



Disposable tableware and takeaway packaging

Waste generation in Germany 1994 to 2017



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1. Introduction Disposables: A waste problem

Disposable tableware and takeaway packaging pervade our lives and are one of the reasons for the constant rise in the amount of waste generated in Germany. Over the past years, consumer behaviour has changed dramatically and, for cost reasons, disposable products are now being used even in places where reusables were once standard.

In Germany, as in other countries, litter from take-aways and picnics is increasingly common in the countryside – especially on the North Sea and Baltic coasts and on riverbanks – and municipal street and park cleaning services can no longer keep up. But even the vast majority that ends up being incinerated or, ideally, recycled, represents a waste of natural resources, considering the availability of reusable alternatives.

NABU has commissioned the first study since 1994 to investigate how much of Germany's waste is caused by disposable tableware and takeaway packaging. The study also shows which materials are the most widespread, and who puts them into circulation.

2. Marine litter

Marine conservation meets resource conservation

The oceans are suffering from increasing levels of litter pollution. Studies show that up to 13 million tonnes of land-based plastic waste ends up in the oceans each year.¹ In Germany too, we have long been aware of the problem in the North Sea and the Baltic Sea. Northern fulmars and northern gannets mistake plastic for food or build their nests from it, fish and marine mammals are tangled in 'ghost nets' and an armada of microplastics is invading the marine food chain.

Along the German sections of the Baltic Sea coast, there are on average 70 pieces of litter for every 100 metres of beach. On the North Sea coast, this figure rises to 389 items of litter per 100 metres. Disposable packaging accounts for most of the waste found in this region. Clean-up campaigns regularly find disposable tableware, polystyrene takeaway containers and other food packaging. These items dominate the finds on German beaches along the Baltic Sea coast (leaving aside the vast quantities of cigarette butts).



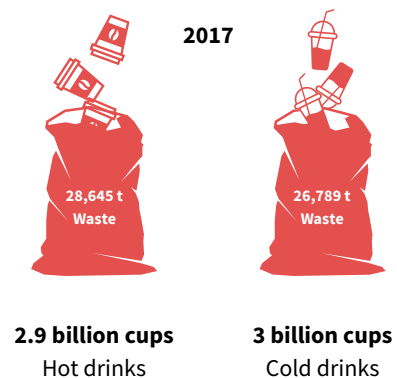
It is estimated that more than 85 per cent of plastic waste that ends up in the world's oceans is generated on land.

The solutions are to be found on land

The issue has been recognised, and the EU's Marine Strategy Framework Directive now addresses the problem of marine litter for the first time. Its goal is to help achieve Good Environmental Status of the EU's marine waters by 2020. In this respect, Germany appears to be taking the right steps: besides clean-up campaigns and environmental education, its programme of measures focuses on reducing plastic packaging and replacing certain problematic plastic products. A Round Table on Marine Litter was set up in 2016 to flesh out these measures.² The EU Plastics Strategy published in 2018 also addresses this issue. Plastics found in all oceans and aquatic ecosystems are alarming symptoms of our unsustainable use of them. The EU strategy reinforces the fact that the solutions can only be found on land. We urgently need to rethink our general use of plastics, our consumption and disposal habits and the extended responsibility of the plastics industry.

Focus on **disposable cups**

Coffee to go is on everyone's lips these days, but interestingly, in Germany more disposable cups are used for cold drinks than hot drinks. Nearly six billion disposable cups are used in total, producing over 55,000 tonnes of waste. Two-thirds of the waste consists of paper and one-third of plastic. Then there is the waste from empty cups bought for parties and picnics. It is also worth bearing in mind that many cold takeaway drinks are now sold in disposable bottles instead of being served in cups.³



3. Key data findings

Overview of waste tonnage in 2017

NABU commissioned the Gesellschaft für Verpackungsmarktforschung (GVM) – a B2B market research institute specialising in packaging – to calculate the annual amount of waste generated in Germany from disposable tableware⁴ and takeaway packaging.⁵ The results show that, at 346,831 tonnes, these now make a significant contribution to Germany’s waste. The following table provides a detailed overview of the waste from disposable tableware and takeaway packaging in Germany in 2017.

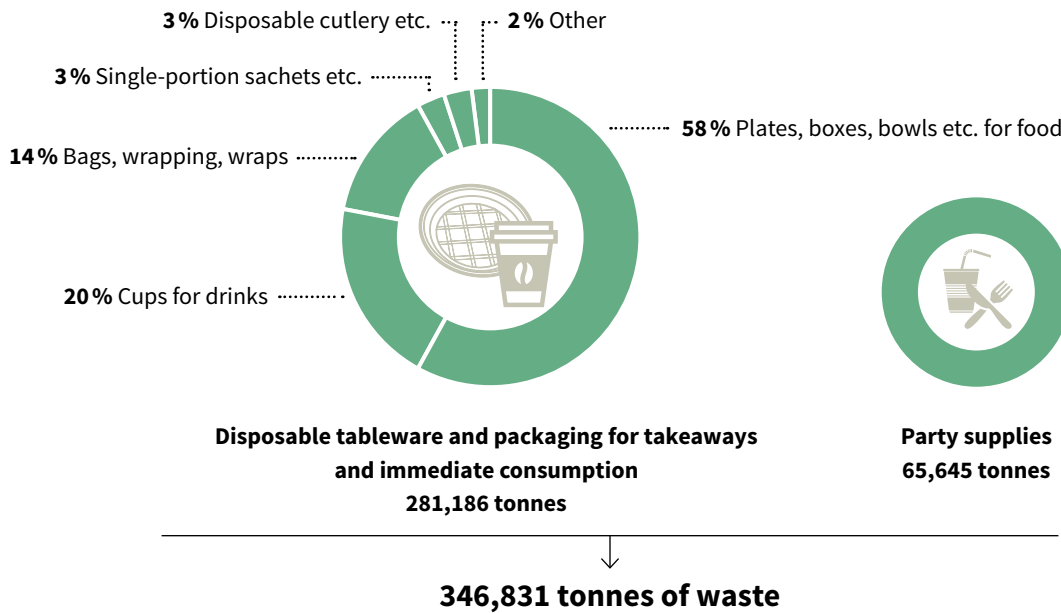
Waste from disposable tableware and takeaway packaging in Germany in 2017

2017: Disposable tableware and other packaging for meals for immediate or takeaway consumption	Plastic in tonnes	Alu- minium in tonnes	Paper/ card in tonnes	Natural materials in tonnes	Total in tonnes
Cups for hot drinks incl. cups from dispensers; incl. lids	10,224	./.	18,421	./.	28,645
Cups for cold drinks incl. milkshakes, alcohol, cups from dispensers; incl. lids	8,249	./.	18,541	./.	26,789
Cups/pots for food e.g. for soup, fruit and muesli, popcorn	2,335	34	4,337	313	7,019
Plates, bowls and meal trays incl. soup bowls, divided meal containers, salad dishes	15,912	478	18,743	1,457	36,590
Meal and snack boxes rigid: e.g. lunch boxes, noodle boxes, pizza boxes	20,786	6,125	92,869	99	119,879
Bags, wrapping, wraps flexible: e.g. sandwich bags, heat-insulation bags, wrap, etc.	6,930	2,995	29,556	./.	39,481
Single-portion sachets, tubs etc. Dressing and sauce tubs, single-portion sachets of coffee creamer, ketchup, sugar, etc.	5,620	311	3,130	./.	9,062
Disposable cutlery etc. incl. ice cream spoons, chopsticks, stirrers, straws	6,611	./.	32	1,924	8,567
Other incl. skewers, sleeves, carriers, etc.	919	./.	4,038	197	5,154
Total	77,586	9,943	189,668	3,989	281,186
Household packaging: party supplies incl. BBQ trays, ice cream spoons, chopsticks, straws	27,938	4,535	32,752	420	65,645
Total including party supplies	105,524	14,478	222,419	4,409	346,831

Waste generation 1994 to 2017

According to the GVM disposable tableware and takeaway packaging now account for a significant proportion of the waste produced in Germany. Nearly 350,000 tonnes of waste were generated in 2017. The high and rising waste levels are driven by social, cultural and technical causes: gross national product has risen since 1994, eating habits have changed (more people eating out) and technical developments have helped delivery services thrive. Disposable products also have cost advantages for businesses compared with reusable products. GVM forecasts another significant rise in waste tonnage if regulatory measures are not taken.

Waste generation in Germany in 2017



The products that generate the biggest proportion of waste are plates, boxes, bowls, etc., which account for 58 per cent of the waste generated by disposable tableware and takeaway packaging: 155,000 tonnes, including pizza boxes, which alone account for nearly 50,000 tonnes (these figures do not include empty disposable plates etc. purchased by private households for parties and picnics).

Summarised overview:

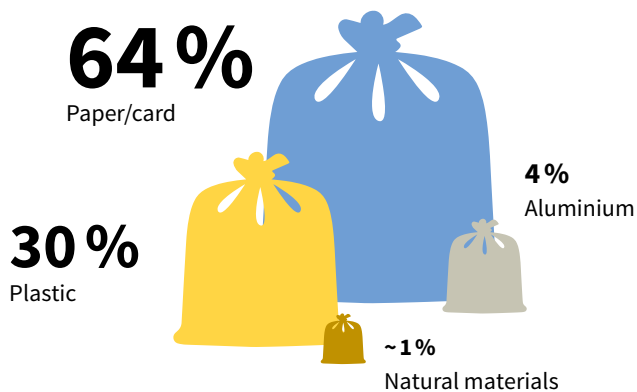
Waste generated by disposable tableware and takeaway packaging 2017

	Paper/card	Plastic	Aluminium	Natural materials	Total	Increase 1994-2017
Disposable tableware and packaging for takeaways and immediate consumption	189,668 t	77,586 t	9,943 t	3,989 t	281,186 t	38 %
Picnic and party supplies etc. (purchased empty)	32,752 t	27,938 t	4,535 t	420 t	65,645 t	74 %
Total	222,419 t	105,524 t	14,478 t	4,409 t	346,831 t	44 %

Selected findings

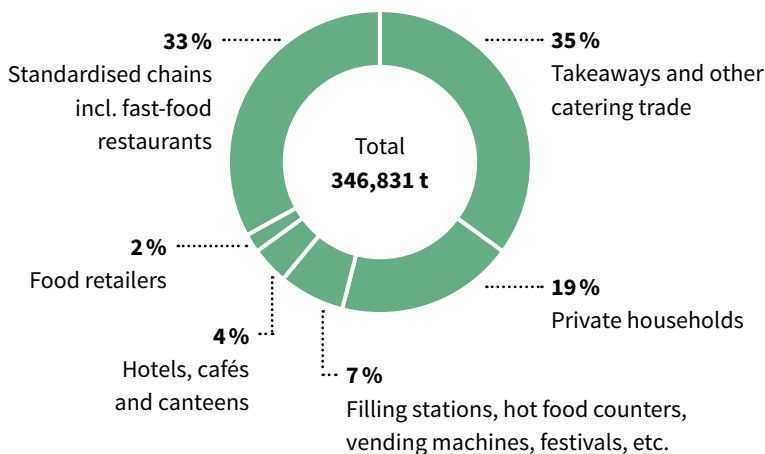
Waste generation by material in 2017

incl. party supplies



Paper and card account for over 220,000 tonnes and over 64 per cent of the waste. Plastic also plays a significant role, with over 105,000 tonnes or 30 per cent (biobased or so called biodegradable plastics are included, but their share is negligible). Aluminium and natural materials like wood or palm leaves are less important but are growing fast.

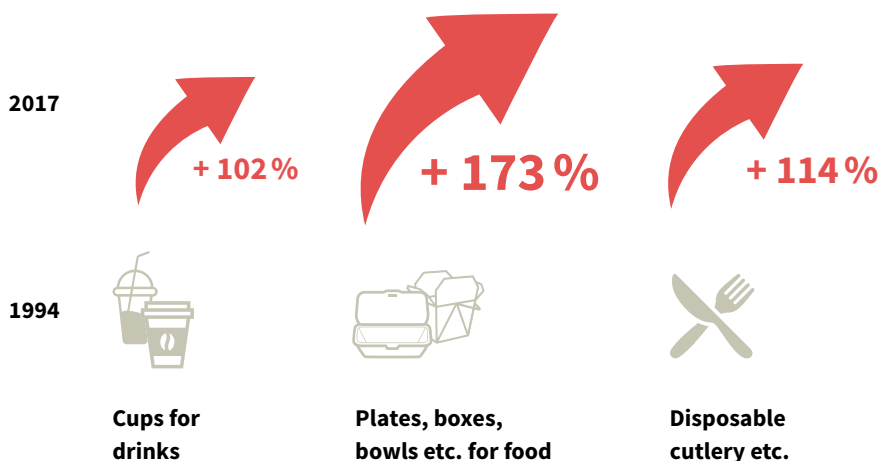
Businesses putting disposables and takeaway packaging into circulation (2017)



Standardised chains incl. fast-food restaurants and takeaways are each responsible for putting around a third (by weight) of disposable tableware and single-use takeaway packaging into circulation. Private households account for 19 per cent. Filling stations, hot food counters in butchers' shops, vending machines, festivals, etc. together account for seven per cent. Hotels, cafés and canteens produce four per cent and food retailers two per cent.

Waste generation between 1994 and 2017

not incl. party supplies



Nearly 350,000 tonnes of waste were produced in 2017 – an increase of 44 per cent compared to 1994. Plastic waste increased by 72 per cent, while paper and card waste rose by 26 per cent. But these figures obscure the fact that we have seen a much steeper increase in specific product groups, as the examples in the diagram show (these figures do not include empty disposable plates etc. purchased by private households for parties and picnics).

4. NABU demands

Switching to reusables to conserve resources

Disposable tableware and takeaway packaging are a waste of natural resources, given the availability of environmentally friendly, reusable alternatives. Waste prevention is at the top of the EU's waste hierarchy and also takes priority in the battle against marine waste. This is reflected, for instance, in the targets of the EU's Marine Strategy Framework Directive. Many commercial players and policymakers, by contrast, are currently focusing on substitution strategies for single-use and disposable products. But this strategy is not likely to have much of a positive effect. It may in fact run the risk of causing even greater negative environmental impacts.

For this reason, NABU is calling for regulatory market intervention in order to reduce resource consumption and make waste prevention more commercially viable as an everyday measure to protect the climate and the environment. Fair market conditions need to be created for reusable alternatives to takeaway containers, since reusables today usually entail higher financial and personnel costs.

Basic principle: prevention not substitution

- › The debate needs to be about reusable alternatives, rather than about shifting from one disposable material to another.
- › Regulatory measures for disposable tableware and takeaway packaging must not be restricted to plastics.
- › Disposable products that have been shown to cause environmental problems, and for which there are environmentally friendly reusable alternatives, should be banned.
- › Negative environmental impacts from the various types of packaging and tableware must be minimised.

We need legislation on waste prevention

- › Waste prevention programmes at the national and regional level in Germany and packaging legislation should set binding reduction targets for disposable tableware and takeaway packaging (regardless of the material they are made from).
- › The reduced VAT rate in Germany on takeaway meals and milk beverages must be abolished. There should be discounts or tax relief only for drinks served in customers' own cups and containers and for efficient takeaway deposit return systems.
- › Extended Producer Responsibility schemes must set the recyclability of disposable tableware and takeaway packaging at zero. Reasons: Composite materials, contamination and disposal in general waste bins.

National and local authorities must make use of support options for reusables

- › National, federal and local authorities should be obliged to provide reusables at public events and to include them as a stipulation in their public procurement contracts.
- › Local authorities must have the legal certainty to be able to charge tax on certain disposable packaging products if this is not done at EU or national level.
- › Authorities should support local multi-business deposit return systems for reusable takeaway products.



Many cafés and snack bars offer reusable alternatives. NABU initiated the Mehrweg fürs Meer ('Reusables for the Ocean') deposit return system.

Reusables must be actively encouraged in the food service sector

- › When eating in, there must be an option to use reusables for meals and drinks to limit disposables. Seating should only be offered in conjunction with reusable tableware and washing-up facilities.
- › Standards and best-practice guidelines on dealing with reusable tableware and reusable takeaway packaging should be drawn up for the distributors.
- › National minimum standards and definitions must be drawn up to ensure that reusables are reusable in practice and not just in theory (e.g. realistic possibility of return, standard containers).
- › Food outlets and retailers that opt for reusables should be supported with financial incentives and certification.



Consumers should question their habits

- › Customers should try to change their routines and habits because disposables, though convenient, cause pollution and harm nature and the environment.
- › Retailers should make suitably attractive offers making it easier for consumers to make a permanent switch to reusable party tableware.
- › Businesses must stop suggesting to customers that packaging made from renewable raw materials etc. is (more) environmentally friendly per se. This is misleading and can even increase waste and littering (rebound effects).



Delivery services and takeaways are having an increasing impact on everyday life.

Street, riverbank and beach cleaning must be improved

- › Street, riverbank and beach cleaning and the provision of suitable litter bins must be improved and made flexible enough to adapt to times of increased waste volumes, such as sunny weekends.
- › Public relations work on waste prevention and littering should be intensified.
- › Recycling bags must be replaced by recycling bins to prevent waste being scattered by animals or gusts of wind.
- › Food outlets and other businesses must contribute to local clean-up and waste disposal costs – e.g. through special disposal charges – if waste can be attributed to them.
- › The manufacturing industry must contribute to clean-up costs via Extended Producer Responsibility.

Footnotes and further reading

Footnotes:

- 1 Jambeck Research Group et al. (2015): Marine pollution. Plastic waste inputs from land into the ocean, Science, <https://www.ncbi.nlm.nih.gov/pubmed/25678662> (last accessed 10/10/2018).
- 2 Website of the Round Table on Marine Litter: muell-im-meer.de (last accessed 10/10/2018).
- 3 The data collected by GVM does not include disposable and reusable bottles sold to 'take out' and 'eat in' customers.
- 4 Includes disposable tableware (plates, bowls), disposable beverage containers (cups, champagne glasses, glasses for other alcoholic drinks), disposable cutlery (knives, forks, spoons, stirrers, skewers, straws) and disposable BBQ grilling trays (not disposable BBQs).
- 5 In the following, the term 'takeaway packaging' refers only to disposable packaging and does not include reusable alternatives. Besides takeaway waste, it includes waste from disposable tableware used when 'eating in', e.g. disposable cups used in cafés.

Long version of the study and original data findings in German:

www.NABU.de/einweggeschirr

More information about plastics:

www.NABU.de/kunststoffabfall

www.NABU.de/mehrweg-fuers-meer

www.meere-ohne-plastik.de