

EXECUTIVE SUMMARY



Driving the green transition through
food, land use and water management

Analysis of the agri-food value chain:
current status, key challenges and
proposals to enhance the sector's
climate resilience.

Results of the Food and Climate Change Working Group led by **alinnea**

Hosted by



Supported by



European
Climate
Foundation



alinnea has been an active organization in Spain's climate-action ecosystem since mid-2024. It is part of IE University and is supported by the European Climate Foundation.

As a climate-action Think & Action Tank, *alinnea* specializes in comparative analysis and solution design for the development and orchestration of climate-action measures that involve stakeholders from the public and private sectors, as well as civil society. Operating under a multistakeholder dialogue–research–action framework, it seeks to overcome barriers to progress on climate action by delivering solutions that are socially just, economically prosperous, and positive for the environment and biodiversity.

Multistakeholder Working Group 'Advancing the Green Transition through Food, Land Use, and Water Management' – Methodology

With this participatory approach, a “**Agri-food Value Chain Analysis**” working group was created in 2024 to identify bottlenecks and put forward proposals to strengthen the sector's climate resilience. Three extensive, in-person, closed-door working sessions were held under the **Chatham House Rule**. All sessions were supported by the technical expertise of **Inma Batalla**, **Chiara De Tomassi**, and **Víctor Martínez** from the Basque Centre for Climate Change (**BC3**). The dialogue was facilitated by **Cristina Monge**.

Prepared by *Alinnea*'s working group between **June 2024 and January 2025**, this report examines the agri-food value chain as a whole—from **production and input supply, through agriculture, livestock, processing, and distribution, to consumption**—to identify barriers and propose solutions for a **just and competitive climate transition**, aligned with the objectives of **Spain's Integrated National Energy and Climate Plan (PNIEC)**.

As a preliminary step, the report provides an analysis of the relevance of Spain's agri-food sector, including the sector's climate-change context.

Participation by the organizations involved does not necessarily imply endorsement—in the form of specific commitments—of the ideas presented in the final document.

Organizations participating in the dialogue

Eroski	Ibercaja	COAG
IEGD-CSIC	LLYC	Oficina Española de Cambio Climático
Universidad Politécnica de Madrid	Consultora	European Climate Foundation
AEIDL (European Association for Innovation in Local Development)	IE University	ECODES
BC3	PROVACUNO	LLYC
EIT FOOD	Centro de Estudios Ambientales	CoopCycle
HINTDECIDE SNLE	MAPA	CEIGRAM
IDDRI	Fundación Global Nature	Ayuntamiento de Madrid
Fundación Daniel y Nina Carasso	LA UNIO LLAURADORA I	
	RAMADERS	
	Espigadors	
	ECODES	

THE AGRI-FOOD SECTOR IN SPAIN

Spain's agri-food sector is a cornerstone of the national economy, contributing 9% of GDP and generating 11.3% of employment. However, Spain is among the European countries most vulnerable to the impacts of climate change on the sector. Between 2017 and 2023, the agricultural insurance system recorded the highest level of losses on record, valued at **€1.241 billion**, mainly due to droughts that affected nearly **60%** of the insured agricultural area. This growing frequency of droughts exposes the vulnerability of agriculture and livestock farming, especially in arid regions where water stress and the over-exploitation of river basins are critical.

Paradoxically, the agri-food sector is also one of the largest emitters of greenhouse gases (GHG), accounting for **34%** of global emissions and around **30%** in Europe. Spain's **Integrated National Energy and Climate Plan (PNIEC)** sets a reduction target of **18.6%** compared to 2005, but data show that emissions have not fallen significantly in recent years.

This context places the sector at a decisive juncture, where today's actions will determine its ability to maintain economic and environmental relevance while adapting to and mitigating climate impacts. The goal is to transform production and consumption towards a system capable of supplying the entire population with diverse, safe, and healthy food that also contributes to the regeneration of natural resources and ecosystems. **Competitiveness, efficiency, and technological innovation** are key to achieving this objective.

CURRENT KEY CHALLENGES IN IMPLEMENTATION

In alinnea's methodology, a "knot" is defined as a barrier or circumstance that limits progress on climate-mitigation and adaptation objectives in the agri-food sector. The working group identified the following knots:

1. **Lack of precise, systematic data on the sector's climate impact.** Emissions are diffuse and difficult to measure. Assessment is complex due to the long-term nature of impacts and the fragmentation caused by multiple methodologies. The diversity of production models calls for an integrated approach, while Europe is moving toward more harmonized assessment systems that include environmental and social dimensions.
2. **Absence of an integrated whole-chain approach.** The sector is fragmented, with each link—production, processing, distribution, and consumption—regulated and targeted separately. This division hinders coordination to implement integrated climate strategies and realize synergies. Although coordination spaces exist, regulation does not address the chain, limiting joint planning, circular-economy approaches, unified monitoring, and shared climate responsibility. There are also differing views on who should bear primary responsibility, from consumers to industry and suppliers.
3. **Insufficient training and specialized advisory support.** The sector faces a deficit of capacity and expert guidance, especially among small and medium producers—that hampers the adoption of climate-sustainable practices. Gaps in key skills limit planning and create resistance to change. Additional challenges include generational renewal, profitability, bureaucracy, international competition, and environmental regulation. In industry and

distribution, there is also a lack of knowledge on environmental impact, carbon footprints, sustainable logistics, and green finance.

4. **Narrativas contrapuestas:** El sector y la sociedad están polarizados entre quienes ven las **Competing narratives**. The sector and society are polarized between those who view climate policies as a threat and those who see them as an opportunity, making it difficult to build consensus for the ecological transition.
5. **Multiplicity of objectives and regulations affecting different actors and chain links.** A wide array of rules and targets affects stakeholders in a fragmented manner, complicating climate action—especially following the reduced ambition of the **Omnibus Directive**, which removed certain obligations such as climate transition plans.
6. **Profitability at risk and lack of economic incentives.** Low profitability and limited incentives hinder small and medium producers from adopting sustainable practices. Financial mechanisms are needed to enable investment, while price sensitivity continues to constrain the scaling of good practices.
7. **Risk of “carbon tunnel vision.”** Focusing solely on emission reductions while overlooking adaptation, resilience, and other key impacts is risky. A better balance between mitigation and adaptation is needed given the growing climate risks in Spain.
8. **Uncertainty in demand and responsible consumption.** Price and demand uncertainty for sustainable foods discourages producer investment, while complexity in traceability and the lack of clear public policies hinder responsible consumer choices.

STRATEGIC RECOMMENDATIONS

To overcome these barriers and foster the transition toward a more sustainable agri-food sector, the working group proposes the following specific recommendations, detailed in the report:

1. **Identify transition needs.** Tailor the climate transition to Spain’s regional and production diversity by planning investments and adaptation measures based on climate projections and water resources, and by promoting collaboration across all actors in the agri-food chain to ensure resilience and viability.
2. **Farm-level climate benchmarking.** Harmonize the sustainability assessment of farms with common indicators, adapting them to local realities and estimating the costs and financing required for implementation.
3. **Whole-chain dialogue.** Establish multisector dialogues and an **advisory council** to coordinate climate action across the entire agri-food chain, with national and regional adaptations.
4. **Capacity-building, advisory support, and scalability.** Train and support producers to adopt profitable climate-smart practices, strengthen regional/territorial advisory services, and promote the scaling of solutions by integrating technology and digital tools.

5. **A new “win–win” narrative: competitiveness and climate action.** Promote a positive narrative that links climate action with competitiveness, showcasing good practices and fostering synergies with renewable energy and the circular economy to strengthen the agri-food sector.
6. **Effective regulations for greater competitiveness while meeting climate goals.** Leverage national and EU policies to incentivise the sector’s climate transition, reform the Common Agricultural Policy (CAP), manage livestock stocking densities, and adapt the sector to new European regulations.
7. **Finance the transition.** Improve public and private financing to support sustainable investments in the agri-food sector, promoting partnerships and dedicated mechanisms for climate mitigation and adaptation.
8. **Climate-risk management and resilience.** Strengthen climate-risk management and resilience through enhanced insurance schemes, analysis of financial and environmental impacts, and greater private financing to support sectoral adaptation.
9. **Consumption policies.** Implement consumption-side policies that inform about climate impacts, promote sustainable habits, reduce waste, and encourage ambitious environmental standards across the entire agri-food chain.

Conclusion

The climate transition of Spain’s agri-food sector is complex and requires a comprehensive approach that overcomes current fragmentation. Only through a coordinated, whole-chain approach—underpinned by reliable data, appropriate training, financial support, and a positive narrative—will it be possible to achieve a competitive, resilient, and sustainable agriculture and food system capable of responding to current and future climate challenges.

You can access the full Report [here](http://www.alinnea.org/es/publications/)
(www.alinnea.org/es/publications/)

If you would like to contact the **alinnea** team to learn more about our work or to take part in one of our working groups, please write to: info@alinnea.org

