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Joint effort by the Public and Private Sectors: How Circular Green Public Procurement Establishes Sustainability

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ABSTRACT:
The global economic landscape is undergoing a fundamental shift as traditional metrics of value and growth are recalibrated in relation to ecological limits and socio-economic instability. The change requires moving away from a linear-extractive model, dominated by anthropocentric individualism and short-term thinking, known as a "Me-We" approach, towards a regenerative paradigm. Key to this transition is the "We-All" governance framework, which emphasises the collective common good and systemic resilience without neglecting individual well-being.
A crucial lever in this transition is the transformation of governmental intervention strategies. While traditional public procurement follows the least-cost principle, Circular Green Public Procurement (CGPP) incorporates environmental externalities and material lifecycles into decision-making. This paper illustrates this development by describing the Central Europe Green Procurement and Innovation Network for Circular Economy, outlining the necessary shifts in institutional and corporate logic. By prioritising durability, repairability, and waste reduction, CGPP promotes the development of closed-loop supply chains. Ultimately, integrating regenerative principles into public administration serves as a catalyst for a circular economy, moving beyond destructive doctrines to foster long-term systemic stability.

Keywords: Circular Green Public Procurement, Circular Economy, Sustainable Innovation

1. Introduction

Over the past two centuries, value has primarily been defined through extraction for human use: removing natural resources and human labour from the environment to generate financial profit for a limited group of shareholders (CE Delft, 2023). This extractive approach, which treats nature as an endless source of inputs and a free sink for waste, has led to what economists describe as the "illusion of vitality," a temporary rise in financial wealth that conceals the structural depletion of underlying systems. The emerging regenerative economy contrasts this with a vastly different model, where value is measured by the ability to restore the world and foster the flourishing of multiple capitals (Mentcon, n.d.). During this transition, public administrations play a crucial role in their procurement of goods and services. The shift in public spending from prioritising the best value for the lowest price towards incorporating environmental considerations and creating demand for transformative innovation changes the fundamental question for enterprises from "How *much profit can we make*?" to "*How do our activities contribute to the vitality of the entire system*?" (Capitals Coalition, 2024; Mentcon, n.d.).

In the traditional extractive paradigm, focus is almost exclusively on individual

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welfare and short-term profit. The emerging regenerative economy proposes a shift from individualistic anthropocentrism towards a more balanced emphasis on individual, organisational, and societal perspectives. We can conceptualise this change using the 'Me-We-All' approach, introduced by Abcouwer et al. (2022). This approach serves as a relational framework for reconciling diverse perspectives and needs within a social-ecological system (Abcouwer et al., 2022; Takács & Abcouwer, 2025). These authors define these perspectives as follows:

- Me (Individual): Personal well-being, skills, and fulfilment, which should be a central question for governments to provide to their citizens
- We (Collective/Organisational): The health, trust, and resilience of communities, networks, and organisations.
- All (Societal/Planetary): The integrity of the biosphere and the flourishing of future generations.

To operationalise this relational framework and distinguish it from established, purely material-focused circular procurement models, the 'Me-We-All' approach is translated into testable categories. By aligning governance perspectives with specific CGPP criteria, we can hypothesise distinct regenerative outcomes across all three system levels. This alignment generates the following testable propositions:

1) **The "Me" Perspective**: When public procurement frameworks integrate criteria targeting fair labour practices, local job creation, and skill development, the resulting governance intervention demonstrably improves personal well-being and local economic fulfilment.
2) **The "We" Perspective**: When procurement requirements prioritise closed-loop supply chains and mandate partnerships with local SMEs, the demand-side signal significantly increases collective organisational trust, enterprise circular maturity, and regional network resilience.
3) **The "All" Perspective**: When governance structures enforce the use of whole-life-cycle costing (LCC) and non-monetary ecological metrics (such as Mean Species Abundance) in award criteria, procurement outcomes shift from mitigating environmental damage to establishing net-positive, long-term biosphere integrity.

Together, these propositions establish a verifiable matrix where procurement is no longer just an administrative purchasing tool, but a calibrated mechanism for systemic, multi-capital regeneration.

2. Public procurement or Circular Green Public Procurement?

Public procurement traditionally focuses on acquiring goods/services at the lowest cost, while Circular Green Public Procurement (CGPP) prioritises environmental impact and material lifecycles (Frone & Frone, 2023). CGPP moves beyond simple green purchasing to emphasise durability, repairability, and waste reduction. It aims for circular, closed-loop supply chains to minimise waste.

Table 1. Key Differences between Public and Circular Green Public Procurement

	Public Procurement	**Circular / Green Public Procurement**
Focus	The lowest upfront purchase price, functionality, and compliance with regulations	GPP: purchasing goods/services with a lower environmental impact across their life cycle. CGPP with a focus on circular economy principles closes material loops, extends product life (repair, reuse), and uses non-virgin materials (Frone & Frone, 2023).
Core components Material loops: Durability and repairability: Business models:	Value for money regardless the impacts Cheapest solutions Cheapest solutions Single sale	Whole Life Cycle Focus: Considers environmental impact from production to disposal. Encourages the reuse of materials and waste reduction. Prioritises products that last longer and can be repaired. Supports leasing, sharing, or product-as-a-service models (Bergmann et al., 2025).
Benefits	Short-term cost savings for the procurer Business as usual for the seller	Environmentally, socially, and ethically production and consumption (Afrić Rakitovac & Vukmanov Šimokov, 2011). The adaptation and transformation towards a circular economy (Ritzén & Sandström, 2017), Long-term cost savings through efficiency, improved innovation, and supporting circular, sustainable markets

3. The ontological conflict: Mechanics of extraction vs Logic of regeneration

The ontological conflict between extractive and regenerative models represents a fundamental tension between systems that deplete resources and those that renew them, deeply embedded in our economy's architecture(Abcouwer et al., 2022; Klein, 2014; Raworth, 2018).

3.1 Mechanics of extraction (Extrahere)

- Derived from 'extrahere' (to draw out), extractive systems operate through a linear "take-make-dispose" process, concentrating on individual gain (Me) and not on finite resources (All).
- These systems externalise ecological and social costs, such as carbon emissions or labour depletion, treating them as externalities rather than internal business costs.
- Extractive models are perpetuated by debt-based monetary systems that require constant growth and by legal frameworks mandated to maximise short-term shareholder value (lock-in mechanisms).
- The consequences are diminishing returns, high volatility, and increased systemic fragility, stemming from treating natural resources as an infinite warehouse.

3.2 Logic of Regeneration (Generare)

- Rooted in 'generare' (to beget or create), regeneration focuses on the proactive, continuous creation of value and the restoration of natural and social capital.
- Regeneration is beyond sustainability. While sustainability aims to minimise harm (doing "less bad"), regeneration is a net-positive approach that repairs ecological damage and strengthens communities.

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- Regenerative systems emulate natural, self-renewing processes and operate within planetary boundaries with a systemic approach.
- Its goal is to produce more resources than are consumed, ensuring long-term systemic health.

Table 2. Comparison of Economic Paradigms

Feature	Extractive Economy	Regenerative Economy
Primary source of value	Extraction of resources and labour	Restoration and strengthening of ecosystems.
Primary focus	Individual welfare	Balancing individual, organisational and societal needs
Measurement focus	GDP and financial profit (Quantitative).	Well-being and system health (Qualitative).
Time horizon	Short-term (Quarterly results).	Intergenerational and adaptive.
System approach	Linear (Take-Make-Waste).	Circular and self-healing.
Relationship with Nature	Nature as a commodity and input.	Humans as an integral part of the biosphere.
Power structure	Concentration of wealth and power.	Participation, reciprocity, and local ownership.
Paradigm-shift	IST	SOLL
Me-We-All	ME/WE	WE/ALL
Administrational practice	Public Procurement	Circular Green Public Procurement
Focus	the lowest upfront purchase price, functionality, and compliance with regulations	GPP: purchasing goods/services with a lower environmental impact across their life cycle. CGPP with a focus on circular economy principles closes material loops, extends product life (repair, reuse), and uses non-virgin materials.
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The core conflict lies in the metabolic difference: extraction operates by reducing future capacity for short-term gain for 'Me', while regeneration operates by increasing long-term health for 'All'. This shift requires moving from simply minimising environmental footprints to creating positive handprints, such as regenerative agriculture and manufacturing, sustainable construction or restorative tourism.

4. Making the Invisible Visible: Valorisation and Quantification

A crucial challenge in the transition to regeneration is that many of the most valuable things, such as forests capturing carbon or pollination by bees, have traditionally been valued at zero in the market economy (Boell, 2015; Central Bureau of Statistics The Netherlands, 2025; Monbiot, 2014). This "economic invisibility of nature" creates perverse incentives in which destruction is more profitable than preservation (Boell, 2015; Monbiot, 2014).

4.1 The valuation debate and monetary methodologies

While proponents argue that monetary valuation is the only way to give nature a voice in the boardroom, critics warn that pricing nature paves the way for complete commodification (Boell, 2015; Monbiot, 2014). To integrate these values into decision-making, economists use techniques like shadow pricing, replacement cost, and contingent valuation to calculate the Total Economic Value (TEV) as the sum of Use Values (UV) and Non-Use Values (NUV). Where UV includes direct and indirect uses, and NUV represents intrinsic existence values (derived from a.o. Canoy et al., 2026; Plottu & Plottu, 2007; University of Queensland, 2019).

4.2 Beyond Euros: Non-monetary quantification of Biodiversity

In daily regenerative practice, monetary valuation is often insufficient to capture complex ecological dynamics. Scientists and policymakers are increasingly turning to robust physical metrics within the System of Environmental-Economic Accounting (SEEA) framework (United Nations, 2021).

A key metric is Mean Species Abundance (MSA), which characterises ecosystem intactness on a scale from 0% (locally extinct) to 100% (undisturbed) (Amundi Research Center, 2025). By multiplying MSA by the area of impact, businesses can use MSA.km² as a "CO2-equivalent for biodiversity" (Schneider Electric, 2021). This allows for scientific consistency and aggregation across different regions and sectors without reducing nature's value to a mere price tag (Amundi Research Center, 2025). Furthermore, Science Based Targets for Nature (SBTN) provide guidelines for companies to set measurable goals aligned with ecological thresholds and planetary boundaries (Science Based Targets Network, 2023).

Life-cycle costing (LCC): When acquiring a product, service, or work, the initial price paid is only a small part of the total costs involved in procurement, ownership, and disposal. LCC involves examining all expected expenses over the entire lifespan of the product, service, or work: the purchase price along with all associated costs (delivery, installation, insurance, etc.), operating costs including energy, fuel, and water usage, spare parts, and maintenance, as well as end-of-life costs such as decommissioning or disposal.

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When assessing LCC, we consider factors such as the product's lifespan, the discount rate, data availability and reliability, and the method used to calculate savings. Over time, a product's total cost is heavily influenced by how often it needs to be replaced. The chosen comparison period for life-cycle costs should account for this. Society tends to value immediate effects more than long-term outcomes. Costs incurred now are regarded as worth less than those incurred later. Applying a social discount rate to future costs allows for the calculation of NPV when comparing life-cycle costs. Since life-cycle costs involve uncertainties regarding future expenses, detailed supporting documentation for cost estimates is often necessary. Key opportunities for cost reduction include savings on replacement, maintenance, and disposal costs, such as removal and secure disposal expenses. Expenses during ownership and throughout the product's life cycle, including its environmental impact, relate to energy, water, and fuel consumption. Reducing consumption benefits both the environment and the economy and also cuts the direct financial costs for the contracting authority. These costs are linked to environmental impacts on society, such as climate change. The method of incorporating environmental externalities into award criteria must be based on objectively verifiable, non-discriminatory standards, be accessible to all interested parties, and involve data that can be reasonably provided by ordinarily diligent economic operators.

5. Integrating valuation methods: A CGPP decision framework

While monetary and non-monetary valuation methods both aim to make environmental impacts visible, their operational application in public procurement must be carefully delineated.

5.1 Appropriateness, Complementarity, and Conflict

- Life-Cycle Costing (LCC): Appropriate for capturing direct financial flows and established externalities (such as energy consumption or CO2 emissions) where universally accepted shadow prices exist.
- Non-monetary indicators: Metrics like Mean Species Abundance (MSA) and Science-Based Targets for Nature (SBTN) are appropriate for complex, localised ecological dynamics (e.g., habitat integrity) that resist financialisaton.
- These methods are complementary when LCC handles the economic and climate dimensions (euros and carbon equivalents), while physical metrics handle the ecological dimension (biodiversity intactness). They become conflicting when policymakers attempt to force all intrinsic ecological values into single monetary figures through Total Economic Value (TEV), which risks commodifying nature and stripping away socio-ecological complexity.

5.2 Avoiding double-counting

A critical risk in tender evaluation is double counting, which occurs when a single environmental benefit is rewarded twice. Once as a monetised cost reduction in the LCC, and again as a qualitative score in the award criteria. To prevent this, decision-makers must bifurcate evaluation metrics. If an environmental externality (e.g., carbon emissions) is

monetised and integrated into the LCC calculation, that specific metric must be strictly excluded from the qualitative technical scoring. Technical scoring should instead focus exclusively on distinct, non-monetised physical metrics, ensuring each environmental benefit is weighed only once.

Drawing on the construction sector focus of the CE-PRINCE project, a municipality procuring a new public building, evaluating a traditional concrete proposal against a regenerative timber proposal. A structured CGPP decision framework prevents double-counting by dividing the evaluation into distinct tiers:

- **Monetary evaluation** (LCC - e.g., 60% of total score)
  - Calculates the purchase price along with all associated costs, operating costs, and end-of-life disposal costs.
  - Incorporates environmental externalities strictly through the monetized shadow price of CO2 emissions generated during material production and transport.
- **Non-monetary evaluation** (Qualitative Award Criteria - e.g., 40% of total score)
  - Biodiversity impact: Evaluated using the MSA.km² metric to score the ecosystem intactness regarding the timber sourcing versus concrete extraction. This remains entirely independent of the carbon footprint.
  - Circularity: Evaluated via the percentage of non-virgin materials used and design for durability.

By utilising this bifurcated framework, the contracting authority comprehensively assesses the true regenerative value of the proposal without overlapping the financial valuation of its carbon efficiency with the ecological valuation of its biodiversity impact.

6. The Public Administration transformation

The transformation of Public Administration (PA) towards a whole-life-cycle approach requires shifting from evaluating only the lowest upfront price to assessing the total cost and environmental footprint of procurements from production to disposal. This shift relies on a dual structure: complying with binding legal frameworks and adopting voluntary operational mechanisms.

6.1 Binding legal frameworks

The foundation of Green Public Procurement (GPP) is established through mandatory legislative instruments that permit and increasingly require environmental considerations:

- **EU Procurement Directives (2014/24/EU & 2014/25/EU):** These provide the primary legal basis for integrating environmental requirements into technical specifications, selection criteria, and contract performance clauses.
- **Sector-specific legislation:** Mandatory GPP requirements are being introduced through targeted regulations, such as the Clean Vehicles Directive, the Energy Efficiency Directive, and the Ecodesign for Sustainable Products Regulation.

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- **National Action Plans (NAPs):** Member States are legally required to define national targets and strategies for GPP implementation, facilitating the transition from voluntary guidelines to mandatory criteria.

6.2 Operational recommendations and non-legislative instruments

While the law provides the mandate, operationalising these goals requires a specific toolkit of non-legislative recommendations and instruments to assist procurers:

- **EU GPP criteria & Ecolabels:** Voluntary, evidence-based criteria developed by the European Commission, often verified through trusted labels (e.g., EU Ecolabel or Environmental Product Declarations) as proof of compliance with technical specifications.
- **Life-Cycle Costing (LCC) tools:** Instruments that calculate the total cost of ownership (including operating, maintenance, and disposal costs), revealing that products with higher initial costs often generate long-term savings.
- **Capacity building:** Training and guidelines that equip public procurers with the skills needed to shift from bureaucratic compliance to strategic, innovative purchasing.

6.3 From Strategic planning to Tender mechanics

Turning these legal and operational elements into reality requires coordinated action across different levels of government. At the strategic level, GPP must be fully integrated into national and local planning. Networking platforms like URBACT III allow cities to share expertise and develop local action plans, while central purchasing bodies streamline the process by adopting green criteria for common goods at the framework level, preventing smaller entities from having to duplicate efforts. Finally, mandatory monitoring systems are essential to track policy adoption and real-world impact.

At the operational level, the actual mechanics of a tender provide specific, sequential intervention points to enforce these environmental standards throughout the procurement cycle:

- **Subject matter and Technical Specifications**: Defining core requirements to include high environmental performance (e.g., low emission levels or recycled content), as permitted under Article 42 of Directive 2014/24/EU.
- **Selection and Exclusion**: Filtering out suppliers with poor environmental track records while rewarding those with proven technical competence, evidenced by certifications like ISO 14001 or EMAS.
- **Award criteria**: Shifting from the lowest price to the Most Economically Advantageous Tender (MEAT), which allows environmental factors such as noise levels and energy efficiency to be weighted alongside cost.
- **Contract Performance Clauses**: Ensuring that green practices, such as sustainable delivery methods or waste management are strictly executed after the contract is signed.

7. The Business Model Transformation

Transforming a business model to consider the whole life cycle of goods and services, often termed a **circular business model** or **sustainable procurement strategy**, requires a shift from linear "take-make-dispose" thinking to a closed-loop approach. It demands that companies manage environmental impacts from raw material extraction to end-of-life disposal. This transformation requires changes across strategy, operations, and culture.

7.1 Strategic and Cultural shifts

- **Adopt Life Cycle Thinking (LCT):** Businesses must analyse the environmental impacts (water, energy, emissions) at every stage - raw materials, manufacturing, transportation, use, and disposal—rather than focusing only on the purchase price.
- **Rethink business models:** Shift from selling products to providing services, such as leasing, renting, or offering Product-as-a-Service (PaaS). This aligns profit with product longevity rather than high volume sales.
- **Define new KPIs:** Move beyond purely financial metrics (cost-per-unit) to include circularity metrics, such as percentage of recycled input materials, product longevity, waste reduction targets, and Total Cost of Ownership (TCO).
- **Top-down commitment:** Sustainability must be integrated into the core business strategy, often requiring a dedicated chief sustainability officer to align innovation and procurement units.

7.2 Procurement and sourcing requirements

- **Sustainable supplier selection:** Procurement teams must evaluate suppliers based on environmental management systems (e.g., ISO 14001, B Corp) and their commitment to sustainable practices.
- **Reverse logistics integration:** To enable repair, refurbishment, or recycling, businesses must create systems to take back products from customers at the end of their life cycle.
- **Material efficiency and substitution:** Prioritise recycled, renewable, low-toxic, and locally sourced materials to limit transportation impacts.
- **Eco-design specification:** Procurement must specify that products are designed for disassembly, reparability, and durability to extend their usable life.

7.3 Operational and technical capabilities

- **Data-driven decision making:** Implementing digital tools and IoT (Internet of Things) to track product life cycles, improve material traceability, and measure the actual impact of procurements.
- **Value chain collaboration:** Transitioning to a circular economy cannot be done alone. It requires deep collaboration with suppliers, partners, and even competitors to share resources, develop closed loop systems, and create industrial symbiosis.
- **Staff training and education:** Equipping procurement teams with new skills to evaluate LCA (Life Cycle Assessment) data and negotiate contracts that include take-back clauses or maintenance services.

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7.4 Financial and regulatory adaptation

- **Life Cycle Costing (LCC):** Assessing the total cost of ownership, including purchase, operation, maintenance, and disposal, rather than solely the initial price.
- **Regulatory compliance and proactivity:** Preparing for stricter environmental regulations (e.g., digital product passports, Extended Producer Responsibility (EPR) fees) by ensuring materials maintain their value and are traceable.

By adopting these practices, companies can reduce waste, improve resource efficiency, and decrease their carbon footprint, while simultaneously enhancing their reputation and reducing supply chain risks.

8. Stewardship in the Public Administration and in Enterprises

A significant barrier to regeneration is stakeholder pluralism, in which different participants (policy and decision-makers, and market actors) view circular challenges through divergent contexts and incentives. Often, the party investing (e.g., in soil health or biodiversity) does not directly reap the rewards, a phenomenon known as the split incentive problem (Crossreis, 2024; Regenerate Tampa Bay, 2025). The introduction of the Stewardship approach is essential to bridge these gaps (Ciulli et al., 2020; Eindhoven, 2026; Takács & Abcouwer, 2024). Acting as a Trusted Third Party (TTP) for valorisation, legal coordination, and transparency is essential to manage these interdependencies and ensure fair redistribution of costs and benefits (Blackburn, 2023; Ciulli et al., 2020; Parida et al., 2019).

9. Empirical Evidence: The CE-PRINCE Initial Assessment

9.1 Methodology and Research design

The distinction between GPP and CGPP finds direct empirical confirmation in two complementary CE-PRINCE studies: Deliverable 2.2.1, which mapped existing GPP criteria against nineteen circular economy principles derived from ISO 59004:2024 across four sectors (agri-food, construction, manufacturing, and tourism), and a mixed-methods initial assessment conducted across seven Central European countries between 2024 and 2025. To ensure representativeness, the sampling strategy employed a stratified purposive approach, targeting public administrators and enterprise sustainability managers within the four designated sectors. The quantitative component comprised two mirrored questionnaire surveys developed from a systematic review of scientific and grey literature on circular procurement. The enterprise survey (n=398) and the public administration survey (n=232) utilised a 5-point Likert scale to measure circular economy performance, barrier intensity, and implementation frequency.

The qualitative component consisted of 68 semi-structured interviews, which were transcribed and analysed using thematic coding to unpack the structural drivers behind the quantitative survey results. This mirrored architecture across both methods allowed for a robust, reproducible assessment of the alignment and mismatch between demand and supply.

9.2 Situating the findings: The Demand-Supply Gap in context

The central finding of the CE-PRINCE assessment that the bottleneck lies in public demand and not market supply, aligns with and extends the broader literature on demand-side innovation. While traditional models of green public procurement often assume a lack of market readiness (e.g. Uyarra et al. (2014)), our data suggests a mature supply side constrained by rigid institutional capacity.

When compared to other European procurement studies (such as those by Grandia (2015), or Witjes and Lozano (2016)), the barriers identified in the CE-PRINCE countries predominantly reflect a systemic, pan-European condition rather than a localised regional deficit. Enterprises participating in green public tenders demonstrate measurably higher circular economy performance (average score 3.78) than non-participants (3.61) and outperform them across all four measured strategic dimensions. Table 3 quantifies this gap: the share of public administrations reporting complete absence of circular requirements is systematically higher, in several cases by 15 percentage points or more, than the share of enterprises reporting non-implementation of the same practices. The gap between what enterprises offer and what public buyers demand is a governance failure, not a market failure.

Table 3. Demand-Supply Gap: Absence of Circular Criteria in PA Tenders vs. Enterprise Practice

Circular criterion	PA - absence	Enterprises - absence	Gap (PA - Ent.)
Purchasing recycled material	28%	18%	+10pp
Purchasing renewable energy	31%	18%	+13pp
Prioritising local suppliers	22%	6%	+16pp
Design for durability	30%	9%	+21pp
Design for recyclability	28%	13%	+15pp
Technologies for energy efficiency	20%	3%	+17pp
Water recovery practices	42%	42%	0pp
Take-back systems	38%	29%	+9pp
Vehicles meeting sustainability criteria	31%	16%	+15pp

Note. PA = Public Administration; pp = percentage points. The gap (pp) is calculated as PA absence minus enterprise absence.

Data adapted from the CE-PRINCE Initial Assessment quantitative survey (2024–2025), which utilised a sample of 232 PAs and 398 enterprises across seven countries (AT, HR, DE, HU, IT, PL, SI). Source link: https://www.interreg-central.eu/wp-content/uploads/2025/02/Milestone_01_Initial_Assessment-Report.pdf.

10. Barriers and the operational necessity of Life Cycle Costing

The CE-PRINCE data explains empirically why LCC, as developed in the preceding section, is an operational prerequisite for CGPP rather than a theoretical refinement. As shown in Table 4, the three leading barriers for public administrations are budget constraints (65%), higher upfront costs (60%), and lack of training (58%). All three express the same short-terms logic: procurement value evaluated through the lowest initial price, making the full-lifecycle cost advantage of circular products structurally invisible to

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procurement officers working within annual budget cycles. LCC is the instrument that renders this advantage legible.

Interview data gives this mechanism a human voice. An Austrian officer described the distortion directly: *"The problem is that procurers look very narrowly. A photovoltaic panel seems expensive, but over 15 or 20 years it is ultimately cheaper. And because of that narrow thinking, they do not apply green public procurement in practice."* A Hungarian counterpart identified the institutional trap: *"Do we go economic, buy cheap? Do we go pro-environmental, which will be cheaper in the long run, but what matters to us is the here and now?"* Beyond budget logic, a German company described tender participation as *"almost unfeasible"* due to bureaucratic burden, while a Croatian respondent observed that sustainability declarations are reduced, in ten out of ten cases, to *"merely administrative fulfilment of the procedure."* Table 4 shows the structural symmetry: PA and enterprise barriers mirror each other, confirming that both sides of the procurement relationship remain trapped in the same linear logic.

Table 4. Main barriers to C/GPP: Public Administrations vs. Enterprises (% reporting high relevance)

Barrier - Public Administrations	%	Corresponding barrier - Enterprises	%	Category
Financial and economic barriers				
Budget constraints	65%	Excessive emphasis on price in tenders	56%	Financial
Higher costs of GPP	60%	Low financial returns	49%	Financial
Lack of financial resources	59%	Limited future business opportunities	38%	Financial
Competence and training barriers				
Lack of training on environmental issues	58%	Need for additional training	31%	Competence
Lack of human resources	57%	Low capacity of procurers	37%	Competence
Lack of sectoral expertise	53%	Risk of procurer risk-aversion	47%	Competence
Regulatory and procedural barriers				
Lack of clear guidelines	50%	Overly prescriptive technical specifications	41%	Regulatory
Lack of internal regulations	45%	Complex pre-qualification procedures	46%	Regulatory
Administrative and transparency barriers				
Internal conflicts between departments	30%	Additional administrative requirements	52%	Administrative
Lack of stakeholder involvement	50%	Absence of feedback after failed bids	45%	Administrative

Note. Comparison is indicative of structural symmetry, not directly quantitative across columns.

Adapted from *CE-PRINCE Initial Assessment, quantitative survey (2024–2025)* (https://www.interreg-central.eu/wp-content/uploads/2025/02/Milestone_01_Initial_Assessment-Report.pdf)

11. The supply side is moving, and pathways to close the gap

Enterprises are not waiting for procurement to catch up. Firms are conducting LCA studies, building ESG frameworks, and adopting digital carbon-tracking tools without corresponding public demand signals. One construction company described public procurement as providing "opportunities to adopt new technologies"; another noted that continuous investment in superior technologies is "key to staying ahead." The CE-PRINCE assessment identifies four sequenced priorities for closing the gap. The first is capacity building: implementing environmental management systems (ISO 14001 and EMAS) and training procurement officers to move beyond annual-budget logic. The second is regulatory alignment through sector-specific standardised templates and small-scale pilot projects. One-size-fits-all criteria consistently fail, as one Italian respondent made clear when describing electric vehicle mandates in mountainous municipalities as simply "insane." The third is supply chain incentivisation: weighted award criteria, longer-term contracts, and structured partnerships with local SMEs. The fourth, and most structurally significant, is upstream EU policy reform: introducing remanufacturing, sharing models, reverse logistics, and performance-based contracting into EU GPP reference criteria. National procurement reform, however ambitious, cannot fill gaps that originate in the policy framework upstream. The transition from GPP to CGPP requires revision not only of procurement practice, but of the European instruments that shape it.

12. Conclusion

With joint efforts by the public and private sectors in Central Europe, the CE-PRINCE project promotes sustainability while advancing towards regenerative development. It recognised the need for a new economic grammar. The transition from extraction to regeneration requires transforming our cultural narratives and economic mechanisms. Expressing natural capital in euros is a pragmatic step, but it must be complemented by non-monetary metrics, such as MSA, to capture ecological complexity. The role of stewardship is vital for bridging stakeholder gaps, resolving split incentives, and ensuring equitable distribution of value across the entire ecosystem. By embracing these systemic roles and governance models, businesses can build the resilience and relevance required for the 21st-century economy. To achieve the mindset shift, we recognise the need for educational programs that cover the different movements from IST Extraction-based worldviews to SOLL Regeneration-based worldviews. These programmes should provide knowledge and understanding, plant the seed for change in behaviour at the Me-We-All levels, and prepare people with the skills and practices to ensure a smooth transformation.

CE-PRINCE partners are developing and delivering capacity-building and peer-to-peer programmes for public procurers and businesses across Central Europe, implementing pilot projects, aligning regulations through sector-specific, standardised templates and award criteria, and establishing structured partnerships with local SMEs. To ensure the interventions yield measurable impact, the final phase of the project will employ

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a rigorous evaluation framework for the pilot projects. This will include before-and-after measurements of tender criteria adoption rates and comparative cross-sector analyses to determine the specific efficacy of the training modules, templates, and revised award criteria. By the end of 2026, this empirical evaluation will enable the project to conclude with validated suggestions for the upstream EU policy framework and instruments.

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