

A policy coherence analysis of the food use and waste hierarchy

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The waste hierarchy

The waste hierarchy has been the cornerstone of EU policy and legislation since the 1970s. The hierarchy has recently been updated¹ to highlight the potential uses of food before it becomes waste, and ranks different options for the management of surplus food, food processing by-products and food waste according to their perceived sustainability and added value.

Competition for biomass

Waste valorisation industries are emerging as a key component of the circular bioeconomy, and balancing the demands for biomass of different industries will require cooperation between several policy domains and a collective effort to mitigate the impact of trade-offs across different policy goals.

Policy coherence analysis

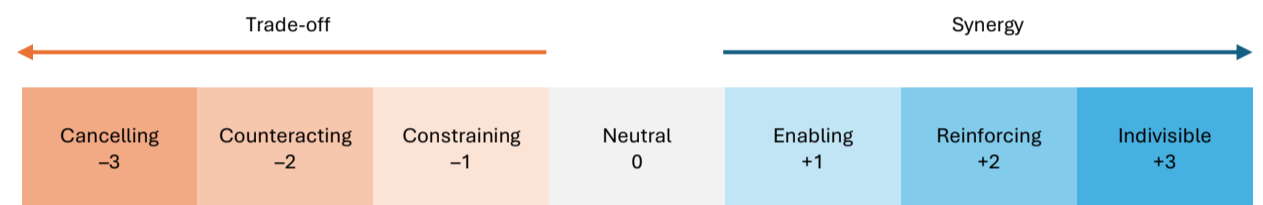
A screening matrix was created to examine potential synergies and trade-offs between the food use and waste hierarchy and other biomass-related policy domains and goals. The coherence scoring system is a 7-point scale where trade-offs (-1, -2, -3) are interactions whereby other policies hinder the implementation of the hierarchy, while synergies (+1, +2, +3) are perceived to favour it.

Results

There are clear conflicts with EU ambitions to accelerate the clean energy transition. To avoid the use of bioenergy crops which causes competition with food production, the prioritisation of waste and residues as feedstock for biogas and biofuels in turn causes competition with the valorisation of food waste according to the cascading use principles of the food waste hierarchy.

This competition is distorted by incentives and subsidies which make it more profitable to use food waste to make biogas or advanced aviation fuel than it is to make compost. A combination of policies and specific (and binding) targets for waste-based animal feeds, fertilisers etc. is needed in order to help to redress the balance.

Most food waste is still sent to landfill or incinerated without energy recovery. To encourage industrial symbiosis, biorefineries will need to be designed so that the waste or by-products of one company becomes the raw materials for another in order to create a spectrum of bio-based products and bioenergy.



Waste hierarchy	Interaction	Policy domain and goal
Use for animal feed	+1	<i>Circular Economy Plan</i> Increase the use of surplus from the food chain in livestock feed without compromising feed and food safety
Industrial use	+2	<i>EU Policy Framework on Biobased, Biodegradable and Compostable Plastics</i> Prioritise the use of organic waste and by-products over primary biomass as feedstock for bio-based plastics
	+2	<i>Bioeconomy Strategy</i> Turn organic waste, residues and food discards into valuable and safe bio-based products.
Recycling and nutrient recovery	+2	<i>Farm-to-Fork Strategy</i> Replace mined fertilisers with ones made from organic waste
	+1	<i>Common Agricultural Policy</i> Strategic Plans support the partial replacement of mineral fertilisers with organic fertilisers
	+1	<i>EU Soil Strategy for 2030</i> Restore degraded soils
	-2	<i>EU Taxonomy Regulation</i> Identification of anaerobic digestion of bio-waste as an economic activity that substantially contributes to climate change mitigation will drive expansion of the biogas sector
	-2	<i>RePowerEU Plan</i> Produce 35 billion cubic meters of biomethane annually by 2030, prioritizing sustainable feedstocks such as organic waste and agricultural residues to avoid competition with food production or negative environmental impacts
Energy recovery	-2	<i>EU Emissions Trading System (EU-ETS)</i> Companies purchasing biomethane to replace natural gas consumption are exempt from emission allowances, driving demand for biomethane
	-2	<i>Renewable Energy Directive</i> Target of 5.5% advanced biofuels and biogas by 2030. Prioritisation of waste materials and residues as feedstock

¹ De Laurentiis, V., et al. 2024 Building evidence on food waste prevention interventions. Luxembourg: Publications Office of the European Union.