Before you read this

What follows is evidence of irrevocable harm being done to everyone alive. To read it is to cross a threshold; to set it aside is to remain on this side of it. Both choices are legitimate. Make yours knowingly.

Threshold is a proposal in development. This document is part of its working canon.

THRESHOLD · thresholdsummit.org

Power is the problem

Plastic entered commercial use in the 1950s on a promise of necessity. The promise was delivered. Our lives are measurably better.

The question of what to do with the material when it was no longer in use was never asked, and was never resolved. It became rubbish, thrown away.

There is no such place as away. There is only everywhere. Two billion tonnes in seventy-five years, and everywhere now includes our blood.

This was known, measured, and written about as a threat to life on earth for over fifty years. The facts are done. The research is done. The understanding is done.

What has not been done is to stop it.

For half a century, every pathway has failed. Regulation has been outpaced. Voluntary pledges have been broken. Advocacy has been absorbed. Markets have not responded. Litigation has resolved single cases while the system continued.

The reason is not ignorance, and it is not lack of will. The reason is power. The wealth created by plastic does not want the wealth to stop, and has the resources to ensure it does not.

That is what we found out. The Threshold is what follows.

A verified, legally usable, institutionally endorsed evidence base, built by the people who carry the harm in their bodies. Every observation scored for reliability. Chain of custody from phone to proceeding. A cross-stakeholder deliberation that produces ranked interventions on permanent record. An evidence infrastructure built upstream of the actors who will eventually use it, ready before they need it.

Not protest. Not policy. Not litigation. The architecture that makes all three forceful enough, sooner.

The Threshold is still a proposal. Its purpose is to make the cost of continued suppression exceed the cost of accountability. The threshold will be crossed. The Threshold is built to be ready when it is.

PLASTIC WASTE POLICY BRIEF

A Systems Approach to Crisis, Policy and Upstream Elimination

1. Polymer Markets: pre- and during-conflict price analysis
2. European Recycling Crisis: the scale and depth of collapse
3. Recycling Economics: full chain cost per tonne
4. Policy Architecture: the externality levy model
5. The Threshold: the evidence platform and chain of custody
6. Upstream Elimination: the robotic bulk dispensing model
7. Conclusions and Recommended Actions

Market projections in this brief represent the author's analysis, constructed from OECD baseline data and informed by direct experience in European plastics markets. They are possible scenarios with high probability, not forecasts in the strict sense.

Compiled by Andrew Henderson, Marans, France, July 2026, thresholdsummit.org. The Threshold is an independent initiative. Market data as of March 2026. Iran conflict price impacts indicative based on available data.

Executive Summary

460 Mt	<10%	22 Mt	~1 Mt	EUR 5 Bn
Plastic produced per year globally	Ever recycled globally	Leaking to environment per year	EU recycling capacity lost 2023-25	EU recycling investment 2020-23 now at risk

Plastic packaging is the defining environmental and public health challenge of the early 21st century. Of the 460 million tonnes of plastic produced each year globally, 40% is packaging. Less than 10% of all plastic is recycled globally. The remainder leaks into oceans, soils, freshwater systems, and consequently, into the human body itself. Microplastics have been detected in human blood, breast milk, placental tissue, and foetal organs. The link between plastic contamination and cardiovascular disease, neurodegeneration, and endocrine disruption is clinically established through association, with causal mechanisms under active investigation [B, Marfella et al., NEJM, 7 March 2024].

The reinsurance market has begun independently pricing this risk. In June 2025, Swiss Re's SONAR report flagged plastic litigation as an emerging long-tail liability wave [C, Swiss Re SONAR 2025]; in September 2025, the Lloyd's Market Association formally put the Lloyd's market on notice [C, LMA September 2025]. When institutional reinsurers move from horizon-scan to underwriting advisory, the risk has crossed from advocacy into actuarial reality.

The market failure: European plastic recycling, built at a cost of EUR 5 billion between 2020 and 2023 in anticipation of regulatory demand, has undergone catastrophic collapse. The cause is structural: virgin plastics are priced below their true social cost. The Iran conflict of February 2026 has temporarily corrected this through a 40%+ surge in virgin polymer prices, but much of the infrastructure needed to capitalise on this window has already been dismantled.

The policy gap: Current EU policy (the Plastics Tax at EUR 0.80/kg on non-recycled packaging, PPWR mandatory content targets, and EPR schemes) has been proven structurally insufficient. A virgin plastic levy of EUR 600-800/tonne, ring-fenced to fund recycler gate fees and collection infrastructure, would make every recycling stream economically viable, generating approximately EUR 10.8 billion/year against a recycler subsidy requirement of EUR 3.6-7 billion/year.

> **"The recycling sector needs a levy. The food retail sector needs a redesign. The plastic industry needs a liability framework. All three are available. The only missing ingredient is political will."**

Section 1: Polymer Markets

European Polymer Prices: before and during the Iran Conflict

The conflict in Iran and its impact on the free passage of the Strait of Hormuz, through which 84% of Middle East polyethylene export capacity flows, triggered the most severe polymer market disruption in decades. Polymer prices surged by 41-42% within weeks. Naphtha, the key cracker feedstock, rose nearly 74%. There were 31 force majeure declarations recorded globally by 13 March 2026, affecting Dow, LyondellBasell, and Indorama sites. The week of 2 March recorded the highest weekly transaction volume in the 25-year history of the US Plastics Exchange.

Source: myCEPPI/Plasticker Week 9/2026 (pre-conflict); ICIS and Chemical Market Analytics March 2026 (during conflict). Recycled grades: Plastics Recyclers Europe indicative H2 2026. [B] scored: conflict resolution timeline uncertain; price ranges indicative.

Resin / Grade	Virgin pre-conflict (Wk 9/2026, EUR/t)	Virgin during conflict (Mar 2026, EUR/t)	Change %	Recycled H2 2026 (EUR/t)	Margin status
PP Homopolymer IM	EUR 908-973	EUR 1,370-1,400	+~42%	EUR 750-950 (rPP)	Breakeven
PP Copolymer IM	EUR 1,015	EUR 1,425-1,450	+~42%	EUR 820-980 (rPP cop.)	Improving
HDPE Blow/Injection	EUR 960-985	EUR 1,350-1,390	+~41%	EUR 800-950 (rHDPE)	Profitable
LDPE Film	EUR 1,118-1,120	EUR 1,575-1,600	+~41%	EUR 700-900 (rLDPE)	Improving
PET Bottle grade	EUR 950-1,050	EUR 1,340-1,480	+~40%	EUR 900-1,100 (rPET)	Firmly profitable

The key insight: for the first time since 2022, recycled plastic is broadly price-competitive with virgin material across most grades. Clear rPET (DRS) and natural rHDPE are already profitable. rPP rigid and rLDPE are approaching breakeven. The conflict has accelerated the breakeven timeline by approximately 2-3 years, but the infrastructure to capitalise on this window has been substantially dismantled by the 2023-2025 closure wave.

Section 2: European Recycling Crisis

Scale of Collapse

Since 2023, European recycling facilities with combined capacity exceeding 600,000 tonnes have closed. By the end of 2025 the continent lost nearly one million tonnes of recycling capacity. The pace accelerated dramatically: closures in 2024 were double those of 2023; the first seven months of 2025 eliminated almost as much capacity as all of 2024 combined. Zero net growth was recorded in 2025, ending a decade of 17% annual expansion between 2018 and 2022.

The Financial Depth of the Crisis

Capacity loss figures understate the severity. The European recycling industry entered 2026 running at approximately 55% of its installed capacity. In a sector with high fixed costs (energy, plant, and labour), operating at 55% utilisation is not a squeeze. It is, for most operators, a death sentence.

850+	55%	-20%	~780	EUR 1.8 Bn
EU recycling companies 2024	Capacity utilisation (installed vs actual)	Revenue decline 2022-2024	Estimated active sites entering 2026	Revenue lost in two years

Industry turnover fell from approximately EUR 10.4 billion in 2022 to EUR 8.6 billion in 2024, a decline of nearly 20% in two years. The sector had been growing at 17% annually in 2022. It has since lost nearly a fifth of its revenue and a comparable share of its capacity. The two hardest-hit streams are polyolefin films and PET, which together represent approximately half of all installed capacity and accounted for 25% each of the closure wave in 2023-2024.

> **"The crisis is not technical. It is entirely economic. The machines exist. The expertise exists. The processing capacity exists, or did. What does not exist is a market structure in which recycling a tonne of plastic generates more revenue than it costs."**

Country-level capacity illustrates the political geography of the crisis. Germany holds the largest installed capacity at approximately 2.5 million tonnes; Spain follows at 2 million tonnes; Italy at over 1.5 million tonnes; the United Kingdom and France each hold between 1 and 1.5 million tonnes. These five countries account for roughly 60% of all European recycling capacity, and they are the countries where the financial pain is most concentrated.

Source: Plasticsrecyclers.eu Statistics 2025. Packaging Gateway 2024. Letsrecycle.com 2025.

Netherlands: the most severe case

One third of all plastic recyclers in the Netherlands have now gone bankrupt. Ten companies filed for insolvency in under 18 months. Two more relocated operations abroad, primarily to Lithuania, to escape Dutch energy costs.

Company	Location	Specialism	Closed	Primary cause
Ioniqa	Eindhoven	PET chemical depolymerisation	Oct 2024	Economically unfeasible scale-up; received tens of millions in subsidy
Umincorp	Stiphout	Mixed plastic magnetic separation	2024	New EU food-contact rules eliminated core market
Montfort Plastics	Amsterdam/ Rotterdam	HDPE/PP mechanical (18,000 t/yr)	2024	Low recyclate prices; LyondellBasell had bought 50% stake 18 months prior
Blue Cycle	Heerenveen	Plastic-to-oil pyrolysis	Dec 2024	Higher-than-expected costs; received EUR 7M provincial subsidy
Healix	Maastricht	Fishing nets / agricultural plastics	Sep 2025	Undercut by cheap virgin from Russia and US
Ecocircle	Emmen	Mechanical recycling	2024	Market conditions

Company	Location	Specialism	Closed	Primary cause
TRH Vinylrecycling	Netherlands	PVC recycling	2024	Market conditions
Repeats/Daly Plastics	Zutphen	LDPE film recycling	Mar 2026	4 of 5 lines shut before final insolvency; PE-backed platform
Cedo Recycling	Geleen	PE film recycling	2025	Relocated to Lithuania; four decades of operation ended

Four compounding causes

- Cheap virgin plastic imports: global ethylene overcapacity drove virgin prices to 15-year lows in 2025, making recyclate uncompetitive.
- Cheap recycled plastic imports: mislabelled or fraudulently certified imported recyclate undercut the domestic product.
- Margin squeeze from both ends: energy and transport costs rose sharply from 2021, while feedstock, labour and electricity costs all inflated processing expenses simultaneously.
- Regulatory framework arrived too late: EUR 5 billion invested 2020-2023 to meet PPWR targets, but enforcement and trade protection were not in place, leaving the investment unprotected.

Rodepa Plastics: the resilient survivor

Rodepa Plastics BV (Hengelo/Enschede) survived, but was not unscathed. A machine fire in November 2025 was contained by sprinklers; production transferred to Enschede the same day. Survival was enabled by family ownership continuity, vertical integration with De Paauw Recycling (feedstock supply since 1956), and multi-site redundancy. These conditions are rare within the industry and cannot be easily duplicated, leaving most other enterprises critically exposed.

Section 3: Recycling Economics

Full chain cost per tonne of pellet produced

Western Europe, 2025. All figures are estimated ranges based on industry data.

Stage	Rigid (PET/HDPE/PP) EUR/t	Flexible Film (LDPE/PP) EUR/t
Collection (attributed)	EUR 300-1,200	EUR 400-700
Sorting (MRF)	EUR 150-250	EUR 100-200
Washing	EUR 200-350	EUR 120-220
Grinding	EUR 50-100	EUR 60-120
Extrusion to pellet	EUR 150-280	EUR 200-350
TOTAL PROCESSING	EUR 750-2,030	EUR 980-1,740

Yield losses compound all costs: from 1 tonne of curb-side collected mixed plastic, a recycler typically produces only 250-450 kg of sellable pellet (a 2-4x cost multiplier). Film plastics and multilayer laminates remain structurally loss-making at any foreseeable virgin price without subsidy.

Breakeven conditions by stream

Stream	Current margin	Breakeven trigger	Base case year	With levy + Iran conflict
Clear rPET (DRS)	Marginal to viable	Virgin PET >EUR 1,100/t	Already viable	Firmly profitable now
Natural rHDPE	Marginal	Scale + DRS infrastructure	2026-2027	Profitable now
rPP rigid	Loss EUR 50-200/t	Virgin PP >EUR 1,100/t sustained	2027-2028	2026-2027
Mixed colour rigid	Loss EUR 300-600/t	Full EPR gate fee coverage	2029-2030	2028
Flexible film mechanical	Loss EUR 480-1,000/t	EPR + carbon tax on virgin	2032+	2030+
Flexible film chemical	Not viable	Scale + technology maturity	2035+	2032+

Section 4: Policy Architecture: The Externality Levy Model

The Externality Levy Model

The proposed policy mechanism internalises the external cost of plastic pollution and routes it directly to the recyclers whose activities prevent it. It operates through three interconnected mechanisms.

A: Levy on plastic placed on the market. Every tonne of plastic packaging placed on the EU market carries a levy set at the full avoided damage cost (EUR 600-800/tonne as a starting point), charged to the producer/importer at first sale and held in a ring-fenced Plastic Damage Fund.

B: Subsidy paid on verified recycled output. Every tonne of certified recycled plastic pellets produced by a licensed EU recycler triggers a direct payment from the Fund (the same EUR 600-800/tonne), explicitly connecting the act of recycling to damage prevention.

C: Fund mechanics. Revenue: approximately EUR 10.8 billion/year (15.4 Mt placed on market x EUR 700/t). Recycler payout: EUR 3.6-7 billion/year depending on recycling rate. Surplus: EUR 3-7 billion/year available for collection infrastructure, innovation, and developing-country support.

The Social Cost Evidence Base

Damage category	EUR/tonne estimate
Marine ecosystem destruction	EUR 400-800
Freshwater contamination	EUR 100-300
Soil microplastic accumulation	EUR 80-200
Human health (endocrine, neurological)	EUR 200-600
GHG emissions from plastic lifecycle	EUR 150-400
Tourism and fisheries economic loss	EUR 100-250
Infrastructure damage	EUR 50-150
Clean-up and remediation	EUR 300-700
TOTAL SOCIAL COST PER TONNE LEAKED	EUR 1,380-3,400

These cost estimates are vastly understated and represent only a starting point, awaiting further research and cost attribution. Source: OECD, WWF/Dalberg, Ellen MacArthur Foundation, Bain & Company.

The Liability Dimension

- Microplastics detected in human blood, breast milk, placental tissue, foetal organs, and brains, with association links to cardiovascular disease, neurodegeneration, and endocrine disruption established. [B, Marfella et al., NEJM, 7 March 2024; Ragusa et al. 2021]
- The Ocean Cleanup's forensic brand audits trace specific packaging to specific ocean pollution sites, establishing the prima facie product liability chain.
- Municipal authorities can quantify the cost of plastic litter management, drainage maintenance, and water treatment, establishing unjust enrichment claims.
- The tobacco litigation precedent (USD 206 billion recovered by US states) demonstrates the legal and political pathway. A pre-emptive levy is vastly cheaper for the industry than that outcome, which is advancing given the establishment of foundation legal indicators.
- The OECD explicitly calls for a plastic tax rising to USD 750/tonne by 2060. The EU's own Environment Commissioner has acknowledged the sector is in a "deep crisis."
- The reinsurance market signal: In June 2025, Swiss Re's SONAR emerging risk report included a dedicated section on plastics litigation, identifying product liability, bodily injury, and workers' compensation as the primary exposure lines for polymer producers [C, Swiss Re SONAR 2025]. In September 2025, the Lloyd's Market Association formally put the Lloyd's market on notice that plastics litigation is expanding across liability lines using the same structural progression documented in PFAS

cases [C, LMA September 2025]. Institutional reinsurers do not issue underwriting advisories ahead of policy need. When they move from horizon-scan to formal alert, the actuarial case has been made independently of the advocacy case.

> **"We are requiring plastic producers to pay compensation for quantifiable harm to human health, wildlife, municipal infrastructure, and ocean ecosystems by means of a ring-fenced fund for the mitigation of that harm. On what grounds do you NOT require this?"**

Section 5: The Threshold: The Evidence Platform

The evidence platform that makes the liability argument actionable

The policy instruments described in Section 4 require an evidence base that meets the standard of international legal and regulatory proceedings: verified, chain-of-custody documented, institutionally endorsed, and in the public record before the proceedings begin. That evidence base does not currently exist for plastic pollution in a form that is legally usable at scale.

The Threshold is an independent initiative building that evidence base. It operates a global citizen observation platform, currently in Season 1 targeting 5,000 verified Spotters in Phase 1 priority geographies (Rhine corridor, Mediterranean, French waterways), in which every submission is verified by human validators, scored A to F for evidential confidence, and tracked through a documented pipeline from initial observation to Knowledge Base integration. Geographic concentration, not raw volume, is the programme's Phase 1 metric: 5,000 verified observations from a single river corridor are a potential regulatory crisis; 10,000 spread globally are a press release.

The chain of custody architecture

The evidentiary architecture is designed from the ground up for legal usability. Contributors are identified by cryptographic identifiers generated on their devices; no names, addresses, or linkable personal data are held by the programme. IP addresses are stripped from all server logs before storage. Every submission that reaches the validation stage receives human review. High-impact clusters require sign-off from a Senior Validator before entering the Knowledge Base. Every claim in the Knowledge Base carries an A to F confidence score, and the programme applies that same scale to its own public statements.

The evidence does not enter proceedings retrospectively. It is in the public record, searchable and verifiable, before any proceeding begins. This is the structural difference from every previous citizen science platform: the chain of custody is built before the legal need arises, not assembled after it.

The Althing Round: expert synthesis

Running in parallel with the citizen observation network, the Althing Round is a 24-month structured expert simulation in which twelve participants, each representing a named institutional position (producer, regulator, litigator, scientist, municipal official, pension fund manager, developing-world negotiator, and others), engage with the verified evidence base to produce ranked policy interventions. The output is delivered to institutions that have agreed in advance to formally review it.

The simulation is not academic. It is designed to produce the conditions in which the rational actor, including the industry participant, encounters evidence and expert reasoning in a protected environment that permits candour their institutional roles would not otherwise allow. The ranked intervention list is a policy instrument with institutional standing, not a research paper.

Cross-Impact Analysis: the computational deliberation engine

The Althing Round's structured deliberation methodology is supported by a purpose-built cross-impact analysis (CIA) tool, developed specifically for the Threshold and operational as of 2026. Cross-impact analysis is a structured methodology in which participants map the influence of each policy variable on every other, producing a quantified network of interdependencies that reveals which interventions have the greatest systemic leverage and which combinations are mutually reinforcing or self-defeating.

The CIA tool converts the qualitative reasoning of twelve institutional participants into a computational model of the policy system, identifying high-leverage intervention clusters that simple deliberation or linear analysis would miss. It produces a ranked output: not based on the most frequently nominated interventions, but on those with the highest cross-system impact when implemented in combination.

This is the methodological core of the Althing Round's claim to produce ranked interventions that carry more weight than a poll or a committee vote. The CIA tool is a structural advantage of the Threshold programme that no comparable evidence platform currently replicates.

The gap this document acknowledges

The formal specification of the chain of custody standard, the precise evidentiary threshold at which citizen-contributed observations attain standing in international legal and regulatory proceedings, is the critical gap in the current programme architecture. The design intent is clear. The formal specification requires expert input from practitioners in international legal proceedings.

That specification is the most important single document the programme has not yet built. This Policy Brief is, in part, an invitation to the practitioners who can help build it.

Programme governance and independence

Governance element	Status
Independence Charter	Five principles. No funder influences findings at any level of investment. Board-enforceable.
Correction protocol	All errors corrected publicly within 72 hours. Applied to programme's own claims.
Contributor anonymity	Zero-knowledge architecture. Cryptographic identity. IP stripping. Cannot disclose under court order.
Legal defence	Pre-funded SLAPP defence for contributors targeted for their submissions.
Succession protocol	Published. Programme mission cannot be altered without board approval.
Youth governance	Youth co-governance representative on board. Youth Council runs parallel simulation.

Section 6: Upstream Elimination and Replacement

The Robotic Bulk-Dispensing Supermarket

All current policy interventions (levies, EPR, recycling subsidies, PPWR targets) are downstream mitigation: they attempt to manage plastic after it has been produced. The robotic bulk-dispensing supermarket is upstream elimination: it breaks the causal chain before plastic enters the waste stream.

Products arrive at retail in standardised reusable bulk containers; robotic dispensing systems fill customer-provided or store-provided reusable containers to precise quantities; payment by weight or volume; no pre-packaged units; no individual packaging waste.

Category	% of food packaging	Bulk dispensable?	Plastic elimination potential
Beverages	~22%	Yes (DRS + bulk)	Very high
Fresh produce wrapping	~18%	Yes (entirely)	Very high
Dry goods (grains, pasta)	~14%	Yes (fully)	High
Sauces, oils, condiments	~11%	Yes (bulk dispense)	High
Cleaning / personal care	~9%	Yes (proven)	High
Meat/fish trays	~12%	Partially	Medium
Dairy	~8%	Partially	Medium
Confectionery/snacks	~6%	Partially	Low to medium

55-65% of food retail plastic packaging is amenable to bulk dispensing substitution. Food packaging represents 81% of all household plastic waste. Net impact: 44-53% reduction in total household plastic waste, approximately over 100 million tonnes of waste NOT created globally.

Proof of Concept: what already exists

Maison Jar, New York: profitable within 6 months. 50% year-on-year sales growth Q1 2023 to Q1 2024. Eliminated packaging equivalent of 1,420 bottles of olive oil, 1,820 jars of peanut butter, and 2,443 bottles of kombucha in two years.

New World Supermarkets, New Zealand: removed plastic wrapping from all fruit and vegetables. Recorded a 300% sales increase in vegetables. Removing plastic increased sales.

SC Johnson / Ecover: refill dispensing pilots across European retailers. Reusable packs are refillable up to 50 times.

Market growth: the global reuse and refill market reached USD 28.2 billion in 2024, growing at 15% annually to a forecast of USD 35.4 billion by 2029.

Consumer demand: 77% of European consumers want refill options permanently. 71% prefer sustainable products. 64% say refill reduces waste better than recycling alone.

Why it has not happened at scale

The food retail industry, packaging industry, recycling industry, petrochemical industry, and most regulatory bodies in Europe have a vested interest in managing the plastic problem rather than eliminating it. Consumer resistance is not the barrier (77% want it). Food safety is not the barrier (technology solves it). Logistics is not the barrier (bulk supply chains are the original model). The real barrier is incumbent interest, whose massive investment in the infrastructure of FMCG packaging will become redundant.

Section 7: Conclusions and Recommended Actions

Immediate (0-12 months)

- Implement separate EU customs codes for virgin vs recycled plastic (announced Dec 2025, enforce urgently).
- Launch the Import Surveillance Task Force findings into anti-dumping proceedings against fraudulently labelled recycled imports.
- Establish emergency bridge funding (minimum EUR 200M) for viable recyclers at risk of closure while the levy framework is legislated.
- Commission formal economic modelling of a EUR 600-800/tonne Plastic Damage Levy and ring-fenced Recycler Compensation Fund.

Medium term (1-3 years)

- Legislate the Plastic Damage Levy with a ring-fenced recycler gate fee subsidy targeting every stream, including flexible film.
- Extend CBAM (Carbon Border Adjustment Mechanism) to cover plastic polymers: the legally cleanest WTO-compatible mechanism.
- Mandate food-safe bulk dispensing infrastructure standards and pilot robotic bulk dispensing in at least 50 supermarket sites across 5 EU member states.
- Enforce PPWR mandatory recycled content targets with meaningful financial penalties for non-compliance.
- Fund national DRS rollout across all EU member states (PET breakeven is already demonstrated under DRS conditions).

Long term (3-10 years)

- Require all new supermarket planning permissions to include bulk dispensing infrastructure covering a significant basket of FMCG.
- Phase out single-use plastic food packaging for all categories amenable to bulk substitution.
- Establish the legal framework for plastic producer liability for ocean clean-up costs, modelled on tobacco state litigation.
- Integrate plastic pollution costs into national healthcare accounting to build the evidence base for future liability claims.
- Support Global Plastics Treaty negotiations with this full downstream compensation levy model as the proposed financing mechanism for developing-country implementation.

> **"The plastic crisis is not a technical problem. It is not even primarily an economic problem: it is a political problem. The gap equals the distance between what the evidence demands and what vested interests permit."**

The evidence now commands action across three simultaneous dimensions: liability for harm already caused, a levy that makes harm prevention economically viable, and upstream redesign that eliminates the harm at source. Any one of these alone is insufficient. All three together are unstoppable.

Sources: OECD Global Plastics Outlook 2022; UNEP INC-5 documentation; Ellen MacArthur Foundation; Plastics Europe; myCEPPI/Plasticker; ICIS; Chemical Market Analytics; The Plastics Exchange; Bain & Company; Wood Mackenzie; Plastics Recyclers Europe; Plasticsrecyclers.eu Statistics 2025; Packaging Gateway 2024; WWF/Dalberg; The Ocean Cleanup; Plastic4Trade; Marfella et al., NEJM, 7 March 2024; Ragusa et al. 2021; Swiss Re SONAR 2025; LMA "Beyond PFAS" September 2025. Market data as of March 2026. Compiled by Andrew Henderson, Lead Architect, thresholdsummit.org, July 2026, Marans, France.

What follows from reading this

You have now read the evidence. The medical evidence is in our blood and our children's. The economic case for recycling, as it has been sold, is dead. The policy interventions exist and have been costed. The architecture that would resolve a case of this shape has been mapped.

From this point you are an informed witness. That is the threshold.

The next question is not whether you care. The historical pattern is clear. Systemic harm has been resolved in every documented precedent (tobacco, asbestos, lead, opioids) not by enough people caring but by enough informed witnesses acting in ways small and large. The relevant distinction is not between those who care and those who do not. It is between those who act and those who do not. The difference is witnessed commitment, not feeling.

Three civic acts cross the threshold.

Vote. Vote for political representatives who will price the externality, build the levy, and pass the producer liability framework. Plastic is a political problem before it is a chemical one.

Vote in the Threshold poll. When the Knowledge Base presents the ranked interventions that emerge from the Althing Round, vote on them. The poll is the public record of which interventions citizens have endorsed.

Write your Pledge. If you care, show it. Write to your unborn grandchildren. Tell them what you knew. What you did. What you did not do. Tell them why they will live with the consequences. Seal it with your mark. Send it to the Threshold. We will hold it until the threshold is crossed, or until the year you have chosen, whichever comes first. This is the act that crosses your own. You will carry it forever.

The Threshold Effect is the pattern by which documented systemic harm crosses a threshold making it increasingly difficult to ignore (legally, medically, and politically) in documented historical cases, deliberately and systematically.

The case has crossed every threshold but yours.

Whether you cross it is now observed.