

#ZeroWasteCities

The Story of Newport

The city of Newport, Wales, shows that when separate collection systems prioritise quality over just quantity, world-leading results can be achieved whilst simultaneously reducing costs for the citizens.



In Newport, the social enterprise company Wastesavers has been working with the Council to implement one of the best structured separate collection systems in Europe today.

In 2019, Newport City Council achieved a recycling rate of 66% by implementing a system that prioritises quality over quantity, through community engagement and support. The system has also offered one of the lowest cost for households within Wales.

The story of Newport shows that when separate collection systems prioritise quality over just quantity, and invest heavily in meaningfully engaging with the community, combined with well-designed equipment, world-leading results can be achieved whilst simultaneously reducing costs for local residents.

LOCAL CONTEXT

Newport in Wales covers an area of just over 115 km, including both the city of Newport and surrounding areas. The City has a population of 145,000 and stands at the gateway between England and Wales. Newport is a vibrant, multi-cultural city steeped in a rich industrial heritage, where traditional industries sit alongside new electronics and financial service sectors. Wastesavers, the recycle collections company for Newport, began its life originally just a furniture reuse operation.

Today, Wastesavers is a social enterprise that also owns an operating company, which is contracted by Newport City Council to provide collection and recycling services. Wastesavers uses its profits to further their aims and objectives for the benefit of the local community and stakeholders, rather than shareholders and board members. They now employ more than 100 people across the kerbside and commercial operations, as well as through their reuse and educational charity work.

A CATALYST FOR CHANGE - the EU Landfill Directive

Wales elected its own devolved government for the first time in 1999, which coincided with the enactment of the [EU's Landfill Directive](#). At this time, Wales landfilled 97% of its waste in cheap landfills, with the typical charge of less than £10 (11.50 EUR) per tonne. Due to its heavy dependency on landfilling, the UK obtained a 4 year derogation from 2016 to 2020 for achieving the EU Landfill Directive, which included a target of reducing organic waste sent to landfill to 35% of 1995 levels.

Following the introduction of the Directive, the UK Government introduced a Landfill Tax of £7 (8 EUR) per tonne that increased slightly year on year. Together with the added ability for local authorities to get 20% of this cost back to "compensate local communities" that are based close to a Landfill, the economic landscape and equation had changed for Welsh local authorities in favour of recycling.

Wastesavers' kerbside separate collection system was developed as soon as the opportunity arose from 1997 onwards as the EU Landfill Directive took effect. Wastesavers began the first monthly recyclable collection round to 5000 households in 1997.

Initially, one 55 litre box was provided to households for all recyclable materials, with a second box added in 2004 to collect plastics. Newport was having nearly half its households serviced by the time that the major recycling investment began from the mid 2000s.

Wales's first Waste Strategy, 'Wise About Waste' was published in 2002, at which point Welsh residents generated about 500kg/cap/year of total municipal solid waste.

The targets set in the strategy included those that were set for the entire UK by European Union legislation.

In 2010, Wales published an updated national waste strategy, 'Towards Zero Waste', which aims to build on the successes achieved through Wise About Waste via a long term framework for resource efficiency and waste management up until 2050. To achieve this, Welsh local authorities were set the following statutory recycling targets:

- 58% by 2015/16
- 64% by 2019/20
- 70% by 2025.



Picture 1: Romaquip truck, Wastesavers.

THE CLEANSTREAM COLLECTION MODEL

In 2000, Cylch-Wales Community Recycling Network contributed a written strategy for the Welsh Government Wales called Cleanstream – A Resource Recovery System for Wales. The Cleanstream system fed into the design of the 2002 and 2010 national recycling strategies. Since then, the model has been widely accepted and now forms the basis for the [‘Collections Blueprint’](#). The Blueprint describes the Welsh Government’s recommended service model for the collection of household waste. Published in 2011 as part of the Municipal Sector Plan, it provides the framework for a system that is now achieving high rates of high-quality recycling and significant cost savings, as well as important environmental and social benefits.

In 2003/4 the Cylch-Wales Community Recycling Network initiated an “Exemplar Recycling Programme” after applying for and securing a £15 million (17,345,700 EUR) grant from the EU Regional Development and Social Funds. The essence of the “Recycling Exemplar Programme” was to demonstrate the

ability and impact of the Cleanstream Collection System as the method for achieving high recycling results.

Newport was one of just five, out of 11 Local Authorities who successfully applied for the funding and began implementing the Cleanstream collection system. Wastesavers used all the lessons that had been learnt from previous projects and trials. For example, this included the importance of not compromising on the design of the collection system, always prioritising quality and not just quantity of materials recovered.

Welsh municipalities record their data using WasteDataFlow, the web based system for municipal waste data reporting by UK local authorities to the government. The aim is to create a system for local authorities that delivers added value in terms of clarity, ease of use and management of local data. Since 2018, WasteDataFlow, and therefore Newport, has aligned itself with the European Union’s new methodology for calculating recycling figures and data.

The Cleanstream collection system is based upon ten key principles that underpin any successful separate collection system:

1. Zero waste is the ultimate aim and all systems should be designed so as not to compromise this.
2. Strictly adhering to the [waste hierarchy](#) that prioritises reduce, reuse and then recycle. Waste minimisation is therefore the first priority and prevention policies are encouraged over recycling.
3. As many materials are separated within the households, and trained professionals maintain high quality collection by assessing the quality and content of collection bins at the earliest possible moment.
4. The collection of source separated recyclable / compostable material is more frequent than the collection of residual municipal waste, with bigger bins provided for recyclables rather than the residuals.
5. Initiate and maintain throughout a public education campaign that aims to maximise householder participation and ensure residents know how to use the collection system.
6. All collection and recycling systems are designed, implemented and run in consultation with local authorities and the local community under a formal, legally binding contract.
7. All Bulky, Waste Electrical and Electronic Equipment (WEEE) and other special waste are collected and stored in a manner that keeps them fit for reuse, ensuring full compliance key legislation such as EU directives.
8. Full consideration and priority is given to health and safety within the working environment.
9. Competitive rates of pay and conditions are applied to each job in the system.
10. The principles are applied equally throughout each of the three main sources of household waste - at the kerbside, civic amenity sites (drop-off points) and on-request collections for bulky items.

THE OPERATIONS AND LOGISTICS OF NEWPORT'S SEPARATE COLLECTION SYSTEM

The design of vehicles and equipment is key to get municipalities' collection systems up and operating well. In Newport, specific collection vehicles are used that have separated sections for each specific waste stream that is collected from the kerbside. Closed compartments help to reduce accidental littering during collection and preserve the value of each collected material.

The collection staff are professionals who are trained to identify materials which are in the incorrect bin, and the system works so effectively because incorrect materials are left in the box rather than put onto the truck. This helps residents understand what materials can and cannot be recycled through the separate collection system.



Picture 2: Zero Waste Wales

The typical setup for household sorting includes 2 boxes, a woven bag plus a separate 25 litre lockable lid box to present food waste to the kerbside. Collection is organised and separated into the following categories:

- Red bag = plastics, cans, foil
- Green box = cardboard, tetra cartons, glass jars
- Blue box = paper, textiles, small electrical items

In 2019 there were 65,808 households in Newport. Wastesavers provides every household within Newport City with a weekly door to door collection of all materials except garden waste, which is collected alongside residual waste every second week.

Households are provided with either 120 litre, 180 litre or 240 litre wheeled bins depending on the number of people in the house. Newport's experiences have highlighted the importance of reducing the capacity of residual waste bins, underpinning the need and encouraging greater usage of the recycling boxes.

For bulky and other waste streams not collected from households, there is a Civic Amenity site available for the public to drop-off such materials.

Alternatively, households can request materials to be picked up for a small fee. Garden waste is collected fortnightly between March and December as mentioned above, whilst Newport Council also offers a nappy and hygiene waste collection for families living with children under three years of age, as well as to residents needing collection of incontinence pads or similar waste.

In larger blocks of flats, 660-litre bins are used to deal with the increased volume of waste.

All bins are clearly labelled and signposted, meaning they are visible at a distance and at the point of use, which plays a key role in reducing contamination.

To further reduce contamination by users putting the wrong materials in the wrong bin, some of the bins provided have been fitted with a small opening for putting materials.

For example, ensuring paper and cardboard can easily go into a bin but preventing plastic containers. Where practical or necessary, bins are secured at the site with the use of locking posts.

MAINTAINING HIGH SEPARATION RATES IN DENSELY POPULATED AREAS

For the past 10 years, Newport City Council has installed communal recycling facilities in high-rise flats as well as houses of multiple occupancy (HMOs). The HMOs typically have between 6 and 18 flats located within them. Today, [there are 445 of these communal recycling facilities in the city, covering approximately 7,000 households](#). In order to achieve its recycling targets, Newport City Council requires residents of both high-rise and low-rise housing to separate their recycling into appropriate containers for weekly collection.

Residents in flats in Newport are provided with four different wheeled bins in the communal recycling facilities for paper/cardboard, cans/plastic, glass, and food.

Glass is always collected in a 240-litre bin, however the size of bins for the other recyclables are determined by the number of flats served, with 360-litre bins used in some cases for other materials.



Picture 3: Zero Waste Wales

ENFORCEMENT MEASURES AS A LAST RESORT

NCC provides advice and warning to help people before considering enforcement measures as last resort. Residents who present an overflowing rubbish bin or extra bags of waste will firstly receive a reminder from the Council about how to recycle. If this happens a second time, a warning will be issued and any excess waste will be left uncollected, with responsibility switching to the resident to recycle or dispose of these materials safely.

To supplement this and support households, a council officer may visit them to give advice on how to sort and recycle waste. An overflowing rubbish bin on a third occasion will result in the issue of a legal statutory notice, with further continued non-compliance during the following 12 month period carrying a fixed penalty of £100 (115 EUR).



Picture 4: Open source

ENGAGING THE COMMUNITY

Wastesavers was and remains very effective at getting the message out to the Newport Community. It is seen as a community organisation and has always invested time to create public education campaigns that explain the how, when, where and especially the why of proposed changes that require habit changes. Wastesavers has a very strong connection with all the schools in Newport, led by a dedicated education facility.

To facilitate further understanding, a viewing gallery has been installed in the sorting depot where visitors can observe the bulking and storing operations that prepare clean materials for the re-processor market.

Newport Council recognised the importance of educating the community over several months by any means possible and allocated a generous budget to pay for this. Wastesavers always recommended 25% of the total budget for public education for the first three years of rollout. It is key to explain in clear details what is going to happen whenever the new service

begins and the reasoning behind these changes for your set of instructions – people need to know why the system is changing, and it is not just about saving the planet.

In Wastesavers' case a team visited schools, village halls, public events, fairs, jumble sales and ran articles in the local press and local radio and TV stations. By the time the two 55-litre boxes were delivered for the first time, usually on a Saturday when everyone was at home, children would be waiting for them to arrive and help the crews distribute them.

Newport's achievements are even more impressive given that currently the Welsh Government does not mandate any financial incentive or penalties regarding municipal solid waste, such as Pay-As-You-Throw schemes. Therefore the high recycling rates achieved in Newport solely come from installing an effective kerbside separate collection model, supplemented by a strong focus on educating and engaging the community.

FACTS & FIGURES

As the table below shows, Newport's separate collection system has resulted in the recycling rate increasing from 48% in 2012/13 to 61% in 2019.

In 2020, this increased even further to 66%, further cementing Newport's status as a recycling champion and evidence of the effect of kerbside separate collection systems.

	2012	2014	2017	2019
Total MSW generated & collected (tonnes)	65,802	68,327	71,146	74,620
MSW Reused & Recycled (tonnes)	17,967 (27.3%)	22,436 (32.8%)	26,071 (36.6%)	31,353 (42.2%)
MSW Composted (tonnes)	13,435 (20.4%)	11,845 (17.3%)	11,601 (16.3%)	14,149 (19%)
Residual waste (tonnes)	34,490 (52.3%)	34,046 (49.9%)	33,473 (47.1%)	29,019 (38.8%)

Table 1: Facts and figures on Municipal Solid Waste (MSW) for Newport City Source: [Stats Wales](#)



At this time of climate crisis, it is so encouraging that Newport and Wales as a whole are pace setters in driving towards zero waste - reducing, reusing and recycling. The partnership built between Wastesavers, Newport City Council and the people of the city has created the model the rest of Wales is increasingly following. Households putting out separate waste streams and kerbside sort further separating. The system is highly effective with world class performance and has a low cost base. But the success achieved has not diminished energy and ideas for improvement. Newport's waste policy is going from strength to strength."

John Griffiths MS, Member of the Senedd (Welsh Parliament) for Newport East

Year	Population	Total MSW generated (tonnes)	Kg/inhab/year calculation
2012	146,275	65,802	449.85
2013	146,741	70,334	479.30
2014	147,119	68,327	464.43
2015	147,958	71,453	482.92
2016	149,478	70,314	470.39
2017	151,485	71,146	469.65
2018	153,302	72,692	474.17
2019	154,676	74,620	482.42

Table 2: Total Municipal Solid Waste (MSW) generated per Newport inhabitant over the past decade.
Source: [Stats Wales](#)

Through its effective collection and recycling system, Newport has one of the lowest costs per household for waste within Wales, providing the cheapest service for residents living within an urban area, as shown in the graphs on the next page.

By having less fees to pay for sending waste to either landfill or incineration, and by increasing the revenue made by selling high-quality recyclable materials, Newport Council is able to save local residents hundreds of pounds each year in lower taxes.

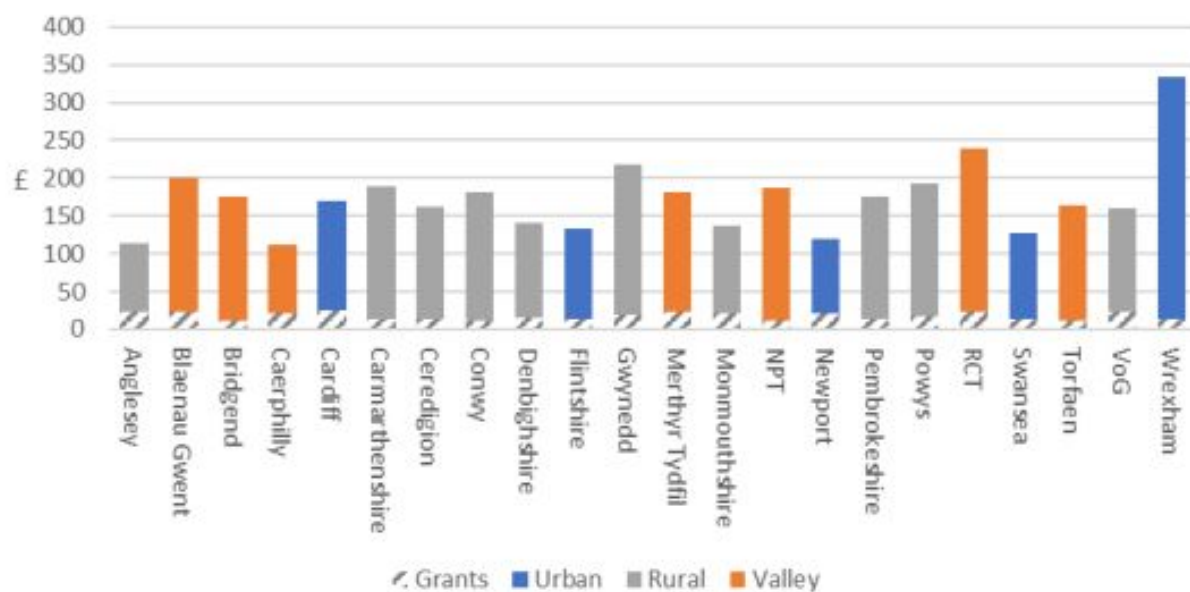


Figure 1: Total System Costs per household 2018/19 Source: [Wales Waste Finance Data Report - July 2020](#)

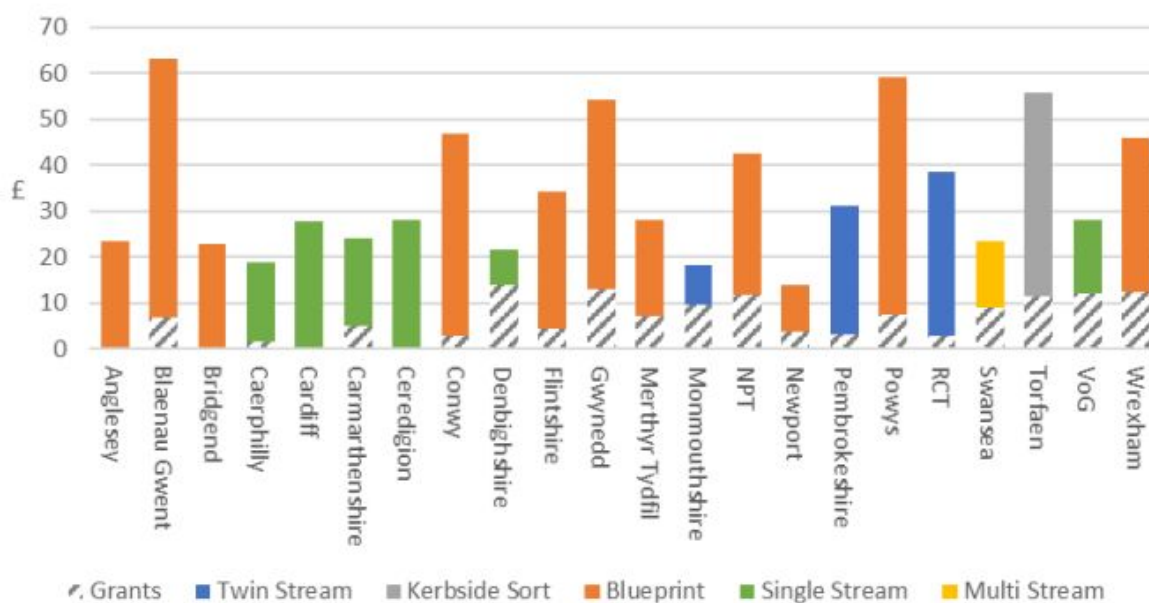


Figure 2: – Dry recycle collection cost per household served. Source: [Wales Waste Finance Data Report - July 2020](#)

GOING BEYOND JUST RECYCLING

Newport City and Wastesavers have both continued to communicate the importance of waste reduction as the number one priority. For example, the City Council recently reduced the size of residual waste bins to incentivize higher rates of recycling, from 180 litres to 120 litres that are collected fortnightly. This policy change had a dramatic and positive effect on the recycling rate, which increased by 16.5%

Furthermore, to encourage waste prevention locally, Wastesavers operates 2 retail shops in Newport to provide residents with an option to donate and buy reusable items. Across all of its reuse operations, Wastesavers employs 24 staff who are supported by a network of 103 volunteers. Their work resulted in 671 tonnes of reusable items diverted in 2019, an increase of nearly 30% from the previous year.

Newport's local population has seen the second highest rise in Wales since 1990 and the highest rise since 2015. Since 1991, the city's population has risen by more than 19,000, to an estimated 154,676 by mid-2019, an increase of just over 14%. Coupled with the increasing employment and wealth of Newport's residents. Therefore showcasing that **whilst Newport's collection and recycling system is one of the finest worldwide, attention and focus must now shift towards waste prevention.**

WHAT TO LEARN FROM NEWPORT EXPERIENCE

There are several key learnings and recommendations that we can gather from Newport's experiences.

Firstly, it's imperative for local authorities to write and adopt a zero waste strategy that includes within it legally-binding statutory targets. Therefore the targets have real accountability and enforcement power. However, for any municipality considering any sanctions, it's recommended to give at least 5 years preparation time to comply. Habits take time to change and this should be supported rather than just penalised.

Secondly, local authorities should begin collecting food waste separately as early as possible within the implementation of a separate collection system.

Removing this kind of waste from the household waste bin leaves the bin cleaner and less smelly to begin with, therefore allowing residual waste collection to be optimised.

Even despite the separate collection of food waste now widely adopted in Wales, a 2015 waste composition analysis found that 24.8% of kerbside residual waste was food scraps, thus showcasing the continued improvements that can be made in residual waste reduction by ensuring the separation of food waste. Making it mandatory for food waste to be separately collected should be supplemented by a policy of promoting home composting vigorously and widely within the community.



Of course there are still challenges and improvements to be made within the system. There remains a small percentage of non-participants and there are still people making mistakes. For example, if 90% of the people do 90% of the right thing 90% of the time you end up with a calculation of 0.9 multiplied by 0.9 multiplied 0.9, which equates to a recycling rate of 73%. So therefore the challenge is to get that last 10% of the population and to reduce that last 10% of errors made.

Mal Williams, Zero Waste Wales

Every house with a garden should be encouraged to utilise the organic materials at their disposal. For those without access to much garden waste, solutions such as community composting, worms composting and even digesters can be very effective.

Thirdly, it's key to invest time and effort on educating the children early as they will educate their parents. Schools are key targets for two reasons. Obviously they are generators of large volumes of waste and through their procurement services, can have a large impact on the amount of waste produced both by the school and its partners. Furthermore, by educating young children, you not only embed environmentally-minded solutions into citizens but they also then take this message home to help change the behaviours of their parents and wider family..

Fourthly, successful zero waste strategies are those which invest heavily at the start in communications and engaging with the community. Authorities need to tell people why the system is changing, and they should be meaningfully consulted throughout - how can the system be designed to best fit into and support their daily lives - with their feedback and concerns explicitly recognised in the design and implementation of the zero waste strategy.

For example, it is key to make sure each household gets a bin with sufficient volume for their specific needs, which will differ and vary between households.

In general, there are some common themes found in Europe's highest recycling municipalities which are prevalent throughout Newport's story. These include: Strict regulations and targets which help to create a 'regime of certainty'.

Strong partnership between national, regional and municipal governments. Public trust and 'ownership' over waste related issues. An integrated approach to waste as a whole and consistency of message applied by all levels of government

Cardiff is not Copenhagen and Newport is not the same as Nice. However, the key principles of building 'public trust' and 'ownership,' creating a 'regime of certainty' by using a 'partnership approach' are relevant and impactful in any European region. These principles form the basis of the zero waste framework from which policies should be tailored and adapted to the local context.

FUTURE PLANS FOR NEWPORT AND WALES

Not content with their existing performance, Newport Council and the Welsh Government are continuing to optimise their systems and a key part of this is the setting of ambitious legally-binding recycling targets. The national waste management plan currently requires local authorities to recycle 70% by 2024/25, above and beyond the required 55% for EU Member States by 2025.

In 2020, ten years after the 'Towards Zero Waste' strategy was initiated, the Welsh government has launched its 'Beyond Recycling' strategy. This was released on the 2nd March 2021 and aims to support a zero waste, net zero carbon Wales that uses its fair share of resources.

For example, this is likely to include increasing the recycling target to 80% in 2034-35, with an aspiration in Towards Zero Waste that in 2049-50, the recycling target will be 100%.

The strategy being proposed also includes potential future commitments introducing Extended Producer Responsibility (EPR) for packaging, a Deposit Return Scheme (DRS) for drinks containers, a ban to phase out single use plastic and to ensure no waste that is generated in Wales is exported globally.



Picture 5: Zero Waste Wales

Zero Waste Europe presents the case study of Newport as a best practice example of how to design and implement effective separate collection systems.

The example of Newport provides further evidence that the most effective separate collection systems, ones which result in the highest quality and volume of materials for recycling, are those which prioritise quality over quantity and meaningfully collaborating with the local community.

The story of Newport shows that high recycling and low system costs go hand in hand when a zero waste approach is adopted, beginning with kerbside separate collection of materials.

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Pictures: Zero Waste Wales



The Zero Waste International Alliance has been established to promote positive alternatives to landfill and incineration and to raise community awareness of the social and economic benefits to be gained when waste is regarded as a resource base upon which can be built both employment and business opportunity. The Zero Waste International Alliance operates at the international, national and local level and involves all sectors of society. Zero Waste Wales is a company that has been registered to promote the achievement of Zero Waste in Wales as part of a global effort to do the same that is coordinated by the Zero Waste International Alliance.



Zero Waste Europe is the European network of communities, local leaders, experts and change agents working towards the elimination of waste in our society. We empower communities to redesign their relationship with resources, and to adopt smarter lifestyles and sustainable consumption patterns in line with a circular economy.



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