## Product Sustainability Report (PSR) Category: extra products

(coffee machines, drawers, microwave ovens)



# Product Sustainability Report (PSR)

The Product Sustainability Report (PSR) provides information about the sustainable aspects of the relevant product category. This is based on extensive environmental data from detailed life cycle assessments (LCAs).

Life cycle assessment (LCA) under DIN EN ISO 14040

#### Tools

SimaPro, Ecolnvent, UVEK environmental database

#### Perspectives

Cradle-to-cradle and cradle-to-gate; assessment based on three methods: CO<sub>2</sub> footprint measured in CO<sub>2</sub>, the ecological scarcity method measured in environmental impact points and the monetary equivalent value method measured in Swiss francs (CHF).

### Category

Extra products (coffee machines, drawers, microwave ovens)

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## Table of contents

About V-ZUG	Page 4
Sustainability at V-ZUG	Page 7
Results of life cycle assessments (LCA)	Page 9
V-ZUG's contribution to boosting the sustainability of products	Page 13
Durability, repairability and customer loyalty	Page 16

# About V-ZUG

We have been developing, creating and producing appliances that bring simplicity into our customers' homes and creativity into their kitchens since the company was founded in Zug in 1913.

Our responsible approach to manufacturing high-precision and long-lasting products allows us to make an active contribution to a sustainable future. V-ZUG has branches in the EU, the UK, China, Hong Kong, Singapore and Australia and distribution partners all over the world, but production takes place in Switzerland, and this is where the decisions are made. V-ZUG currently employs a total of around 2,200 people. Organisationally, it consists of the segments Household Appliances and Real Estate.



### Timeless design

Our design language is unobtrusive, timeless and reduced to the essentials. It is uncompromising in terms of quality, the materials used and sustainability. We have carefully formulated the user's interaction with our products in great detail to make it as intuitive as possible and create an emotional connection with our products. That is Swiss quality.

### Meaningful innovation

We work tirelessly to find solutions that will make our customers' everyday household tasks easier and deliver perfect results.

We are renowned for our innovative products and attach great importance to their userfriendliness, durability, reliability, performance and energy efficiency. Thanks to our proximity to customers, we are able to develop the right programmes and functions to achieve perfect results, allowing us to make their everyday household tasks easier.

### Service

Our qualified service team assists our customers throughout their journey with V-ZUG – from choosing the right appliance for their needs to troubleshooting in the event of an issue, error report or code. We guarantee our customers the help they need.

Every day, we give our all to ensure customers are satisfied with our products and receive the best service. With more than 700 service experts around the globe, we are there for our customers whenever they need us.



### Swiss origins

We proudly bear our company's location in our brand name and are acutely aware of the responsibility we bear to our environment. We reflect on our actions and the consequences of these for people and resources in our environment and are committed to ongoing investment in a sustainable future. We are here to stay.

# Production location in Zug, headquarters, vertical factory

We have made a conscious decision to remain true to our long-standing production location in Switzerland. To ensure we are optimally prepared for the future, we are part of a visionary urban manufacturing project: the Tech Cluster Zug. Because we are striving tirelessly to achieve state-of-the-art production facilities and improve our environmental footprint, we have not only built our own vertical factory, but also a Multi-Energy Hub.

# Production location in Sulgen, the most state-of-the-art refrigerator factory in Europe

We are proud to have opened Europe's most state-of-the-art refrigerator factory in Sulgen in 2022. Here, both products and processes are geared towards maximum sustainability – be it with regard to the energy efficiency of the appliance or the  $CO_2$  neutrality of the production set-up.

#### Swiss Made

V-ZUG produces more than 80% of the appliances it sells in Switzerland in Zug and Sulgen (2023: 82%, Swiss market). All appliances manufactured in Switzerland meet the strict Swiss Made requirements (i.e. > 60% value generated in Switzerland) and are certified accordingly (Swiss Made, protected designation).

We also have at our disposal a key network of suppliers. More than 60% of our suppliers are based in Switzerland, 30% in neighbouring countries (primarily Italy, Austria, Germany) and roughly 10% are from Asia (primarily electronics).



# Sustainability at V-ZUG

Sustainability. We see it as the driving force behind the development of our products, the services we offer, the way in which we manufacture, and how we contribute to a society that is fit for the future. Sustainability at V-ZUG comprises three dimensions:



#### People

Our commitment to our employees and our environment is our top priority – we never cease to invest in these. The wellbeing of our employees, our customers and society as a whole is the driving force behind our aspirations and big ambitions for positive change.

#### Planet

We manufacture ultra sustainable appliances with the utmost efficiency. We boost the circular economy and our production processes have been CO<sub>2</sub>-neutral since 2020, all the while staying true to our motto: achieve the goal first, talk about it later.

#### Profit

Our success is based on quality, design and durability. These values are reflected in our projects too. Far from being geared towards shortterm profit maximisation, they will secure the future of our company for generations to come.

#### The circular economy

For us, a sustainable product starts at the development stage. This early stage is where we can most effectively influence its "long-term" sustainability. This is when we concentrate on aspects like the durability and repairability of the appliances, low energy and water consumption in use, material selection and modular design – all very much with the circular economy in mind.



We have encapsulated our commitment to sustainability in four targets which provide the framework for our goals, activities and reporting.

#### Products and services for a future-fit society

Producing an energy-efficient appliance is just one of many sustainability aspects. We think ahead. From procurement, development and manufacturing and servicing right through to reuse and recycling, sustainability throughout the entire life cycle of the appliance is more than just a consideration for us: it is the goal. Measurable, definable and achievable.

#### **Resilient and committed employees**

A workforce we care about and whose work is close to our heart. The quality of our products depends on our employees. That is why we incorporate them in the strategic direction of the company, promoting an open, fair and safe working environment, encouraging and facilitating life-long learning and offering a wide range of advancement opportunities.

#### **Environment and climate protection**

Thanks to extensive research, measurements, analysis and investment, we have reduced and offset our  $CO_2$  footprint. Our manufacturing operations have been entirely carbon-neutral since 2020. With an internal  $CO_2$  levy, pioneering carbon dioxide reduction initiatives, a lifecycle analysis as well as a reforestation programme we are pursuing real sustainability and setting an example for others.

#### Entrepreneurship for sustainable prosperity

We are committed to our Swiss location and have invested over 50 million Swiss francs a year in our local production infrastructure in the last three years alone. Our quest for profit, our business partnerships and our entire management set-up are geared towards ethical and sustainable practice and fall in line with our binding code of conduct.



# Results of life cycle assessments (LCA)

#### Product category: extra products

This category contains extra products such as coffee machines, microwave ovens and various drawers. A detailed description of the products and user instructions is not provided here.

### Life cycle assessments are carried out using three different methods/perspectives.

#### CO<sub>2</sub> footprint in CO<sub>2</sub>e/kg:

greenhouse gases differ in their global warming potential (GWP). The climate impact of carbon dioxide (GWP of  $CO_2$  is equal to 1) serves as a benchmark, i.e. the global warming potential of other substances are measured relative to  $CO_2$ . The GWP value/ $CO_2$  equivalent indicates the global warming potential of a substance and thus its contribution to the warming of the atmospheric boundary layer.

#### Environmental impact points:

The method of ecological scarcity provides a comprehensive picture of the environmental footprint and, in addition to the greenhouse gas potential, includes other impact categories such as noise, water, land use, acidification of the soil, toxicity to humans and ecosystems, etc. This method was introduced by the Federal Office for the Environment in Switzerland in 2011 and is constantly being adapted to take into account new findings. The unit is environmental impact points.

#### Monetary equivalent in CHF:

In cooperation with the Lucerne University of Applied Sciences and Arts (HSLU), V-ZUG has developed a method that shows the environmental costs which, along with the footprint, serve as a basis for the life cycle assessment (in environmental impact points). In most cases, these costs are borne by society. The value is expressed in Swiss francs and is included as a shadow price in V-ZUG's business case considerations.

#### Important note:

the ecological footprint in the use phase depends largely on the usage behaviour (programme selection, intensity, care, etc.), as well as the electricity mix used.

#### Scope of life cycle assessments:

Life cycle assessments cover the entire product life cycle from production, packaging, use and transport to recycling/disposal (cradle-to-cradle). The "manufacturing" section (also known as grey energy) includes all the materials used as well as the manufacturing process (cradleto-gate).



### Coffee machines

**Recycling quota\*:** 74 – 81% **Recovery quota\*:** 84 – 88% (recycling including combustion with heat recovery)

\*Based on own method reflecting the current state of recycling technology in Switzerland

### Underlying data for the life cycle assessment Country of manufacture <sup>1</sup>: Italy Country of use <sup>2</sup>: Switzerland Electricity mix <sup>3</sup>: as per Swiss average: 181 g CO<sub>2</sub>/kWh User behaviour <sup>4</sup>: Consumption of 6 coffees

per day (different recipes), 4x water consumption with steam function. Includes heating the appliance, plus 1 hour standby, for a period of 12 years<sup>5)</sup>



## Coffee machines

#### CoffeeCenter V6000

	<b>CO<sub>2</sub>-Fuse</b> 51,5 in <b>C</b> in %   in	sabdruck %	Um belastur 63,0 in in sin %	31,4 My Hingspunkte	in % 1 in CHF
Herstellung (cradle-to-gate)	39,3	107	31,4	218.000	40,8   104
Verpackung	2,1	6	1,6	10.800	1,6   4
Transport	1,3	4	0,9	6.400	0,9   2
Nutzung – Strom	51,5	140	63,0	438.000	54,5   139
Nutzung – Wasser	0,0	0	0,0	160	0,0   0
Nutzung – Reinigungsmittel	1,3	4	1,1	7.770	1,4   3
Reinigungsmittelwirkung im Wasser	0,0	0	0,0	213	0,0   0
Recycling/Entsorgung	4,4	12	1,9	13.533	0,7   2
Total (cradle-to-cradle)	100,0	272	100,0	694.876	100,0   255

#### Supremo HSL



	in % ∣ in kg CO₂e	in % 1 in UBP	in % 1 in CHF
Herstellung (cradle-to-gate)	39,3   102	34,5   245.000	44,5   119
Verpackung	2,7   7	1,6   11.300	1,7   4
Transport	1,2   3	0,8   5.680	0,8   2
Nutzung – Strom	52,8   137	60,8   431.000	51,3   137
Nutzung – Wasser	0,0   0	0,0   160	0,0   0
Nutzung – Reinigungsmittel	1,4   4	1,1   7.77O	1,3   3
Reinigungsmittelwirkung im Wasser	0,0   0	0,0   213	0,0   0
Recycling/Entsorgung	2,6   7	1,2   8.248	0,4   1
Total (cradle-to-cradle)	100,0   260	100,0   709.371	100,0   267

### Drawers

**Recycling quota\*:** 81 – 91% **Recovery quota\*:** 89 – 84% (recycling including combustion with heat recovery)

\*Based on own method reflecting the current state of recycling technology in Switzerland

Underlying data for the life cycle assessment Country of manufacture <sup>1</sup>: Austria Country of use <sup>2</sup>: Switzerland Electricity mix <sup>3</sup>: as per Swiss average: 181 g CO<sub>2</sub>/kWh

#### User behaviour <sup>4</sup>):

VacuDrawer: packing food twice a week, for a period of 12 years<sup>5)</sup>

WarmingDrawer: various uses such as warming cutlery (26x, 75 min), keeping food warm (52x, 45 min), cooking yoghurt (13x, 6 h), for a period of 12 years<sup>5)</sup>

System drawer: no electrical connection, not relevant for use, for a period of 12 years<sup>5)</sup>

#### VacuDrawer V6000



### Drawers

#### WarmingDrawer V4000



#### Drawer V2000



### Microwave ovens

**Recycling quota\*:** 75 – 79% **Recovery quota\*:** 85 – 87% (recycling including combustion with heat recovery)

\*Based on own method reflecting the current state of recycling technology in Switzerland

Underlying data for the life cycle assessment Country of manufacture <sup>1</sup>: China Country of use <sup>2</sup>: Switzerland Electricity mix <sup>3</sup>: as per Swiss average: 181 g CO<sub>2</sub>/kWh User behaviour <sup>4</sup>: 4 or 5 different processes (warming drinks, heating various foodstuffs, defrosting, cooking, cooking au gratin), 10x per week, for a period of 10 years<sup>5</sup>)



### Microwave ovens

#### Miwell V600



#### CombiMiwell V4000



# Underlying data background

1) All appliances are produced according to our specifications and quality requirements in Italy (coffee machines), Austria (drawers) and China (microwave ovens).

2) The life cycle assessments relate to use of appliances in Switzerland with the corresponding Swiss electricity mix. If the appliance is used in another country, the corresponding results can be requested from V-ZUG.

3) The electricity mix is based on the Swiss average. The emissions from electricity consumption depend on electricity generation. The more sustainable and renewable electricity production is, the smaller the environmental footprint. This can vary significantly from one energy supplier to another. The influence of emissions caused by electricity production is very high.

4) Usage behaviour: average usage behaviour based on internal definitions is used for calculation. Sometimes this is based on service data, other times it is based on the regulatory requirements for the energy label assessment. Usage behaviour with regard to intensity and programme selection influenced the result considerably. 5) V-ZUG defines a theoretical lifespan in years for each product category; this is used as a basis to review the quality in development/production. In addition to the lifespan in years (12 years for coffee machines and drawers, 10 years for microwave ovens), the number of cycles is also considered. But the lifespan in years depends on a number of different factors, intensity of use and care being the most crucial. The lifespan in years also includes potential repairs during this time and beyond. Great importance is attached to repairability (availability of spare parts and repair expertise in the service department).

Recycling classification: Sens Foundation recycling quota for the white goods appliances category (washing machines, ovens, range hoods, etc.): 73% (according to 2024 annual report).

Product variability: The values of the different models and items vary due to slight differences in design and energy efficiency. Please refer to the technical data on the website for the detailed value per model offered (in absolute figures, CO<sub>2</sub>, environmental impact points and monetary equivalent).

### Our commitment to sustainable products

### Across all products generally:

- How we design and refine appliances
  - Focus on quality and durability
  - Based on the principles of the circular economy
  - Ongoing improvement energy and water efficiency
  - Enabling repairability (up to 15 years' spare parts availability, extensive repair expertise extending beyond 15 years, competent service teams)
- How we manufacture the appliances
  - Use of 100% renewable electricity in our production operations in Switzerland (from Swiss hydroelectric power)
  - CO<sub>2</sub>-neutral production in Switzerland (ongoing reduction of footprint, offsetting residual emissions in the V-Forest (high-quality reforestation)
  - Internal CO<sub>2</sub> steering tax on scope 1+2 emissions (CHF 120/t CO<sub>2</sub>)
  - State-of-the-art production facilities and building
  - Advanced waste management
- Resilient and committed employees
- Assuming responsibility in supply chains (human rights, child labour, conflict minerals)
- Driving the transformation from a recycling economy to the circular economy
- Driving forward the decarbonisation of our own vehicle fleet (service vehicles, lorries)



# Durability, repairability and customer loyalty

To make a statement about durability, repairability and customer loyalty, we analysed our service data across all product categories for 2023 in more detail. Our service technicians were called out for services over 200,000 times (appliance defective). In each case, we looked at how old the appliance was at the time, whether we could still repair it and whether the customer still wanted to repair it or replace it with a new one.



### **Results:**

- In 43% of cases, the appliances were older than 10 years – the repair rate for 10 years is 90%.
- In 20% of cases, the appliances were older than 15 years – the repair rate at 15 years is 80%.
- In 6% of cases, the appliances were 20 years or older – the repair rate at 20 years is 75% and at 30 years it is still over 60%.
- The oldest appliance (washing machine) was 44 years old; the customer still wanted to repair and we were able to do so (spare part and expertise were still available).
- The result only reflects appliances we were able to assess because of a service call. Not shown here are appliances in good working order and those replaced straight away because of their already advanced age.

### **Conclusion:**

- Our appliances have a very long service life.
- We can perform repairs even on older appliances (spare parts availability and service expertise)
- The repair service is attractively priced. The majority opt for repair and continue to do so over a long service life.
- Customers are happy to repair because they are very satisfied with the product. Otherwise, they would change appliance or even brand.
- Note: repairing a 25-year-old washing machine makes only limited sense, as the energy efficiency of the successor would be much better and offset embodied energy relatively quickly. Of course, the customer's wishes always come first.
- For perspective: approx. 60% of V-ZUG's appliances on the Swiss market are serviced by V-ZUG's own service department (there are approx. 5.7 million VZ appliances on the market).

# Legal information



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#### Publisher

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Publication April 2025