

Packaging reduction: cutting costs and achieving sustainability goals in procurement

Packaging reduction refers to the targeted reduction of packaging material, packaging volume and packaging-related process costs across the entire supply chain. For industrial buyers, it is a lever that equally affects logistics costs, sustainability performance and collaboration with suppliers. This glossary article explains the definition, methods, metrics, risks and current developments in a practical manner.

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Key facts at a glance

- 01 Packaging reduction encompasses material, volume, process and transport optimisation – not just less material.
- 02 Savings of 5 to 15 per cent of packaging costs are frequently achievable, typically without quality losses when properly designed.
- 03 Key metrics are packaging costs per unit, pack density, material share and reuse rate.
- 04 Regulations such as the EU Packaging Regulation (PPWR) increase the regulatory pressure on volume and recycling targets.
- 05 Successful projects involve suppliers early and use approaches such as demand bundling and standardised reusable containers.
- 06 Risks such as transport damage must be controlled through test runs and clear requirements for packaging specifications.

Definition: packaging reduction

Packaging reduction is the systematic reduction of packaging effort for procured and sold products while maintaining the same protective effect and process capability. It goes beyond mere material savings and includes transport density, handling, effort for unpacking and repacking, and disposal costs.

Distinction from packaging optimisation

Packaging optimisation describes the overall design of packaging in terms of cost, protection and sustainability; packaging reduction is a sub-strategy with the clear target of “less”. In practice, both terms are often used synonymously, but technically, reduction refers to the quantitative decrease in material, volume or number of packages.

Relevance for technical procurement

Packaging costs are embedded in many procurement spheres: as a share of the price, as a freight surcharge in logistics, as disposal costs in one's own plant and as labour effort for unpacking and return. Buyers who anchor packaging specifications bindingly in supplier contracts and first article inspections unlock savings potential that classic price negotiations cannot offer.

Methods and approach in packaging reduction

Successful packaging reduction follows a structured approach: record the baseline, identify potential, set priorities, test solutions and safeguard them contractually. A sound spend analysis creates transparency on packaging-related costs, complemented by demand determination and coordination with sales and production.

Baseline and spend analysis

First, material types, package quantities, volumes, costs per unit and disposal effort are systematically recorded. A spend analysis across all sites and suppliers shows where volumes and costs are concentrated – in practice, the majority of packaging-related spend often falls on a small number of A-parts and haulage freight.

- Record packaging material types and costs per part number
- Analyse transport volumes and load space utilisation
- Include disposal and return costs

Standardisation and reusable systems

A proven lever is the standardisation of container sizes and pallet formats. Standardised reusable containers increase pack density, reduce single-use material and enable return via consignment stocks or reusable pools with suppliers. Batch sizing and container loading should be aligned so that unit quantities and pack sizes match.

Supplier involvement and contract adaptation

Suppliers know their packaging processes best. Workshops and specifications in requirement documents – such as maximum package dimensions, recyclable materials or container sizes – anchor reduction targets bindingly. Changes to packaging specifications are treated like part changes and safeguarded through first article inspections, comparable to a First Article Inspection (FAI).

| Key KPIs for steering packaging reduction

Without measurable targets, packaging reduction remains lip service. Metrics that jointly depict the material, cost and logistics dimensions and are integrated into procurement reporting have proven effective – ideally interlinked with savings types and the reporting structure of Sales and Operations Planning.

Cost and material metrics

Packaging costs per sales unit or per part and material consumption in kilograms per pallet show operational development. Quantitative and monetary savings are recorded as cost reduction in the organisation's savings reporting and evidenced against the original baseline.

Logistics and sustainability metrics

Pack density, fill rate per transport unit and the reuse rate of containers make logistical effects visible. CO2 and recycling shares, which feed into sustainability reporting and supplier evaluations, are also becoming increasingly relevant.

- Fill rate of transport pallets and truck utilisation
- Reuse rate of reusable containers
- Recyclable material share of primary packaging

| Risks and controls in packaging reduction

Overly aggressive reduction can jeopardise protective effect, handling or process reliability. Packaging changes therefore need defined inspection and escalation paths – from test runs to contract clauses.

Quality and transport damage

Thinner materials or smaller packages can lead to transport damage and production downtime. Test runs on real routes, defined stacking heights and protection requirements minimise this risk. In the event of damage, contractual provisions apply, which should be structurally modelled on claim management or a notice of defects.

Process stability and production integration

Packaging is part of the manufacturing and intralogistics processes: automatic unpacking, handling and traceability via batch number depend on stable packaging formats. Changes must be coordinated with production, quality and logistics, and within the framework of the technical invoice verification, packaging-related price shares must also be checked.

Contractual safeguarding

Packaging specifications, return rules for reusable containers and cost allocation for outer packaging belong in framework agreements and supplier agreements. For service models, such as managed consignment stocks, packaging services can be steered via service credits (SLA) and defined KPIs.

Current developments: regulation, digitalisation and the circular economy

Regulatory pressure and digital tools are significantly changing packaging practice in industry. Buyers must be familiar with regulatory requirements while also seizing the opportunity to professionalise packaging data as part of their master data quality.

Regulatory framework in the EU

The EU Packaging Regulation (PPWR) aims at reduced packaging waste, higher recycling rates and defined recycle shares. Additional obligations such as registration requirements and extended producer responsibility also affect B2B packaging. The concrete interpretation and transition periods should be examined on a case-by-case basis, as exemption provisions and protective purposes are relevant for industrial and transport packaging.

Digitalisation of packaging data

Digital article master data, high Golden Record quality and match-and-merge rules at order entry make it possible to systematically maintain and evaluate packaging-relevant attributes. Transportation management systems and freight forwarders provide data on load space utilisation; a spend analysis supplemented by packaging-specific attributes thus becomes real-time steering.

Circular economy and supplier cooperation

Cross-industry container pools, deposit systems and reusable logistics are increasing. Buyers who agree joint reusable concepts with strategic suppliers and integrate these into framework agreements, freight surcharge calculations and supplier evaluations benefit twice: from material and logistics cost savings as well as from better sustainability metrics.

Typical metrics

Metric	Typical value
Packaging costs per unit	typically 5–15 % reduction possible <i>Record the baseline before project start and compare regularly</i>
Fill rate of the transport unit	target value frequently > 85 % <i>measures pack density and load space utilisation</i>
Reuse rate of reusable containers	typically > 80 % with established pooling systems <i>indicates return discipline and consignment processes</i>
Recyclable material share	target value depending on PPWR stage, frequently > 70 % <i>relevant for sustainability reporting</i>

Practical example

A medium-sized mechanical engineering company with several sites identified in a spend analysis that around 20 per cent of its cardboard-based single-use packaging was attributable to a small number of series parts. Together with five key suppliers, standardised reusable containers were introduced, packaging specifications were contractually fixed and first article inspections were carried out for modified packaging.

- Baseline survey of all packaging materials and costs per site
- Introduction of four standardised reusable container sizes with a defined return process
- Anchoring of packaging specifications and inspection rules in the framework agreements
- Integration of pack density and reuse rate into monthly procurement reporting

Conclusion

Packaging reduction is a multi-faceted lever for industrial buyers that simultaneously addresses material costs, logistics costs, disposal effort and the sustainability balance. Success depends on a clean baseline, clearly measurable KPIs, early involvement of suppliers and contractual anchoring. Those who control risks such as transport damage through structured inspection and acceptance processes can realise savings of typically 5 to 15 per cent of packaging-related costs. EU regulatory requirements increase the pressure to act, but also provide a clear direction. Those who understand packaging reduction as part of a holistic procurement strategy strengthen competitiveness and their sustainability profile at the same time.

Frequently asked questions

? What does packaging reduction mean?

Packaging reduction refers to the targeted reduction of packaging material, pack volume and packaging-related process costs while maintaining the same protective effect. It encompasses material savings, improved pack density, standardisation and reusable packaging concepts. The objective is an economical and more sustainable packaging solution across the entire supply chain.

? How much can you save through packaging reduction?

In practice, savings of typically 5 to 15 per cent of packaging-related costs are realistic, in some cases even more. The specific lever depends on the starting position, the material types and the transport structure. A sound spend analysis and a clean baseline are prerequisites for reliable figures.

? What are the risks of packaging reduction?

Overly aggressive reduction can cause transport damage, production downtime and quality problems. Handling, automation capability and traceability can also suffer. For this reason, test runs, defined protection requirements and contractual provisions for damage cases are necessary.

? Which metrics are relevant for packaging reduction?

Key KPIs are packaging costs per unit, material consumption in kilograms per pallet, pack density, reuse rate and the recyclable material share. These metrics should be integrated into procurement reporting and tracked against the baseline. Sustainability metrics such as CO2 shares are becoming increasingly important.

? How do you involve suppliers in packaging reduction projects?

Suppliers should be involved early through workshops and clear packaging specifications in the requirement specification. Changes to packaging are treated like part changes and safeguarded through first article inspections. Framework agreements should include binding provisions on specifications, return rules for reusable containers and cost allocation.

? Does the EU Packaging Regulation also apply to industrial and transport packaging?

The PPWR fundamentally applies to all packaging, but contains specific provisions for transport and industrial packaging, for example on reuse and exemptions. The concrete obligations and transition periods depend on the packaging type and the area of application. A legal review should be carried out for the binding interpretation in individual cases.

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