Further information to carbon footprint data used Tork Focus4 Sustainability

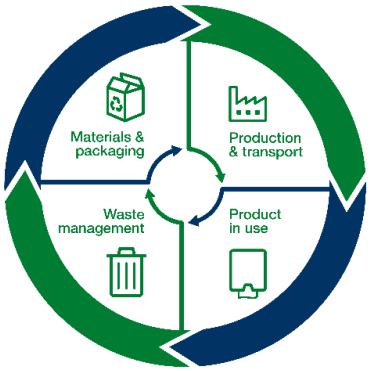
Introduction

Tork is sharing carbon footprint averages for our systems to give an indication of the climate impact per use and to provide a simple way to compare the different Tork systems from a carbon footprint perspective.

Why do we share the carbon footprint "per use"?

To make relevant comparisons of the carbon footprint of different products, the product function must be considered. The function of a tissue product or soap is reflected by the amount of product used per user occasion. Comparing the carbon footprint of different Tork systems should therefore be done "per use" rather than per transport unit or per weight. The "per use" value includes functionality of Tork dispenser systems with consumption control, which helps to reduce consumption and thereby also carbon footprint per use.

What is included in the carbon footprint?



The carbon footprints are based on life cycle assessments. The **cradle-to-grave** carbon footprint covers all emissions in the product life cycle, from extraction of raw materials through production & transports, use phase to waste management of the used product, while the **cradle-to-gate** part covers the emissions until the product is ready to leave the Essity manufacturing unit gate.

The cradle-to-gate part is Essity and Tork specific, and the average impact per gram of product is the same for all product users independently of where they are located. The distribution, use phase and waste management after use, can vary between users depending on where they are located, how the product is used and the actual waste management applied. Plausible scenarios have been used for this part in the LCA, based on Tork European averages where applicable.

Furthermore, the shared carbon footprints reflect the refills. The carbon footprint of the dispensers is excluded since the dispenser stands for a negligible part of the overall carbon footprint.

How have the tissue system average carbon footprints been calculated?

The data represents a weighted *system average carbon footprint per use*. This means that it is an average of all Tork branded refills in all quality tiers produced for the system, their cellulose fiber mixes, paper machine technologies, production sites, distribution, waste management and consumption per user occasion. The average is weighted by Tork European sales volumes in metric tons in 2023.

- The cradle-to-gate data used for Essity's own operations as well as for the cellulose fibre supply is specific.
- The gate-to-grave data is based on a 1000 km assumed distribution distance and the waste management regime 75% incineration and 25% landfill. This represents the sales volume weighted average waste management in the markets where Tork tissue refills are sold. For toilet paper the waste management is assumed to be the European average municipal wastewater treatment process for cellulose fibres.
- The cradle to grave result includes biogenic CO_2 emissions and removals, while the cradle-to-gate result does not include the biogenic removals associated with the biogenic carbon bound in the product and packaging.
- The consumption per user occasion is based on consumption data (sheets or meters per use) and average product weight (per sheet or meter). The consumption data is based on consumption studies done at restaurants, office buildings & universities in Europe, and the product weight is based on product specifications for the Tork European assortment.

How have the soap product category averages been calculated?

The data represents a weighted *average carbon footprint per use*. This means that it is an average of all refills in the product category weighted by Tork European sales volumes in litres in 2023.

- The cradle-to-gate data used for manufacturing as well as from most raw material supply is specific. Generic data has been used for a minor part of the raw materials.
- The gate-to-grave data is based on a 3000 km assumed distribution distance. For the use phase, the water is assumed to be heated 10 degrees using EU average electricity. Product waste emissions are assumed to represent a European average municipal wastewater treatment process and the packaging waste management is assumed to be 72% incineration and 28% landfill. The latter represents the sales volume weighted average waste management in the markets where Tork soap refills are sold.
- The cradle-to-gate result does not include any biogenic removals associated with biogenic carbon bound in the product or packaging while the cradle to grave result includes both the biogenic CO_2 removals and emissions for the packaging but not for the product (where data is not yet available).
- The product consumption per user occasion is based on consumption data (ml per use) and average product weight (g per ml). The consumption data is based on a consumption study done in Europe, and the product weight is based on product specifications for the Tork European assortment.
- The water consumption per user occasion is based on a consumption study done in Europe.

Which standards and guidelines have been used? And has this been third party reviewed?

The life cycle assessments are compliant with the international standards for life cycle assessment (LCA), ISO 14040 and ISO 14044. They are also guided by ISO 14067 regarding the calculations of carbon footprint and biogenic carbon and the Product Category Rules for tissue products and Product Category Rules for Cosmetics (soap, perfume and toilet preparations) from the International EPD system regarding e.g. system boundaries and data selection.

The approach used for calculating the system average carbon footprint per use as well as the life cycle assessments used as a basis for the carbon footprints have all been subjected to critical reviews by third-party auditors.

The provided averages are intended to give a simple way to compare the different Tork systems or product categories from a carbon footprint perspective across the European market. However, if the data is compared with carbon footprints from other companies and/or non Tork branded products, the comparison should be made with caution, also if the studies behind are compliant with the international standards for LCA. Before comparing data and studies, it must be secured that the scope, assumptions and context of the studies are equivalent in terms of for example methodology, scope, data selection, allocation methods etc.

The data is not intended to be used in carbon reporting for specific articles and consumption. The actual carbon footprint from using a product will depend on the specific product used, the actual amount used per user occasion, the conditions during use, as well as the waste management after use. The consumption, and thereby the total carbon footprint, can be reduced by using Tork systems with consumption control. The waste management will have a lower carbon footprint when the product is recycled through Tork PaperCircle® (for hand towels), industrially composted (for napkins) or incinerated with energy recovery, while if the product ends up in landfill it will have a higher carbon footprint. For soaps the carbon footprint will be reduced with lower water temperature, reduced water consumption and using renewable energy for the water heating.

The table below shows the system averages and the consumption data used as input to the calculation.

Tork system	**Consumption data**	**Cradle-to-gate**	**Cradle-to-grave**
Hand towels	Towels per use	gCO2e per use	
H1 Tork Matic®	2.3	6.4	9.8
H2 Tork Xpress® Multifold	2.3	7.0	10.8
H5 Tork PeakServe®	2.3	4.0	6.0
Toilet paper	Meters per use	gCO2e per use	
T7 OptiServe® Coreless	1.3	4.0	5.7

T8/T9 SmartOne®	0.6	2.6	3.8
Napkins	Napkins per use	gCO2e per use	
N4 Xpressnap®	1.4	2.2	3.5
N14 Xpressnap Fit®	1.6	2.4	3.8
Soaps	g per use	gCO2e per use	
Foam cosmetic soap	0,6 soap 409 water	0,93	2,25
Liquid cosmetic soap	1,5 soap 495 water	0,93	3,68