



PART 3

Read the text below and answer questions 27–40.

MYTHS AND REALITIES OF RECYCLING

Recycling is widely marketed as an uncomplicated environmental “win”: a morally reassuring ritual in which household sorting is presumed to translate, almost automatically, into new products and reduced pollution. The appeal of this narrative is psychological as much as ecological. It offers a form of absolution that allows consumers to continue purchasing disposable goods while believing that the harms have been neutralised downstream. In practice, however, the industrial reality is harsher and more conditional. A large share of what is placed in recycling bins is not transformed into equivalent new goods, and the gap between intention and outcome is sustained by a phenomenon sometimes described as aspirational recycling—or “wish-cycling”—where people place dubious items into the system in the hope that technology will “figure it out”. The result is a comforting public story built on a series of hidden technical and economic constraints.

A first constraint is thermodynamic rather than moral. Recycling is often discussed as if materials simply “go back” to their original state, but industrial reprocessing is an attempt to reverse disorder in a world where entropy imposes costs. The moment a product becomes waste, it has typically been mixed with food residue, adhesives, dyes, fillers, or other materials that were economically rational during manufacturing yet become liabilities during recovery. Each additional step—collection, transport, sorting, washing, shredding, melting—consumes energy and introduces losses. Even in well-managed systems, material streams degrade in quality or purity, and certain forms of recovery amount to downcycling: converting higher-value packaging into lower-grade items that will not be recycled again. This is why the slogan “reduce, reuse, recycle” is frequently misunderstood. Its hierarchy is not a rhetorical flourish; it reflects the fact that recycling is usually the most energy- and cost-intensive option, valuable as a last line of defence rather than a primary strategy.

Economics then determines whether that last line of defence is actually deployed. Recycling routinely behaves like a market failure because the costs of waste—pollution, landfill space, greenhouse gases—are not fully priced into production and consumption, while the benefits of recovery are diffused and uncertain. For a material to be recycled at scale, the full chain must be economically viable: the value of the recovered output must exceed the combined costs of collection, sorting, cleaning, and reprocessing. That calculation is volatile because it depends on commodity prices for virgin materials. When



oil prices fall, virgin plastic resin can become cheaper than recycled content; when metal prices fluctuate, recycling margins can collapse. Municipal programmes that appear stable during high-price periods can become financially precarious when markets turn, leading to reduced collection, narrower accepted materials, or greater reliance on landfill and incineration.

The fragility of this arrangement was exposed dramatically by China's "National Sword" policy in 2018. For years, many Western countries had relied on exporting mixed recyclables—often bales of paper and plastics of inconsistent quality—to overseas buyers. This externalised the most difficult parts of the system: low-quality sorting at home was "solved" by shipping uncertainty abroad. National Sword altered the incentives by restricting imports of foreign waste and tightening contamination thresholds. What followed was not merely a shift in trade routes but a systemic shock. Materials that had been counted as "recycled" in domestic statistics were suddenly stranded, with municipalities facing higher domestic processing costs and reduced revenue. Some programmes curtailed collection of certain plastics; others stockpiled bales or redirected them to disposal. In effect, the policy revealed that a portion of "recycling" had been a logistics strategy rather than a genuine circular process, dependent on the commodification of mixed waste and the existence of buyers willing to accept it.

System design also matters, particularly the widespread adoption of single-stream collection, where households place multiple materials into one bin. Single-stream systems can increase participation because they reduce effort at the household level, yet they intensify systemic contamination at the facility level. Glass can shatter into mixed fragments that embed in paper; residual food can soak cardboard; plastic films can tangle sorting machinery. Once contamination spreads, costs rise and yields fall. Sorting facilities must invest in more equipment, labour, and quality control, but even then, a non-trivial share of incoming material may be rejected. In other words, convenience upstream often produces complexity downstream, and the resulting losses are frequently invisible to the public because the bin is emptied on schedule regardless of the ultimate fate of its contents.

Material science then explains why some streams recover far better than others.

Aluminium and glass are often described as "infinitely" recyclable because their core structure can be remelted and reformed repeatedly with relatively limited loss of quality, provided they are collected cleanly. Paper, by contrast, faces fibre attrition: the cellulose fibres **shorten** with each processing cycle, eventually becoming too weak to form high-quality paper. Plastics are the most problematic category not because they are "plastic" in the singular, but because they are a family of polymers with different additives and melting



behaviours. Even when separated by type, repeated heating and mechanical stress drives **polymer degradation**, breaking chains and reducing performance. Additives, dyes, and legacy chemicals can further complicate recovery by introducing toxicity concerns, which can restrict the use of recycled plastic in sensitive applications such as food packaging. The practical outcome is often downcycling into products with lower standards and shorter lifespans—an outcome that looks like recycling on paper while doing little to displace virgin production.

Policy solutions attempt to correct these incentives, but they vary in ambition and effectiveness. “Extended Producer Responsibility” (EPR) is frequently proposed as a mechanism to shift costs from municipalities to manufacturers by requiring producers to fund end-of-life handling. In theory, EPR can encourage better packaging design and reduce waste by making disposal costs explicit. In practice, EPR can become a narrow financial instrument—fees paid without structural change—unless it is paired with strict design standards and transparency. A stronger approach treats recycling as one component of a circular economy, where products are designed for longevity, repairability, and genuine recoverability, and where reuse systems and refill models reduce waste before it exists. Without upstream redesign, recycling remains a downstream repair mechanism asked to reverse the consequences of convenience-oriented production under constraints of entropy, contamination, and fluctuating markets.

The most defensible conclusion is therefore not that recycling is useless, but that it is frequently oversold. Household sorting can help, yet it cannot, by itself, overcome thermodynamic limitations, systemic contamination, and the economic viability problem created by volatile commodity prices. The public comfort offered by aspirational recycling becomes counterproductive when it delays more effective measures: reducing single-use packaging, designing materials for real recovery, and constructing policy frameworks that make waste prevention economically rational. Recycling can be valuable—but mainly when it is treated as the disciplined, conditional end of a hierarchy rather than as a comforting myth.

Questions 27–31

Choose **YES** if the statement agrees with the claims of the writer, choose **NO** if the statement contradicts the claims of the writer, or choose **NOT GIVEN** if it is impossible to say what the writer thinks about this.

27 The writer implies that “wish-cycling” is sustained partly because recycling offers psychological reassurance even when industrial outcomes are uncertain.



28 The writer suggests that the popular interpretation of the phrase “reduce, reuse, recycle” often ignores its intended hierarchy.

29 The writer claims that China’s 2018 import restrictions had little effect because other overseas buyers quickly absorbed the same volumes at similar prices.

30 The writer argues that the main reason recycling fails is that households are unwilling to separate waste carefully.

31 The writer explicitly states that EPR schemes always lead to major redesign of packaging materials.

Questions 32–35

Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

The constraints of material science and markets

Paper cannot be recycled indefinitely because its fibres **32** over successive cycles. Repeated heating and mechanical stress cause **33** in plastics, breaking chains and reducing performance. The economic calculation also depends on

34 for virgin materials, whose volatility can undermine the chain’s economic

35

Questions 36–40

Select the correct answer.

36 What is the main purpose of the introduction?

A To argue that household recycling is generally successful, but that public education has not kept pace with new packaging types

B To contrast the moral comfort attached to recycling with the conditional, industrial constraints that often prevent equivalent material recovery

C To claim that recycling rates would be high if governments imposed stricter penalties on households that contaminate bins

D To show that recycling is primarily a technological challenge that will be solved once AI sorting becomes universal

37 According to the passage, what was the most significant consequence of China’s “National Sword” policy?

A It caused an immediate global increase in the quality of recycled plastics by eliminating low-grade exports permanently



B It proved that domestic recycling systems were already self-sufficient and no longer depended on international markets

C It exposed Western reliance on exporting mixed recyclables and triggered financial and logistical disruption when stricter contamination thresholds were enforced

D It mainly shifted responsibility to consumers by requiring households to rinse all packaging before disposal

38 Why are plastics described as particularly difficult to recycle repeatedly?

A Repeated heating and mechanical stress can damage polymer chains and reduce material performance.

B Plastic products cannot be separated into different polymer types before processing.

C Recycled plastic always becomes toxic after a single processing cycle.

D Plastic recycling is technically effective only when virgin material prices are low.

39 How does the writer treat Extended Producer Responsibility (EPR)?

A As a complete solution that makes downstream sorting unnecessary by eliminating mixed waste streams

B As an ineffective policy concept, because producers cannot influence the recyclability of products once consumers discard them

C As a system that primarily increases export revenue by improving the marketability of mixed recyclables overseas

D As potentially useful, but insufficient if it becomes only a fee mechanism without binding design standards and broader circular-economy reforms

40 Which conclusion best reflects the writer's overall position?

A Recycling should be prioritised above reduction and reuse because technological advances will soon remove contamination and market volatility

B Recycling can play a role, but it is frequently oversold; prevention and redesign are required because contamination, entropy-related costs, and price volatility cannot be solved by household sorting alone

C Recycling is largely a myth and should be replaced entirely by incineration, which offers a more reliable solution for all materials

D The central problem is public ignorance, so the most effective strategy is to expand household education rather than changing product design or policy

Answer Key

27. YES

28. YES



29. NO

30. NO

31. NO

32. shorten

33. polymer degradation

34. commodity prices

35. viability

36. B

37. C

38. A

39. D

40. B