

Plastic and paper compostability specifications by country

General notes about **plastic** compostability:

Compostable plastic must never be disposed of in the plastic bin. Theoretically, compostable plastic can decompose into organic matter, but it will depend on the treatment process used. **Unless specifically mentioned, compostable plastic will NOT decompose at home or if littered in nature.** There are no international standards for home compostable packaging and plastics, because the conditions can vary a lot.

Organic waste from households can be treated either in industrial composters (environments with oxygen) or anaerobic digesters (environments without oxygen). Anaerobic digesters are the most common organic waste treatment systems in Europe because they produce biogas as a byproduct, which has high environmental and economic value. However, compostable plastics need oxygen to biodegrade (as well as certain humidity, temperature, and time conditions [1]). Therefore, compostable plastic will only biodegrade in industrial composters that comply with these special conditions, and never in anaerobic digesters¹.

The table below explains whether compostable plastic can be composted in the Netherlands, US, UK, Germany, France, Denmark, Sweden, Norway, and Spain, considering how organic waste is treated in each country.

[1] You can read more about compostable plastics and the EN-13432 standard in [Bio-based and Biodegradable Plastics in Denmark](#) (Danish Environmental Protection Agency, 2020)

General notes about **paper** compostability:

Pure paper is naturally biodegradable (and compostable) as a wood-based material. However, recycling paper has more environmental and economic benefits than composting. Grease and oils ruin paper's recyclability. Paper products that come in contact with grease and oils (e.g. pizza boxes, paper napkins) can rarely get recycled –composting is then the preferred end-of-life option. Greasy paper can be home composted, and some countries also accept it in the organic waste bin. The table below explains whether greasy paper can be composted in the Netherlands, US, UK, Germany, France, Denmark, Sweden, Norway, and Spain.

¹ In some countries, anaerobic digestion is followed by aerobic treatment (with oxygen). In these cases it is possible that compostable plastic will biodegrade (but it is uncommon).

	Packaging compostability by country
NL	<p>Plastic → Generally, all plastic (compostable or not) is removed from the organic waste stream and sent to incineration [1]. That is because the composting periods used at Dutch composting facilities are generally shorter than is needed for compostable plastics to biodegrade [2].</p> <p>Paper → Used napkins and kitchen paper are accepted in the organic bin. Other oily paper and cardboard such as pizza boxes are not accepted in the organic bin and have to be disposed of in the rest bin for energy recovery (incineration) [3]. Alternatively, greasy paper waste can always be home composted.</p> <hr/> <p>[1] Bio-based and Biodegradable plastics - Facts and Figures (Wageningen Food & Biobased Research, 2017) [2] Plastic: biobased or biodegradable? - A guide to the bioplastics market (Dutch Waste Management Association, 2018) [3] Groente-, fruit- en tuinafval (gft) (Milieu Centraal)</p>
US	<p>Plastic → Due to lack of composting programs that accept compostable plastic (only 11% of the American population have access to such programs), compostable plastic will be generally landfilled [1]. Check here which regions accept compostable plastic in the organic waste.</p> <p>Paper→ Where organic waste collection is available, greasy paper such as kitchen paper or pizza boxes can be disposed of in the organic waste. If not, these products will be landfilled. Alternatively, greasy paper waste can always be home composted.</p> <hr/> <p>[1] Mapping Urban Access to Composting Programs (Sustainable Packaging Coalition)</p>
UK	<p>Plastic → Not all municipalities in the UK collect organic waste separately [1]. The ones that do, often remove all plastic (compostable or not) from the organic waste stream and send it to incineration or landfill [2], [3]. That is because the organic waste treatment widely used in the UK is anaerobic digestion [4], [5], which cannot treat compostable plastics.</p> <p>Paper→ Some municipalities accept food-stained paper in the organic waste bin and some do not. Check with your local authority in the first instance [6]. Alternatively, greasy paper waste can always be home composted.</p> <hr/> <p>[1] What to do with compostable plastics (RecycleNow) [2] Considerations for Compostable Plastic Packaging (WRAP, 2020) [3] AD and Composting Industry Market Survey Report 2020 (WRAP, 2020) [4] Reviewing Biowaste treatment in the UK (Prof. Stephen Jenkinson, 2020) [5] Bio-based and Biodegradable Plastics in Denmark (Danish Environmental Protection Agency, 2020) [6] What to do with kitchen roll (RecycleNow)</p>

DE	<p>Plastic → Generally, all plastic (compostable or not) is removed from the organic waste stream and sent to incineration [1]. That is because the composting periods used at German composting facilities are generally shorter than is needed for compostable plastics to biodegrade.</p> <p>Paper → Dirty paper such as used napkins, kitchen paper, and pizza boxes are not accepted in the organic bin and have to be disposed of in the rest bin for energy recovery (incineration) [2]. Alternatively, greasy paper waste can always be home composted.</p>
	<p>[1] Gutachten zur Behandlung biologisch abbaubarer Kunststoffe (Umwelt Bundesamt, 2018) [2] Waste Separation and Recycling - What goes where? (Handbook Germany)</p>
FR	<p>Plastic → Due to lack of organic waste sortation (only 5,8% of the French population can collect organic waste separately [1]), compostable plastic will be mostly landfilled or incinerated. Check here which municipalities sort organic waste.</p> <p>Paper → Due to lack of organic waste sortation, greasy paper such as kitchen napkins or pizza boxes in the municipal waste will not be composted. Alternatively, greasy paper waste can always be home composted.</p>
	<p>[1] BioDechetes - Avec ma commune (Zero Waste France)</p>
DK	<p>Plastic → Generally, all plastic (compostable or not) is removed from the organic waste stream and sent to incineration [1]. That is because the organic waste treatment widely used in Denmark is anaerobic digestion [1], which cannot treat compostable plastics.</p> <p>Paper → Used napkins and kitchen paper are accepted in the organic bin. Other oily paper and cardboard such as pizza boxes are not accepted in the organic bin and have to be disposed of in the rest bin for energy recovery (incineration) [2]. Alternatively, greasy paper waste can always be home composted.</p>
	<p>[1] Bio-based and Biodegradable Plastics in Denmark (Danish Environmental Protection Agency, 2020) [2] Waste sorting guide</p>
SE	<p>Plastic → Generally, all plastic (compostable or not) is removed from the organic waste stream and sent to landfill or incineration. That is because the organic waste treatment widely used in Sweden is anaerobic digestion [1], which cannot treat compostable plastics.</p> <p>Paper → Greasy paper such as napkins, kitchen paper, and pizza boxes are not accepted in the organic bin. Napkins and kitchen paper must be disposed of in the rest bin for energy recovery (incineration) [2]. Empty pizza boxes, even if greasy, should not be disposed of in the organic bin as they can be recycled as paper packaging.</p>
	<p>[1] Biologisk behandling (Sveriges Avfallsportal, 2021) [2] Återvinningsguide (Sveriges Avfallsportal, 2021)</p>

	[3] Så återvinner du din take away-förpackning - 5 tips att ta med sig i sommar (Sveriges Avfallsportal, 2021)
NOR	<p>Plastic → Generally, all plastic (compostable or not) is removed from the organic waste stream and sent to landfill or incineration [1]. That is because the organic waste treatment widely used in Norway is anaerobic digestion [2], which cannot treat compostable plastics.</p> <p>Paper → Used napkins and kitchen paper are accepted in the organic bin [3]. Empty pizza boxes, even if greasy, should not be disposed of in the organic bin as they can be recycled as paper packaging [4]. Alternatively, greasy paper waste can always be home composted.</p> <hr/> <p>[1] Hva vil du kildesortere? Komposterbar engangsemballasje (Sortere) [2] Bio-based and Biodegradable Plastics in Denmark (Danish Environmental Protection Agency, 2020) [3] Hva vil du kildesortere? Servietter (Sortere) [4] Hva vil du kildesortere? Pizzaeske (Sortere)</p>
ES	<p>Plastic → Compostable plastic can be disposed of in the organic waste bin. Organic waste in Spain is treated either in industrial composters or in anaerobic digesters that combine anaerobic with aerobic treatment [1], [2]. Both waste treatments can treat compostable plastics because they align with the requirements of the standard EN-13432 [3].</p> <p>Paper → Used napkins, kitchen paper, and greasy pizza boxes are accepted in the organic waste stream [4].</p> <hr/> <p>[1] Valorización y reciclaje material – Tratamientos biológicos: Compostaje (Ministerio para la transición ecológica, Gobierno de España) [2] Valorización y reciclaje material – Tratamientos biológicos: Biometanización (Ministerio para la transición ecológica, Gobierno de España) [3] Bio-based and Biodegradable Plastics in Denmark (Danish Environmental Protection Agency, 2020) [4] Guía para reciclar más y mejor (Ecoembes)</p>