



# PPI Training

## MODULE 5: Innovative approaches to procurement in waste management

PPI training

- Best practice: An innovative solution for waste collection in Ireland
- Best practice: Zero waste Prison Mattress
- Performance contracting - Insights to waste performance contracts



## Best Practice Case

An Innovative Solution for waste collection in Ireland

# Best Practice Case

## An Innovative Solution for waste collection in Ireland

### Challenge

- Achieve savings in current waste management contract
- Optimise collection frequencies of waste bins and improve results

### Solution

- Use of solar powered compacting litter bins with sensors for real time information

### Gains

- Improvements in collection efficacy (demand driven collection)
- Fuel savings and reduction in fleet of 3 vehicles
- Reduction in bin repair and bag usage
- Service was extended to new areas
- Savings of app. 200,000€ per year

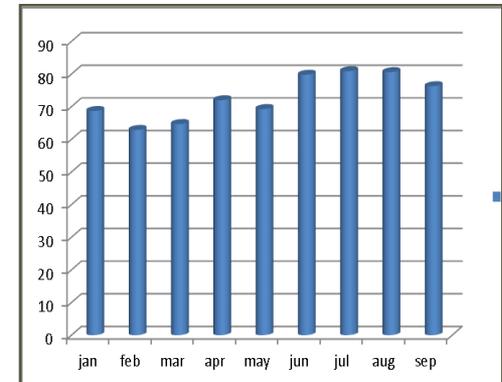


# Best Practice Case

## An Innovative Solution for waste collection in Ireland

### Process

- After identifying the needs, DLR County Council purchased 20 smart bins and installed them in key locations for a trial period of 9 months.
- Trial resulted in a reduction from over 500 to 73 empties per day.
- A procurement process was undertaken - using an open tender.
- Avoided the use of over-detailed specifications in favour on more functional ones (e.g. total number of emptying trips was not specified)
- As a result, the whole bin stock was replaced by the new smart bins.



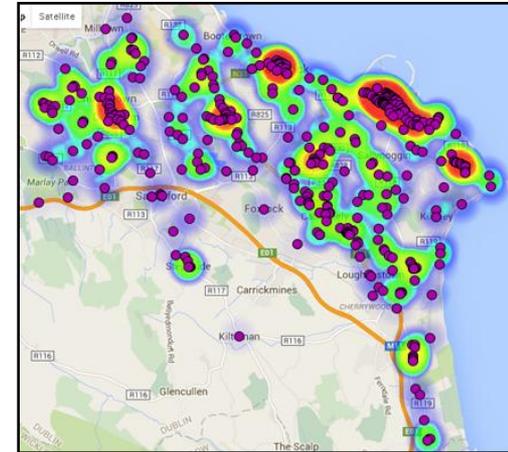
Total bin empties per day

# Best Practice Case

## An Innovative Solution for waste collection in Ireland

### Performance

- Option to lease or purchase the bins from the supplier, with a minimum life of 7 years.
- Annual costs include repayments of capital, maintenance and software license
- Emptying process: a list of full bins is generated every morning together with a map
- Frequency of bins emptied can be measured and locations of less used bins can be changed every year to areas of greater usage.
- Reduction of 85% in the number of bins emptied on a daily basis.



Heat maps with bin status

Station	Component	Waste Stream	Description	Current Status	Level	Age	Groups
2401476	BB4	Trash	AB - 2 - Foxrock Ave, beside I	Yellow	7.6	hours	Foxrock
2502451	BB5	Trash	AD - 4 - Kill Lane, outside De	Yellow	7.4	hours	Deansgrange
2503303	BB5	Trash	AJ - 11 - Deansgrange Road, i	Yellow	6.6	hours	Merrion Spine, Dea
2503290	BB5	Trash	AN - 14 - Abbey Road, at bus	Yellow	4.5	hours	Deansgrange
2503274	BB5	Trash	AO - 17 - Oliver Plunkett Road	Yellow	1.7	hours	Monkstown
2503235	BB5	Trash	AS - 19 - Monkstown Avenue, Yellow	Yellow	11.3	hours	Monkstown
2503196	BB5	Trash	AW - 23 - Monkstown Road, a	Yellow	2.1	hours	Monkstown
2503239	BB5	Trash	BB - 26 - George's St Lower - Yellow	Yellow	57.6	minutes	Dun Laoghaire
2503265	BB5	Trash	BC - 29 - George's St Lower - Yellow	Yellow	13.8	hours	Dun Laoghaire
2503214	BB5	Trash	BD - 30 - George's St Lower - Yellow	Yellow	9.7	hours	Dun Laoghaire
2503246	BB5	Trash	BF - 32 - Bloomfields SC - Du	Yellow	1.5	days	Dun Laoghaire
2503161	BB5	Trash	BN - 40 - Manne Road, at taxi	Yellow	7.3	hours	Dun Laoghaire
2503202	BB5	Trash	BS - 45 - Crofton Rd. - Bus St	Yellow	3.7	hours	Dun Laoghaire
2503185	BB5	Trash	BY - 51 - Pavillions - Beside P	Yellow	5.7	hours	Dun Laoghaire
2503219	BB5	Trash	CA - 53 - Manne Rd. - Meadow	Yellow	11.2	hours	Dun Laoghaire

List with bins to be emptied



[Source Foto](#)

# Best Practice Case

Zero Waste Prison  
Mattress

[Check more information](#)

### Challenge

- 40,000 + dense foam prison mattresses sent to landfill each year - around 35 double decker buses
- All treated to be highly fire resistant.
- Conflicts with environmental policy and contributing to failed waste targets
- The same specification and the same supplier for over 20 years
- Research and stakeholder engagement showed hidden costs:
  - High and increasing cost of disposal (€3.4 / year)
  - Cleaning mattresses time consuming for staff
  - Mattresses difficult to clean leading to rapid turnover of mattresses
  - Anticipated cost increases due to landfill tax
- Also
  - Waste contractors less and less willing to take the mattresses

# Best Practice Case

## Zero Waste Prison Mattress

### Required outcome

- Zero Waste Prison Mattresses at no additional cost

### Market Engagement

- Market engagement in three stages:
  1. Publication of a Prior Information Notice.
  2. Market Sounding “call for innovative ideas and information”
  3. Market Consultation workshop.

“The combined cost of buying and disposing of mattresses and pillows is estimated to be well in excess of £3 million per year. In short the current solution is costly and environmentally unsustainable”.

HMPS FCP Market Communication Document

### Market Response

- Over 45 responses received from SMEs through to international companies.
- The market engagement process was a success;
  - Made HMPS unmet needs visible to the market.
  - Stimulated a response from the supply chain.
  - Stimulated new connections in the supply chain.
  - Provided HMPS with information on a number of products and technologies that could contribute to achieving a zero waste system.
  - Introduced ideas and options for managing end of life mattresses.
  - Introduced a number of potential new suppliers.
  - Catalysed a number of innovative ideas.
  - Increased the confidence of the project team regarding the appetite, capacity and capability of the supply chain to deliver a solution.

### Tender

- An OJEU competition was launched for the supply of a ‘Fully Managed Service for Zero Waste Prison Mattresses and Pillows’.

### Outcome specification

- The tender documents stated the outcomes needed:
  - Meet operational requirements in relation to safely and security
  - Be environmentally friendly
  - Be easier to clean
  - Be, at the very least cost neutral,
  - Achieve a Zero Waste solution within 2 years.
- Five competitive tenders were received

# Best Practice Case

## Zero Waste Prison Mattress

### Solution

- An OJEU competition was launched for the supply of a ‘Fully Managed Service for Zero Waste Prison Mattresses and Pillows’.
- A contract was signed for a ‘Zero Waste Mattress and Pillow Solution’.

### Gains

- The solution achieved zero waste from the start.
- The supplier adjusted a recycling process to enable the old mattresses to be used for carpet underlay and improved the design of the mattress
- The life cycle of the mattresses was managed by the supplier - supply, recovery, recycling
- Innovation?
  - Technical: Fabric for easier cleaning
  - Manufacturing: Recycling process,
  - Operational: Changes in mattress management in prisons
- Cost savings estimated to be in the region of €5 million over the life of the 4 year contract.

# Best Practice Case

## Zero Waste Prison Mattress

### Supplier

- It is interesting to note that the new contract was awarded to the incumbent supplier....

“Why hadn’t a zero waste solution been available before? Above all because we had failed to ask for it.

This time we looked at the whole life cycle of the mattress, gave the supply chain time to respond and created a competitive environment”.

Head of Procurement Compliance, Ministry of Justice

**YOU  
DON'T GET  
WHAT  
YOU DON'T  
ASK FOR.**



# Performance contracting

Municipal waste  
performance  
contracts

[Check more information](#)

[Source Foto](#)

21/12/2016

PPI4Waste

### Definition of waste performance contract:

‘A contract for the management of waste which, through the action of a contractually agreed payment mechanism related to defined performance indicators and targets, incentivises the movement of waste management further up the waste hierarchy, and enhances the prospects for improved resource efficiency and the flourishing of a circular economy.’\*

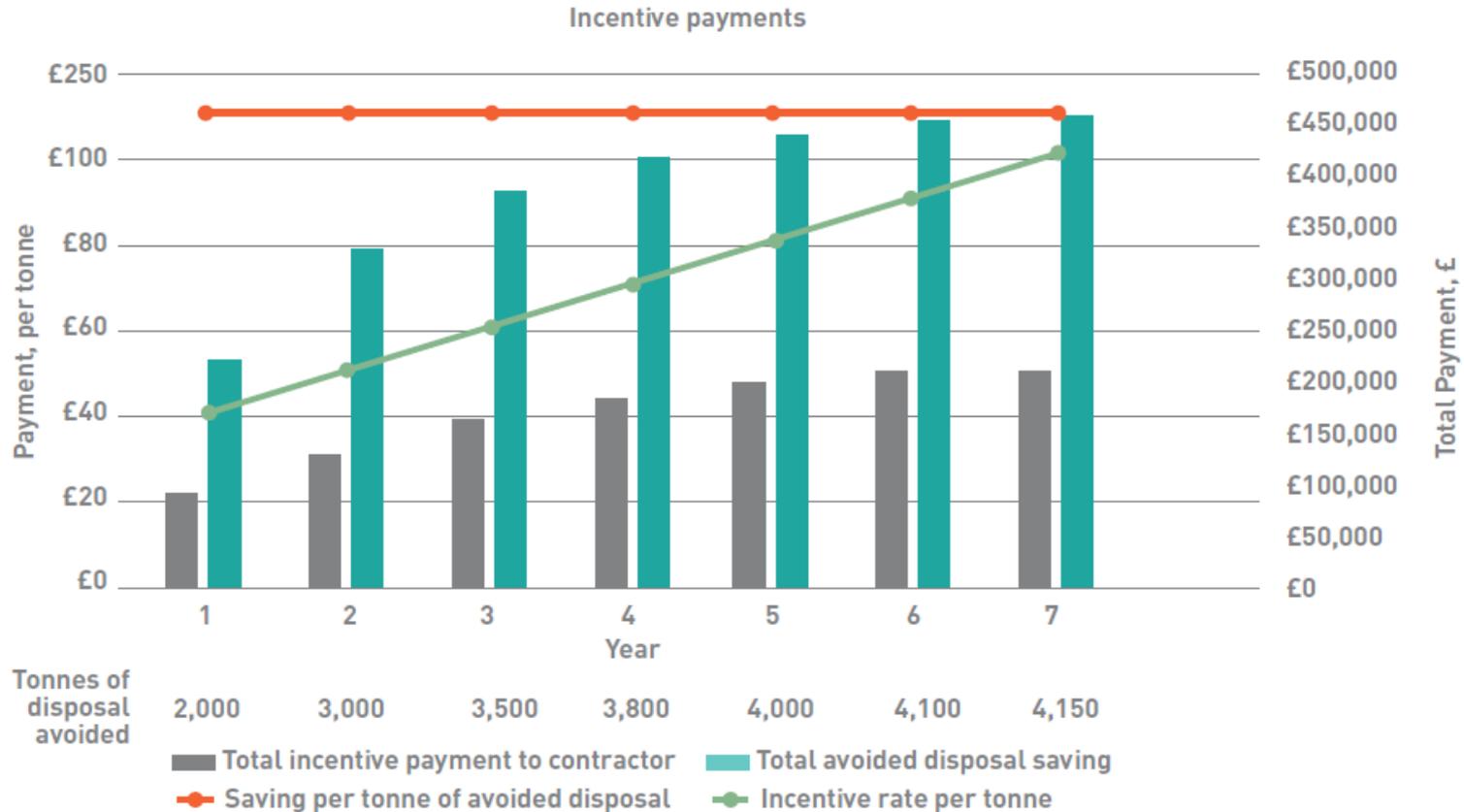
*\*Municipal waste performance contracts. A report by  
Eunomia for ACR+ and the European Environmental Bureau*

- **Application of performance indicators:** municipalities should apply a practicability test before incorporating performance-related payment mechanisms into contracts.
  - **Measuring performance:**
    - By measuring outcomes (e.g. energy use, ghg emissions, % of total separation, etc.)
    - By measuring the quality of the service
  - **Performance indicators** should reflect a genuine improvement in outcomes, include external factors and consider the changes referring to a baseline.
  - **Performance incentives** should be used only when they:
    - incentivise the application of the waste hierarchy in the scope of the contract;
    - are in line with the degree of control that the contractor can be expected to have over contracts outputs;
    - Avoid the risk of double counting, rewarding or penalising a contractor twice for the same outputs.
-

- For the **contract duration** should be considered:
  - Lifespan of the infrastructures and equipment needed to deliver services;
  - Incentives profiling over time which may affect how providers are able to meet contract conditions;
  - Whether flexibility should be built into performance contracts to allow for reviews of objectives;
  - Considering the impact of potential legislative or regulatory changes over the duration of the contract that may impact performance levels
- **Relationship with other economic instruments** - it is important to consider how proposed performance contracts would operate in relation to wider economic considerations, such as countries where landfill costs are low or with a Pay-as-you-throw system or Extended Producer Responsibility schemes

# Waste performance contracts

Example of avoided disposal incentive payments



*Municipal waste performance contracts. A report by Eunomia for ACR+ and the EEB*

# Waste performance contracts

## Example of a bulky waste contract

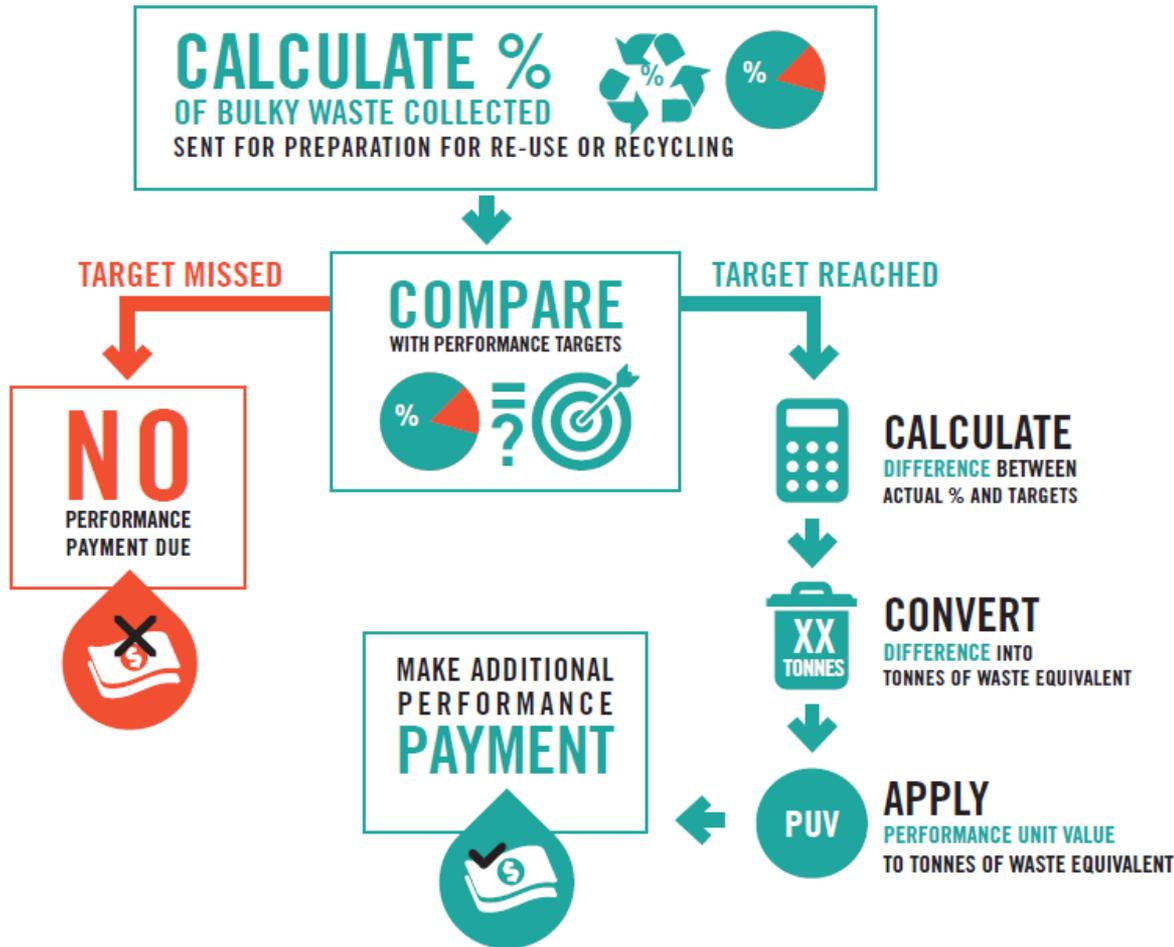
- The contractor could be incentivised to achieve a minimum level of performance related to either:
  - The amount of material collected that is prepared for re-use as proportion of the total collected;
  - The amount of material collected that is sent for recycling.
- The municipality establishes a baseline figure and sets out the KPI levels required by the contractor for each year.
- Information is clearly set in the tender documents and sent to all bidders.
- Where the contractor exceeds target set, it receives additional performance payment



Illegal bulky waste dumping - CC0 Public Domain - Pixabay.com user: geralt

# Waste performance contracts

Example of a bulky waste contract



**Example:** Bulky waste performance payment process

The basis of the performance payment is that the contractor shares the financial benefits with the municipality\*

\*What a bulky waste performance contract could look like for bulky waste - <http://www.eeb.org/index.cfm/library/waste-performance-contracts-a-case-study/>

# Thank you for your attention



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