



## ECO-BALANCE CALCULATOR

# Calculating sustainability

*Sustainable business management and an improved carbon footprint: these number among the main objectives of packaging manufacturers and their customers nowadays. This is why the Vetropack Group offers eco-balance calculations that map the entire life cycle of a glass packaging product. The scope of these calculations goes far beyond glass itself.*

Glass numbers among the most environment-friendly of all materials for packaging. But even so, Vetropack continuously endeavours to minimise the environmental impact of glass production. We pursue a holistic approach to sustainability underpinned by two initiatives: first, to reduce the ecological footprint of all our business activities, and second, to improve recycling consistently throughout the value chain. Consequently, we focus on resource-saving production and optimise all parameters that impact our energy balance. Eco-balance calculations provide an important instrument in this context.

Calculating the eco-balance is a method that can be used to determine all the environmental impacts throughout the life cycle of a packaging product. To be more specific: informative

environmental indicators consolidate all resources consumed and all emissions generated across all phases of production, transport, filling and usage – all the way through to recycling. Life cycle analyses can help packaging manufacturers such as Vetropack to identify the best points for starting to implement further reductions in environmental impact.

### Keeping track of the entire value chain

Elisabeth Haimberger, Communications Specialist at Vetropack Austria, explains: "For a few years now, we've been using a tool developed by a platform at FEVE (the European Container Glass Federation)." This tool can provide an overview of the entire value chain for a bottle. "There's an important difference between this method and other types of eco-balance calculation

that combine individual analyses with different parameters," Haimberger continues. Vetropack combines its own data with customers' data to obtain a consistent overall picture of the packaging's carbon footprint – so customers benefit from transparency that's as clear as glass itself.

The data input for the calculation includes (for example) the energy consumption of the specific furnace for the product. "We can also take account of data from label and closure manufacturers. The calculation includes content of recycled material, weight and transport distances for the individual packaging components, as well as the manufacturers' own bottling and filling data," Haimberger points out. The major effort in an analysis of this sort is caused by collecting the data. Haimberger and her colleagues regularly update the tool with the latest real data from Vetropack's own plants. Life cycle analyses can be carried out at any time. "There are many situations where an analysis of this sort makes sense: if we are asked to develop a new model for a customer, for example, or if a customer wants to switch to a different container," according to Erich Jaquemar, Strategic Account Manager for Vetropack in Austria. "We can then run through the proposed process on a cradle-to-cradle basis, with changing parameters; we can compare various scenarios and recommend the most environment-friendly solution."

**Vetropack has launched Echovai on the market – the world's first returnable bottle made of lightweight glass – a genuine innovation that promotes sustainability.**

**One example: Vöslauer**

Vetropack can provide eco-balances for all its customers – a highly appreciated offer that is being taken up more and more often. One example: Vöslauer, the Austrian producer of mineral water. In this case, Vetropack collected data on the primary and secondary materials used, the transport packaging and the energy consumed for production and transportation; this data was combined with information on the closures, paper labels and crates used, the energy consumed in bottling, the emissions from transport packaging and the distances covered during transportation. Multi-trip use together with the high rate of glass recycling in Austria result in a bonus that is offset here.

The result: one 0.5-litre returnable Vöslauer glass bottle causes about 25 grams of CO<sub>2</sub> each time it is filled. Production of the

glass bottle by Vetropack accounts for a total of 12.7 grams; this figure includes distances covered during transportation and transport packaging. Finally, 19.7 grams are caused by the bottling plant or by additional packaging materials that are required such as crates, closures or paper labels. The end-of-life bonus per bottle still amounts to 7.2 grams that can be deducted from the total.

**Industry-wide pioneer**

Life-cycle analyses such as these help us to operate at the forefront of the industry as regards environment-friendly production. "We achieve this goal by continuously improving our production processes", Jaquemar notes. "And in this context, our focus is not only on energy consumption during production and transportation. Minimising the use of materials is also a key factor when it comes to reducing the carbon footprint."



On the one hand, the melting process harbours huge potential for savings: used glass can be melted with significantly less energy than primary raw materials. So the high recycling rate in Austria makes a positive contribution to the eco-balance for glass. But on the other hand, reducing the weight of glass packaging also plays a vital part. Vetropack has launched Echovai on the market – the world's first returnable bottle made of lightweight glass – a genuine innovation that promotes sustainability.

