

Press Release | Berlin, 15 June 2023

New study on the climate relevance of packaging: 94% less CO₂ achievable by 2045

A recent study by the GVM Gesellschaft für Verpackungsmarktforschung market research company and ifeu – Institute for Energy and Environmental Research Heidelberg gGmbH, commissioned by eight industry associations, shows that the greenhouse gas emissions associated with packaging in the German market could be reduced by 94 per cent by 2045. The study predicts that packaging consumption in Germany will have peaked in 2021 and continue to decline in the future. On top of this, the use of recycled materials and recycling proportions will both increase.

The study entitled “The contribution of recyclable packaging to the 2045 climate neutrality target” was produced in May 2023 to mark the 9th Day of Packaging on 15 June 2023. It explores the contribution that recyclable packaging can make across all materials with a view to the German 2045 climate neutrality target and predicts the development of relevant factors such as recycling ratios, recycle use, packaging optimisation and packaging volumes. The life cycle stages of raw material production, packaging material production, distribution as well as disposal and recycling were balanced out to reflect typical German conditions.

The study’s reference year is 2021. The situation in 2030 and 2045 was modelled. The study takes into account governmental or European control interventions that are already committed. Specific regulations either in planning or expected, such as the new European Packaging and Packaging Waste Regulation (PPWR), have not been included in the forecasts though. However, the study indicates that the trajectory is similar due to fundamental ambitions that are also found in the PPWR’s catalogue of measures.

The results of the study were announced by GVM and ifeu at a press conference in Berlin. The commissioning associations are happy to provide the report to interested parties.

Greenhouse gas emissions on a continuous decline

“The results of the life cycle assessment show that greenhouse gas emissions associated with packaging volumes are steadily decreasing, with a 94 per cent reduction achievable by 2045. This corresponds to a saving of 18,025 kt CO₂ equivalents,” says Benedikt Kauertz, Head of the Industry and Products Department at ifeu.

“39.3 percentage points of the savings are attributable to factors from the “Packaging market and circular economy” field of action. These include, for example, lighter packaging, reusable packaging, packaging-saving consumer behaviour, increasing use of recycled materials and, last but certainly not least, the greatly improved recycling of packaging. The remaining 54.4 percentage points come from the “Climate and energy transition and process optimisation” field of action. “The key points here are, for example, decarbonisation of industrial production processes, green energy sources and energy savings in production and transport,” says Kurt Schüler, Managing Partner of GVM.

Press Release | Berlin, 15 June 2023

Use of packaging has peaked

The study predicts that packaging consumption will have peaked in 2021 and continue to decline in the coming years. While packaging consumption (excluding wood) was still 16 million tonnes in 2021, the study calculates that it will drop to 14 million tonnes by 2030 and to 11.7 million tonnes by 2045. “This equates to a 13 per cent saving by 2030 and a 27 per cent saving by 2045,” says Kurt Schüler.

Evaluation of the results

The study was commissioned by the following industrial associations: Arbeitsgemeinschaft Verpackung + Umwelt e.V. (AGVU) (Packaging + Environment Working Group), Bundesverband Glasindustrie e. V. (BV Glas) (Federal Association of the Glass Industry), Deutsches Verpackungsinstitut e. V. (dvi) (German Packaging Institute), Fachverband Faltschachtel Industrie e. V. (FFI) (Folding Carton Industry Association), Industrieverband Papier- und Folienverpackungen e. V. (IPV) (Paper and Film Packaging Industry Association), Industrie- vereinigung Kunststoffverpackungen e. V. (IK) (Plastics Packaging Industry Association), PRO-S-PACK Arbeitsgemeinschaft für Serviceverpackungen e. V. (Working Group for Service Packaging) and Verband Metallverpackungen e. V. (VMV) (Metal Packaging Association).

Packaging + Environment Working Group (AGVU)

The study suggests that the packaging and recycling industry can make an important contribution to Germany’s climate neutrality. In particular, this look into the future shows how the circular economy will unleash its full effect in the coming decades – for example through increased use of recycled raw materials. (Carl Dominik Klepper, Chairman of the Board AGVU)

German Federal Association of the Glass Industry (BV Glas)

The properties of glass mean it has always been a recyclable material. The study shows that we can still improve in terms of recycling rate and broken glass use, even from the current high rate. The goal must therefore be to further sensitise consumers to the importance of disposing of glass packaging in the designated glass containers. Because every piece of glass packaging contributes to closing the loop and further reducing GHG emissions. (Sheryl Webersberger; Head of Capital Office, Head of Product Policy BV Glas)

German Packaging Institute (dvi)

As a society and as individuals, we consume and use many raw materials and products, meaning there is a correspondingly large amount of packaging. It is clear that packaging is a significant factor if we are to achieve the climate neutrality targets by 2045. This remains true even though packaging is already a climate protector due to its product protection function. For example, food packaging only accounts for around 3 per cent of the climate footprint on average. 97 per cent is in the food itself – which is why the greatest damage to the climate occurs when a product is unused and goes bad. The study by GVM and ifeu shows what a key

Press Release | Berlin, 15 June 2023

contribution packaging can make on Germany's path to climate neutrality beyond 2045. A great deal is possible if everyone involved, from business and politics to consumers, makes their contribution and keeps recycling used packaging. (Kim Cheng, Managing Director dvi)

Folding Carton Industry Association e.V. (FFI)

"High recycling rates and a high use of recycled materials have been validating the successful PPK recycling system for decades. PPK can make yet another significant contribution to reducing GHG emissions from the packaging industry by decarbonising paper production." (Christian Schiffers, FFI Managing Director)

Plastics Packaging Industry Association e.V. (IK)

For the first time, the study shows in hard figures the shared responsibility of politics, industry and society in reducing greenhouse gases from packaging. As well as the essential energy turnaround, changed parameters close to the packaging itself can also open up significant potential. As far as plastic packaging is concerned, this also means a raw material turnaround no later than 2045. This means that in the future plastics will not use any fossil oil and that recycling, biomass and CO₂ will provide the climate-neutral raw materials. (Mara Hancker, IK Managing Director)

Industrial Association for Paper and Film Packaging (IPV)

Packaging that both safely protects the packaged products, fulfils all other necessary functions and at the same time significantly reduces their associated greenhouse gas emissions is a daunting challenge. However, the study shows that if all relevant stakeholders work closely together, it can be possible. As an industry, we are facing up to these challenges. We are confident that we can find the right and sustainable solutions for flexible packaging made of paper and plastic. (Karsten Hunger, IPV Managing Director)

PRO-S-PACK Working Group for Service Packaging e.V.

Packaging is following the right track to contribute to meeting climate targets by 2045. It is important for existing collection systems to be further expanded, including in public spaces, to make the sought-after raw material available for recycling. The agility and innovation of the food service industry has and will continue to lead to the reduction of CO₂ emissions from packaging. (Thorsten Plutta, Managing Director PRO-S-PACK)

Metal Packaging Association (VMV)

The study needs to be seen in its context as a forecast and thus as an outline of trends. Steel remains in a closed loop in successive use and recycling cycles because of its properties. When it comes to steel packaging, the availability of scrap – significantly influenced by the recycling feed rate (recycling rate) – is essential in achieving the potential for CO₂ reduction, because reusing scrap reduces the amount of primary steel used. It is relevant at this point to emphasise that recycling rates have been very high for a long time. Our industry started doing its "homework" early on. In future, hydrogen-based steel production will play a central



Press Release | Berlin, 15 June 2023

role in the further reduction of GHG emissions, leading to climate neutrality in steel production in 2045. (Jörg Höppner, Managing Director VMV)

Day of Packaging

The study marked the 9th Day of Packaging on 15 June 2023. The German Packaging Institute, dvi, launched the Day of Packaging in 2015 and it is an annual event taking place in mid-June. “We want the Day of Packaging to be a forum to draw attention once a year, for all to see, to the achievements of packaging and the people who make it possible,” says dvi Managing Director Kim Cheng.

“Without packaging, we simply would not be able to ensure that the population and companies have a daily supply of all the products and raw materials they need – from food and medicine to industrial components, building materials, electronics and textiles. Without packaging, products would not be protected from damage and spoilage and they could not be stored or transported. All this applies regardless of what material the packaging is made of or whether it is used as a single-use or reusable solution.

But the fact that we could only do without packaging to a miniscule extent is precisely why we have to be all the more acutely aware of how we use it. Packaging remains valuable even after use. It is sustainable fuel for the circular economy as important secondary raw materials. The circular economy is a freedom technology because it makes us less dependent on raw materials,” says Cheng.

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