MI-BIN: Connecting Households, Communities and the People Who Collect Our Waste

MI-BIN Future Vision | October 2026

Following recognition in the British Plastics Federation's Top 15 Plastic Innovations of 2026, MI-BIN explains why household participation, better product design, worker wellbeing and environmental responsibility should be considered together in developing a more effective circular economy.

Introduction

The inclusion of MI-BIN in the British Plastics Federation's Top 15 Plastic Innovations of 2026 is a welcome recognition of our efforts to rethink one of the most familiar products used by households and local authorities: the humble wheelie bin.

The BPF highlighted MI-BIN's patented compartmentalised design, incorporating independently accessible waste compartments within a single container, alongside our proposed commitment to plant a tree for every household adopting the product.

While we are naturally pleased with this recognition, we believe it also provides an opportunity to explain the wider thinking behind MI-BIN and why we have continued to pursue its development.

Our ambition has never been simply to manufacture another wheelie bin.

We believe that better product design can contribute to improved recycling practices, encourage greater household participation, support local communities and address some of the operational challenges faced by the people responsible for collecting our waste.

If we are serious about developing a more effective and informed circular economy, we must consider not only the materials we collect and recycle, but also the people and organisations whose cooperation makes that process possible.

The circular economy needs a different approach

The transition towards a circular economy is intended to reduce waste, make better use of resources and keep materials in productive use for longer.

However, despite considerable investment in recycling infrastructure, public awareness campaigns and collection services, progress in household recycling across the UK has been limited.

According to UK government statistics published in September 2026, the household waste recycling rate stood at 44.5% in 2024, compared with 44.6% in 2023.

Although performance varies across the four UK nations, the overall figures indicate that progress remains limited.

This raises an important question.

If existing approaches are not delivering the improvements we need, should we be giving greater consideration to how households, councils and the waste collection industry work together?

For many years, improvements in household recycling have largely depended upon providing information, issuing instructions and encouraging residents to separate their waste correctly.

Access to information and education remains essential, but it must be accompanied by practical solutions that encourage greater participation.

MI-BIN has been developed around the principle that product design can influence behaviour.

By reconsidering how household waste is separated, stored and presented for collection, we believe there are opportunities to improve recycling practices while addressing some of the practical difficulties experienced by households and collection workers.

The circular economy depends upon people as much as materials.

The thinking behind MI-BIN

MI-BIN's development began more than a decade ago, prompted by concerns about bin blight, the growing number of household waste containers, recycling contamination and the physical demands placed on collection workers.

Following discussions with CIWM at the RWM exhibition in Birmingham in 2015, we were invited to contribute an article to its journal. Thinking Outside the Bin, published in February 2016, examined the changing design of the dustbin and the lack of innovation in its development.

These concerns were revisited in The High Price of Cheap, published in Future Waste Magazine in March 2024.

Throughout this period, our attention has remained focused on the relationship between product design, household behaviour, collection arrangements and worker safety.

Understanding household attitudes and the need for practical change

Households are essential to the success of recycling.

How materials are separated and presented for collection can influence the quality of recyclable materials entering the waste management system.

Our research into changing consumer attitudes has reinforced our belief that households increasingly recognise the importance of environmental and social responsibility.

However, we also recognise that consumer surveys have limitations.

Research published by eBay in its 2022 Shop for Change Report, drawing on a survey of more than 2,000 UK consumers, found that 65% considered sustainability before making a purchase, while 57% considered whether a business contributed positively to society.

The report also identified affordability as an important factor influencing purchasing decisions.

Deloitte's 2024 Sustainable Consumer research, conducted online by YouGov among more than 2,000 UK adults, found that 61% had avoided taking one or more sustainable actions because of cost.

Similarly, an Ipsos survey of 1,088 British adults in April 2025 found that price and product quality remained the leading purchasing considerations, at 93% and 92% respectively, while 66% considered environmental impact important.

These findings provide useful indications of consumer attitudes, but they reflect responses from defined groups to particular questions. They should not be interpreted as predictions of purchasing behaviour or evidence that households will necessarily pay more for an environmentally responsible product.

Indeed, research into recycling behaviour highlights a concerning difference between people's intentions and their actions.

RECOUP's 2023 UK Citizen Plastics Recycling Behaviours Insights Survey, involving 2,424 respondents, found that 32% identified confusion about whether an item was recyclable as a reason for not recycling it.

The survey used an informal questionnaire rather than a nationally representative sampling method, but its findings raise legitimate concerns about public understanding and the effectiveness of recycling communications.

WRAP's 2025 Recycling Tracker, based on an online survey of 5,438 UK adults, provides further evidence of this difficulty.

Although 89% reported regularly recycling most or all recyclable materials, 79% also reported disposing of recyclable materials in their general rubbish.

The survey used quotas for age, gender and region to reflect the UK population. Its results describe reported behaviour rather than direct observation.

These findings reinforce our belief that greater environmental awareness needs to be supported by practical improvements to household recycling.

Building a stronger relationship between households and councils

Local authorities provide essential services to their communities, often while managing considerable financial pressures.

Waste collection is among their most visible responsibilities, with households interacting with these services throughout the year.

According to the Environmental Services Association's 2024 market overview, UK local authorities spent an estimated £7.5 billion on waste collection, cleansing, recycling and treatment services in 2021/22. There are also costs associated with supplying and replacing household wheelie bins, although arrangements vary between councils and some bin-related expenditure may already be included in that total.

We believe there is an opportunity to develop a more cooperative and mutually beneficial relationship between households and their local councils.

Our research into household purchasing habits and consumer attitudes towards environmental and social responsibility has reinforced our belief that the time is right to explore a different approach.

MI-BIN's proposed voluntary household upgrade model has been specifically designed to generate an additional income stream for participating councils, providing funds that can be directed towards improving local services and supporting community initiatives.

Under this approach, households would have the opportunity to choose an upgraded recycling container designed to provide practical benefits while accommodating their local collection arrangements.

To make the upgrade accessible, we are developing a commercial model involving an independent leasing company.

The leasing company would manage the financial arrangements with participating households, while MI-BIN Limited would receive payment for supplying the product.

After recovering its agreed costs, the leasing company would distribute the designated surplus to the participating council.

This financial contribution to local authorities is not an incidental benefit of the model. It is one of the fundamental reasons we developed the approach.

Our intention is to give households the opportunity to acquire a quality recycling product while knowing that their participation also contributes financially to their local community.

These additional funds could support local environmental improvements, assistance for vulnerable residents or other community projects identified by participating councils.

The precise financial returns will depend upon the final commercial agreements and household participation levels.

A leasing partner has yet to be appointed, and the arrangements will require proper commercial evaluation.

Recognising the people who collect our waste

Waste collection is physically demanding work.

Collection crews regularly manoeuvre containers, negotiate uneven surfaces, work around parked vehicles and operate in varying weather conditions.

Musculoskeletal disorders, commonly referred to as MSDs, remain a recognised occupational health concern within the waste and recycling industry.

Research undertaken by the University of Greenwich and published in 2019 examined the relationship between collection methods and MSD-related sickness absence.

The findings associated the use of wheeled bins with lower sickness absence than collection systems relying on boxes, baskets and sacks.

Nevertheless, the research reinforces the importance of considering container design when assessing the health and safety of collection workers.

Our initial 240-litre design incorporates four wheels and two independently accessible compartments, each with a colour-coded lid matching the colour of its compartment. Integrated handles and comb-lifting arrangements at both ends are designed to allow the wheelie bin to be approached, manoeuvred and emptied from either end using existing comb-lifting systems.

These features will be evaluated during the forthcoming prototype stage, with particular attention to stability, manoeuvrability, operational efficiency and suitability for householders, including those with reduced mobility.

We will involve collection workers and local authorities directly in that evaluation.

Connecting household participation with environmental responsibility

As highlighted in the British Plastics Federation's recognition of MI-BIN, we intend to fund the planting of one tree for every household adopting the product.

To deliver this commitment, we have established a working relationship with 9Trees CIC, an organisation involved in woodland creation, biodiversity and environmental restoration across the UK.

Under our proposed financing arrangement, MI-BIN Limited will receive payment for each product supplied, including the allocated tree-planting contribution.

Upon receiving payment, MI-BIN Limited will transfer that contribution directly to 9Trees CIC, ensuring the environmental commitment is funded at the outset rather than depending upon household lease payments over subsequent years.

Planting will take place when suitable sites become available and seasonal conditions permit. Although this may involve a delay, the funding will already have been provided.

9Trees currently manages woodland projects across the UK and continues to develop additional planting opportunities.

Our relationship is also featured on 9Trees' website: MI-BIN and 9Trees partnership

We believe this provides a practical and transparent connection between household participation and environmental restoration.

The planting initiative complements MI-BIN's wider objective of developing a durable, practical recycling product that encourages better waste separation and more effective use of resources.

Better design and long-term value

Wheelie bins have served households and local authorities for decades, but changing recycling requirements and collection practices create opportunities to improve their design and long-term value.

MI-BIN is being developed as a patented compartmentalised platform rather than a product permanently restricted to one capacity or configuration.

Our initial proposed model is a 240-litre, four-wheel container incorporating two independently operated 120-litre compartments.

The underlying design principle can potentially be adapted to different capacities and compartment proportions, depending upon the waste streams involved and collection arrangements required.

This flexibility is important because household requirements and collection systems vary considerably across the UK.

England's Simpler Recycling policy, introduced for household collections in March 2026, provides a relevant example.

The policy sets out four default waste streams, including paper and cardboard and other dry recyclables, while allowing local authorities flexibility in how collections are arranged.

MI-BIN's independently operated compartments offer a possible way of accommodating selected waste streams within one container, subject to the requirements of individual collection systems.

Durability is equally important.

We intend to offer a ten-year household guarantee, subject to successful testing and manufacturing.

We recognise that manufacturing a more sophisticated product may involve additional costs.

However, the lowest initial purchase price does not necessarily represent the best long-term value.

Product lifespan, maintenance, replacement costs, suitability for purpose and ease of handling all deserve consideration.

Good design should be measured not simply by what a product costs to purchase, but by the value it provides throughout its working life.

From recognition to practical evaluation

The British Plastics Federation's recognition represents an encouraging milestone for MI-BIN.

However, the next stage of development is particularly important.

Our priority is to produce properly engineered, fully functional prototypes that will allow the product's features and operational characteristics to be evaluated.

Compliance with applicable EN 840 requirements will be essential before commercial production.

The prototype phase also provides an opportunity to engage directly with local authorities, collection workers, waste industry organisations and prospective commercial partners.

At the same time, engagement with councils and prospective financing partners will help us evaluate the proposed voluntary household upgrade model, including affordability, commercial arrangements and the additional funding intended for participating councils.

We believe these discussions should progress alongside prototype development.

Our objective is not simply to demonstrate a new bin design, but to establish whether a different approach to household participation and waste collection can deliver worthwhile benefits for everyone involved.

Looking beyond the bin

Our proposed approach combines practical product design with voluntary household participation, additional funding for local communities and a commitment to environmental restoration.

We recognise that important work remains, particularly in engineering, prototype development, operational testing and validating the proposed commercial arrangements.

Nevertheless, we believe the principles behind MI-BIN are worth pursuing.

Improving household recycling should not be viewed solely as an environmental challenge. It is also an opportunity to improve product design, support the people delivering essential services and strengthen the relationship between households and their local communities.

Because ultimately, the circular economy is not simply about what happens to materials after they are collected.

It is also about the decisions we make, the equipment we use and the people we bring together to make better outcomes possible.

And that, we believe, is where meaningful innovation can make a difference.
