



MICRO-CREDENTIAL

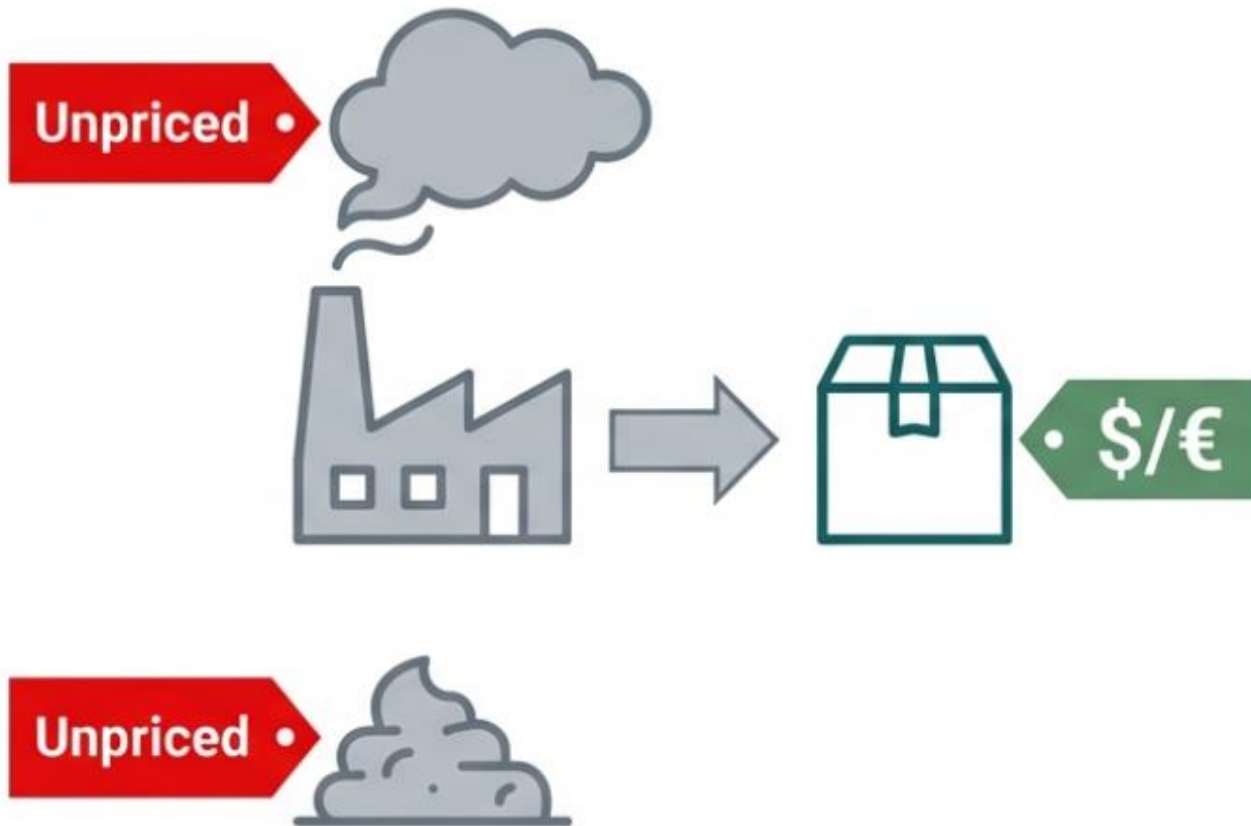
CIRCULAR ECONOMY FOR LAND AND WASTE MANAGEMENT

5.- Waste Prevention and Eco-Design

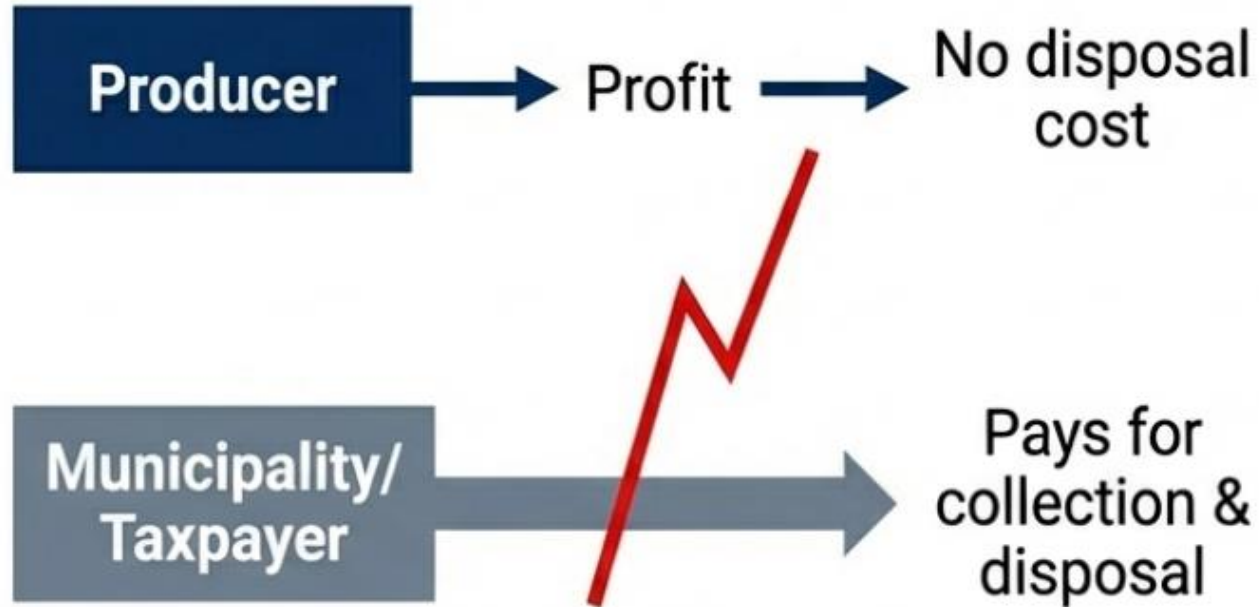
Policy tools for waste prevention

CELWS-W05-V04

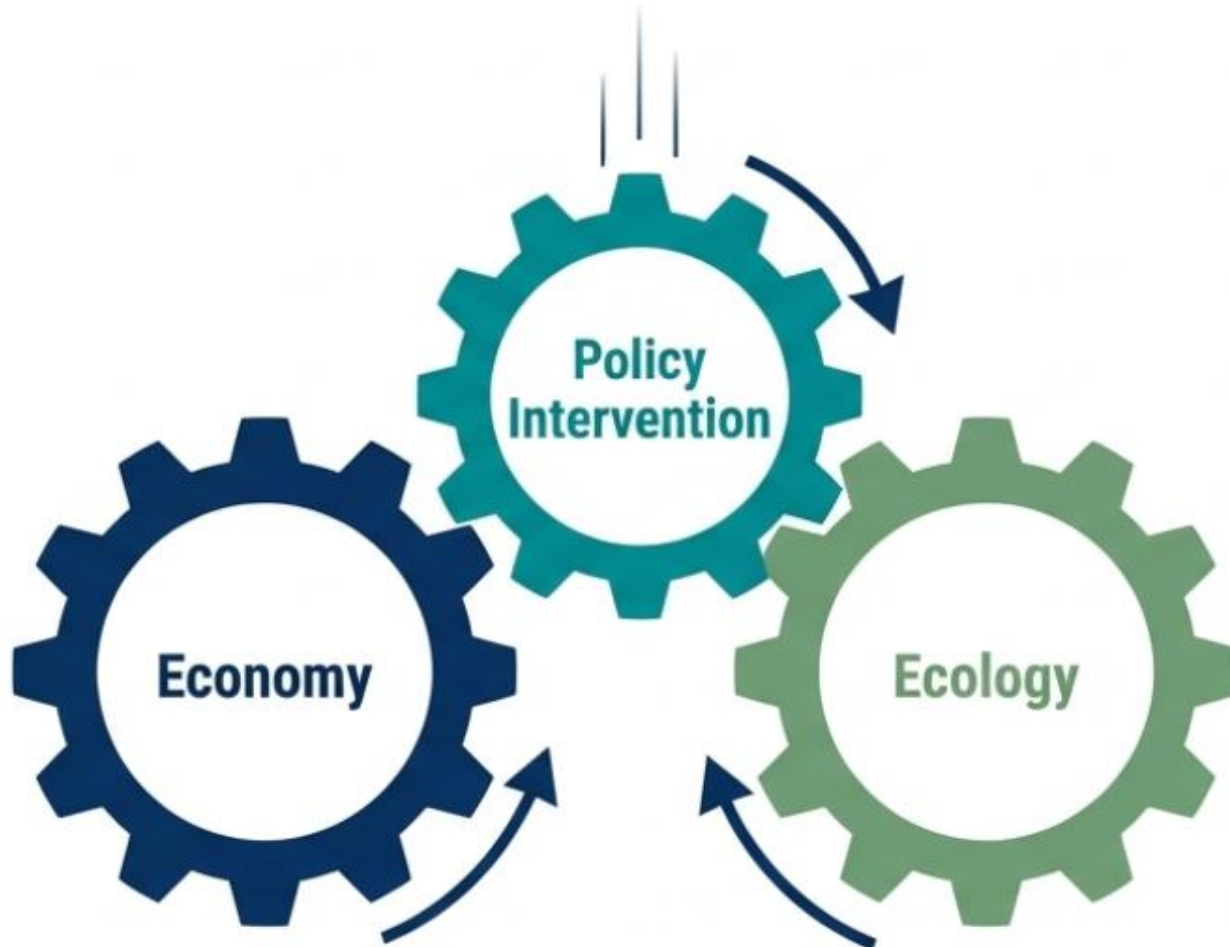




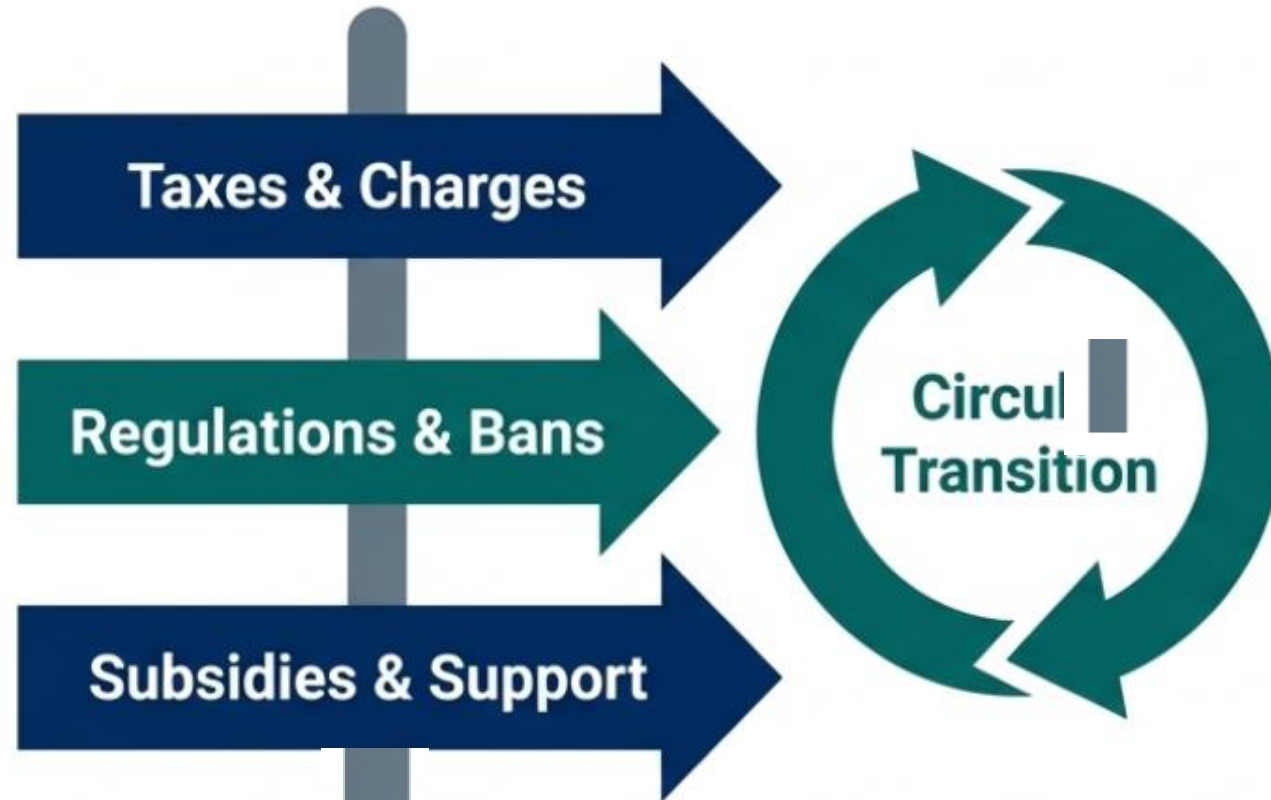
- **The Linear Reality:** Current economic models rely on a wasteful take-make-dispose sequence.
- **Unaccounted Externalities:** Pollution, greenhouse gas emissions, and waste generation are treated as free by the market.
- **False Price Signals:** Because ecological damage is excluded from production budgets, markets continually overproduce resource-depleting goods.



- **Disconnected Responsibilities:** Producers reap the profits of manufactured goods but bear none of the end-of-life management costs.
- **The Municipal Burden:** Local governments and taxpayers implicitly subsidize waste generation.
- **Zero Design Incentive:** Without bearing disposal costs, producers have no financial reason to design for durability or recyclability.

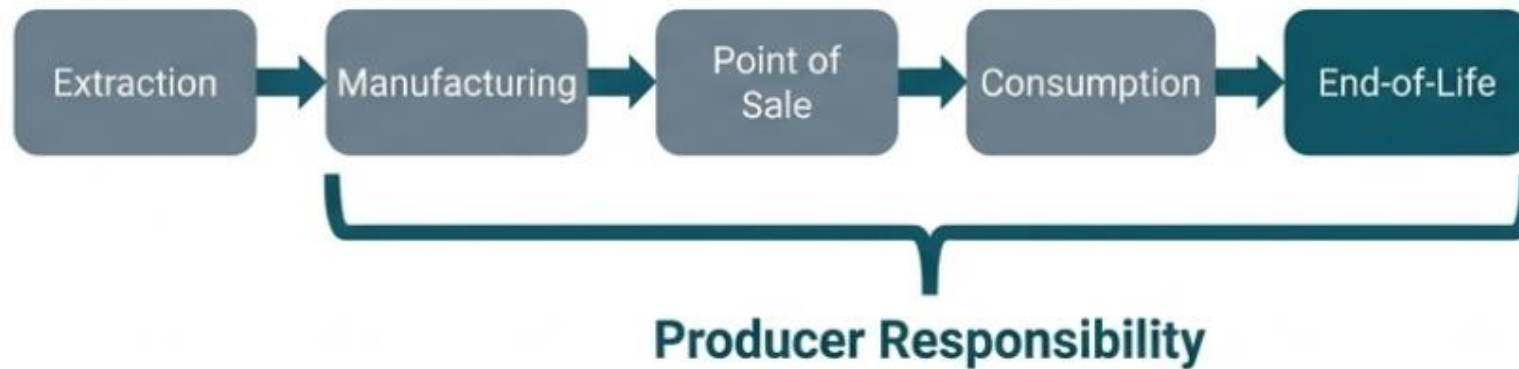


- **Correcting the Market:** Deep-rooted institutional and market failures require deliberate government action.
- **Aligning Costs:** Policy interventions internalize environmental costs, ensuring private costs finally match social costs.
- **Driving Innovation:** Clear, long-term regulatory signals provide the certainty businesses need to invest in circular models.

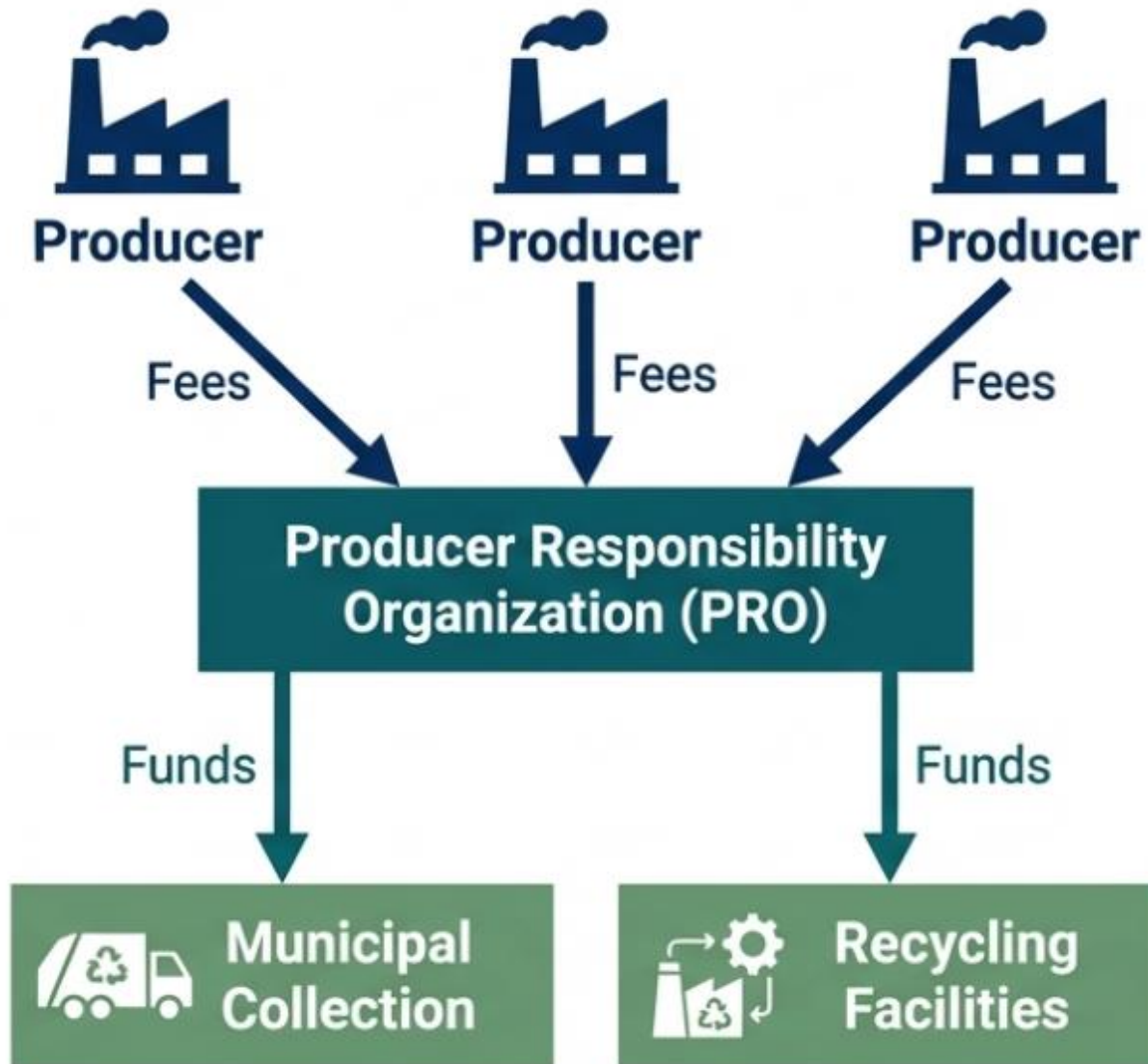


- **Market-Based Instruments (MBIs):** Shifting the tax burden away from renewable labor and toward non-renewable resource extraction.
- **Phasing Out Harmful Subsidies:** Removing historical financial support for fossil fuels and linear waste practices.
- **Double Dividend:** Environmental taxes reduce ecological harm while simultaneously generating revenue for green investments.

Extended Producer Responsibility (EPR): Concept

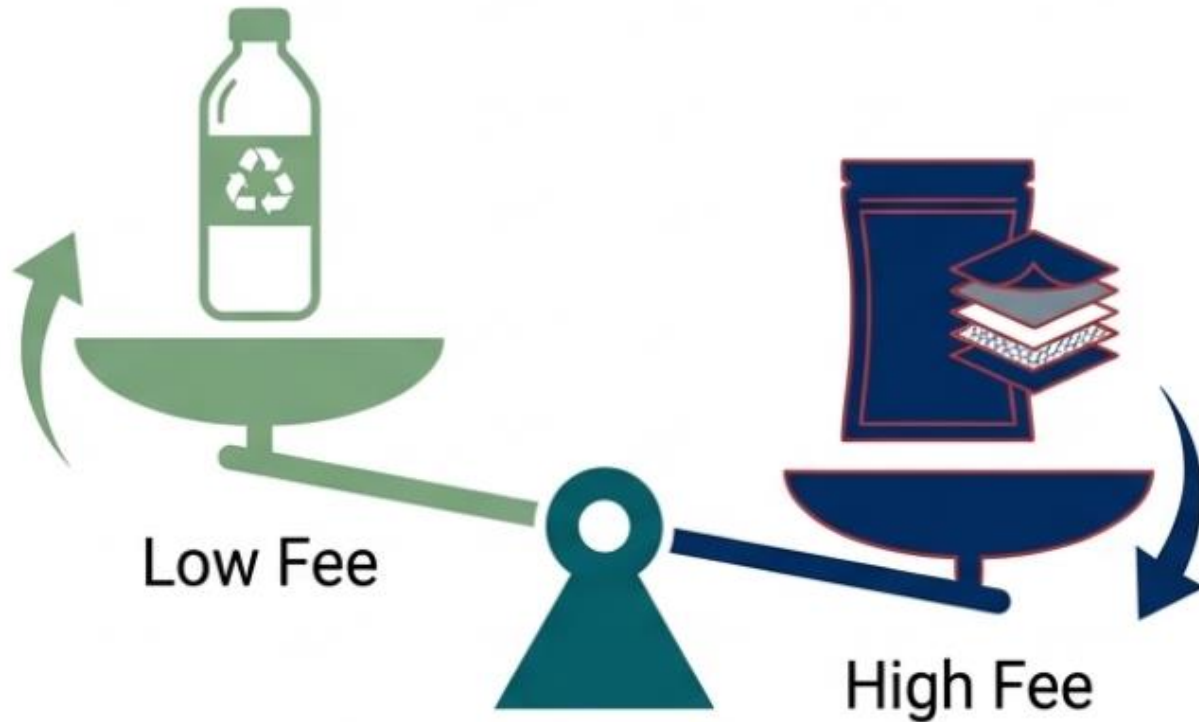


- **Shifting the Burden:** EPR legally extends a producer's financial and physical responsibility to the post-consumer stage.
- **The Polluter Pays:** Internalizes end-of-life waste management costs directly into the initial product price.
- **Systemic Shift:** Transitions waste management from a taxpayer-funded municipal problem to a producer-managed supply chain element.

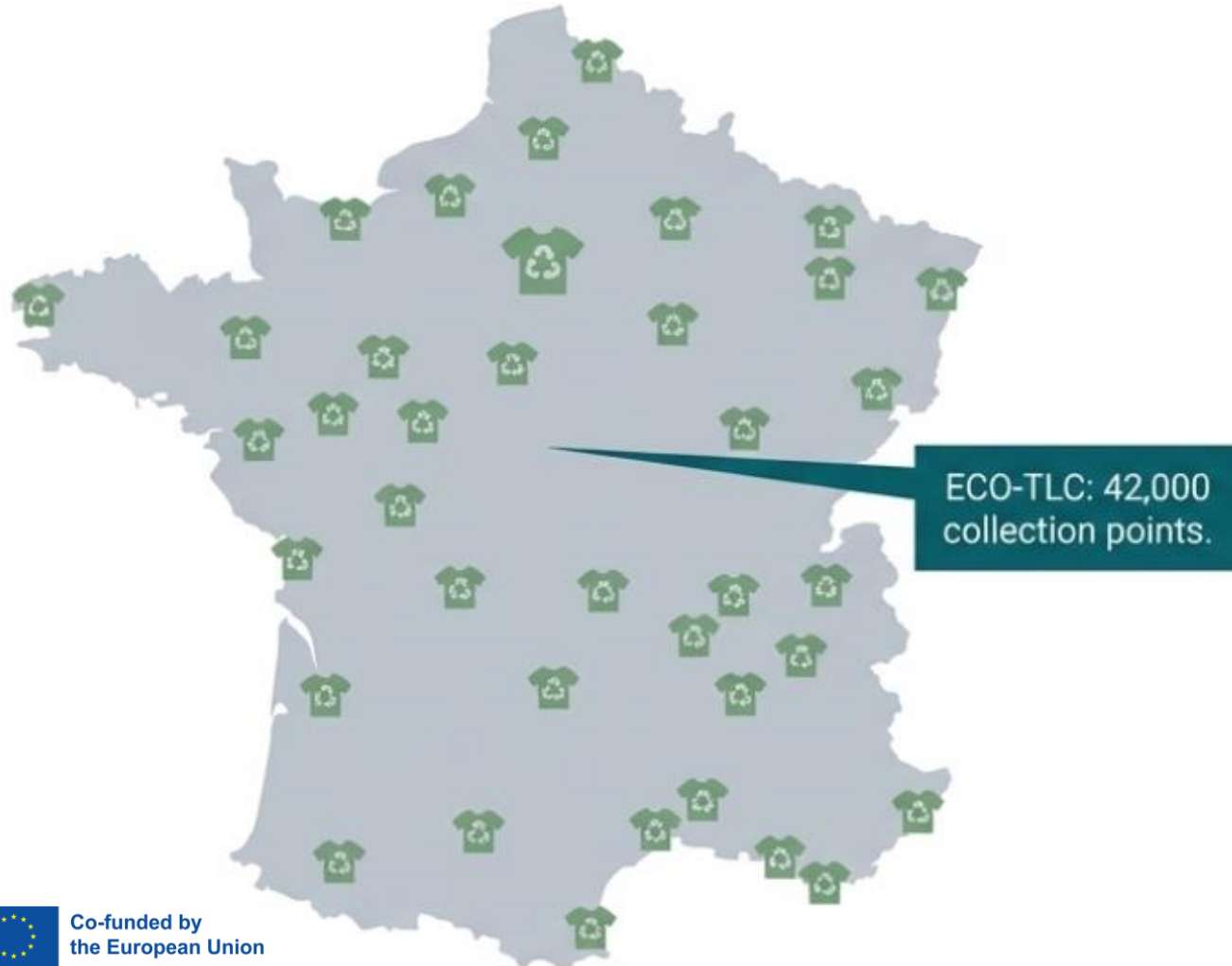


- **Collective Responsibility:** Most sectors utilize a centralized PRO to manage legal compliance for all participating manufacturers.
- **Fee Structures:** Producers pay fees based strictly on the volume and type of materials they place on the market.
- **Funding the Loop:** Collected revenues underwrite the costly infrastructure required for collection, sorting, and advanced recycling.

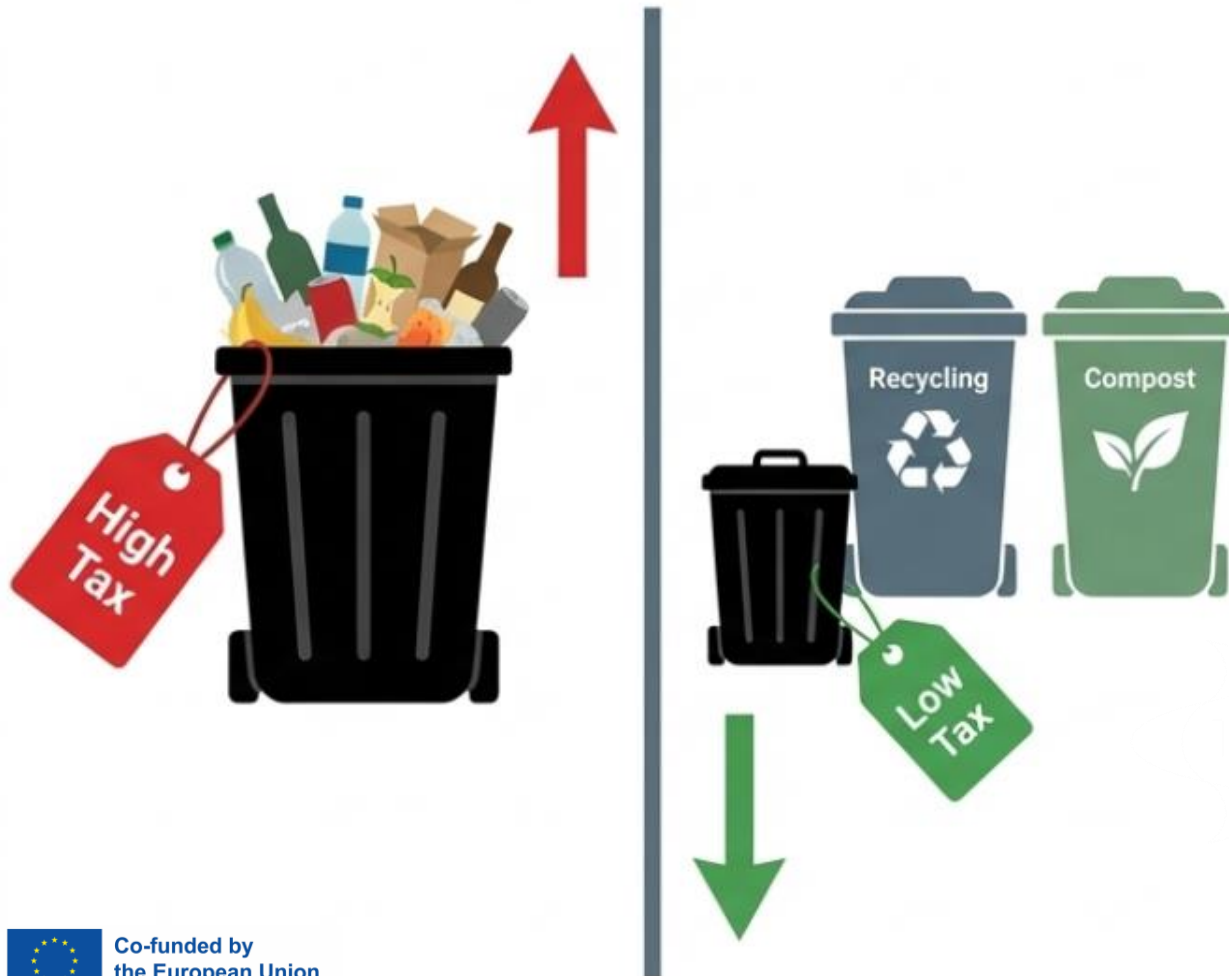
Modulated Fees



- **Eco-Design Motivation:** The ultimate goal of EPR is to alter manufacturing behavior at the source.
- **Eco-Modulation:** Fees are differentiated based on a product's environmental impact and true end-of-life costs.
- **Financial Reward:** Recyclable, durable, or high-recycled-content products receive significant fee discounts.
- **Financial Penalty:** Difficult-to-recycle or toxic materials incur steep financial penalties.



- **French Textile EPR:** A pioneering regulatory system targeting clothing, linen, and footwear.
- **Dedicated Funding:** Producers pay a per-item fee to support a massive national network of collection points and sorting centers.
- **Dual Impact:** Achieves environmental goals (fiber recovery) alongside social goals (supporting employment for marginalized workers in sorting centers).



- **Pay-As-You-Throw (PAYT):** Treating municipal waste collection like a metered utility (electricity or water).
- **Direct Consumer Incentive:** Households and businesses are charged based on the exact volume or weight of mixed waste they discard.
- **Behavioral Shift:** Financially motivates citizens to maximize sorting, increase recycling, and actively reduce waste generation at home.



- **Command and Control:** Strict legal bans on the most harmful, non-circular materials.
- **Eliminating Toxins:** Phasing out hazardous chemicals that contaminate recycling streams and prevent safe, closed-loop material cycles.
- **Market Forcing:** Bans immediately remove low-value, single-use items from the market, forcing rapid corporate adoption of reusable or biodegradable alternatives.

Green Public Procurement (GPP)

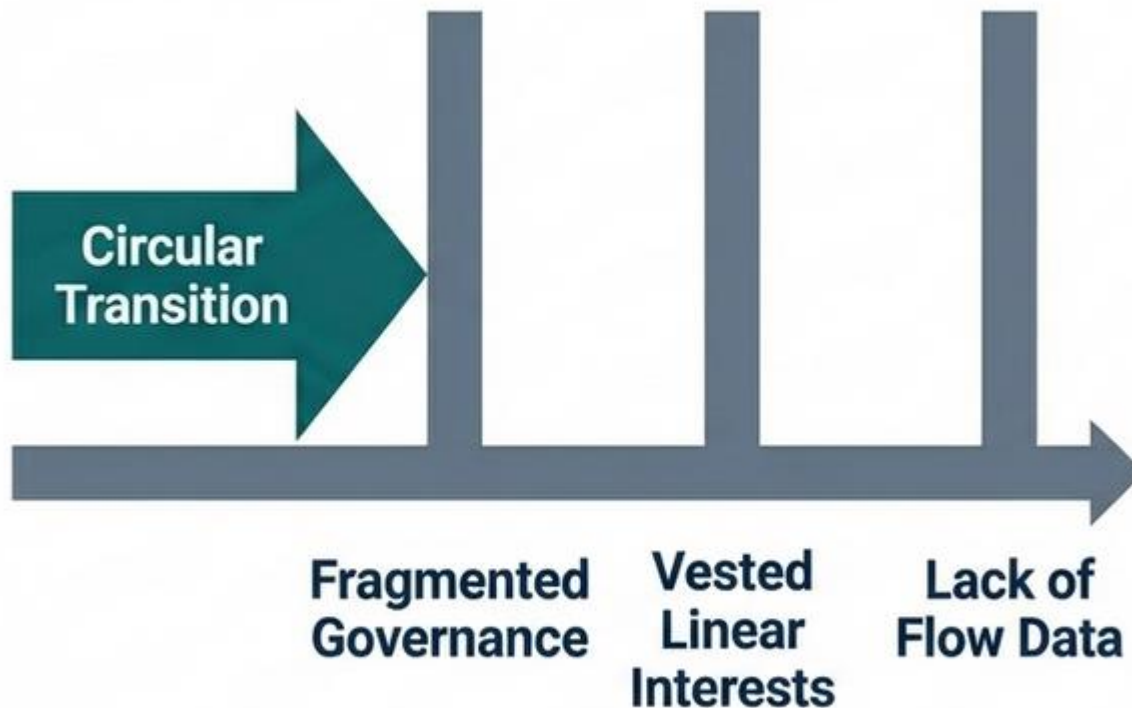


- **Government as Consumer:** The public sector controls massive purchasing power within the global economy.
- **Setting the Standard:** Mandating circular criteria (recycled content, durability, repairability) in public tenders and infrastructure projects.
- **Creating Markets:** GPP guarantees initial demand for circular products, de-risking capital investments for innovative green suppliers.



Comprehensive Policy Mix

- ➔ • **Holistic Approach:** No single instrument can drive the circular transition alone.
- ➔ • **Synergistic Design:** Regulations set the baseline, economic instruments provide the push, and procurement provides the pull.
- ➔ • **Systemic Transition:** Integrating technology, market forces, and governance to restructure production and consumption simultaneously.



- ➔ • **Institutional Silos:** Lack of coordination between waste, energy, and economic ministries hinders cohesive legislation.
- ➔ • **Market Resistance:** Subsidized virgin material prices and intense lobbying from legacy linear industries.
- ➔ • **Information Gaps:** Inadequate digital tracking of material flows makes it difficult to enforce EPR, track compliance, and apply taxation accurately.



Policy Frameworks

- • **The Foundation of Change:** A circular economy cannot emerge organically from a flawed, linear market.
- • **Redefining Rules:** Policy provides the essential rules, financial incentives, and infrastructure required for sustainable development.
- • **A Shared Responsibility:** Long-term success requires highly coordinated action between proactive governments, accountable producers, and consumers.



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5.- Solid Waste Streams and Material Flows

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