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# accessgreen limited submission- Waste Action Plan for a Circular Economy 2020

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# Overview

## Overview - Communal bin stores in apartment blocks

In Ireland, communal bin stores in apartment blocks provide a different model for waste disposal to the usual curb-side waste collection. Firstly, waste from individual households comes together in communal bins before collection by the waste truck, providing visibility of the waste produced. Secondly, in most cases, the resident does not pay directly for their waste collection, although a flat fee may be factored into their rent. Thirdly, it is the apartment owners who pay a yearly budgeted fee for waste based on last year's costs. Fourthly, the collections are generally charged per lift rather than by weight. Finally, as bins need to be accessible to multiple households, the responsibility for controlling access to the bins, contamination, fly tipping and hygiene is removed from the individual and falls on the shoulders of the property manager.

As such, the bin stores are often viewed as a place to dump rubbish, with low levels of correct waste segregation de-motivating individuals to recycle at home. Recycling services may be discontinued. This all leads to escalating costs and complicates the establishment of targeted incentives to reduce waste and recycle more.

**SUMMARY: Bin stores are communal resources which are subject to tragedy-of-the-commons outcomes, which can result in them becoming unsupportable.**

## About ACCESSGREEN LIMITED

ACCESSGREEN LIMITED, established in Oct 2016 and backed by Enterprise Ireland, thinks differently about how people view and use those communal facilities. The bin store is a shared resource used by everyone in the apartment community and should be a clean, safe, family-friendly resource for residents. ACCESSGREEN's smart lock technology with integrated CCTV ensures user accountability and a reduction in fly tipping. The lock is opened via a registered mobile phone, providing a clear two-way communication channel to exchange information, education and support.

ACCESSGREEN's work also focuses on waste reduction: at registration, users sign a social contract acknowledging the community's values of waste reduction and committing to achievable individual actions. Feedback from the community offers a big-picture view of waste issues. Through waste reduction and improved segregation, waste collection costs decrease by on average 38% which can cover the annual subscription costs of the ACCESSGREEN service. Our system is installed in over 30 bin stores. In its first two years,

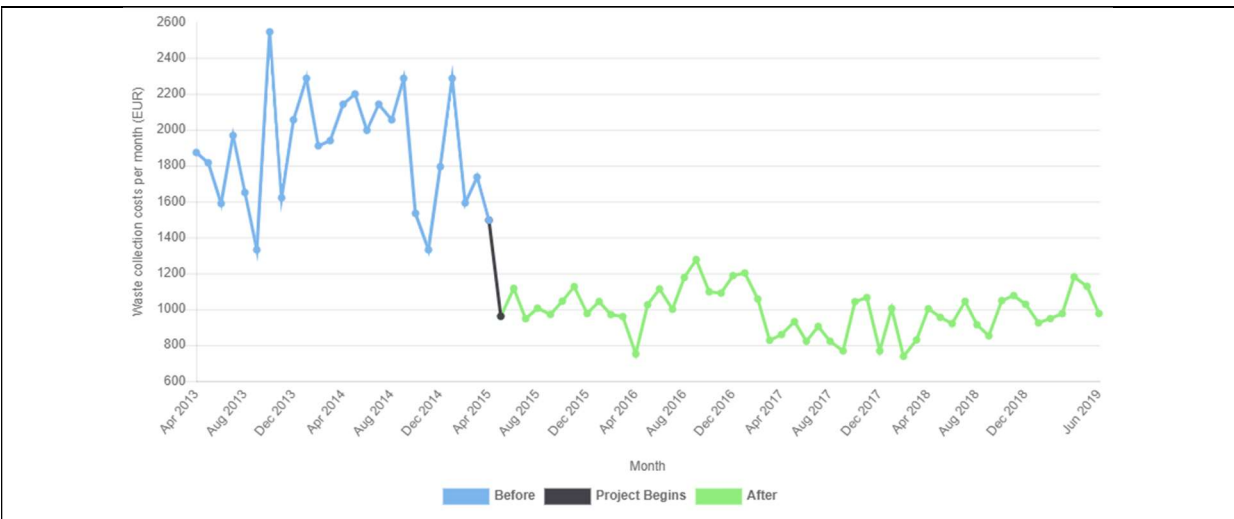


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accessgreen ltd is an Irish registered company (no: 590334)

ACCESSGREEN helped residents use their bin stores to divert over 1,200,000 cubic litres of dry/mixed recycling that would otherwise have ended up in the general waste stream.

**SUMMARY:** By aligning the incentives for each stakeholder following Common Pool Resource management theory, ACCESSGREEN helps make communal bin stores a more efficient way to manage waste collection than the standard approach of individual household collection.



Graph showing reduction in waste collection costs before and after accessgreen commissioning (fig 5)

# Consultation Questions

## 3. Municipal (Household and Commercial) Waste

### Consultation Questions – Household Waste

*Is incentivised charging working in your opinion? Are households being financially incentivised to prevent waste and recycle correctly through the 3 bin system?*

In apartment blocks, there are no financial incentives for individuals disposing of their waste in communal bins to reduce their waste. In fact, the financial incentives for tenants can lead to the abuse of the facility. There are also incentives for the landlord not to pay the service charge which includes waste collection costs.

These incentives can lead to tragedy-of-the-commons situations as pictured in fig 2 and fig 4 where recycling by residents is not a practical choice.

However, if properly managed, the financial incentives for the apartment owners as a collective to ensure waste is sorted and the quantity reduced are such that reinvestment in the communal resources can provide incentives for tenants.

*Would an incentive scheme which compared your performance on how you generate and recycle your household waste with your area / county etc change your waste management behaviour?*

Yes, but this ignores the need to create understanding that waste is an issue at the community level. Competing communities seems a more exciting approach.

*What can be done to improve recycling (including organic waste) in apartment complexes?*

The award scheme seems like a good idea. While it may complicate things, different levels of awards would recognise that progress in modifying group behaviour is often incremental. Communication/engagement with tenants (commercial and residential) should be one criterion.

A communal bin store provides an excellent way for people to understand the amount of waste produced at a level above the individual household. This is key to seeing a bigger picture of waste management. For example, while an individual may cut their waste to zero, as an apartment resident they would still be aware of the large amounts of waste produced by the community. They will also be aware of the quality of recycling and organic waste produced.

ACCESSGREEN champions social contracts that express the values of the community, based on UN Sustainable Development Goals, and allow individuals to sign up to actions in

line with those goals. It forms a powerful pre-commitment to waste reduction and sorting and bridges the value-action gap evident from studies carried out in apartment blocks.

Communication and education is key to this. As residents use the phone to access the bin store, we have a direct communication channel with each user. Areas to develop are awareness that adult literacy and language comprehension can be barriers to active participation.

ACCESSGREEN with Cork Institute of Technology conducted The Communal Waste Study that included 17 apartment blocks in which 985 people were addressed. This research was funded by ENABLE/CONNECT. From those addressed we received 244 responses of which 217 could be used.

The main findings were as follows:

- Up to 84% of the respondents have a positive attitude towards recycling organic waste
- Women show a slightly higher intention to recycle organic waste than men
- A Dublin City Council study had 2/3 non-native English speakers in their assessed apartment blocks, so we assumed the same. The result was that we had over 2/3 English speakers and less than 1/3 non-English speaking participants.
- The main factor which demotivates people to recycle more is that others don't sort their waste correctly.

This last point would appear to be a fundamental aspect of a circular economy approach to managing waste. Waste reduction and recycling are often presented as depending on the actions of individuals, but the nature of those actions is dependent on the actions of others.

Communal organic bins are problematic in apartment blocks. Space in kitchens is often tight. The journey from apartment to bin store presents challenges. The bins are large and the waste festers due to infrequent collections. Heat added to the mix in summer sees pests around the bin. ACCESSGREEN is looking at dedicated smart bins tied to a social contact with frequent collections brought to a local amenity with rewards for participation.

*Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?*

Apartment blocks are an excellent focus for implementing waste strategies. They should become a hub for social engagement and circular economic activity. Instead, each apartment is treated as an individual household and any communication between residents is usually outsourced to the network of apps such as facebook. The community loses out on the benefit of understanding how its own network functions.

In our pilot scheme launched four years ago, a block of 78 apartments reduced its annual waste bill from €24,000 to €12,000. After 3 years, part of the savings were spent on a €22,000 upgrade to the communal lighting system, bringing in LED lights and sensors. This upgrade was in effect paid for by the residents' waste.

Viewing the bin store as a resource is a key insight guiding ACCESSGREEN. Managing all resources for an apartment block together allows actions in one area to have payback in another. Residents have better facilities, landlords save money. Both tenants and owners can be confident that everyone is doing their share, either in practice or financially. The property agent has less hassle and improved facilities.

## **8. Citizen Engagement – Awareness & Education .**

### **8.7 Consultation questions - Citizen engagement**

*Waste Collectors have a condition in their permits to maintain on-going communication with their customers in accordance with their customer charter. Do you agree that collectors are giving sufficient information to their customers in relation to separating waste into the 3 bins?*

In apartment blocks, waste collectors have no direct communication with the household. Registering for access to a communal bin store allows information to be channelled directly to the users. This is an area where an approach based on social contracts and engagement comes into its own.

### **16.5 Consultation Questions - Waste Enforcement**

*Are there examples of existing good practice to prevent illegal dumping?*

Managing waste and belongings in an apartment is a challenge. On top of reported waste collection costs, many apartments must pay for bulky item collections of mattresses, furniture and commercial waste. This remains a private expense but a lot of it can come from outside the development.

Residents of apartment blocks must also number among those dumping in public spaces. Apartment blocks residents often miss out on awareness drives.

The combination of monitored use of the bin store, ongoing education and engagement and services to cater for the disposal of these items is a proven strategy to tackle illegal dumping.

Accessgreen have worked closely with Kildare County Council to tackle illegal dumping and we are looking at testing further actions to help implement the new bye laws for household waste.

**SUMMARY:** Apartment blocks should become hubs for a circular economy approach to waste. By utilising economic theory for managing common pool resources, incentives can be used to transform how existing infrastructure, such as communal bin stores, are used. Further investment could see these communities flourish as centres where joint waste actions can be rewarded by improvements in the supply of other communal resources.