critical to design effective decarbonization strategies and ensure compliance with regulatory standards.

This policy brief informs the status of EU food companies in terms of their energy use, sustainability reports, financial sources, and actions to reduce GHG emissions in food operations. The brief spots critical areas that deserve political support to the aim of decarbonizing EU food companies.

A survey was distributed to EU firms in the FSC. Most firms were located in the UK and France, with 23% and 20% of respondents, respectively, 8% in Austria, 6% Lithuania, 5% Italy, and the rest in other EU members. Most respondents participate in food processing (29.7%), followed by storage (27.6%), distribution (12.7%), and packaging (8.5%). Upstream activities such as agriculture and post-harvest constitute 10.6% and 6.3%, respectively, while retail represents the smallest segment of responders with 4.2%. Firms are diverse ranging from small and medium sized enterprises (SMEs) to multinationals that provide food products and services to local, national and international markets in the EU.



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ENOUGH webpage: enough.emissions.eu

Food production mainly serves local and national markets, reflecting their reliance on proximity to the raw materials and domestic demand. Processing and distribution stages correspond to a shift in market focus, with firms moving from local and national to engaging more extensively with international markets. This stage shows the highest mean value for the EU market, indicating strong integration into regional supply chains, while the international market also exhibits substantial activity. The local and national markets play a smaller role in processing, reflecting the emphasis on meeting the demands and standards required for larger, more competitive markets at the regional and global levels. This pattern highlights the processing stage as a critical one where firms expand their market reach and contribute to value-added activities aligned with broader distribution networks. In the retail stage, the responses suggest a balanced focus on local, national and international markets, however, without representation for the EU market, which may reflect either a specific market focus by respondents or potential limitations in the data collection. For storage, the data indicates moderate engagement with the national, EU, and international markets, suggesting a balanced focus across these broader supply chain levels. In contrast, the local market shows limited activity, implying that storage operations are more aligned with supporting larger-scale distribution beyond immediate local areas. This reflects the logistical needs of firms serving wider geographic regions, where efficient storage is crucial for maintaining product quality and supply chain continuity.

Several SMEs lack technical expertise, financial resources, and capacity to adopt sustainable systems. A fact that hinders progress toward sustainability goals.

## Firms and EU Policies

Current EU policies have implications for firms in the food sector. The F2F calls for the reallocation of resources along the entire FSC (Wesseler, 2022). Industrial operations must likewise comply with sustainability regulations such as the Carbon Border Adjustment Mechanisms (CBAM)[1] and the Corporate Sustainability Due Diligence Directive (CSDDD)[2]. Food companies shall establish coordinated action to reduce emissions and ensure that their supply chains account for environmental issues and social responsibility. For such actions to success, low-carbon interventions shall be accompanied by industrial sustainability reports, which provide information of industrial emissions periodically and transparently. Nevertheless, corporate emissions data is limited, with variant quality, and does not cover supply chains and SMEs (Busch et al., 2022).

The survey examined sustainability efforts in companies, revealing that 47% of responses have sustainability departments, 72% being large firms (250+ employees), only 20% of SMEs (up to one hundred employees). Furthermore, the Corporate Social Responsibility (CSR) report is a valuable step to ensure companies account potential social and environmental impacts. It is expected that CSR reports will support sustainable development, by informing multiple stakeholders about companies' sustainability performance (European Commission, 2024). Survey responses show that only 34% of companies publish CSR reports, of which 77% are large companies, especially in food processing. Related to that, voluntary sustainability certifications are

[1] Carbon Border Adjustment Mechanism - European Commission

[2] Corporate sustainability due diligence - European Commission



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important tools to track and halt environmental impacts especially in food producing countries (Awan et al., 2019). The survey questioned whether the companies took part of certification programs such as GlobalG.A.P. (sustainable and safe farming) and B corp (standards for social and environmental performance). Only one food distribution company reported being part of GlobalG.A.P. This highlights the need for broader adoption of structured frameworks like Environmental, Social, and Governance (ESG) principles. Adopting ESG principles could help companies align their operations with global sustainability goals and improve their competitiveness in the market. Several respondents reported uncertainty regarding whether their company adheres to any specific energy performance standards, indicating a lack of internal awareness or documentation on energy-related practices.

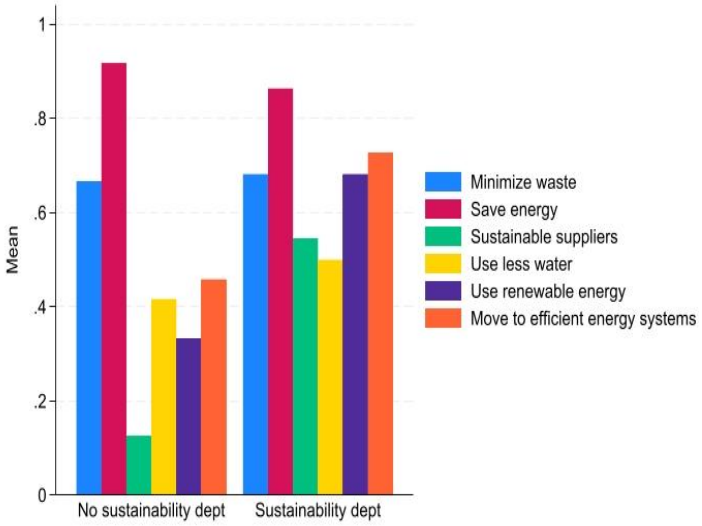
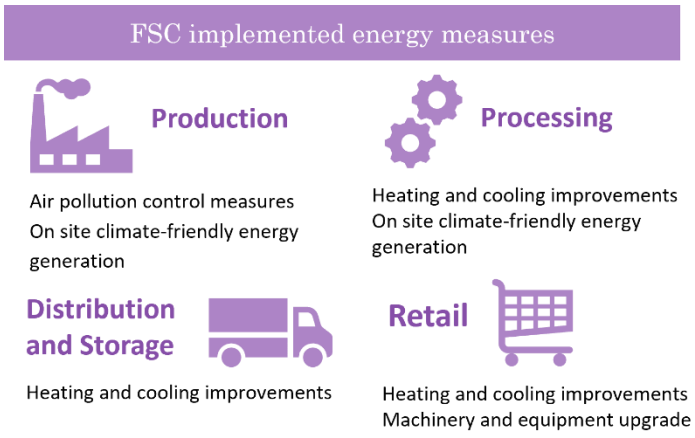



**Figure 1. Actions applied in companies based on the presence of a sustainability department.**

Companies intend to make operations more resource efficient by combining a series of actions. Firms with a sustainability department generally outperform those without, particularly in areas such as switching to sustainable suppliers, reducing water usage, and increasing the use of renewable energy. Both groups prioritize minimizing waste and saving energy, indicating a focus on energy efficiency.

## Energy

While analysing the developments of energy generation in European countries, Aszódi et al. (2021) found that the existing energy strategies would preclude achieving the European Green Deal (EGD)'s targets if no further action is taken. To assess the energy reporting status of EU firms, the survey asks how often firms monitor their energy consumption. Overarching energy monitoring mechanisms exist, as 92% of respondents measure energy use. Most firms monitor their energy usage monthly (44.4%) and annually (25%). A fact that indicates they already invest in energy monitoring tools. Moreover, the actions that contributed the most to reducing company's environmental impacts are heating and cooling improvements (adopted by 23.6%), reflecting a focus on enhancing energy efficiency. Climate-friendly energy generation and waste minimisation are adopted by 16.1% of firms.




## Financial resources



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In the EU, as well as in other countries, the full substitution of current technologies for cleaner alternatives will only be possible if the financial means are available and this is accompanied by the cooperation of policy actors and financial institutions. Eastern economies, whose production is primarily carbon based, are more resistant to technological change (Pianta & Lucchese, 2020). Existing financial mechanisms are therefore important to enable a just transition, specially for firms with lower economic advantage for which is harder to pursue a technological transformation. In any case, current investments under the Just Transition Fund and the EGD are not enough to finance an enduring systematic changes (Storm, 2020). Moreover, the EU should continue to work towards a comprehensive industrial strategy to foster market integration, to provide financial resources and fiscal policies that favor environmental investments, once the gaps of the current policies are identified.

The diversity of financial sources used by companies show that 19% of respondents rely on at least two sources within the range of available ones. Public funding represents the largest share (34.6%), indicating reliance on

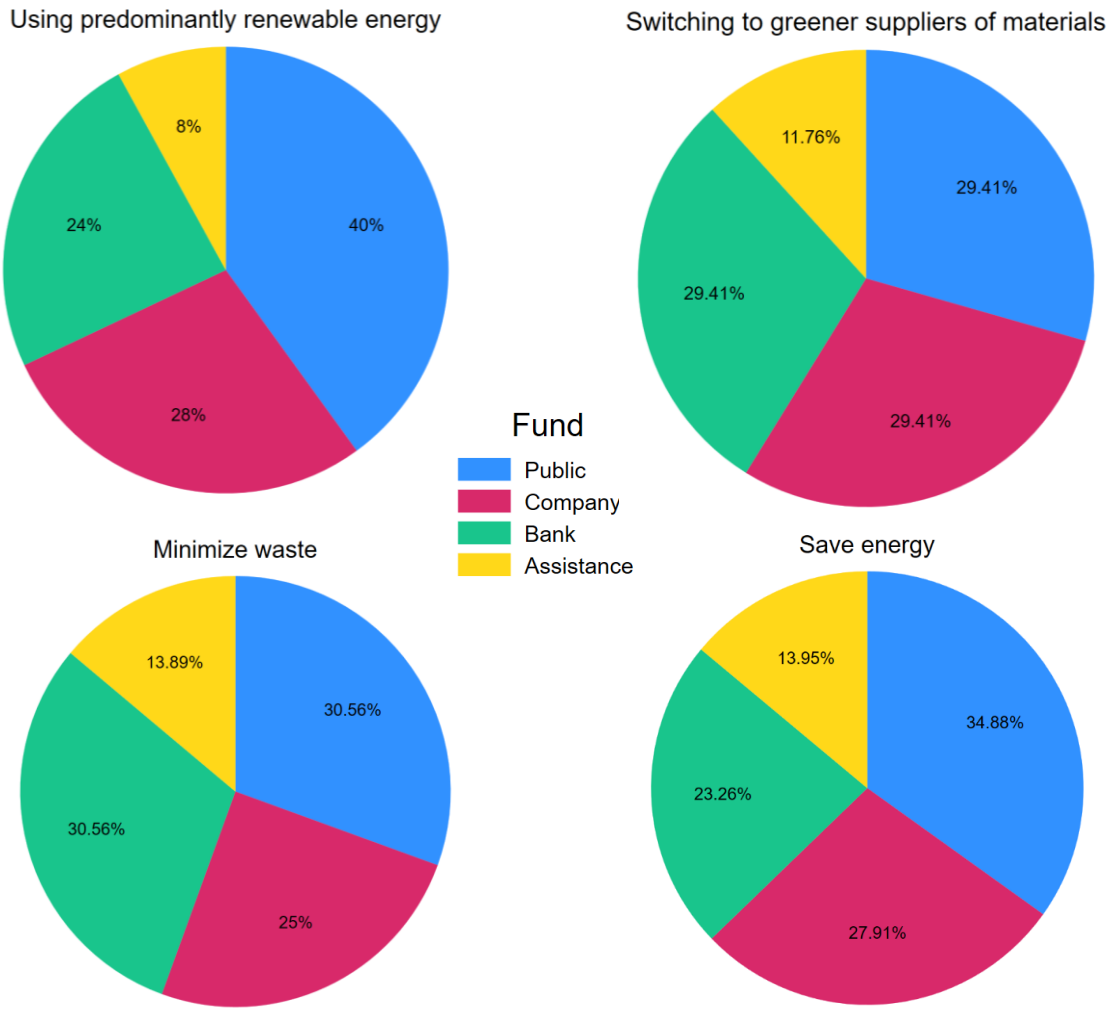


**Figure 2. Distribution of financial sources across sustainability actions applied by firms.**

governmental or public-sector resources. Investment companies contribute 26.5%, slightly surpassing private banks funds (24.4%), suggesting a notable role in providing capital for growth and innovation. Lastly, financial means from supply chain partners accounts for 14.2%, representing the least-used source, likely due to its specialized nature.



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The financial sources support a mix of actions (Fig. 2), including minimizing waste, saving energy, switching to sustainable suppliers, and using mostly renewable energy. The distribution varies slightly depending on the financial source. Public funding is the most expressive fundings measure to the aforementioned sustainable practices. Bank funding is evenly distributed, with equal emphasis on minimizing waste and saving energy, followed by a moderate contribution to using predominantly renewables. Smaller, equal shares are allocated to switching to sustainable suppliers indicating a balance across measures. Company funds follow a similar pattern to banks, with near-equal emphasis on minimizing waste and saving energy, although the share for minimizing waste is slighly lower.

Accessing public funds is often challenging due to bureaucracy and the required investment in the application process. While large companies face these hurdles, the impact is even greater on SMEs.

## Survey evaluation

The survey reflects a diverse representation of businesses across the FSC stages. Food processing and storage were the most represented stages among respondents, with production, distribution, and packaging being less represented. Food distribution suggests a focus on post-farm gate activities, which aligns with the growing importance of industrial stages in decarbonization strategies.

Market reach points to a strong transition from local and national engagement during production and post-harvest to broader regional and international markets for processing and distribution. This pattern underscores the role of processing as a critical turning point where firms expand their market reach and contribute to value-added activities aligned with global trade networks. Firms operate across a diverse range of product lines and supply chain stages.

The survey revealed that companies with dedicated sustainability departments outperformed others in adopting sustainable practices. Actions such as minimizing waste, saving energy, and transitioning to renewable energy were prioritized, reflecting a universal focus on energy efficiency and waste management. However, more advanced actions, such as switching to sustainable suppliers, was less commonly implemented, particularly among companies without sustainability structures. This gap highlights the challenges faced by firms in moving beyond foundational measures to tackle broader systemic changes in their operations.

Energy monitoring emerged as a widespread practice among firms, with monthly tracking being the most common frequency. However, only a small proportion of firms reported daily or weekly monitoring, highlighting a gap in granular tracking of energy use. This limits firms' ability to identify inefficiencies and optimize consumption in real-time. The most frequently implemented energy measures included heating and cooling improvements, climate-friendly energy generation, and waste minimization. These actions reflect the industry's emphasis on improving energy efficiency and reducing carbon footprints. However, less attention was given to measures such as vehicle upgrades and air pollution control.

Public funding appeared as the most significant financial resource, particularly for stages such as production and post-harvest. This reflects the reliance on government initiatives to drive energy and resource efficiency. In contrast, bank funds and intra-firm finance were more prominent in high-investment stages like processing and packaging, underscoring the role of collaborative financing in supporting capital-intensive operations. The alignment of financial sources with resource-efficient actions showed notable patterns. Public funding focused heavily on saving energy and minimizing waste, while private banks and capital funds provided more balanced support across various measures, including renewables and sustainable suppliers.



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## Recommendations

- The EU should develop a harmonized emissions reporting framework for food supply chain firms, ensuring that firms measure and disclose emissions consistently according to the CSDDD and CBAM
- Incentivize SMEs to implement sustainability reporting by offering financial support and simplified reporting procedures
- Simplify the application process for public sustainability funds to reduce administrative burdens for SMEs.
- Increase financial incentives for SMEs adopting energy-efficient technologies, including targeted grants, tax breaks, and subsidized loans.
- Establish technical support programs to help SMEs apply for funding and implement low-carbon solutions effectively.

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