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WASTE OR
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A ROADMAP TOWARDS CIRCULARITY IN LEBANON

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1. Executive Summary

Lebanon's recurring waste crises are not isolated environmental failures; they are manifestations of a structurally fragile economic model. The country remains locked in a predominantly linear system characterized by import dependence, weak enforcement, disposal-oriented infrastructure, and the externalization of environmental and social costs. Over the past decade, numerous circular economy initiatives have emerged through donor-supported programs, circularity reports, municipal experiments, industrial efficiency projects, and cleantech entrepreneurship. Yet these efforts remain fragmented and insufficiently anchored in regulatory reform.

The core challenge is not the absence of initiatives, but the absence of systemic consolidation. Circular economy in Lebanon continues to function as a collection of pilots rather than as an economic governance framework. Without binding mechanisms, particularly Extended Producer Responsibility (EPR), fiscal alignment, and municipal cost-recovery reform, progress remains limited, and market distortions persist.

Regional experience shows that EPR systems in MENA are often introduced gradually, starting with priority streams such as plastics and packaging, with varying levels of enforcement and institutional maturity (e.g., Tunisia's Eco-Lef system, Egypt's emerging plastic EPR framework). This reinforces the need for phased implementation in Lebanon (OECD, 2016; LDK Consultants, 2025).

This policy brief argues that circular economy must be understood not as an environmental agenda, but as a justice-oriented recovery strategy. In the context of economic collapse, currency devaluation, municipal fiscal distress, and labor informality, circular reform represents an opportunity to stabilize secondary material markets, redistribute responsibility across value chains, protect informal workers, and expand sustainable consumption, production and recycling reducing structural import dependency. Lebanon does not need additional isolated projects. It requires sequenced regulatory reform that consolidates existing momentum into enforceable and economically coherent policy architecture.

Oxfam's engagement in this transition is conditional. It supports circular economy reform where it is grounded in equity, accountability, and social protection. This includes advocating for polluter-pays mechanisms such as Extended Producer Responsibility (EPR) with strong anti-capture safeguards, ensuring that costs are not disproportionately shifted onto households during crisis conditions, and protecting informal waste workers through rights-based integration. Oxfam does not support reforms that reinforce monopolistic structures, weaken labor protections, or operate without transparency, public reporting, and accountability mechanisms. Circular economy must function as a tool for justice and resilience, not only efficiency (Kirchherr, 2017).

Lebanon's transition requires a sequenced and enforceable approach, beginning with priority waste streams and simple, verifiable rules under a "minimum viable enforcement" model. This includes phased implementation of Extended Producer Responsibility (EPR), targeted fiscal instruments, and strengthened municipal capacity, building on existing sector momentum in plastics, construction and demolition waste, and e-waste. By starting small and scaling based on demonstrated enforcement, reform can move from fragmented pilots to a credible national system.

2. Problem Definition: Structural Failure of a Linear System

Lebanon has undergone repeated transitions since independence, moving from early institution-building and economic growth in the 1960s to civil war, reconstruction, recurring waste crises, regional instability, economic collapse, and the Beirut port explosion (Faour, 2007; Makhzoumi, 2016; Sbeih, 2023). Each disruption triggered attempts at policy reform and institutional restructuring in pursuit of a "new"

Lebanon, yet since the onset of the recent socio-economic crisis, these efforts have largely remained at the level of discussion, constrained by financial collapse, public-sector emigration, weak enforcement capacity, and limited political alignment, further compounded by the demographic and governance pressures associated with regional conflict and displacement (Sbeih, 2023; Beaujouan & Rasheed, 2020; Carlson & Williams, 2020). In this context, Lebanon's economic model remains predominantly linear: *resource intake, consumption, and disposal*, reflected in persistent landfill dependence, open dumping, and limited material recovery rather than a value-retention economy (Sbeih, 2023; LDK & ELARD, 2024). National projections indicate that most municipal solid waste continues to be directed toward landfills or uncontrolled sites, making the problem not only one of waste management but of structural economic inefficiency, where valuable materials are lost despite high import dependence, limited land availability, and documented recovery potential (LDK & ELARD, 2024; ACTED, 2020).

Market distortions reinforce this linear system. Price transparency across collection, aggregation, processing, and export stages remains limited. Standardized quality requirements are weakly enforced. Certain waste streams exhibit concentrated control, reducing competition and limiting economies of scale. Most critically, Lebanon lacks an operational Extended Producer Responsibility (EPR) framework to internalize environmental costs. As a result, producers and importers externalize post-consumer responsibility, municipalities absorb uneven operational burdens, and investment in recycling infrastructure remains financially risky (Massoud, 2019; Sbeih, 2023).

Extended Producer Responsibility (EPR) is a policy mechanism that shifts the financial and operational responsibility of post-consumer waste from municipalities to producers and importers, requiring them to finance and organize collection and recycling systems. In contexts such as Lebanon, where municipalities face financial constraints and weak cost-recovery systems, EPR is a critical instrument to internalize environmental costs, stabilize secondary material markets, and improve system efficiency (Kirchherr, 2017; Ellen MacArthur Foundation, 2013, Massoud, 2019).

While Law 80/2018 on Integrated Solid Waste Management establishes a general framework, it remains limited in operationalizing circular economy principles, with no explicit mechanisms for EPR implementation, cost recovery enforcement, or market-based resource recovery pathways (Government of Lebanon, 2018; Massoud, 2019; Kallab, 2025).

However, the persistence of the current system cannot be explained by fragmentation alone; it reflects a political economy equilibrium in which disposal contracts, import-dependent supply chains, and opaque material markets generate identifiable winners. In Lebanon, solid waste governance has historically been shaped by centralized contracting arrangements, weak regulatory enforcement, and political interference, reinforcing reliance on ad hoc disposal solutions rather than systemic reform (Massoud, 2019). These arrangements enable certain actors to maintain cost advantages through low-standard or non-compliant practices, while municipalities and smaller operators face financial and operational constraints. In this context, circular economy is not an environmental aspiration but an economic necessity. By promoting resource retention, value recovery, and domestic market stabilization, circular systems offer a pathway to address structural inefficiencies in a context of currency instability and import dependency (Ellen MacArthur Foundation, 2013; Geissdoerfer, 2017). Yet current recovery activity, estimated at roughly 10 percent in certain streams, remains largely driven by private recyclers and informal actors, while formal, integrated systems remain limited and unevenly implemented (ACTED, 2020; LDK & ELARD, 2023; Sbeih, 2023). Circular reforms, particularly Extended Producer Responsibility (EPR), would redistribute costs, increase transparency, and formalize value chains, thereby directly challenging entrenched interests; resistance to such reform is therefore structural and must be anticipated in policy design rather than treated as a technical gap (Sbeih, 2023; ACTED, 2020).

The consequences of the current system are unevenly distributed across actors. Municipalities operate under increasing financial strain without effective cost-recovery mechanisms, households bear environmental and public health impacts, and informal workers recover material value without legal protection or stable pricing. SMEs and recyclers face price volatility and lack standardized markets, limiting their ability to compete. At the same time, certain centralized actors benefit from regulatory gaps and market opacity, where disposal remains cheaper than recovery and unsustainable practices generate higher short-term returns. Weak enforcement and limited transparency allow these actors to externalize environmental and operational costs, while smaller and more compliant enterprises face higher burdens (ACTED, 2020; Massoud, 2019). The result is a structurally unequal system in which incentives favor disposal over value retention.

Lebanon is not starting from zero. National circular economy assessments (ACTED, 2020), the Draft National Integrated Solid Waste Management Master Plan (LDK & ELARD, 2024), and the Saida Circular Economy Action Plan (UNEP & Hariri Foundation for Sustainable Human Development, 2024) demonstrate existing technical capacity and emerging momentum for circular transition. Ministries have engaged with international partners on resource efficiency, cleaner production, and circular models, while cleantech initiatives and voluntary mechanisms have supported private-sector experimentation. However, these efforts remain largely project-based and voluntary. Without binding regulatory consolidation, particularly EPR implementation, fiscal alignment, and enforcement mechanisms, market shifts remain fragmented and fail to scale systemically (Kirchherr et al., 2017; Massoud et al., 2019; Sbeih, 2023).

Post-conflict rubble, estimated at tens of millions of tons, further amplifies the urgency of transitioning toward circular resource recovery systems rather than disposal-based approaches (Kallab, 2026)

Lebanon therefore faces a structural paradox: expertise, roadmaps, pilots, and entrepreneurial ecosystems exist, yet the regulatory backbone required to transform these into a coherent circular economy model remains weak. Without institutional consolidation, the country will continue cycling through landfill crises, market instability, informality and deepening municipal deficits.

2.1 Key System Indicators (Lebanon Waste Sector)

Indicator	Estimate / Status	Source
Total municipal waste (2028 projection)	~2.6 million tons/year	LDK Consultants & ELARD (2024)
Waste diverted from landfill (target)	≥ 335,000 tons	LDK Consultants & ELARD (2024)
Waste still landfilled/dumped	Majority of total waste stream	LDK Consultants & ELARD (2024); Massoud et al. (2019)
Recycling / recovery rate	~10% (selected streams)	ACTED (2020)
Informal sector role	Major contributor to recovery	ACTED (2020); Sbeih (2023)
Household willingness to pay	~79% (~\$48/year)	Abed Al Ahad et al. (2020)
Cost recovery	Legally introduced, weakly enforced	LDK Consultants & ELARD (2024)
Service coverage	Uneven across regions	LDK Consultants & ELARD (2024)

2.2 Structural Challenges Summary

Structural Challenge	Core Problem	Systemic Risk	Circular Transition Imperative
Landfill Dependence	Disposal-oriented system with limited upstream recovery (Sbeih, 2023; LDK & ELARD, 2024)	Recurring crises, land scarcity, emergency governance	Shift toward upstream value recovery and enforceable EPR
Market Distortion & Import Dependency	Weak price transparency, limited scale, externalized costs (ACTED, 2020)	Price volatility, monopolistic tendencies, continued import reliance	Align fiscal instruments and internalize environmental costs
Employment & Informal Exclusion	Informal recovery without protection (ACTED, 2020; Sbeih, 2023)	Labor precarity, unstable material supply	Integrate collectors into structured systems
Weak Enforcement vs. Strong Pilots	Donor-driven initiatives without regulatory anchoring (UNEP & Hariri Foundation, 2024)	Fragmented impact, startup stagnation	Consolidate reform through binding national frameworks

3. Why Circular Reform Has Not Scaled

Recent developments indicate that key ministries are already engaging with circular economy and EPR-related reforms, albeit in a pre-development phase. The Ministry of Environment, through WES-BCA and related initiatives, is advancing discussions on plastic reduction and EPR pathways, while the Ministry of Industry is actively engaging private sector actors, such as cement producers (e.g., Sibling, Holcim) and the Association of Lebanese Industrialists (Jam'iyyat al-Sina'iyyin), particularly around construction and demolition waste (CDW) valorization. In parallel, policy work led by the Nature conservation center (NCC) and partners is structuring CDW as an economic sector with recovery potential (Kallab, 2025). However, these efforts remain fragmented across institutional mandates, reflecting differing priorities, environmental management, industrial development, and post-conflict recovery, without a unified national circular economy roadmap. Strengthening inter-ministerial coordination is therefore critical to avoid parallel policy tracks and ensure coherent system design (LDK Consultants, 2025; UNEP and Hariri Foundation, 2024).

Lebanon's circular economy transition has not stalled due to a lack of awareness, expertise, or pilot initiatives, but because structural governance weaknesses, absent economic alignment, and regulatory fragmentation prevent consolidation. Responsibilities are dispersed across ministries and municipalities without effective coordination, leaving regulatory initiatives, industrial policy, and local implementation operating in parallel rather than within a unified framework (ACTED, 2020; LDK & ELARD, 2024). The absence of fiscal instruments, such as differentiated landfill fees, recycled-content incentives, and embedded cost-recovery mechanisms, means disposal remains economically preferable to recovery, rendering recycling financially fragile and limiting private investment (ACTED, 2020). Although donor-supported programs, including ACTED's assessment, UNIDO industrial efficiency initiatives, cleantech accelerators, UNDP voluntary environmental mechanisms, and the Saida Circular Economy Action Plan and others, have generated localized innovation, they remain project-based and externally funded, lacking institutional anchoring (UNEP & Hariri Foundation, 2024). Meanwhile, startups struggle to scale due to uncertain market absorption, and the informal sector continues to operate within legal ambiguity, producing unstable pricing, uneven competition, and social vulnerability (ACTED, 2020; Sbeih, 2023). Policy discourse further narrows circular economy to waste management rather than treating it as an economic governance model involving industrial design, production systems, and market restructuring (Kirchherr, 2017). Most critically, the absence of a binding Extended Producer Responsibility (EPR) framework allows producers to externalize post-consumer costs, leaves green private sector unsubsidized,

municipalities without predictable financing, and prevents stable material markets from emerging. In sum, circular economy in Lebanon remains fragmented, voluntary, and weakly enforced; what is missing is a coherent regulatory backbone capable of transforming isolated initiatives into a structured national transition.

Beyond structural weaknesses, the slow transition also reflects elements of political choice and institutional inertia. Circular economy reform requires coordinated action across multiple scales national, municipal, and sectoral yet both vision and implementation capacity remain uneven, with only isolated examples demonstrating partial progress. At the national level, the absence of an adopted and enforced integrated framework reflects not only fragmentation but competing institutional agendas and limited policy prioritization. At the local level, willingness and capacity to implement decentralized solutions remain constrained, while cross-ministerial coordination is weak and often influenced by shifting political alignments. Evidence from sector analyses highlights how governance of solid waste in Lebanon has been shaped by political interference, short-term decision-making, and misaligned incentives, limiting the adoption of long-term systemic reforms (Massoud et al., 2019; Abed Al Ahad et al., 2020; UNEP & Hariri Foundation, 2024; Sbeih, 2023). In this context, the absence of circular transition is not only a gap in capacity, but also a reflection of limited alignment between policy ambition, institutional incentives, and political will.

4. Circular Economy as a Justice and Recovery Strategy

In Lebanon's current context of economic collapse, import dependency, and institutional fragility, circular economy must be framed not as an environmental add-on but as a recovery and justice strategy (UNEP & Hariri Foundation, 2024; LDK & ELARD, 2024). The prevailing linear model destroys value at disposal, while circular systems retain value through recovery, reuse, repair, and remanufacturing (Ellen MacArthur Foundation, 2013; Kirchherr, 2017). National assessments identify strong employment potential across plastics, bio-waste, e-waste repair, paper, rubber, textiles, and glass value chains, suggesting that structured circular markets could generate substantial green jobs, particularly in decentralized municipal economies (ACTED, 2020).

Circularity also strengthens domestic value chains by recovering secondary materials locally, reducing reliance on imported virgin inputs, and stabilizing supply for MSMEs. Waste valorization initiatives demonstrate that coordinated governance can shift fragmented actors toward collaborative market strengthening (ACTED, 2020; UNEP & Hariri Foundation, 2024). In periods of fuel shortages or high energy costs, landfill crises, and supply chain disruptions, circular systems enhance resilience by shortening material loops and diversifying employment (LDK & ELARD, 2024; Sbeih, 2023).

The justice dimension is central. Informal workers, who recover significant material value, operate without stable pricing or legal protection (ACTED, 2020; Sbeih, 2023). Structured Extended Producer Responsibility (EPR) systems can integrate collectors into licensed frameworks, stabilize income, and improve working conditions. Similarly, MSMEs and cleantech startups require predictable demand and regulatory clarity; binding EPR and green procurement can create stable secondary material markets and subsidies agents. Municipalities, currently burdened by rising waste costs, would benefit from upstream cost internalization through cost recovery financing (LDK & ELARD, 2024).

For circular economy to function as a recovery pathway rather than a collection of isolated pilots, it must be institutionalized through binding responsibility mechanisms, measurable targets, enforceable standards, and coordinated governance (Kirchherr et al., 2017; UNEP & Hariri Foundation, 2024). Without systemic reform, circularity remains fragmented; with regulatory consolidation, it becomes a structured pathway toward economic recovery, equity, and resilience.

5. Policy Recommendations

Given current governance constraints, including limited enforcement capacity and the selective application of existing regulations, circular economy transition in Lebanon cannot rely on comprehensive regulatory rollout from the outset. Instead, a “minimum viable enforcement” approach is required, starting with a small number of high-visibility waste streams and simple, enforceable rules (basic reporting, public data disclosure, and clear accountability). This approach builds on ongoing pre-development efforts already taking shape: construction and demolition waste (CDW) is already developed through collaboration between the Ministry of Industry and the Nature conservation center(NCC) - AUB, that brings stakeholders across the value chain into a more structured framework, while the Ministry of Environment is actively engaging on priority streams such as single-use plastics and e-waste. These entry points demonstrate that targeted enforcement is feasible. By proving enforcement at a manageable scale, this approach can build institutional credibility, reduce resistance, and generate the foundation required to progressively scale toward more comprehensive circular economy policies.

Lebanon does not lack initiatives. It lacks regulatory consolidation, economic instruments, and coordinated implementation. The following recommendations aim to shift circular economy from fragmented pilots to systemic reform.

The recommendations that follow are organized as a coordinated response to the structural analysis set out in sections 2 and 3. Governance safeguards and distributional design address the capture and regressivity risks generated by concentrated contracting and weak regulatory independence. Fiscal instruments address the price distortions that make disposal economically preferable to recovery. Cost-recovery reform addresses the municipal fiscal dependency that sustains ministerial turf and disposal-based contracting. And rights-based informal worker integration addresses both collector vulnerability and intermediary margin-capture in the informal recovery system. Read together, these recommendations are a coordinated response to an interest-based equilibrium that can only succeed when engaged comprehensively.

CDW represents a strategic entry point for circular transition, given its scale (≈1.65 million tons annually) and strong market recovery potential through recycled aggregates and construction value chains . Ongoing policy momentum in this sector provides an opportunity to pilot enforceable circular mechanisms at scale(Kallab, 2025; LDK Consultants and ELARD, 2024) .

5.1. Establish a Binding Extended Producer Responsibility (EPR) Framework

What should be done: Adopt and operationalize a phased EPR framework for priority waste streams (plastics, packaging, e-waste, tires, lubricants), including mandatory Producer Responsibility Organizations (PROs).

Who should do it: Ministry of Industry (lead regulator), in coordination with Ministry of Environment, Ministry of Economy & Trade and Ministry of Finance, Ministry of Interior and Municipalities, and relevant sector stakeholders (including private operators, organizations such as NGOs and development agencies, and municipal unions).

How (instrument):

- Issue a ministerial decree activating EPR under existing environmental protection laws and establishing the legal basis for implementation.

- Develop a Producer Responsibility Organization (PRO)(for the relevant targeted waste streams such as WEEE for the e-waste, framework linking producers/importers with government oversight.
- Apply a minimum viable enforcement model targeting priority waste streams (CDW, plastics, e-waste), including:
 - Mandatory registration of producers, importers, recyclers, and key operators
 - Basic reporting obligations (quantities placed on market, collected, processed)
 - Public data disclosure systems to improve transparency on material flows and pricing
 - Simple compliance mechanisms (e.g., take-back requirements, basic operational standards)
- Introduce a gradual fee structure based on material type and recyclability.
- Phase scaling toward full EPR implementation and mature PRO systems as enforcement capacity is demonstrated.
- Ensure progressive EPR fee design, avoiding regressive impacts on low-income households by prioritizing producer/importer responsibility and limiting cost pass-through.
- Build on existing sector momentum:
 - **CDW**: ongoing policy development with Ministry of Industry and NCC
 - **Plastics**: existing recycling value chains and informal sector integration
 - **E-waste**: emerging repair and high-value recovery markets

Why now: Municipal budgets are under increasing pressure from rising waste management costs, while voluntary CSR mechanisms remain insufficient to address systemic gaps. In the absence of Extended Producer Responsibility (EPR), producers continue to externalize environmental costs, leaving municipalities to absorb the burden. A structured EPR framework can stabilize secondary material markets, finance and subsidize circular economy actors and recycling infrastructure (including R&D and material recovery), and reduce reliance on disposal-based systems, thereby strengthening the overall recovery market. At the same time, Lebanon’s waste sector shows differentiated levels of maturity across value chains. Evidence from value chain and cluster analyses indicates that streams such as plastics, construction and demolition waste (CDW), and e-waste already have active market participants and identifiable material flows, making them suitable entry points for reform. Given limited enforcement capacity and institutional fragmentation, a phased approach focusing on these priority streams allows the government to demonstrate early results, build regulatory credibility, and gradually scale implementation. Without such sequencing, reforms risk remaining theoretical, as observed in previous strategies.

5.2. Ensure Governance Safeguards and Equity in EPR Systems

What should be done: Integrate governance safeguards and social equity principles into the design and implementation of Extended Producer Responsibility (EPR) systems to prevent market capture, ensure accountability, and protect vulnerable actors.

Who should do it: Ministry of Environment (lead regulator), in coordination with Ministry of Industry, Ministry of Finance, competition authorities, municipalities, and civil society actors.

How (instruments)

- Enforce full transparency and public reporting of PRO operations, including financial flows, fee structures, and recovery performance.
- Establish independent auditing mechanisms for fee-setting and cost allocation.
- Allow and regulate multiple PROs to prevent monopolies and cartel behavior.
- Introduce competition and anti-monopoly safeguards within EPR regulations.

- Define and enforce conflict-of-interest rules between regulators, operators, and PRO governance bodies.
- Set up independent oversight structures (public or third-party).
- Ensure formal inclusion of municipalities and informal workers in governance, consultation, and implementation processes.
- Mandate multi-PRO structures as the default architecture for EPR in Lebanon, with competition rules and anti-cartel provisions enforced by an independent regulator. Single-PRO arrangements are permitted only as documented exceptions for specific streams, subject to all other safeguards in this section and to formal review at defined intervals against the option of transitioning to a multi-PRO model.

Why now:

In Lebanon's current governance context, two distinct risks must be addressed simultaneously. The first is capture: poorly designed EPR systems can become vehicles for rent extraction or reinforce existing market concentration if governance is weak. The second is regressivity: even a well-governed system can produce inequitable outcomes if the fee structure itself transmits costs onto low-income households or onto consumption of essential goods. The governance instruments in this section address the first risk; the distributional instruments – lifeline provisions, essential-goods treatment, cross-subsidies, pass-through disclosure, and distributional impact assessments – address the second. Both are necessary; neither is sufficient alone. Embedding both from the outset is essential to ensure that EPR contributes to fair market development, protects municipal finances, and improves working conditions for vulnerable groups rather than reproducing existing inequalities.

***Oxfam positioning:** Oxfam supports polluter-pays EPR systems as a core instrument for circular economy transition. However, this support is conditional on strong governance safeguards and equity protections. EPR must not shift financial burdens onto households, nor reinforce monopolistic structures or exclude informal workers. Worker protection and municipal fiscal integrity are non-negotiable, and circular transition must be designed as both an environmental and a social justice reform.

5.3. Introduce Economic Incentives and Fiscal Instruments for Circular Markets

What should be done: Align fiscal policy with circular objectives to correct market distortions favoring the linear economy.

Who should do it: Ministry of Industry, Ministry of Finance, Ministry of Economy & Trade, in coordination with MoE.

How (instrument):

- Reduced customs duties or VAT exemptions on recycled-content products.
- Landfill taxation or dumping fees reflecting environmental externalities.
- Tax credits for companies using verified recycled inputs.
- Subsidized loans for cleantech and recycling infrastructure through public–private financing mechanisms.
- EPR and PRO funding schemes and investment in sustainable packaging and recycling efforts

Why now: Recycling and circular production remain economically weaker than disposal due to price distortions. Fiscal signals can rebalance competitiveness and reduce Lebanon's import dependency during currency instability.

5.4. Empower Municipalities Through Cost-Recovery Reform and “Learn-As-You-Go” Decentralization – Implementation phase

What should be done: Reinstate and operationalize cost-recovery mechanisms within solid waste management laws, while allowing municipalities to adopt phased circular solutions.

Who should do it: Ministry of Interior & Municipalities, MoE, municipal unions, service zones

How (instrument):

- Reintroduce cost-recovery clauses for waste services – implementation phase.
- Establish pilot “circular municipalities” with performance-based funding.
- Encourage service-area clustering for economies of scale (as recommended in sector analyses).
- Sequence cost-recovery enforcement against EPR implementation so that producer fees are operational and generating revenue before household-level charges are activated. Activating cost-recovery on households in advance of functional EPR would place the fiscal burden of the transition on households before it reaches producers, reversing the polluter-pays logic on which the reform rests.

Why now: Municipalities currently absorb financial burdens without revenue tools. A “learn-as-you-go” approach where cost recovery will be implemented as per the new law, and decentralized entities could embed circularity in their targets.

5.5 Strengthen Municipal Capacity and Governance for Circular Transition

What should be done: Establish a structured framework to equip municipalities and unions of municipalities with the institutional, technical, and strategic capacity required to implement circular economy and sustainable solid waste management (SSWM) at the local level.

Who should do it: Ministry of Environment (lead), in coordination with the Ministry of Interior and Municipalities, Ministry of Industry, and municipal unions, with support from development partners and environmental planning agencies.

How (instruments)

- Develop and disseminate national operational guidelines clarifying municipal roles, responsibilities, and system boundaries within the circular economy and SSWM framework.
- Introduce standardized circularity indicators and metrics (e.g., circularity index, material recovery rates, diversion targets) to be adopted at municipal level.
- Integrate circular economy principles into municipal development plans, including land-use planning, local infrastructure investment, and service delivery models.
- Establish targeted capacity-building programs for municipalities and unions, focusing on circular cities, resource management systems, and decentralized implementation models.
- Create technical support units or platforms to provide continuous guidance, data sharing, and coordination between national and local levels.
- Promote a phased “learn-as-you-go” implementation approach, allowing municipalities to pilot, adapt, and scale circular solutions based on local conditions.
- Establish lifeline provisions guaranteeing baseline municipal waste collection for every household - standard frequency, standard streams - funded through producer EPR fees rather than user charges, so that activation of cost-recovery mechanisms does not cut households off from basic service for inability to pay.

- Apply differentiated fee treatment to essential goods (food staples, hygiene products, medicines, infant formula) so that EPR fees do not function as a regressive consumption tax on low-income households. Differentiation may take the form of reduced fees, exemptions, or rebate mechanisms, consistent with how VAT is structured for essential goods in Lebanon.
- Build geographic cross-subsidy mechanisms into the EPR fee architecture so that revenue from higher-consumption areas partially funds collection in lower-consumption and under-resourced municipalities. Cross-subsidies should be formula-based, transparent, and publicly reported.
- Require pass-through disclosure: producers should report the share of EPR fees passed through to consumer prices, with the data made public and subject to review by the independent regulator.
- Require distributional impact assessments before any significant change to fee levels or scope, analyzing who pays and who benefits across income brackets, geographies, and household types.

Why now: While national solid waste management strategies are being revisited to reflect global shifts toward circular economy, implementation at the decentralized level remains weak and unclear. Municipalities currently operate without a clear understanding of their obligations, rights, and operational scope within the emerging circular framework, limiting their ability to act. At the same time, local planning processes rarely integrate circular economy concepts, targets, or indicators, resulting in missed opportunities for resource recovery and local economic development. Without immediate investment in municipal capacity and governance alignment, circular economy efforts will remain fragmented and confined to isolated pilot initiatives rather than scaling into a coherent national transition.

5.6. Integrate and Protect Informal Waste Workers through a Rights-Based Approach

What should be done: Recognize and integrate informal waste workers into the circular economy through a rights-based, voluntary, and co-designed approach, ensuring protection, inclusion, and improved working conditions without forcing formalization, but working towards it avoiding exclusion or loss of livelihoods.

Who should do it: Ministry of Environment, Ministry of Labor, municipalities, union of municipalities in coordination with PROs (funding these stakeholders/ subsidies), Ministry of Industry, civil society organizations, and waste worker representatives.

How (instruments)

- Develop voluntary and co-designed integration models with waste workers (e.g., cooperatives, service agreements, or partnerships with municipalities and PROs), avoiding imposed licensing schemes that risk exclusion.
- Establish minimum protection guarantees, including occupational health and safety standards, access to basic social protection mechanisms, and safer working conditions.
- Introduce fair compensation mechanisms (e.g., minimum price agreements or contracts through PROs/municipalities) to reduce income volatility.
- Create grievance and accountability mechanisms to protect waste workers from harassment, exploitation, or displacement.
- Implement basic, non-intrusive registration systems to improve visibility and inclusion, ensuring data use does not enable surveillance or gatekeeping.
- Promote capacity-building and organizational support for waste workers to strengthen collective representation and participation in the value chain.

Why now: Informal waste workers are a dominant and most important contributor to material recovery in Lebanon, yet they operate without recognition, protection, or stable income. Traditional formalization approaches risk excluding these actors or criminalizing their activities, particularly under weak

enforcement conditions. A rights-based integration approach ensures that circular economy transition does not displace vulnerable workers but instead builds on their existing role, improves livelihoods, and enhances system efficiency. Without such safeguards, reforms risk deepening social inequalities and undermining both recovery performance and public trust.

5.7. Institutionalize Green Public Procurement (GPP) and Circular Targets

What should be done: Adopt mandatory green public procurement standards across ministries and municipalities.

Who should do it: Council of Ministers, Ministry of Finance, Ministry of Industry, CDR, and MoE.

How (instrument):

- Mandatory recycled-content criteria in public tenders.
- Preferential scoring for circular and local products.
- Introduction of a National Circularity Index tracking recovery rates, recycled content usage, and municipal diversion performance.
- Annual public reporting linked to SDG 12 (sustainable consumption and production) and national climate commitments.

Why now: Public procurement represents a powerful market lever. Government demand can stabilize circular businesses and provide immediate scale to local MSMEs.

5.8. Align Donor Programming with National Circular Reform

What should be done: Create a coordination platform ensuring donor-funded circular initiatives align with national regulatory reform. The platform could be a circular economy forum.

Who should do it: MoE in partnership with major development agencies (UNDP, UNIDO, UNEP, EU, AICS, AFD, World Bank, Oxfam) and local entities focusing on circularity.

How (instrument):

- National Circular Economy Coordination Forum – including all ministries and relevant stakeholders.
- Mandatory alignment of new pilot projects with national EPR and regulatory frameworks.
- Transition from isolated pilots to policy-embedded scaling pathways.

Why now: Lebanon has witnessed multiple donor-driven pilots. Without alignment and institutional anchoring, these remain fragmented. Coordination ensures sustainability beyond funding cycles.

5.9. National Circular Economy Roadmap

Timeline	Priority Actions
Short Term (0–2 years)	• Activate basic EPR (start with e waste, packaging/plastics): producer registration, reporting, pilot PROs – actors ministry of Industry and Environment • Introduce local landfill laws (Gate fee), focusing on selected EPR mainstreams • Reinstate municipal cost-recovery and pilot “circular municipalities” targets • Issue green public procurement directive • Establish CE coordination platform (MoE + MoI + MoET +donors)

Timeline	Priority Actions
Medium Term (3–5 years)	• Expand EPR to additional streams (glass, tires, organic etc) • Scale municipal clustering and integrate informal actors into PRO systems • Operationalize a simple National Circularity Index • Link fiscal incentives to verified recycled-content use
Longer Term (5+ years)	• Consolidate EPR as stable subsidizing agent for circular agendas • Institutionalize green procurement and circular targets across ministries • Transition from donor-driven pilots to nationally financed systems • Establish National circularity index targets

6. Conclusion & Call to Action

Lebanon stands at a structural crossroads. If no action is taken, waste crises will continue cyclically, municipal deficits will deepen, informal labor exploitation will persist, cleantech startups will stagnate, import dependency and material leakage will intensify, and public trust in institutions will further erode. Circular economy is not an environmental slogan; it is a governance reform, a labor strategy, and a macroeconomic stabilization tool. Its impact operates through clear economic pathways: reducing foreign currency leakage from virgin material imports, improving municipal cost recovery through polluter-pays mechanisms such as EPR, and generating local employment across recovery and recycling value chains. These benefits, however, remain contingent on addressing structural constraints, including high energy costs, limited demand for secondary materials, and exposure to global commodity price volatility.

Oxfam and its partners can play a catalytic role by advocating for binding EPR adoption with governance safeguards, supporting rights-based informal sector integration pilots, aligning donor programming with regulatory reform, and strengthening municipal capacity linked to cost-recovery mechanisms. Circular economy must be framed not only as an environmental intervention but as a pathway toward justice, equity, and resilience. The advocacy message is clear: Lebanon does not need more isolated pilots, it needs structured, enforceable, and economically aligned circular reform.

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