

ENABLING GREEN CONSUMPTION VIA THE EUROPEAN CHEMICALS CARBON TRANSFORMATION INSTRUMENT (ECCTI)

In a nutshell

Objective: Introduce a **European climate-contribution framework** that will **accelerate asset decarbonization and product defossilization, strengthen the competitiveness** of the EU chemical industry, **support high-quality jobs**. The mechanism **addresses the lacking willingness to pay** for green products as well as **the limitations of CBAM** for chemicals by directing a portion of EU consumption revenues toward **clean industrial investments**.

Goal: Create a positive business case for the green transformation, through a demand-based funding mechanism for **low carbon production technologies** and **sustainable feedstocks**, matching GHG abatement and circularity targets set by EU legal requirements. Ensure lowest possible transformation cost for European society through minimum price impact and minimized bureaucracy

Scope: Scalable across the full chemicals value-chain, and extendable to other hard-to abate sectors, by covering both public and private markets.

Timing: Target readiness as soon as possible with a pilot phase through 2030.

1) The European Chemical Carbon Transformation Instrument in Detail:

The concept consists of three main elements: i) levy collection; ii) levy management; iii) levy distribution.

I Simplified value chain of proposed ECRI framework

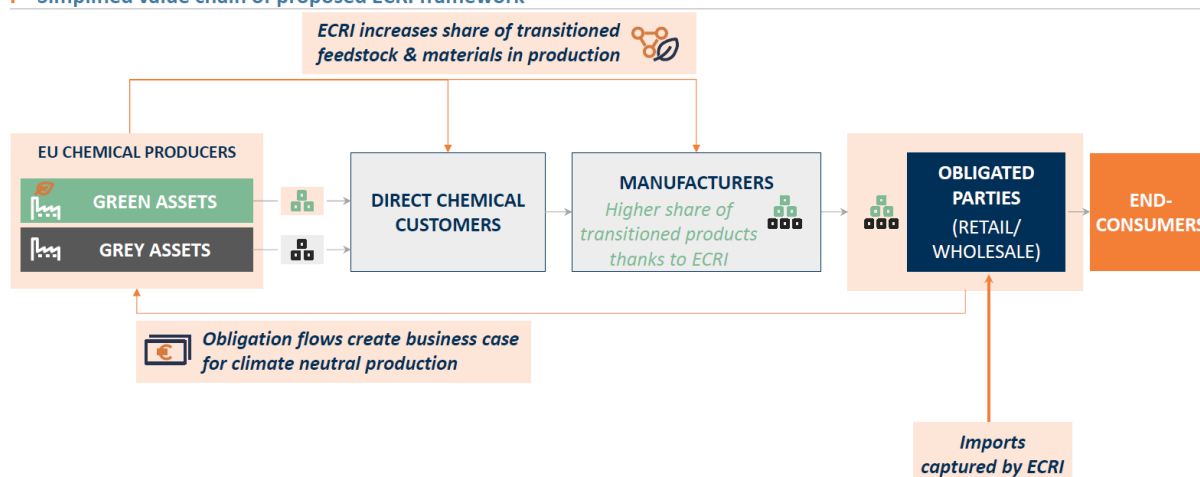


Figure 1: Simplified schematic of the European Chemicals Carbon Transformation Instrument: An incentive mechanism based on consumption directly triggering de-carbonization and de-fossilization measures. Depiction: Advancy

i) The **fee** should be based on **the chemicals content used to produce consumer goods**. The fee should be linked to dedicated product groups, with dedicated percentages per product group, which reflect the average chemicals content.

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The **fee collection** is guided by legally binding targets set on EU level, such as the climate targets. The targets determine the pace for the decarbonization of EU assets as well as the pace for feedstock transformation. Depending on the ambition level for the transformation, the height of the levy may change, as the volume of annual CO₂ abatement needs are directly linked to this.

Several studies have come to similar results regarding the cost impact on consumer product level, ranging from € 6000 for a house worth € 500.000 over, € 300 for a car worth € 30.000 to less than 1 cent for the vast number of products, where chemicals play a minor role¹.

Price increase of selected products, to foster the transformation towards sustainable chemicals – illustrative examples

	End-markets	End-products	Price increase from Climate Contribution Fee*			
			Current price [€]	Input cost [€]	Input cost increase [%]	Price increase [%]
Chemicals	Groceries	Water (plastic bottle)	0,9	0,02	+ 66%	1,8
		Shampoo (bottle + content)	2,8	0,12		2,7
	Automotive	Car (interior, electronics, ...)	28.000	270	Cracker (ETS 75€) vs. Cracker (bio-based or pyrolysis oil)	0,6
		Truck (interior, electronics, ...)	150.000	780		0,3
	Construction	House (PVC, ...)	500.000	6.000		0,7
References	Average VAT in EU					21,8
	Total inflation in EU 2015-2024 (annual average 2,7%)					30,2

*Accounting for Scope 1 and 3.1 measures

Overall, this accounts for 0.3% - 4.0% of one-time price increase for full decarbonization. Hence, the annual inflation height depends on the time over which the decarbonization measures are implemented, typically over 10-20 years. For 10 years it will be 1/10, which is well below the average inflation rate in Europe between 2015-2024, in case the levy is applied on a broad range of product groups independent of their production origin.

The obligated party from whom the fee is collected should be located near the end of the value chain to ensure market captivity. Retail distribution centers (that supply retail stores) and last-mile delivery hubs (that deliver packages to the final consumer) could be a logical location in the value-chain: large volumes of goods are concentrated here, close to the final consumer.

ii) The **fee management** is envisaged to be done by a non-profit organization in a set-up that could resemble an mix of an consumer-financed CCfD and a book-and-claim system (managing ca. 80 and 20% of the money in the system) with the sole purpose to fund decarbonization projects or alternative feedstock introduction in the chemical industry in Europe. As a facilitator, the non-profit organization sets the level of the fee such that it collects sufficient financial support to fulfill the communicated EU reduction targets.

iii) The **distribution of the fund** could, for ca. 80% of the investment volume, utilize an auctioning mechanism following a step-up approach enabling to bridge the delta in

¹ Source: Deloitte "Mobilizing consumer demand for sustainable investments", Sep 2025.

CapEx and OpEx of transformation project business cases needed for the transformation. For smaller / faster measures a book-and-claim approach could be utilized to fund investments through tradable certificates depending on the volume of a specific transformation project. Investors, conducting transformation projects e.g., in Scope 1 or Scope 3 up-stream measures in EU-based assets are eligible. Projects to be awarded should deliver material abatement (technology neutral), as compared to reference benchmarks and be cost competitive.

The certificates trading could enable opportunities for downstream companies to directly participate in system and direct CO₂ reductions for their product portfolio. This could enable linking dedicated up-stream emissions reductions to specific product portfolios with respective claims.

Beyond this, any existing market based on **voluntary sustainability commitments stays untouched** but could benefit from a quicker and broader availability of alternative feedstock-based chemical building blocks. Once PCFs can be effectively calculated and communicated along full value chains, they could become the prime denominator for the height of the levy, bringing together both approaches.

As a result, European chemicals production could be transformed in line with European climate targets and stay competitive, as all imports carry the same fee. With its focus on average chemicals content on a product group level, it addresses one of the main disadvantages of the current CBAM layout, linked to complex chemicals value chains. In doing so, green consumption would become broadly available to Europeans, safeguarding highly qualified jobs and hence prosperity in Europe.

2) Why ECCTI is needed

In line with the Paris Agreement, the EU has set legally binding climate targets. The majority of European citizens support the path to a climate neutral Europe. Economic and social transformation including substantial CO₂ reductions are required to reach these targets to avoid the far greater costs of negative climate impacts. For industry, the **green transformation of European production** is addressed by direct emission reduction pathways under the EU ETS. Both, compensation (i.e. CCS) and avoidance (shift to non-fossil feedstocks, i.e. circular carbon sources such as renewable and recycled) contribute to reaching carbon neutrality of chemical products.

Significant GHG reductions have been achieved through switching to renewable power and cost-efficient operational measures. The **next steps of the green transformation require:**

- a) Substantial **investments in assets** (e.g., cracker, ammonia).
- b) **shift to non-fossil feedstocks** to provide the raw materials required for 95% of downstream chemicals production.

Both types of measures will increase production cost permanently due to greater (green) energy needs and additional processing steps required to convert new feedstocks to target molecules.

However, the current framework conditions, do not provide positive business cases for investments in low-carbon technologies or non-fossil feedstocks in Europe, as they are often constrained by the absence of willingness to pay by off-takers. Consequently, frontrunner companies, producing materials connected to global markets, can neither recover nor pass-through the higher cost. This undermines Europe's ability to attract capital for its industrial transformation towards its Net-Zero targets and risks accelerating import dependency in strategic value chains. Hence, our competitiveness is severely being challenged globally, as reflected in recent plant closures. Additionally, carbon-leakage protection through ETS and potential CBAM for Chemicals is not working in the current design, as the significant CO₂ cost increases are countered with a CBAM leaving several circumvention options along chemicals value chains.

To enable a positive business case, a level playing field combined with a willingness to pay for green production at scale is needed quickly for the chemical industry to transform in Europe. This requires mechanisms. **An alternative approach** with long-term predictability, ensuring transformation cost can be passed along the value chains is required. Building this **on European consumer demand** to increase the share of sustainably produced goods from Europe can drive full value-chain transformation. By channeling demand from transformation targets, **economy of scale can be achieved**. A demand-pull policy-instrument should deliver a **level playing field for an industry** in global competition, **minimize societal costs** and build on the following key design principles:

- A chemicals resilience contribution is applied to **all** finished physical products consumed within the EU-27, regardless of their origin, as chemicals are utilized in the production of 95% of finished goods.
- The fee is applied using an average mass-based chemicals footprint (not individual products or chemical components) to achieve sufficient scale. Accuracy can increase over time when digitalization allows for complex and standardized data handling along full value chains.
- The one-time price increase has been shown to be in the range of 0.3-4%, depending on the chemicals contribution in the production of a given product
- The fee is collected from an entity positioned close to, but not at, the final consumer (e.g., retailer or importer), to balance administrative feasibility and market proximity and prevent circumvention by imports.
- Inflow is available exclusively to finance CapEx and OpEx of transformation measures on European assets, bridging the structural cost gap of green production.

The need for such an instrument should be reflected across key legislative files and as an alternative to CBAM within the **ETS framework**.

This effort should be supported by a **new, horizontal policy instrument** designed to reduce the average CO₂ footprint of chemicals in end-consumer markets and accelerate circular feedstock deployment, consistent with legal obligations.

