

# LIFE BIOBEST

GUIDING THE MAINSTREAMING OF BEST BIO-WASTE RECYCLING  
PRACTICES IN EUROPE

## D3.4: Country Factsheets on the analysis of communication and engagement practices

WP3: Set of Guidelines

T3.4: Analysis of communication and engagement practices

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Public Report



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## N°9: Factsheet on Exemplary Communication and Engagement Strategies for bio-waste collection | Germany: Bio-waste bin visual inspection campaign in Kreis Borken

In recent years, the Borken district authorities (Kreis Borken) initiated a pilot project in collaboration with the waste management company and waste advisory services from district municipalities. The primary objective of this project was to decrease impurities in the bio-waste bin through regular visual inspections and a communication campaign. The initiative successfully promoted proper sorting of bio-waste, which ultimately minimized the contamination of bio-waste with plastics and other pollutants. Encouraged by the positive results of the pilot project, which led to up to 90% reduction in the impurity content of the organic fraction, local authorities and the waste management company have decided to continue inspecting bio-waste bins throughout 2024, with the aim of achieving 100% population coverage by the end of the year.

<b>KREIS BORKEN</b>		
<b>Population</b>	<b>Density (inhab./km<sup>2</sup>)</b>	<b>Type</b>
37,900	267	Rural to semi-urban settlement structure
<b>Background elements</b>		
<p>In Borken, approximately 1.3% of the waste management budget is generally allocated for communication and educational activities (as indicated in the 2023–2024 economic planning).</p> <p>In 2019, Borken district authorities, in collaboration with the waste management company and waste advisory services from the district municipalities, launched a pilot project with the primary goal to reduce impurities in the bio-waste bin through regular visual inspections and a communication campaign, promoting active citizen participation and proper bio-waste sorting, ultimately minimising contamination.</p> <p>A wide range of communication tools have been developed to mitigate the risk posed by the contamination of bio-waste including plastic bags, coffee capsules, nappies as well as compostable bags, as this represents a significant technical and economic burden leading to higher operating costs and affecting the quality of the compost produced. Further concerns arose regarding the possibility of batch rejection due to compliance issues with revised bio waste regulations. There was also a heightened worry</p>		



about introducing microplastics into the environment due to the improper disposal and processing of bio waste containing plastic contaminants.

### Bio-waste collection model

Borken is a German district located in North Rhine-Westphalia on the border with the Netherlands. The district comprises 17 municipalities, with a mix of smaller villages and towns.

Separate collection of bio-waste started in 1995 in Borken, involving the use of "Biotonnen" (bio waste bins) distributed to households by the municipality or contracted third parties. Over 90% of the district residents are provided with these dedicated bins meant for collecting kitchen and garden waste together (the remaining 10% have opted for home composting). Bio-waste collection occurs on a regular schedule, typically every two weeks. Additionally, residents have the option to use the *Grüngut* system for garden and park waste, by bringing these materials to designated drop-off points, during the respective opening hours.

The bio waste separately collected is then handled at the composting plant operated by the district-owned waste management company, [Entsorgungsgesellschaft Westmünsterland](#), which facilitates the production of compost and biogas.

### Best Practices description

The **bio-waste bin inspection initiative** across the Borken District involved several aspects and steps:

- **Bin inspectors** were hired for the project to oversee these inspections.
- **Inspections** were conducted **across all municipalities** from the district and every neighbourhood;
- Organisation of **inspections at two-week intervals**, with different stages of progress ("yellow" inspection, "red" inspection, follow-up inspection);
- **Yellow and red bin tags** were used, displaying notices regarding improper waste disposal along with sorting instructions;
- **Red-marked bio bins were not emptied**, and citizens were encouraged to re-sort their waste before the next collection;
- **A geo-based app** was used by the district administration for detecting and localising repeated sorting errors in bio bins;
- **Documentation**, including images, was **stored in a cloud database** for record-keeping purposes;
- **Real-time information** was provided to responsible officials within municipal administrations **for effective complaint management**;

- Plans were made to enhance bin inspections through **detection systems in collection vehicles.**



Image 1. Bin inspection.

**Das gehört in die Biotonne**

**Aus der Küche:**

- Gemüsereste, Salatreste, Obst (auch von Südfrüchten)
- Speisereste, gekocht und roh
- Fisch-, Fleisch-, Lebensmittelreste (auch verderben)
- Kaffeersatz, Tee, zerreibbare Kaffeefilter und Teebeutel
- Brotreste, Backwaren, sonstige Mehlprodukte
- Milchprodukte (nicht flüssig)
- Nuss-, Eierschalen
- Topf-, Schnittblumen (ohne Topf, Bindedraht o.ä.)

**Aus dem Garten:**

- Rasenschnitt, Baum-, Strauch- und Heckenschnitt
- Laub/Nadeln, Ernterückstände, Fallobst
- Blumen- und Pflanzenreste
- kranken Pflanzen, Unkraut und Moos

**Sonstiges:**

- Kleintierstreu (nur Späne, Sand), Stroh

**Für die Hygiene der Biotonne sind zum Sammeln und Einwickeln feuchter Bioabfälle erlaubt:**

- Küchenkrepp, Papiersammeltüten
- Zeitungspapier (kein Hochglanzpapier)

**Das gehört nicht in die Biotonne**

**Plastikartikel:**

- verpackte Lebensmittel
- Abfallbeutel, Plastiktüten
- Kaffee-/Teekapseln
- Hundekotbeutel
- Frischhaltefolie

**Kompostierbare Kunststoffe:**

- Bioabfallbeutel
- Bioeinweggeschirr und -schalen, Bioeinwegbesteck

**Hygieneartikel:**

- Windeln, Binden, Tampons, Kosmetikartikel

**Mineralien:**

- Bauschutt, Bodenaushub, Straßenkehrrecht, Steine

**Restmüll:**

- Staubsaugerbeutel, Gummi, Asche, Wachs, Zigarettenstummel, Tapeten, Pizzakartons, Korken

**Flüssigkeiten:**

- Speiseöl, Frittierfett

**Aluminium, -folie:**

- Kaffee-, Expressokapseln

**Glas:**

- Gläser mit Lebensmittelresten, Arzneifläschchen

**Verpackungen:**

- aus Kunststoff, Metall, Verbundstoff

Die aufgeführten Listen stellen nur einen Auszug dar. Bei Unsicherheiten zur Sortierung melden Sie sich gerne bei uns! **Tipps zur Abfalltrennung finden Sie auch unter [www.egw.de](http://www.egw.de)**

Image 2. Yellow Tag regarding improper waste disposal along with sorting instructions.

Das können Sie besser!

Ihre Biotonne wurde heute, am \_\_\_\_\_ überprüft.  
Leider enthielt sie **folgende Störstoffe**, die nicht hineingehören:

Müllbeutel aus Plastik, Plastiktüten, kompostierbare Folienbeutel, Kotbeutel, Kaffee kapseln

Nicht kompostierbare Abfälle (z.B. Verpackungen, Kunststoff, Metall, Glas, Windeln, Zigaretten)

**Ihre Störstoffe verunreinigen unseren Kompost!**

In den kommenden Wochen werden wir weitere Kontrollen durchführen. Sollte die Biotonne dann wieder Störstoffe enthalten, wird die Tonne nicht geleert.

**Informationen rund um Abfall erhalten Sie hier:**

Sie können für die Sammlung von Bioabfällen Papiertüten oder Zeitungspapier nutzen. Aber **niemals Kunststoffbeutel!**

Image 3. Yellow Tag regarding improper waste disposal along with sorting instructions - "You can do better!"

**Das gehört in die Biotonne**

**Aus der Küche:**

- Gemüsereste, Salatreste, Obst (auch von Südfrüchten)
- Speisereste, gekocht und roh
- Fisch-, Fleisch-, Lebensmittelreste (auch verdorben)
- Kaffeesatz, Tee, zerreibbare Kaffeefilter und Teebeutel
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**Sonstiges:**

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**Für die Hygiene der Biotonne sind zum Sammeln und Einwickeln feuchter Bioabfälle erlaubt:**

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Image 4. Red Tag regarding improper waste disposal along with sorting instructions.

IHRE BIOTONNE KONNTE NICHT GELEERT WERDEN.

Ihre Biotonne wurde heute, am \_\_\_\_\_ überprüft.  
Leider enthielt sie **folgende Störstoffe**, die nicht hineingehören:

Müllbeutel aus Plastik, Plastiktüten, kompostierbare Folienbeutel, Kotbeutel, Kaffee kapseln

Nicht kompostierbare Abfälle (z.B. Verpackungen, Kunststoff, Metall, Glas, Windeln, Zigaretten)

**Ihre Störstoffe verunreinigen unseren Kompost!**  
**Deshalb wurde diese Biotonne nicht geleert. Bitte entfernen Sie die Störstoffe, damit die Biotonne bei der nächsten Abfuhr geleert werden kann.**

**Informationen rund um Abfall erhalten Sie hier:**

Sie können für die Sammlung von Bioabfällen Papiertüten oder Zeitungspapier nutzen. Aber **niemals Kunststoffbeutel!**

Image 5. Red Tag regarding improper waste disposal along with sorting instructions – “Your bio-waste bin could not be emptied”.

**A diverse range of awareness-raising activities have been conducted in parallel:**

- Promoting **paper bags** as a tool to make the system clean, user-friendly, and maximise participation and captures
- **Campaign against plastic in bio waste bins:** Local authorities engaged in the [#wirfuerbio](#) – *Kein Plastik in die Biotonne* (zero plastic in the brown bin) – campaign and participated in the regional network of waste management in Westphalia to discourage the use of plastic bags for bio waste collection while encouraging proper waste sorting.
- Participation in a **nationwide campaign for bio-waste bin inspection**, with television and radio coverage, and press articles.
- **Compost action days with awareness programme:** Compost action days at the recycling centre were conducted in order to raise awareness of the problem of plastic impurities found in the bio bins.
- **Awareness through extracurricular learning for schools and daycare centres:** Educational programmes for school classes and daycare centres were offered, lending out special “waste kits,” conducting workshops on bio waste, and organising tours of the bio-waste composting facility.





Image 6. Workshop during the European Week for Waste Prevention.

**Promotional activities were carried out to inform citizens about the upcoming bio-waste garbage can inspections, using a wide variety of channels:**

- **Mailing campaigns** were conducted around 2 to 3 weeks ahead of the initial bin inspections. These mailings included a paper bag for the bio-waste bin, flyers containing sorting guidelines available in 12 languages (e.g "What does and does not go in the bio-waste bin?"), and stickers discouraging plastic disposal in the bio bin.
- **Banners** promoting the #wirfuerbio campaign were displayed in public areas.
- The municipalities issued **press releases** to inform the public about the upcoming inspections.
- **Notifications** were sent through the **waste management app** ([ABFALL APP WESTMÜNSTERLAND](#)), alerting users about the impending inspections, offering quick access to collection schedules, guides on waste and recyclables, overview of disposal locations with routing functions, etc.
- **Information** regarding the inspections was shared on **social media platforms** such as Instagram and Facebook.
- **Flyers** were distributed at locations such as town halls to further inform and engage the public.



Image 7. Flyer for the mailing campaign -  
#wirfuerbio, p.1.



Image 8. Flyer for the mailing campaign -  
#wirfuerbio, p.2. Sorting instructions.



Image 9. Flyer for the mailing campaign -  
#wirfuerbio, p.3. Sorting instructions.



Image 10. Flyer for the mailing campaign  
- #wirfuerbio, p.4. QR codes - sorting aid  
in 12 languages.

Robust political backing played a pivotal role in shaping an all-encompassing communication strategy directed at the citizens. The proposed changes have been integrated into the waste management plan of the Borken district, explaining the specifics of the citizen awareness strategy. Positive responses and support from the citizens were evident, particularly regarding monitoring bio-waste bins.

## Key results

Reach

Bio-waste bin inspections and related awareness-raising work have been done in 13/17 municipalities.



	Inspections will continue in 2024, and 100% coverage will be achieved by the end of the year.
<b>Bio-waste collection per capita</b>	198 kg/inhab./yr (which represents 41% of the total amount of household waste generated).  Increase of +35 kg/inhab./yr in the volume of collected bio-waste by extending the collection interval from 2 to 4 weeks.
<b>Impurities in bio-waste (% of weight)</b>	2% impurity content after the project implementation in all municipalities.  Before the introduction of the bio waste bin controls, the level of impurity was 4%.
<b>Bio-waste in residual waste (% of weight)</b>	20% of residual waste is bio-waste.

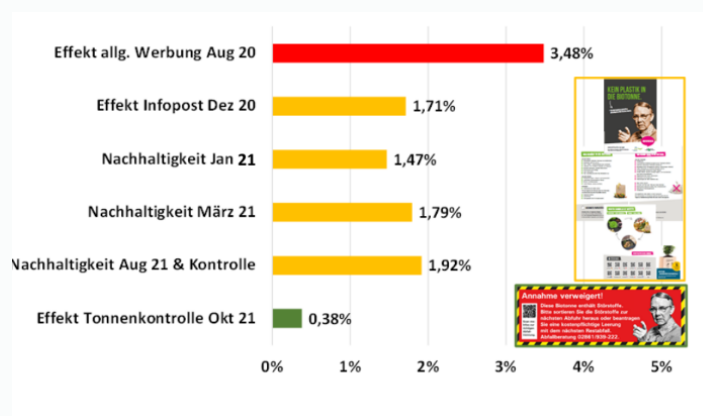


Figure 1. Impact of mailing campaign and bin inspection on the reduction of impurity levels in the bio-waste fraction (this result reflects the effects of each communication tool used in the pilot area).

## Lessons-learned

- The **use of yellow and red waste tags along with sorting instructions** proved to be extremely **effective in reducing impurity levels**.
- **Educational tools and incentives** (workshops, mailing campaigns) complement and **reinforce the effect of penalties** for incorrect filling.
- The **district-wide consensus** among all municipalities for the execution of bio-waste bin inspections by the district-owned waste management company contributed to **enhance the campaign's effectiveness**.



- **Cell phone apps facilitate the documentation and follow-up inspection of bio-waste bins.**
- **The effect of the inspections and mailing campaigns tends to decrease over time**, which proves that repeated communication and control measures are necessary to keep contamination levels consistently low.



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