

# 2022 Sustainability Report



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# Forging ahead with resilience and a pionineering spirit



Peter Spirig, CEO, V-ZUG Ltd

## Interview with Peter Spirig, V-ZUG CEO

### **2022 was another eventful year. Hot on the heels of the coronavirus pandemic came the war in Ukraine and the energy crisis. How did these global crises affect V-ZUG?**

We are subject to the same forces as society in general and we quickly had to find effective solutions to meet these global challenges. The pandemic and the strict lockdowns that were consequently imposed in China created supply-side shortages and procurement problems for us. Our response was to strengthen our supplier management operations by diversifying risk, setting up interim storage facilities and identifying alternative sources. The energy crisis equally forced us to find alternative solutions at short notice as some of our production processes use natural gas. Ahead of the 2022/23 winter season we succeeded in switching from natural gas to propane. Together with our employees we developed internal energy-saving measures. In addition, we also provided our customers with tips for saving energy via our V-ZUG-Home app.

### **Does the crisis represent an opportunity for sustainable solutions?**

Yes, but more than that. We also see sustainability as part of our risk management. By assessing our value chain in relation to core sustainability issues, we are able to anticipate risks at an early stage and, ideally, turn them into opportunities.

Regulatory factors are also helping to drive sustainability in business, in particular the regulations that emerged from the indirect counterproposal to the Responsible Business Initiative which require transparent reporting on minerals and metals from conflict regions, child labour and climate impacts. These regulations will be binding for all Swiss public companies above a certain size as of 2023 reporting year. In this way the federal government is exerting pressure on companies to take their responsibilities to society seriously. We welcome this development, as it renders the non-financial figures more meaningful and provides a better basis for comparing companies. V-ZUG is well prepared, as confirmed by an external evaluation of our commitment to sustainability and our sustainability reporting. What we now need to do is ramp up our engagement effectively and at speed.

### **Which topics did V-ZUG drive forward in 2022?**

We put a strong focus on designing circular products and environmentally responsible production. We firmly believe that our circular design products and enterprising solutions can make a contribution to a climate-friendly society. During the reporting year we therefore worked intensively on establishing transparent data by conducting life cycle assessments on our products and drawing up design-to-circularity principles. We are now using these principles to ensure that

our products have circularity systematically designed in from the outset. Interestingly, the drive towards a circular economy is also throwing up promising new business models. For instance, following a positive pilot phase, in 2022 we successfully launched our Product as a Service model. This usage model is essential for our Second Life offerings.

Naturally, CO<sub>2</sub> emissions are another area we are focusing on. We are aiming to cut our Scope 1 and Scope 2 emissions by at least 80 percent, ideally 100 percent, by 2030. We have already taken major strides forward during the reporting year towards reaching this target. Opening the new refrigerator factory in Sulgen with its modern energy system made a significant contribution to this. In addition, our Multi Energy Hub (MEH) will progressively supply our Zug site with renewable energy from photovoltaic solar panels, process heat, groundwater and lake water. The MEH successfully commenced operation in autumn 2022. We are offsetting as yet unavoidable Scope 1 and Scope 2 emissions in our V-Forest reforestation project.

We have now also started taking responsibility for the indirect emissions in our value chain (Scope 3), for example emissions resulting from transportation or bought-in goods. In 2022 we set ourselves the goal of reducing our Scope 3 emissions by 30 percent by 2030.

### **Where does your responsibility begin and where does it end?**

We take our responsibility seriously along our entire value chain. Our supplier management follows clear quality and sustainability standards and we have a zero tolerance-policy to forced and child labour. We choose our suppliers very carefully, including assessing them according to environmental and social criteria such as working conditions or their consumption of natural resources.

When looking at the customer side of the equation, it is clear that our responsibility cannot end at the point where we sell our energy-efficient appliances, as their use at home accounts for by far the biggest part of the energy and water consumption of household appliances. We therefore encourage our customers to conserve resources when using our appliances. This is primarily via the V-ZUG-Home app I already mentioned. They can even offset their emissions through our V-Forest in the new CO<sub>2</sub> Webshop.

### **You are forging ahead very dynamically. Can you do it on your own?**

No, a sustainable society fit for the future must be shaped together. We are always looking to collaborate, for example with architects and the construction industry, and we are involved in associations, interest groups and education initiatives.

We drive innovative projects forward within networks and in partnership with others, which amplifies the impact of our commitment. One example is the Association for the Decarbonization of Industry. Along with Metall Zug, the canton of Zug, the Empa research institute and other major companies, we were one of the co-founders of this non-profit in 2022, contributing CHF 1 million to its funding. The association aims to enable the environmentally friendly production of hydrogen that can be used both for high-temperature processes and mobility solutions. We are intending to replace the natural gas, propane and diesel we use at V-ZUG with this hydrogen.

### **How do you integrate sustainability internally?**

The road to a sustainable enterprise is a process of transformation. And it is vital that we take both management and our employees along with us on this journey. In 2022 we further embedded our vision, mission and values in the company, worked on our participative corporate culture



Attaching equal value to environment, society and enterprise

and launched our leadership principles. These provide a common understanding of our core approach together with the associated competencies and responsibility that will ensure our success within a constructive working environment. Sustainability is also included as a variable component of remuneration in V-ZUG management target agreements, and is consequently also a mandatory element of performance reviews.

**Looking to the future now, what opportunities and challenges are on the horizon?**

In my view the biggest challenges will be the trend towards deglobalization and the resulting demographic impacts on the labour market. We will need to develop and expand our supplier network with this in mind too. And we will also have to seriously get to grips with how to recruit skilled workers to replace the baby boomers that are leaving the labour force. I see a great opportunity in the business models that are emerging from the trend towards circular design. For instance, I'm excited by the prospect of contract models such as Clean & Simple, or being able to provide our customers with second-life appliances at just the right time in their lives. This transforms our profile from simply an appliance manufacturer into a service provider.



# Company profile





# V-ZUG at a glance

Products and services for a future-fit society				
	2022	2021	2020	Change from previous year
Appliances supplied with energy efficiency rating A or better (before rescaling) in %	96,9	96,9	96,8	+0,0%p.
Fault proportion for Switzerland (indexed, 2015 baseline = 100%) in %	70,6	76,5	76,4	-5,9%p.
First-time fix rate for Switzerland in %	90,3	90,9	91,4	-0,6%p.
Average response time in days	2,4	2,6	2,4	-0,2 days
Healthy and committed employees				
Number of employees excl. temporary employees FTE	1743	1761	1732	-1,0%
Number of employees (FTE, incl. temporary employees <sup>1)</sup> )	2193	2080	1999	+5,4%
Women in senior management roles in %	20,0	23,6	20,8	-3,6%p. <sup>3)</sup>
Turnover rate in %	10,9	12,5	11,2	-1,6%p.
Absence rate by cause in %				
- Work-related accidents	4,4	7,2	5,7	-2,8%p.
- Non-work-related accidents	8,5	10,4	11,0	-1,9%p.
- Illness	87,2	82,4	83,4	+4,8%p.
Employees by working hours:				
- Part-time employees	288	258	263	+11,6%
- Full-time employees	1559	1503	1469	+3,7%
Hours lost due to occupational accidents in %	0,20	0,27	0,20	-0,07%p.
Environment and climate protection				
CO <sub>2</sub> emissions in t (market-based) <sup>2)</sup>				
- Scope 1	3467	4096 <sup>4)</sup>	4169	-15,4%
- Scope 2	225	244	280	-7,8%
Total	3692	4340	4449	-14,9%
Energy consumption in terajoules	108,0	114,0	113,2	-5,3%
Entrepreneurship for sustainable prosperity				
Net sales in CHF million <sup>1)</sup>	636,3	631,3 <sup>5)</sup>	569,4	+0,8%p.
Operating profit (EBIT) in CHF million <sup>1)</sup>	10,3	62,7	49,2	-83,6%
EBIT as % of net sales <sup>1)</sup>	1,6%	9,9% <sup>5)</sup>	8,6%	-8,3%p.
Number of supplier audits	69	62	67	+11,3%

<sup>1)</sup> Figure for V-ZUG Group

<sup>2)</sup> Total Scope 3 emissions in GRI index

<sup>3)</sup> 2022: Changes to management categorization

<sup>4)</sup> Natural gas emissions as stated in 2021 report have been corrected (calorific value amended)

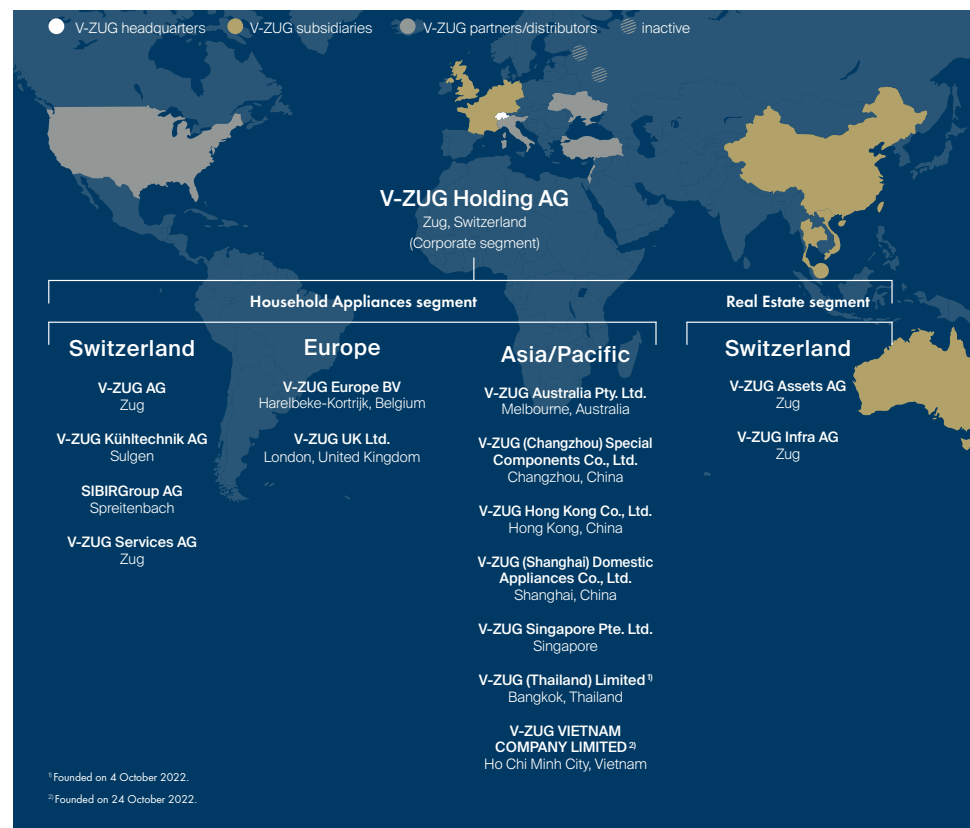
<sup>5)</sup> The figures for 2021 have been partially adjusted in connection with changes in accounting principles, cf. page 72 of the Annual Report.

**Table 1** Key figures

See the respective sections for details and explanations of the figures. Unless otherwise stated, the figures relate to the three companies V-ZUG Ltd, V-ZUG Cooling Technology Ltd, and V-ZUG (Changzhou) Special Components Co. Ltd.

# The company

V-ZUG is Switzerland's leading brand in household appliances. For over 100 years, it has been developing and manufacturing kitchen and laundry appliances at its main production site in Zug, Switzerland. Since 2013 it has been producing refrigerators in Arbon, Switzerland, and in 2021 it moved its refrigerator factory to Sulgen, Switzerland. V-ZUG also produces special pre-assembled components for its appliances in Changzhou, China. As the market leader in Switzerland, V-ZUG markets its premium products in selected international markets, focusing on metropolitan areas where people have high disposable incomes and offering an all-round high-quality service. In addition to its headquarters in Switzerland, the V-ZUG Group has its own distribution companies in the EU, the UK, China, Hong Kong, Singapore and Australia, and has well-established distribution partners in other international markets. The V-ZUG Group employs around 2,200 people worldwide and is divided into the "Household Appliances" and "Real Estate" segments. The Household Appliances segment encompasses the company's operations relating to the development, production, marketing, sales and service of household appliances.



**Fig. 1** Structure of V-ZUG Holding Ltd and international locations of V-ZUG (for the detailed legal group structure, see annual report 2022, page 98)

The Real Estate segment comprises the property side of the V-ZUG Group's business and consists of the northern section of the Tech Cluster at the Zug site and properties in Sulgen (new refrigerator factory and existing production and office buildings rented to third parties). V-ZUG Holding Ltd is listed on the Swiss stock exchange and has its own "Corporate" reporting segment. General information on sustainability reporting and system boundaries may be found in section «About this report», page 78 and in the «GRI index», page 87.

### **Corporate governance and areas of responsibility**

The management organization of the V-ZUG Group is based on the principle of the central responsibility of the Board of Directors and the Executive Committee of V-ZUG Holding Ltd. With its headquarters in Zug, the company is the only part of the V-ZUG Group that is listed on the stock exchange. The V-ZUG Group fulfils all the legal and regulatory requirements for corporate governance in Switzerland to which the group is subject, including the principles laid down in the *économiesuisse* "Swiss Code of Best Practice for Corporate Governance" dated 29 September 2014 (see "Corporate Governance" on page 40 of the 2022 Annual Report).

The V-ZUG Group is managed as a group, with the CEO and the Executive Committee being operationally responsible for management and target attainment. According to the law, the Board of Directors holds the highest decision-making power and specifies, amongst other things, the organizational, financial-planning-related and accounting-related directives that the V-ZUG Group undertakes to comply with. Decisions are taken by the entire Board of Directors with the assistance of two committees: the Audit Committee and the Human Resources and Compensation Committee. The Board of Directors generally meets every two to three months. It has delegated the management of day-to-day business for the V-ZUG Group to the Executive Committee. In order to define the areas of responsibility between the Board of Directors and the Executive Committee, the Board of Directors has issued organizational regulations. These regulations contain fundamental compliance principles that are valid for the entire V-ZUG Group. The Executive Committee of V-ZUG Holding Ltd currently consists of eight members.

# Products and services

On average, at least one V-ZUG appliance can be found in every Swiss home. Our refrigerators, ovens, steamers, hobs, washing machines, tumble dryers and dishwashers are watchwords for innovative and durable premium Swiss quality. In Switzerland we generate around a third of sales from the new, refurbishment and replacement markets respectively (Market environment section of 2022 Annual Report, page 12). Servicing and support services are our core competencies. We see potential for growth in particular in new digital offerings and service contracts such as Clean & Simple («Products and services for a future-fit society», page 23).

Our focus topics underpin the development of sustainable products and services. For example, our circular economy-driven solutions help to create a future-fit society by encouraging more conscious lifestyle choices and healthy nutrition («Products and services for a future-fit society», page 23). Our advanced production methods, use of renewable energy and product life cycle assessments clearly demonstrate our commitment to protecting the environment and the climate («Environment and climate protection», page 50).





We are careful to employ resource-efficient processes and optimize the use of materials in manufacturing innovative products that meet the needs of the market. Product features such as EcoManagement and OptiDos enable the eco-friendly use of V-ZUG appliances. We are also keen to ensure that our appliances are recycled or disposed of in an environmentally responsible way. We regularly audit the social and environmental performance of our suppliers («Entrepreneurship for sustainable prosperity», page 66).

### **PowerSteam captures the zeitgeist**

At the beginning of April in the last financial year we launched PowerSteam – a brand new product combining all three cooking modes of hot air, steam and microwave that cooks food in record time while still retaining the quality, colour, texture and taste of the food. As the inverter microwave heats up food precisely and evenly, vitamins are preserved and hot spots are avoided. As well as the limitless possibilities and supreme precision offered, it enables cooks to whip up a healthy meal in minutes or simply heat up leftovers to minimize food waste («PowerSteam world-first: fast and healthy», page 34).



### **Second Life and Clean & Simple: business models for the circular economy**

Under the banner of Second Life, V-ZUG is aiming to extend the lifespan of household appliances that are prematurely withdrawn from service. Demonstration models or appliances returned by customers are refurbished to give them a second life instead of sending them for recycling prematurely. Customers and employees can already purchase these appliances from a dedicated online shop. In 2022 we successfully launched our Clean & Simple circular business model. With this model, V-ZUG offers customers appliances plus service and support solutions at fixed rates while retaining ownership of the appliances. We then pick up the appliances when the contract comes to an end, so we ensure they remain within the closed cycle for as long as possible («Using rather than owning», page 33).

### **Offsetting emissions with the new CO<sub>2</sub> Webshop**

With its new CO<sub>2</sub> Webshop, V-ZUG is now giving customers the opportunity to offset 15 years worth of emissions from their appliances in order to help combat climate change. The energy efficiency of household appliances has significantly improved over recent years. But washing machines, ovens and dishwashers still use some electricity. Their average consumption is estimated based on internal calculations derived from studies, eco-design guidelines and real-world figures supplied by V-ZUG's repair service. As little as CHF 10 would be enough to offset the carbon emissions of some appliances. The cost of offsetting a fully equipped kitchen is around CHF 120. The amount of carbon produced also depends on how the electricity is generated. These offsetting payments go directly to V-Forest, a reforestation project in Scotland supported by V-ZUG («Giving something back to the environment», page 75).

### **Personal and reliable service**

When it comes to contact with our existing users and potential customers, we favour the personal touch. With our 10 ZUGORAMAs in Switzerland plus a further 11 Studios around the world, our brand has a presence in all our key markets. Our expert online consultation service, which we expanded during the COVID-19 pandemic, also proved its worth again in 2022. As soon as a customer purchases an appliance, our service organization assumes responsibility for maintaining its performance and durability throughout its entire lifespan, with guaranteed availability of spare parts for 15 years. We are particularly proud of our service technicians and their swift and unfailing reliability in all our markets when it comes to servicing appliances, troubleshooting or carrying out repairs on site («Products and services for a future-fit society», page 23). There are over 300 V-ZUG technicians in Switzerland. With their excellent grasp of customers' needs, they continued to maintain the high standard of our services throughout the reporting year.

# Strategy and sustainability

The V-ZUG Group is in a phase of transformation that essentially encompasses five strands: strengthening the V-ZUG brand, implementing our internationalization strategy, developing platforms for new products and services, digitalizing products and processes, transforming the main site in Zug and commissioning the new refrigerator factory in Sulgen. The aim is to create a strong brand as the foundation for the V-ZUG Group, enable it to remain a technology leader, streamline operations, and establish a more diversified market portfolio with footholds in Switzerland and abroad.

The V-ZUG brand has always stood for innovation, durability and reliability for kitchen and laundry appliances and in all our other market segments. These values are firmly embedded in V-ZUG's culture and are clearly reflected in the redefined *vision, mission and core values*. Sustainability is an integral part of V-ZUG's brand proposition and a central plank of this is the development of products that consume fewer resources. Circularity, durability and energy efficiency are key differentiators of the V-ZUG brand. We do not simply consider what products we make, we also look at how we manufacture them and how our customers use them. This means, for instance, investing in the latest technology and sustainable energy systems for our production facilities in Zug and Sulgen, and offering our customers tips on healthy and sustainable nutrition via our V-Kitchen app.

## **Holistic understanding of sustainability**

Having some 5.5 million household appliances in active use entails a great deal of responsibility, especially – but not only – for our environmental footprint. As we want to help create a society fit for the future, we are aiming to make a positive contribution within the environmental, social and governance sphere. We are committed to the wellbeing of our employees and all our other stakeholders. We made significant progress in many areas in 2022. In addition, we embedded our commitment to sustainability even more firmly within the company, set clear strategic priorities and focused our activities accordingly.

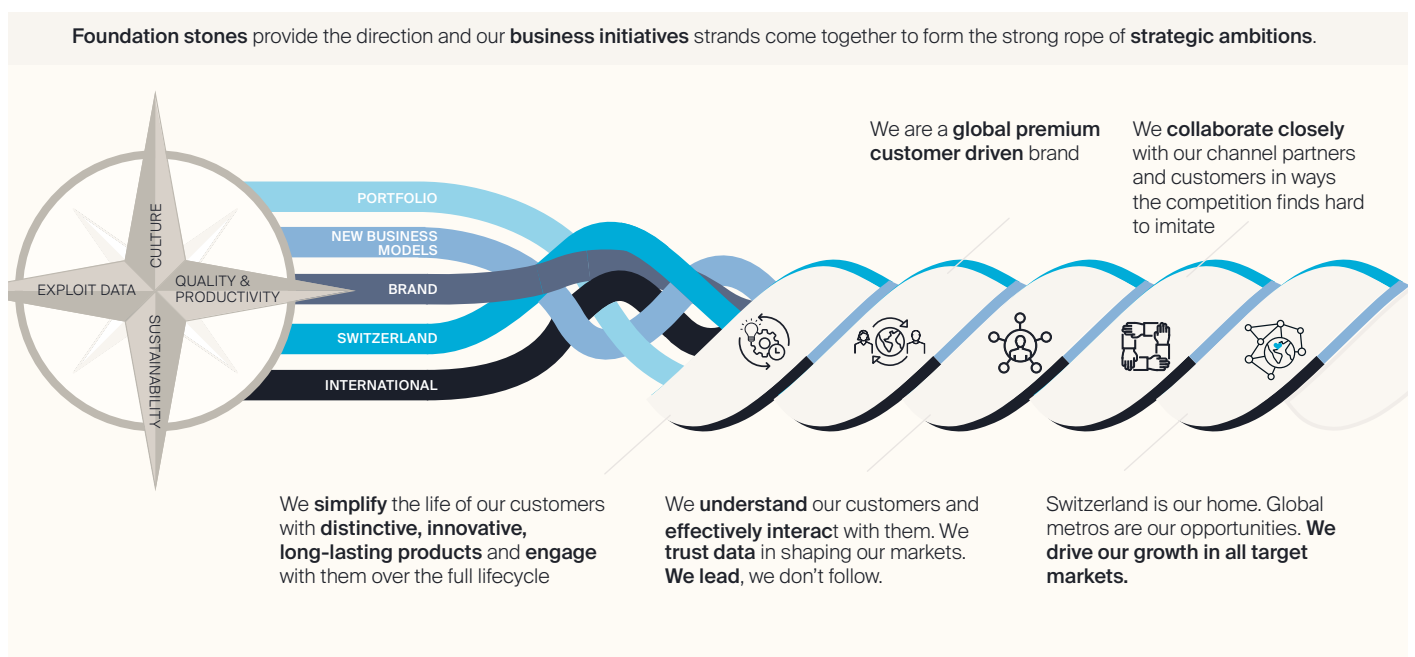
We are therefore following a systematic investment strategy that will enable us to realize our forward-looking innovations and efficiency gains. Investment in transforming our Zug production site (managed by Tech Cluster Zug – Metall Zug Group), the associated vertical factory and the new refrigerator plant in Sulgen all demonstrate our strong commitment to this investment strategy and to Switzerland as a business and manufacturing location.

### Clear strategy with agreed targets

Sustainability is and will remain an integral part of V-ZUG's corporate strategy. During the reporting year we strengthened our commitment to sustainability by focusing even more sharply on developing the circular economy. We firmly believe that this approach is the key to supporting and accelerating enterprising, climate-friendly and socially relevant development. We are applying this primarily within our own value chain, but also beyond it as we consider it important both to share our knowledge and to learn from others so that society as a whole can make progress. Among other things, we seek out collaboration with architects and the construction industry and get involved in associations, interest groups and education initiatives («Entrepreneurship for sustainable prosperity», page 66).

From 2023 onwards, sustainability will also be included in the target agreements concluded with V-ZUG management. This will elevate the importance of our non-financial figures so that the three spheres of sustainability "People", "Planet" and "Profit" will gain an equivalent standing.

This is also reflected by the fact that we have enlarged our human resources to strengthen sustainability in strategic areas. A "Sustainability Expert Engineering" has now been appointed in the Development department to be responsible for promoting circular products, while a Product Manager in the Market Organization department is establishing our Clean & Simple business model on the market («Products and services for a future-fit society», page 23). In addition, we advertised internally for an "Intrapreneur Circular Economy" to strengthen and ramp up the circular economy within the company.



**Fig. 2** Strategy overview: Sustainability is a foundation stone of our corporate strategy



### Decentralized and effective: the V-ZUG Sustainability Workforce

Our Head of Sustainability leads an interdisciplinary working group known as the V-ZUG Sustainability Workforce and reports directly to the CEO. We deliberately organized sustainability in a decentralized way. And the experience of the past two years has indeed confirmed our expectation that the decentralized approach would enable our commitment to sustainability to develop a greater internal dynamic momentum and spread throughout the company more effectively than if it had been organized by a central staff unit. This dedicated team comprising representatives from different departments drives the strategic and organizational processes and identifies potential groundbreaking projects.

### Reinforcing our vision with leadership principles

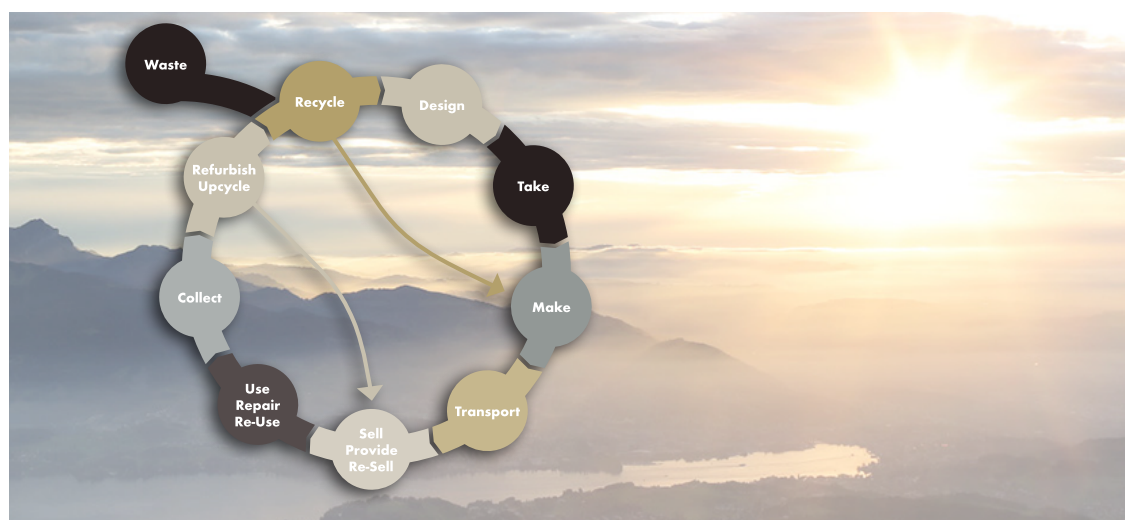
In the summer of 2022 we developed our leadership principles in line with our core values, principles of collaboration and our mission. They set out the leadership culture and attitudes required throughout our corporate strategy to achieve V-ZUG's vision («Healthy and committed employees», page 36). After testing out these leadership principles in workshops and in our daily working lives, they have now become a firmly established part of our leadership culture.

### Focusing on the circular economy

In 2022 we drew up our design-to-circularity principles. Our product developers systematically apply these principles to create appliances designed for circularity so the circular economy is firmly and effectively embedded in the company. The key to this is keeping the materials we use in top condition and in circulation for as long as possible. Among other things, we aim for the longest possible service life, the resource-conserving use and recyclability of materials, and modular appliance design – all with the aim of enabling us to easily interchange entire components for many years to come («Products and services for a future-fit society», page 23).

The circular economy approach is one driver of innovation within appliance development, but not the only one. To implement this approach, we also had to rethink other aspects of our business models and create and develop new ones such as Clean & Simple («Using rather than owning», page 33) and Second Life. This approach also has a major influence on our value chain. Many new and innovative solutions are needed, which we can only develop in partnership with other experts, and also with our suppliers to a certain extent («Closing the circle», page 31).

The circular economy – considering the entire life cycle



### **Transparency and comparability**

When we are developing new appliances, we want to know in advance what we can do to minimize their environmental impacts. In 2022 we therefore invested heavily in establishing life cycle assessments (LCA) for our appliances and created the new post of Sustainability Expert Engineering. We assess our appliances on the basis of ecopoints (EP) as this allows us to map their environmental impacts most comprehensively. For example, the environmental impact of copper, the production of which releases heavy metals into water and air, which can lead to fish die-off, would not be adequately represented by a carbon life cycle assessment alone. We are aiming to reduce the EP of our appliances by 5 percent by 2030.

The clarity and transparency provided by life cycle assessments creates scope for innovation and progress. They also enable fact-based comparison of the environmental impacts of potential development measures – which motivates our developers and speeds up progress.

We have also improved transparency by now also including our indirect emissions within the value chain (Scope 3) in our reporting. Together with SwissClimate we set our baseline at 2020 and defined new impact-based targets («Environment and climate protection», page 50).

We found that 90 percent of our emissions arose from two sources: from the energy consumption of appliances when used in the home and from the materials that we buy in. We will be able to cut these emissions most effectively by advancing the circular economy as much as possible.

### **Reducing CO<sub>2</sub> emissions**

Reaching net zero is a challenge that can only be met by the concerted efforts of business, policymakers and scientists. We want to play our part in this too. So – on the initiative of Tech Cluster Zug (TCZ) – the canton of Zug, the Empa research institute and various major companies, including V-ZUG, founded the non-profit Association for the Decarbonization of Industry. Its aim is the environmentally friendly production of hydrogen for use in both high-temperature processes and mobility solutions. V-ZUG would like to use this hydrogen for production and transport in future instead of natural gas and diesel. V-ZUG is supporting this flagship project with CHF 1 million from the V-ZUG CO<sub>2</sub> Fund («Joining forces to create sustainable hydrogen», page 62).

Equally important to us are solutions we have been integrating or will be able to integrate in our construction projects in Sulgen and Zug. For instance, a heat pump is being used to heat our new refrigerator factory in Sulgen. Since the Multi Energy Hub (MEH) commenced operation in Zug in 2022, we have been able to manage energy flows via MEH's two heat pumps and store surplus energy in groundwater. Once connected to the site network, the new energy supply system will enable us to decouple operational growth from our environmental footprint («Environment and climate protection», page 50). To ensure our manufacturing operations are already climate-neutral, since 2020 we have been offsetting our remaining emissions via the V-Forest reforestation project in Scotland supported by V-ZUG.

As the majority of carbon emissions are produced when our appliances are used in the home, however, we want to help our customers use their V-ZUG appliances in an environmentally friendly way. We therefore offer energy-saving tips via our V-ZUG-Home app. We also launched our CO<sub>2</sub> Webshop in December 2022. This gives customers the opportunity to offset the remaining emissions from their appliances over a lifespan of 15 years in order to help combat climate change. The funds raised go directly to the V-Forest project («Giving something back to the environment», page 75).

#### **New regulatory requirements for reporting from 2024**

New regulations applicable to non-financial reporting will come into force in Switzerland from 2024 (for the reporting year 2023) which will require greater transparency from companies in relation to their commitment to sustainability. The new rules implement the recommendations of the Task Force on Climate-Related Financial Disclosures which have become established for climate reporting across all sectors worldwide. To identify any gaps in our reporting in good time, we commissioned independent consultants to review our sustainability reporting. We have established a very good basis and we will make the necessary adjustments, for example reporting on our supply chain and climate risks, over the course of 2023.

#### **Materiality process and focus topics for 2030**

Following on from our stock market flotation, in 2021 we reviewed and honed our material sustainability topics together with internal and external stakeholders. As a first step, the Sustainability Workforce revised the list of potentially relevant topics. Many interesting – and in some cases new – perspectives and interdependencies emerged from these discussions. The list was ultimately shortened from 14 to 11 topics. For instance, data from life

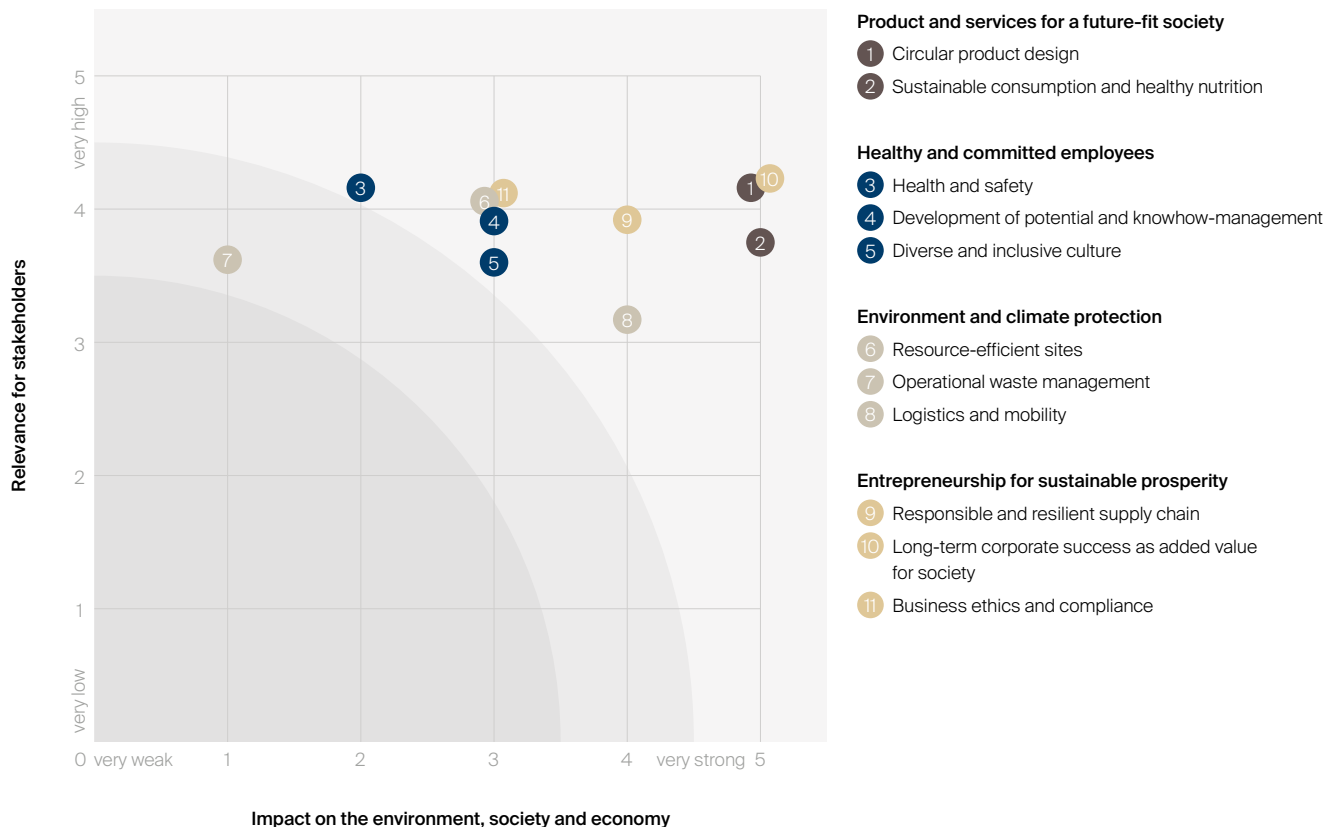
cycle assessments made it clear that water management was not so significant, so it was subsumed into "Resource-efficient sites". New topics "Sustainable consumption and healthy nutrition" and "Corporate success as added value for society" were added. In addition, the products topic was recast more specifically as "Circular product design". We then combined these 11 topics into four priority areas, and consolidated them to form groundbreaking focus topics. These areas also provide the framework for our reporting:

- Products and services for a future-fit society
- Healthy and committed employees
- Environment and climate protection
- Entrepreneurship for sustainable prosperity

To achieve broad-based support for our materiality process, we consulted 68 representatives of V-ZUG's central stakeholders in an online survey. These included the Board of Directors, Executive Committee, employees, customers, partners, suppliers, banks and investors, along with representatives from politics and academia. Their evaluation of the relevance of the individual sustainability topics for V-ZUG are indicated on the Y axis in Figure 3 below.

The X axis indicates what effect V-ZUG has on the environment, society and economy, thus

Fig. 3 Materiality matrix at V-ZUG





providing an impact-related perspective on these sustainability topics. The materiality of our actual and potential impacts was rated by an internal and external working group, with a distinction being drawn between direct and indirect impacts. The results were subsequently discussed and finalized with selected members of the Executive Committee and the Board of Directors («Key issues: Framing and impact», page 79). The new materiality analysis brings the focus topic of "Products and services for a future-fit society" even more strongly into focus. As well as "Circular product design", this theme includes the new topic of "Sustainable consumption and healthy nutrition". We want to offer consumers appliances that are even more energy-efficient and recyclable and make it easy and fun for them to use these in a more environmentally friendly way. We would also like to see our products and services motivating users to adopt healthier, more sustainable consumption and eating habits.

This is only possible, however, if we use our strength as a financially sound company to drive innovation and make forward-looking investments. We therefore explicitly see our long-term commercial success as something that both creates social added value and protects the environment, consequently benefiting both society and the economy.

In 2022, we complemented the specific targets set in 2021 for 2030 with additional emissions targets in the value chain (Scope 3) and included tangible measures and key figures in the 2025 Roadmap («Scope 3 emissions: data-based reduction», page 60). An overview of the specific targets and results can be found under "Targets, facts and figures" in each of the sections. Setting targets remains an important yet challenging process. We have already defined specific targets and metrics in many areas, but not yet in all. Our internal reflections on what would be desirable and what is realistic have already helped us move a long way forward. They also exemplify our V-ZUG approach, not to set arbitrary targets, but to set the right ones – and then pursue them rigorously. Our targets were officially approved by the Board of Directors and the Executive Committee.

### **Our contribution to the UN's Sustainable Development Goals**

Our sustainability policies are also aligned with the global United Nations 2030 Agenda for Sustainable Development. In 2020 we consequently signed up to the Swiss Triple Impact (STI) initiative. STI is dedicated to promoting the attainment of the 17 Sustainable Development Goals (SDGs) of the United Nations.

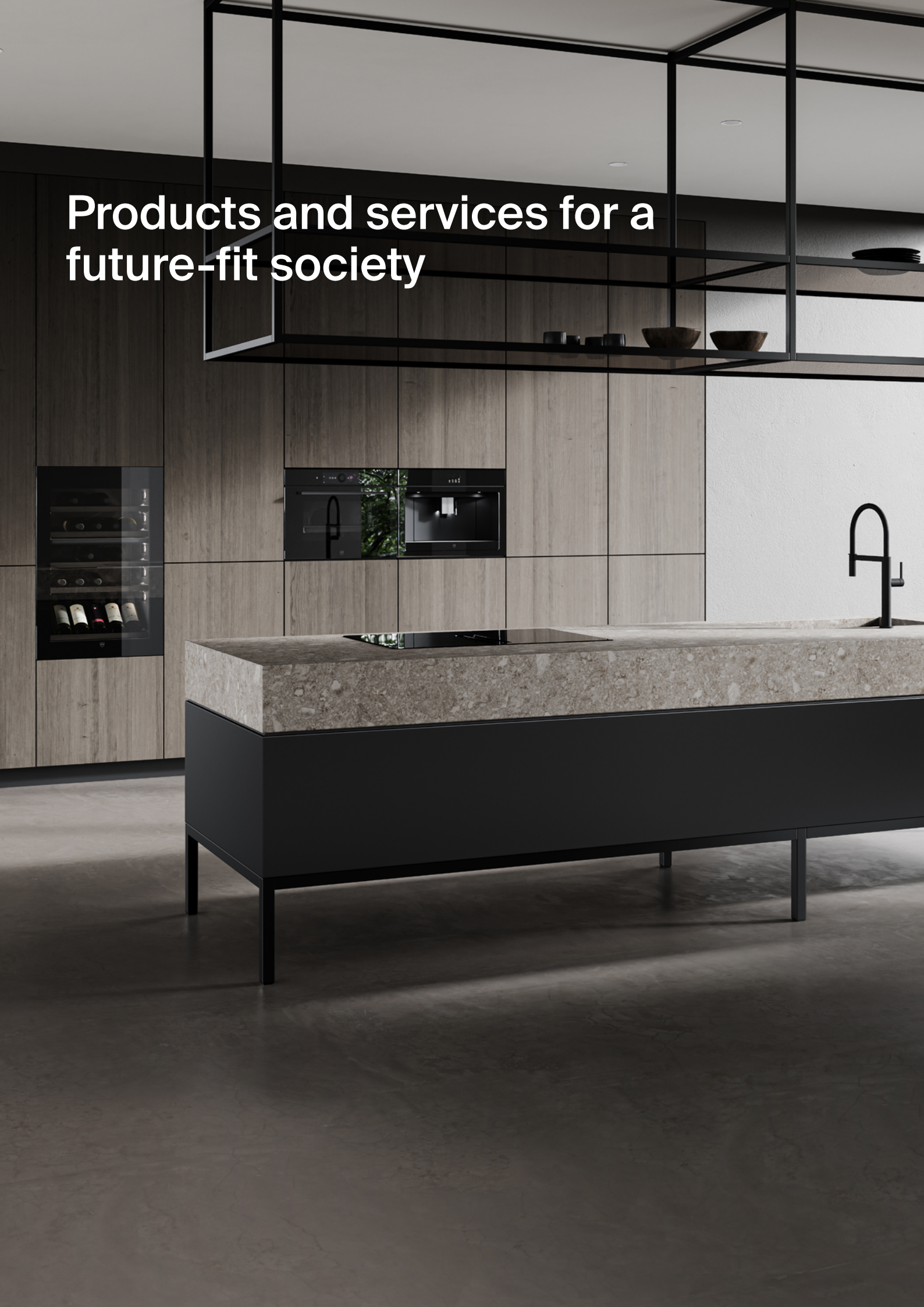
This Swiss initiative helps organizations of all sizes and from all sectors of the economy boost their fitness for the future by integrating the SDGs into their business operations. In workshops and via questionnaires, we grappled with the question of which of the 17 SDGs V-ZUG has the most impact on. There is no doubt that in order to successfully implement Agenda 2030, we have to be committed to all the SDGs. But by consolidating our efforts and concentrating on those areas in which we as a company have the biggest influence, we can have the greatest impact.

In the course of the materiality analysis process and fine-tuning our focus topics for 2030, we focused in particular on the five most relevant SDGs for us: 7, 8, 9, 12 and 13. Many of our new sustainability goals are directly or indirectly linked to the SDGs. As part of the STI initiative, therefore, we will also be publicizing some of these central goals more widely. The following table shows how we contribute to the attainment of these SDGs.

SDG	Contribution of V-ZUG to the SDGs
 <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<ul style="list-style-type: none"> <li>▪ Products are resource- and energy-efficient in use</li> <li>▪ Use and expansion of renewable energy at our production sites, e.g. the construction of the Multi Energy Hub as part of the Tech Cluster Zug project («Environment and climate protection», page 50)</li> <li>▪ Energy efficiency in our processes and in facilities management, e.g. by using energy from waste heat</li> </ul>
 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<ul style="list-style-type: none"> <li>▪ Investment in development and training, and also the employability of our staff across all generations</li> <li>▪ Investing in the vocational education and training of young people</li> <li>▪ Varied, interesting careers and employee advancement</li> <li>▪ A high degree of job security and a positive influence on employee health</li> <li>▪ Promoting equal opportunities and diversity</li> <li>▪ Contributing to the attractiveness of the sites at Zug and Sulgen, and creating attractive and varied jobs for the local workforce</li> <li>▪ Setting high labour standards in the supply chain</li> <li>▪ Focusing on healthy economic growth, taking into account people and the environment</li> </ul>
 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<ul style="list-style-type: none"> <li>▪ Developing circular products</li> <li>▪ Internal and external innovative strength</li> <li>▪ Modern, resource-saving industry and infrastructure, particularly in developing the Zug site and the new build in Sulgen</li> <li>▪ Using high environmental construction standards and innovative, sustainable construction methods at the Zug development site</li> </ul>
 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<ul style="list-style-type: none"> <li>▪ High-quality, durable and serviceable products with spare parts available for up to 15 years</li> <li>▪ Transparent product information for informed purchasing decisions</li> <li>▪ Raising the awareness of end customers for the optimum resource- and energy-efficient use of appliances</li> <li>▪ Supporting healthy, balanced nutrition and avoiding food waste</li> <li>▪ Energy-efficient, resource-efficient production</li> <li>▪ The use of circular materials</li> </ul>
 <p>13 CLIMATE ACTION</p>	<ul style="list-style-type: none"> <li>▪ Preventing, reducing and – where necessary – offsetting emissions that are harmful to the climate and the environment</li> <li>▪ Carbon-neutral production of Swiss-made appliances by offsetting via the V-Forest reforestation project</li> <li>▪ Internal carbon offset levy of CHF 120 per tonne of CO<sub>2</sub></li> <li>▪ Establishing environmental standards within the supply chain</li> <li>▪ Raising employee awareness, e.g. via the new mobility strategy</li> </ul>

**Table 2** V-ZUG's contribution to SDGs 7, 8, 9, 12 and 13

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



Our customers buy efficient, high-quality and durable products from us. But our brand stands for much more: V-ZUG offers products and services over their entire lifespan. This is what we devote ourselves to every day – from development and production through to reuse and recycling. We know that resources are finite and the future belongs to circular design products. We believe that this approach is key to supporting and accelerating climate-friendly, enterprising and socially relevant development.

During the 2022 reporting year we made great efforts to embed circular design in our product development as this is the only way we can capitalize on the opportunities afforded by this approach and successfully establish new business models such as Clean & Simple on the market. With our design-to-circularity principles, over the past year we identified ten core binding development principles for fully sustainable product development. As a result we have taken great strides forward towards reaching our goal of systematically developing all our appliances according to circularity principles by 2030. We are now seeking to implement these principles as swiftly as possible. We consequently established a sustainability working group in our Development department and created the new post of Sustainability Expert Engineering. This expert is responsible for performing life cycle assessments for our products, among other things.

When developing circular products, our highest priority is always to make durable appliances that consume as few resources as possible. We aim to keep all materials in circulation in good condition for as long as possible, and therefore save on the use of raw materials. This has a number of ramifications. For example: if we want to reuse entire parts from decommissioned appliances such as washing machines or tumble dryers, we must be able to remove these parts as easily as possible («Closing the circle», page 31). At the same time, it is important to design all appliances to be modular so they can be extended or upgraded as necessary in future. We therefore have to use as many standardized identical parts as possible and we must be able to clearly define the interfaces between the modules during development.

#### **From recycling to dismantling**

By 2025 we want to ensure that up to 90 percent of all new appliances developed can be recycled. In order to close the circle, it is vital to have intact components or reusable materials. Close cooperation with our recycling partners is essential here. We are developing processes and testing out ideas in joint projects and workshops as to how we can increase the recycling rate and return as many



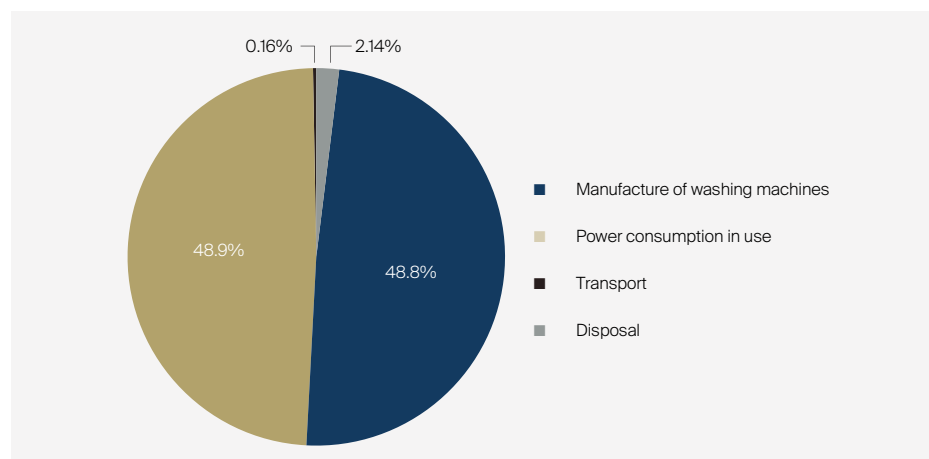
high-quality materials as possible to the cycle. In 2022 we launched a trial in collaboration with our partner SuperDrecksKëscht in Rheinfelden: SDK stripped 100 V-ZUG scrap refrigerators and analysed how we could optimally reuse the materials. We achieved a recycling rate of 91 percent and a reuse rate of 99 percent. As this demonstrated a very high level of recyclability, we will continue to prioritize the design-to-circularity principles.

For us the ultimate goal of reusability is being able to remove entire components then refit them into new machines straight away as they are («Closing the circle», page 31). If that is not possible, we try to separate them into their constituent materials for reforming so they can perform their original function again. If nothing else is possible, different materials are mixed and reused outside our cycle, in roadbuilding for example.

**Product life cycle assessments enable fact-based comparisons**

In 2022 we invested heavily in the further rollout of life cycle assessments for our appliances. As a result we have already been able to add six reference appliances for three appliance classes. We evaluate LCAs using three methods: according to ecopoints (EP), CO<sub>2</sub>-equivalent and monetary value. These indicators provide us with a solid basis for deciding early in the development phase which materials and processes have the lowest possible environmental impact. LCAs conducted according to the ecological scarcity method (MöK2021), measured in EP, carry the most weight in our decision-making processes as they map the environmental impacts of our appliances most comprehensively by taking a broad spectrum of impact categories into account. These include the greenhouse gas effect, ozone creation, soil and water acidification, overfertilization, noise, and toxicity for humans and the ecosystem.

We always seek to balance environmental impact against production costs, and we ask two questions: How many EP can we save and at what cost? What represents the best compromise between all the key criteria such as quality, functionality (design), sustainability and costs? Compared with their predecessor models, we are aiming to cut EP by at least 5 percent on all new products developed.



**Fig. 4** Life cycle assessment for AdoraDry V4000 tumble dryer – percentage distribution of ecopoints (EP)



Environmental impacts give rise to costs which in most cases are not borne by the originator but by society in general. Contamination of a watercourse by industrial waste would be a good example of this. To calculate the costs of environmental impacts, we combine various recognized approaches. This gives us as realistic a picture as possible of the harm caused to the environment and allows us to decide which costs V-ZUG is able to bear.

### **Quality of life and taking responsibility**

Our impact does not stop when we sell our appliances, however. It is well known that the use of household appliances in the home accounts for by far the majority of their energy and water consumption, not their manufacture. So it is important to us not only to sell energy-efficient appliances, but also to help our customers use them in a way that consumes as few resources as possible. For example, by offering energy-saving tips in the V-ZUG-Home app. Integrated EcoManagement functions predict the energy and water consumption of appliances and provide information about their actual usage. Eco options also enable customers to quickly and easily reduce the environmental footprint of a standard programme. We plan to develop these digital offerings over the coming years to make it even easier for our customers to use their appliances in an eco-friendly way.

We also want to encourage sustainable consumption and healthy nutrition with our products. One example of this is the PowerSteam model launched on the market in 2022 («PowerSteam world-first: fast and healthy», page 34). This appliance enables our customers to prepare tasty meals in no time at all or quickly reheat leftovers with no loss of flavour. In this way V-ZUG appliances encourage healthy eating and help to minimize food waste.

### **Innovative business models for pioneering solutions**

The circular economy approach not only brings changes to product development, it also offers great opportunities for new business models within our value chain.

With Clean & Simple, we launched a circular design business model onto the market which offers a real alternative to outright purchase: V-ZUG retains ownership of appliances and customers sign up to a Product as a Service contract that includes the use of the appliance plus servicing and support solutions at fixed rates. When the contract comes to an end we then pick up the appliances so we ensure they and/or their component parts remain in use within the closed materials cycle for as long as possible («Using rather than owning», page 33).

Our Second Life model is designed to extend the lifespan of our household appliances that are prematurely withdrawn from service. Demonstration models or appliances returned by customers are refurbished to give them a second life instead of sending them for recycling prematurely. Customers and employees can already purchase these appliances from a dedicated online shop.

# Targets, facts and figures

Targets	Baseline and target years	2022 results	Status	Metrics
Efficiency				
One appliance per product category in top 3 for efficiency (comparison site TopTen.ch)	Annual review	Washing machines: Water: 5. / Energy: 3. Tumble dryers: Energy: 1. Ovens: Energy: 2. Steamers: Energy: 3. Dishwashers: Water: 1. / Energy: 1. Fridge freezers: Energy: 2. Fridges with freezer compartment: not ranked Extractors/island: Energy: 1. Extractors/downdraft: not ranked Extractors/flat: Energy: 5.  In top 3 in 8 out of total 12 categories – 67% attainment	Not achieved	Ranking from comparison site TopTen.ch – in December 2022
Increase fleet efficiency of all appliances (energy and water) by 5%	2021; 2030	Introduction of more efficient appliances and shift of product mix towards greater energy and water efficiency.  Fleet efficiency/energy 2021: 231 kWh/year Fleet efficiency/energy 2022: 229 kWh/year (0.87% increase in efficiency)  Fleet efficiency/water 2021: 6830 l/year Fleet efficiency/water 2022: 6477 l/year (5.3% increase in efficiency)  The calculation method was fine-tuned during the reporting year (more exact user data per category) and also applied to the 2021 figure (value is consequently not directly comparable with the 2021 Sustainability Report)	On track	Fleet efficiency: All appliances purchased multiplied by the respective annual water and energy consumption (acc. to energy label or, if not available, own calculation), divided by the number of appliances  The indicator is a calculated average V-ZUG appliance, across all product categories.
All our current network-enabled appliances have extensive integrated eco-functions/services	-; 2025	Current functions in 2022 (selection, not exhaustive): <ul style="list-style-type: none"> <li>▪ EcoManagement: Usage data displayed, predicted and actual values (multiple categories)</li> <li>▪ OptiDos washing machines: Optimized economical detergent dosage</li> <li>▪ OptiTime: If speed is not important. Long running time with maximum energy and water efficiency</li> <li>▪ SmartStart: Use of self-generated solar power</li> <li>▪ Wide-ranging electricity saving campaign run via V-ZUG-Home app</li> </ul> Eco-functions available – upgradable, with focus on digital technology	On track	Cannot be quantified – will continue to be stated qualitatively for time being

Possible statuses: Achieved, On track, Delayed, Not achieved (if new target: Initiated)

Targets	Baseline and target years	2022 results	Status	Metrics
Circularity				
Life cycle assessments for all appliances (one reference model per category)	-; 2023	Method established at company, additional resources created in Development (Sustainability Expert Engineering) 3 of 11 categories done  Completed to date: <ul style="list-style-type: none"> <li>▪ Adora V4000 washing machines</li> <li>▪ Adora V4000 tumble dryers</li> <li>▪ Various modules and submodules</li> </ul>	On track	No. of appliances (reference model) per category  Total categories: 11 (steamers, ovens, drawers, microwaves, Coffee-Centers, hobs, extractors, dishwashers, refrigerators, washing machines, tumble dryers)
Achieve 90% recyclability of appliances	Development projects; 2025	Method worked out in theory and validated with recycling companies (washing machines and refrigerators).  First major project using the method.  Implemented in product requirements and development process, ready to roll out to all projects (planned for 2023)	On track	Recycling and reuse rate per product (anchor product)
Reduce ecopoints (EP) by 5%	Development projects; 2030	No project completed yet.  First major project using the method.  Implemented in product requirements and development process, ready to roll out to all projects (planned for 2023). Additional resources for supporting projects created in Development (Sustainability Expert Engineering).	On track	When developing new products compared with predecessor model
All appliances developed according to circular design principles	Development projects; 2030	No project completed yet.  Method worked out and introduced, being applied in first major project.  Implemented in product requirements and development process, ready to roll out to all projects (planned for 2023). Additional resources for supporting projects created in Development (Sustainability Expert Engineering).	On track	Application of principles, success measurable as fewer ecopoints in life cycle assessment

Possible statuses: Achieved, On track, Delayed, Not achieved (if new target: Initiated)

**Table 3** Targets, results and status in relation to the focus topic "Products and services for a future-fit society"



Fig. 5 Appliances supplied with label, by energy class

### V-ZUG appliances still in efficiency class A on rescaled energy label

In 2022, around 97% of all V-ZUG appliances shipped continued to have an energy efficiency rating of A or higher (adjusted to standard label<sup>1)</sup> to enable comparison). Following the introduction of new, more stringent energy efficiency regulations in March 2021, the energy efficiency classes for washing machines, dishwashers and refrigerators were rescaled (2021 and 2022: column on right). In the 2022 reporting year, the percentage of sold appliances rated in the top three efficiency classes (A to C) jumped from 58% to 63% (rescaled products).

1) Applies to V-ZUG appliances with a regulatory energy efficiency classification according to the energy efficiency regulations in force at the end of 2021. For ease of comparison, we have stated already rescaled appliances according to both the old and the new classification. Some types of appliance are not assigned an energy classification (e.g. hobs and microwaves). Such products account for around 22% of all V-ZUG appliances shipped.

### We are addressing the causes of faults

Thanks to intensified quality initiatives, we succeeded in implementing many improvements across the company and consequently reducing the fault rate by 5.9 percentage points to 70.6% (indexed to 2015 baseline). All problems are tracked and analysed by Product Quality Monitoring.

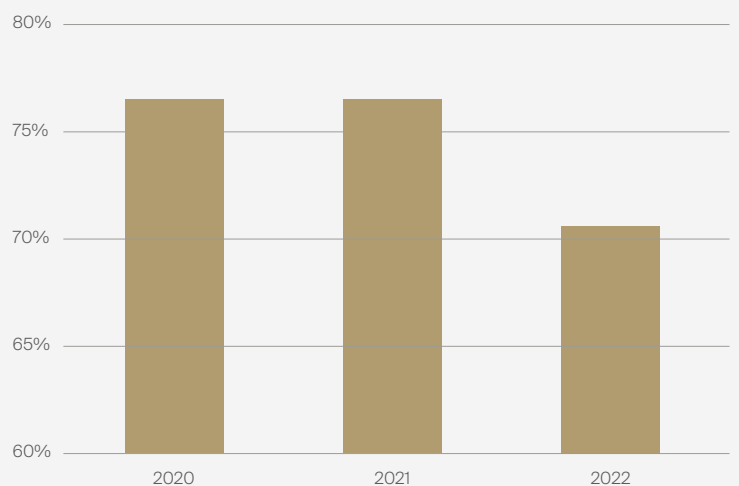
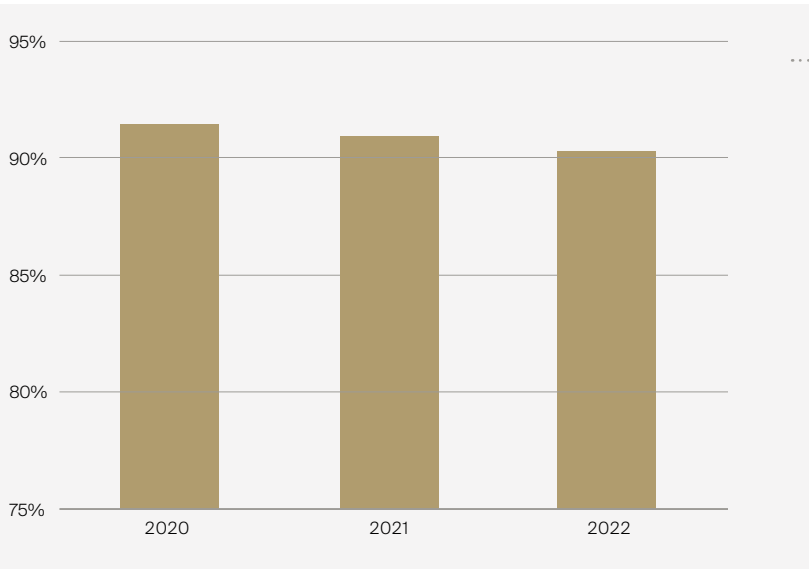


Fig. 6 Fault proportion for Switzerland (indexed to 2015 baseline = 100%)



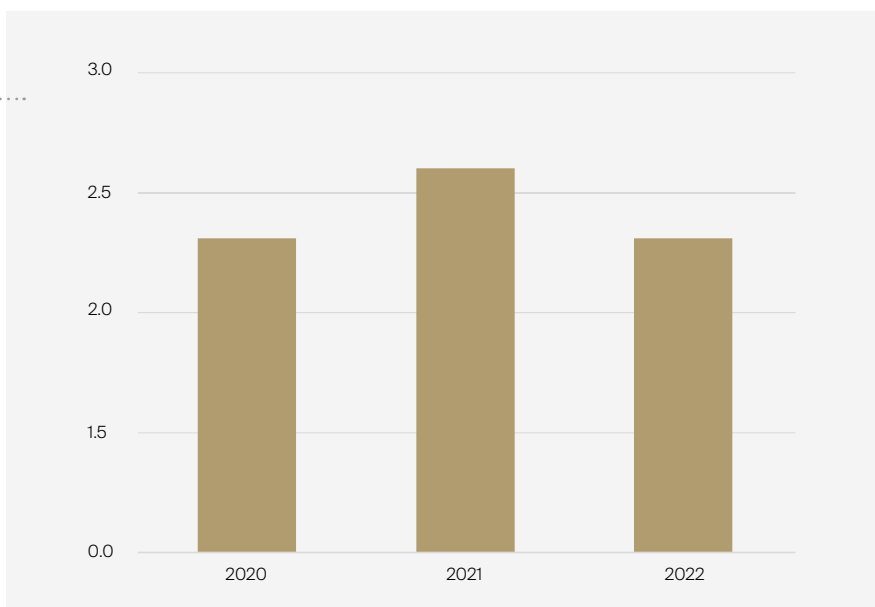
**Fig. 7** First-time fix rate (Switzerland)

**First-time fix rate remains very high**

The first-time fix rate for service visits in 2022 remained satisfyingly high at 90.3% (2021: 90.9%). Pandemic-related supply chain problems also resulted in servicing bottlenecks, which in turn led to a slight dip in the first-time fix rate. We are usually able to ensure the availability of spare parts. However, if customers wanted to exchange defective appliances, it was not always possible to replace them immediately due to the shortage of new ones. In some cases, emergency repairs had to be carried out instead.

**Customers rate our service visits positively**

Compared with the previous year, we succeeded in significantly improving our response times which translated into good customer satisfaction scores. The response time refers to the time that elapses between receiving a customer enquiry and performing the service on site. Our efforts were rewarded: our customers rated us with a record Net Promoter Score (NPS) of +76. We are delighted that the V-ZUG brand is perceived so positively.

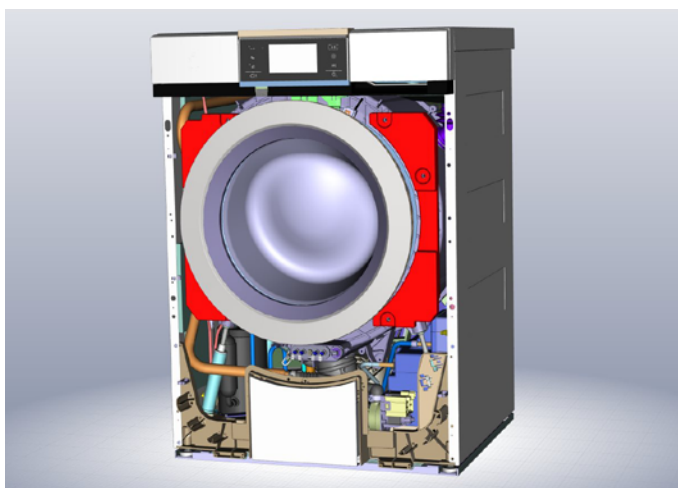


**Fig. 8** Average response time in days (Switzerland)

# Closing the circle

We want to close the circle. Among other things, we are aiming to retain as many of the materials that we use to manufacture our products within our own material cycle. The ultimate achievement is to refit entire components straight into new machines again as they are. This is already working well with counterweights we have been procuring for many years from Slovakia, 1,200 kilometres away. These cast iron parts ensure that washing machines have sufficient ballast to remain stable. "Our Swiss recycling partners are now removing the cast iron parts from washing machines and we fit them directly into new machines again without any loss of quality. This not only reduces the amount of material used, it also cuts our transport emissions", explains Ernst Dober, Head of Innovation Services & Technology at V-ZUG.

Counterweights made of cast iron – ready for re-use in washing machines





Materials can also be returned into the cycle in pure or mixed form. During the reporting year V-ZUG embarked on trials in collaboration with the Bremgarten-based plastics manufacturer Georg UTZ AG which makes the plinths for V-ZUG's washing machines, tumble dryers and dishwashers. First the mixed plastics received from the recycler were sorted so that granulate could be produced again. UTZ AG was then able to use this granulate to make new plinths for washing machines. In another trial, we removed 50 plastic plinths from old washing machines and gave them to UTZ AG, which then ground them up for use in new parts. The plastic was injected into plinths that can be fitted into new V-ZUG appliances. Which variant will now be implemented is still undecided. "But we are convinced that such solutions offer huge potential for new sustainable business models in our value chain", says Dober.



**"We are delighted to have found in V-ZUG a partner that is as keen as we are to drive innovative solutions for a circular economy. In our latest project we dismantled the plastic plinths from V-ZUG appliances, sorted them into single polymer groups then created granulate and cast the material in its original shape. The aim was to keep the plastic in good condition for as long as possible in V-ZUG's material cycle. Who knows – perhaps we'll succeed in giving the plinths not just a second life, but a third one as well."**

Roger Käser, Key Account Manager at Georg UTZ AG

# Using rather than owning

In future we want to take on the responsibility for the use of our appliances over their entire lifespan. Only in this way will we be able to reliably ensure that materials remain in use for as long as possible and resources are used sparingly. Following a successful pilot phase, we therefore launched our Clean & Simple business model onto the market. Clean & Simple offers a genuine alternative to outright purchase, with our brand service being sold in the form of a Product as a Service (PaaS) contract.

The Proreal property management company also finds our offering compelling. It concluded a V-ZUG PaaS contract for over 50 washer-dryer towers in its new "Im Fink" residential development in Thalwil. Adrian Gattiker, the site's developer and Chairman of Proreal, is very much in favour: "Clean & Simple is the model of the future for facility management companies. We no longer need to worry about warranties and repairs, and we can calculate our costs much more precisely with a usage contract. At the same time we are improving relationships with our customers as our tenants can now contact V-ZUG directly to arrange a call-out if there are any problems with the machines. Désirée Schneider, Head of Operations at Proreal, also offers positive feedback for the experience so far: "The model is working really well, especially since our tenants have got used to contacting V-ZUG directly." And the sustainability aspect? "It's very important to both our management and me personally, and it will become even more important in future. But we haven't noticed much interest from the tenants themselves yet. So there is still some awareness-raising to be done here."

"Im Fink" apartment blocks, Thalwil



# PowerSteam world-first: fast and healthy

With PowerSteam, V-ZUG brought a revolutionary product to the market last year. This new appliance can do everything our tried-and-trusted models can – but significantly faster thanks to its microwave boost option. It steams and bakes in record time, while still preserving the quality, colour, texture and flavour of the food. How does it work? "Unlike conventional microwave ovens which output power in pulses, the inverter microwave in the PowerSteam delivers power at a constant rate. In combination with standard operating modes like steaming and hot air, this cooks food gently and evenly yet much faster", explains Silvio Ackeret, Food Engineer at V-ZUG. For instance, potatoes are steamed 30% quicker and other foods can be reheated up to 40% faster.

This really captures the zeitgeist. "I'm convinced this appliance will not only help our customers make quick and tasty meals, it will also help reduce food waste. By using the three modes of hot air, steam and the PowerRegeneration microwave function at the same time, yesterday's leftovers can be quickly reheated and still taste really good. So they are much more likely to be served up again the next day rather than end up in the bin", comments Susanne Messingschlager, Engineering Kitchen Appliances Project Manager at V-ZUG.



CombiSteamer V6000 - PowerSteam



### Contribution to SDGs 7, 9, 12 and 13

V-ZUG offers its customers durable, resource-efficient appliances for the modern home. We are raising user awareness of environmental protection with specific functions and making eco-friendly housekeeping straightforward. At present, our key focus is on the circularity of our products. Our aim is to manufacture products from materials and components that can be upgraded, repaired,

reused, refurbished or recycled. That way, our high-quality appliances will remain in circulation for longer and create long-term added value. Such circular approaches are necessary in order to make our economic system more resource-efficient and decouple prosperity from environmental degradation. V-ZUG is able and willing to proactively lead the way here.



Healthy and committed  
employees





Behind the V-ZUG brand there are some 2,200 employees who uphold our vision and mission each and every day. Highly motivated and innovative, our workforce develops high-quality products and delivers first-class services. Their wellbeing is therefore a top priority for V-ZUG. Our accredited health management system ensures high standards of occupational safety and working conditions. V-ZUG cultivates mutual respect and appreciation, creates modern employment structures and fosters a culture in which all employees are able to fully develop their talent and potential. We live by our core values at all levels, take responsibility, and always strive to provide the highest quality for our customers.

V-ZUG's Human Resources (HR) department is represented on the Executive Committee and draws up the human resources strategy from which our overall strategy is derived. This strategy is implemented in close consultation with HR business partners, management and internal specialist groups.

#### **Participative corporate culture**

As part of our ongoing transformation, V-ZUG is formulating and honing its principles and guidelines for forward-looking corporate governance. We are taking our employees with us on this journey and choosing inclusive formats and modes of communication that enable them to propose suggestions and make their voices heard. In this way we reinforce the sense of belonging





across the company and ensure broad-based support for our strategy processes. Various bottom-up processes also offer employees the opportunity to position themselves in the company in line with their interests and thus optimally harness their strengths for V-ZUG. One example is our Be aware project («Together we will reach our goal», page 46).

During the reporting year we sought to further embed our mission statement setting out our vision, mission and core values and implemented the measures that emerged from the 2021 employee survey. We carried out an interim survey to monitor our efforts to date. Although only a sample and therefore not representative, the results indicated an agreeably high level of commitment from our employees: 88 percent of those surveyed were engaging with the new mission statement, while approximately 70 percent were already discussing it and actually integrating it in their daily working lives. Moreover, 90 percent of respondents said they had actively looked at the results of the employee survey and its implementation in detail, while two-thirds are satisfied with the ongoing implementation of the measures decided on.

We furthermore initiated the drafting of V-ZUG's leadership principles. Together with our core values, the principles of collaboration and our mission, these principles set out the leadership culture and attitude needed across our corporate strategy to achieve V-ZUG's vision. The leadership principles create a common understanding for five key approaches and the associated competencies and responsibility that will ensure our success within a constructive working environment. After trialling their use in workshops, training modules and on the job, these principles are now an integral part of our leadership culture.

We celebrated our shared successes and V-ZUG's unbroken team spirit at our UNICA staff party in the summer.

### **Diversity and agility**

Diversity, equality of opportunity and respect are not just fundamental attitudes at V-ZUG – these values are the very foundation of the company's success. Our workforce of around 2,200 bring a wealth of life experiences, occupational backgrounds and cultural heritages to the company. In a time of skilled labour shortages, it is more vitally important than ever to harness the potential of every individual to the full. We actively seek a mix of genders and generations and strive to ensure that people with health impairments are also able to employ their strengths for our brand. We do not tolerate discrimination of any kind and cultivate a respectful work culture in which employees can utilize their skills with enthusiasm and confidence. As a fair employer, we deliver equal pay for equal work. This was confirmed by an externally validated equal pay audit conducted in 2021.

By 2025 we want women to make up at least 25 percent of our leadership team, including as members of the Board of Directors and the Executive Committee. As a result of changes in our management structure, we did not see any percentage increases in the reporting year (20 percent), but in terms of absolute numbers more women held senior roles.



Achieving a balanced gender mix is still a challenge in industry so we will continue to take further measures going forward. One example of this is SWISSMEM's Diversity benchmark from which we gained valuable insights. In turn these flowed into a roadmap for reinforcing inclusion and diversity. This covers a range of measures from changing recruitment processes and awareness-raising activities through to boosting the self-efficacy of female talent.

Flexible working models make it easier to combine work and family life and make us an attractive employer. Our "smart work" approach signifies our trust: our teams decide themselves how they can best work together. We offer training and advice to support integrating smart working in employees' daily working lives. Although such hybrid work structures can also be challenging, evaluation of our smart work pilot scheme indicated a high degree of satisfaction and improved productivity. And finally, our employees benefit from training courses run by external partners, such as on agile project management for example.

#### **Health – our most precious commodity**

The resilience of V-ZUG and the health of our employees go hand in hand. We are responsible for the health and safety of employees in the workplace. Neglecting our duties could result in suffering and costs all round. "Vitality", our occupational health and safety management programme, is certified to ISO 45001 and proactively focuses on physical and mental health. As well as our company case management, any employees facing difficult circumstances have access to an external counselling service.

In 2022 V-ZUG received accreditation as a "Friendly Work Space" («We are officially a "Friendly Work Space"», page 48). We also created a new full-time post in the occupational safety

team and introduced a new concept with regular safety checks, inspections and interviews. We are furthermore planning a company-wide structure with 26 occupational safety contacts (known as KOPAS) who will be available for their departments to consult on matters of occupational health and safety. Demonstrably effective campaigns have also sharpened awareness for workplace hazards («Fewer cuts, fewer screams», page 47). The most recent campaign led to a 30% year-on-year reduction in trips and falls. We missed our annual target – to cut absolute accident numbers by 5 percent – only slightly by 1.1 percent. Despite this, hours lost as a result of workplace accidents fell by 28 percent, which indicates fewer serious accidents.

### Learning for the future

V-ZUG has a vested interest in fostering the future employability of its employees. At CHF 925,000, we invested 0.67 percent of the AHV insured salary total during the reporting year, surpassing our target. Our training strategy and succession planning is based on an individual skills- and performance-based evaluation that uses the framework of an internal competency model. V-ZUGacademy is our internal training unit. It offers training courses, development programmes and leadership training, including modules on sustainability and the circular economy. As a training company, we also train young apprentices ourselves and therefore actively help to boost Switzerland's skilled workforce. In 2022 we trained 81 internal apprentices in 11 occupations.



Apprentices at V-ZUG

# Targets, facts and figures

Targets	Baseline and target years	2022 results	Status	Metrics
Occupational safety: Vision "zero" and 5% annual reduction in the number of accidents		<p>Workplace accidents 2020: 75 Workplace accidents 2021: 89 Workplace accidents 2022: 88</p> <p>One fewer workplace accident than 2021 - 1.1% reduction</p> <p>The number of accidents is on a par with the previous year, but the year saw a welcome substantial drop of 28% in the number of hours lost as a result.</p> <p>Tripping hazard campaign at the end of 2021, monthly occupational safety training for all new employees / campaign against cut injuries in 2022 / occupational safety Be aware month in January 2023</p>	Not achieved	No. of occupational accidents (both minor and significant accidents)
Long-term health: We will stabilize the absence rate by 2025 and lower it long-term	2020; 2025	<p>Absence rate 2020: 3.50% Absence rate 2021: 3.80% Absence rate 2022: 4.42%</p> <p>Another increase of 0.6 percentage points in 2022. Absences due to illness have increased, while hours lost due to work-related and non-work-related accidents have fallen.</p> <p>Internal health promotion programmes: Work/life balance; Healthy eating; Balancing work with a new baby; Flexible working; Ergonomic working; Avoiding home and leisure injuries; Getting healthy; Accepting help; Achieving a balanced lifestyle; Nurturing yourself; Maintaining good mental health</p>	Not achieved	Absence rate, in % of contracted hours
Investment in education & training: 0.65% of payroll spend	Annually	<p>Investment 2020: 0.68% (CHF 894,000) Investment 2021: 0.67% (CHF 899,000) Investment 2022: 0.67% (CHF 925,000)</p> <p>V-ZUGacademy offering: Internal and external training courses on a wide variety of subjects</p>	Achieved	Investment as % of AHV insured salary total

Targets	Baseline and target years	2022 results	Status	Metrics
Investment in vocational training: 1.35% of payroll spend	Annually	Investment 2020: 1.36% (CHF 1,800,000) Investment 2021: 1.46% (CHF 1,965,000) Investment 2022: 1.37% (CHF 1,900,000)  Occupations (Zug only): Automation engineer, automation technician, IT specialist, media and technology specialist; commercial employee; chef, design engineer, logistics specialist, general mechanic, mechanical technician. Total of 81 apprenticeships in 11 skilled trades	Achieved	Investment as % of AHV insured salary total
Diversity: We will increase the proportion of women across the group	-; 2025			HR metrics
1) in leadership team incl. Board to > 25%		1) Leadership team: 2020: 20.8% / 2021: 23.6% / 2022: 20.0%	Leadership: Delayed	
2) same proportion in management team as across the entire company (see 3)		2) Management team: 2020: 20.0% / 2021: 20.8% / 2022: 22.7%	Management: On track	
3) and proportion of women generally across the entire company		3) Proportion of women generally: 2020: 21.9% / 2021: 23.2% / 2022: 24.4%	Generally: On track	
		Measures to support combining work and family: part-time models, annual working time accounts, flexible working models, smart work, working from home, diversity recruitment guidelines, provision of neutral information about occupations on Future Day  The definition of senior management levels – leadership team and management team – was revised, expanded and rolled out across the Group during the 2022 reporting year. As a result, the figures from 2022 are not directly comparable with those from previous years		
Inclusion: Employees feel included, show commitment, and work satisfaction is high: Target > 80%	Survey every 2–3 years	2018 employee survey: 74 points 2021 employee survey: 79 points 2022 employee survey: No survey, will be conducted in 2023  2018 survey within V-ZUG Ltd (approx. 80% of employees), extended to whole group in 2021 (100% of employees). The survey is carried out across the Group every 2 years, the next survey will be in 2023	On track	Employee survey: Indicator "Goal-driven attitude" – 2021 Swiss benchmark: 80 points

Possible statuses: Achieved, On track, Delayed, Not achieved (if new target: Initiated)

**Table 4** Targets, results and status in relation to the focus topic "Healthy and committed employees"



### More employees with flexible working hours

Our employees are increasingly welcoming and taking up the option of tailoring working hours to their individual circumstances either at the start of or during their employment contract. Accordingly, compared with previous years the proportion of employees contracted for less than full-time working hours (<100%) has increased to 15.59%.

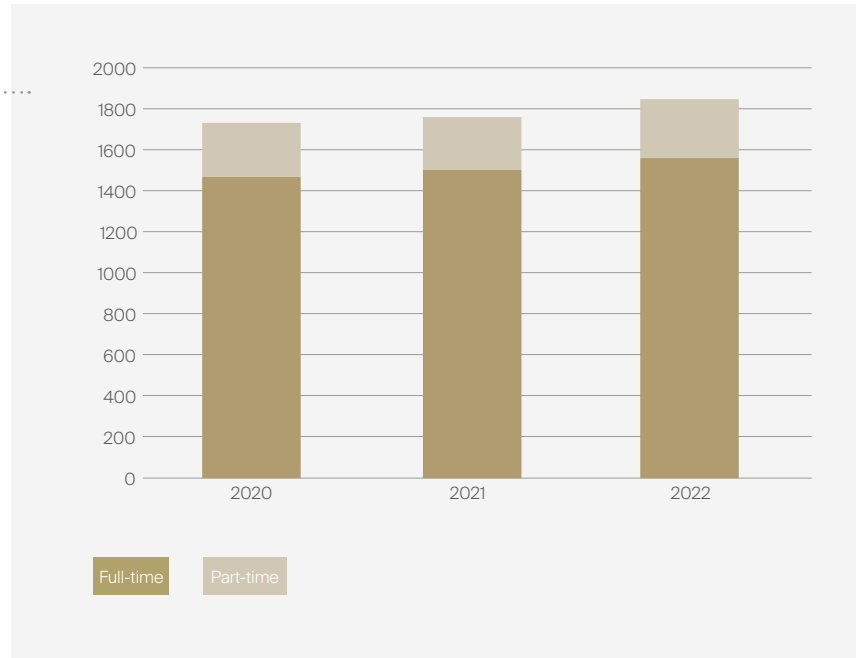


Fig. 9 Permanent employees by part-time/full-time working hours

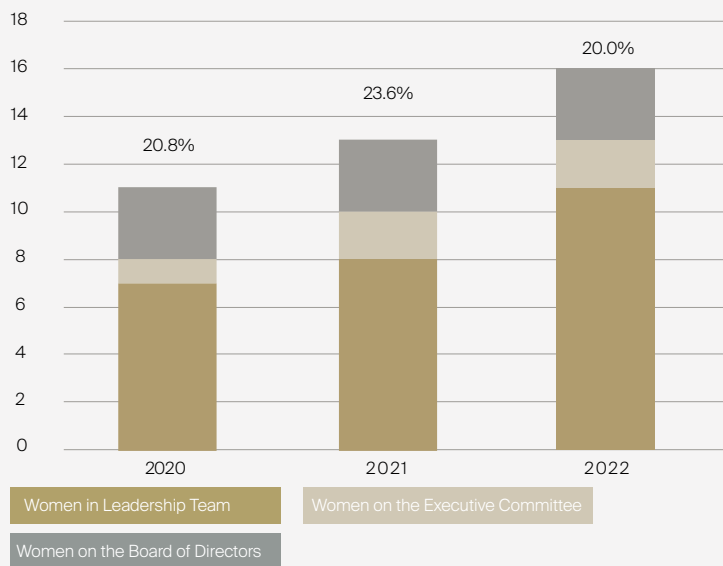
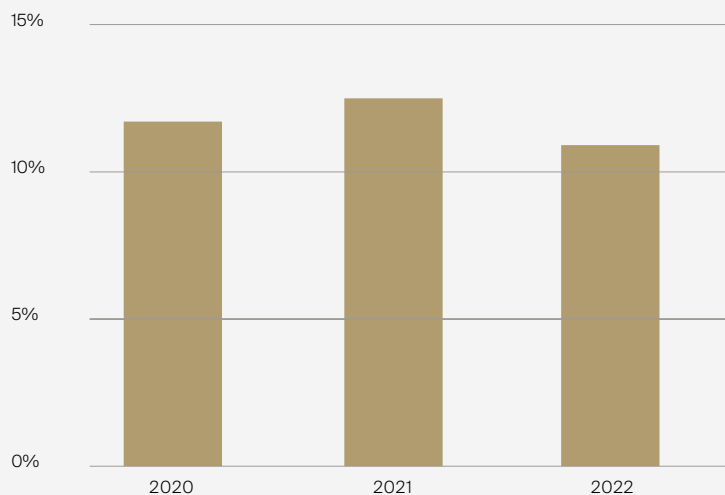


Fig. 10 Women in management roles

### Continued rise in number of women in senior management

The definition of senior management roles (leadership team) was revised, expanded and rolled out across the Group during the 2022 reporting year. As a result, the figures from 2022 are not directly comparable with those from previous years. Although the number of women in the leadership team saw an increase in terms of absolute numbers, the percentage figure fell to 20%. In 2022 the percentage of women was around 24.4% across the company, and around 22.7% across all leadership roles. These two indicators improved during the reporting year.



**Fig. 11** Turnover rate

### Fewer people left V-ZUG – the turnover rate is down

In 2022, we welcomed 280 new employees to V-ZUG. During the same period, 197 people left our company. This equates to a turnover rate (excluding retirees and trainees) of 10.9%, a reduction of 1.6 percentage points compared with 2021.

Various initiatives such as refreshing onboarding, encouraging regular employee reviews and professional development interviews, plus promoting interdisciplinary collaboration are proving effective. In addition, to improve transparency in the company, we expanded audience-oriented communication and undertook targeted leadership development.

All these initiatives strengthen the commitment of our workforce to V-ZUG.

### Sickness accounts for majority of hours lost

The lost hours rate for 2022 was 4.42% (of contracted hours), 0.6 percentage points higher than the previous year. Up almost 5 percentage points during the reporting year, at 87.18%, illness was the most frequent cause for absence. Among other things, this is one of the ongoing effects of the coronavirus pandemic which resulted in an increased awareness of cold symptoms. In addition, the severe flu wave during the autumn/winter of 2022 resulted in further lost hours. The campaigns to reduce workplace accidents that were initiated in 2021 and run in 2022 bore fruit: the number of lost hours due to workplace accidents fell by 2.87 percentage points year on year despite the fact that the number of accidents remained almost the same as in 2021. This means that the resulting injuries were less severe. The awareness-raising campaign also helped to further reduce non-workplace accidents too.

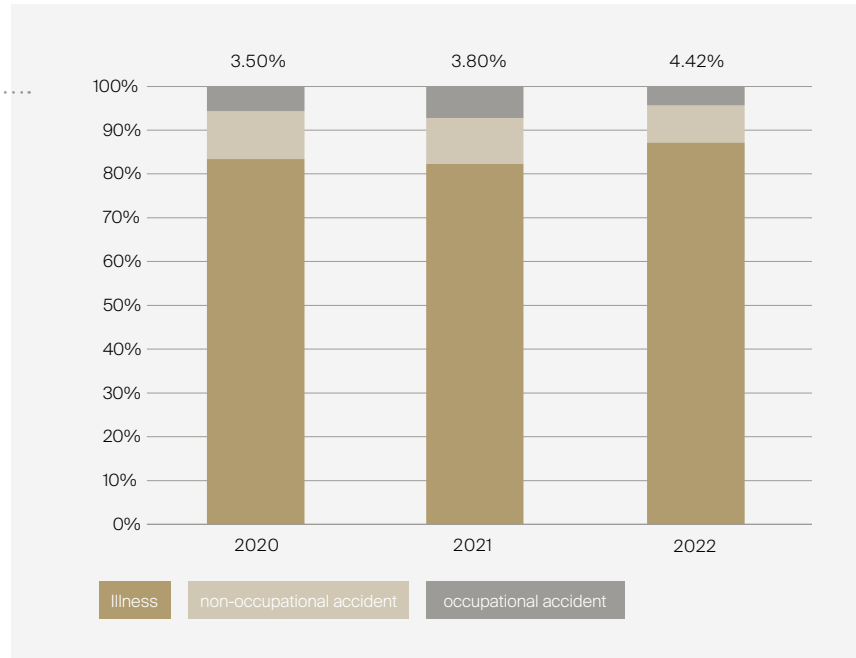


Fig. 12 Absence rate by cause

### Minor injuries also lead to lost hours

V-ZUG recorded 88 occupational accidents during the reporting year. These resulted in around 6,922 absence hours, a drop of 28% compared with the previous year. Around half of these accidents were classed as minor, for instance cuts and bruises entailing absences of less than three days. Our campaigns are having an effect. Occupational safety remains a key priority. We are implementing targeted measures and providing training for both employees and managers to raise awareness of workplace hazards and help them take better responsibility for themselves.

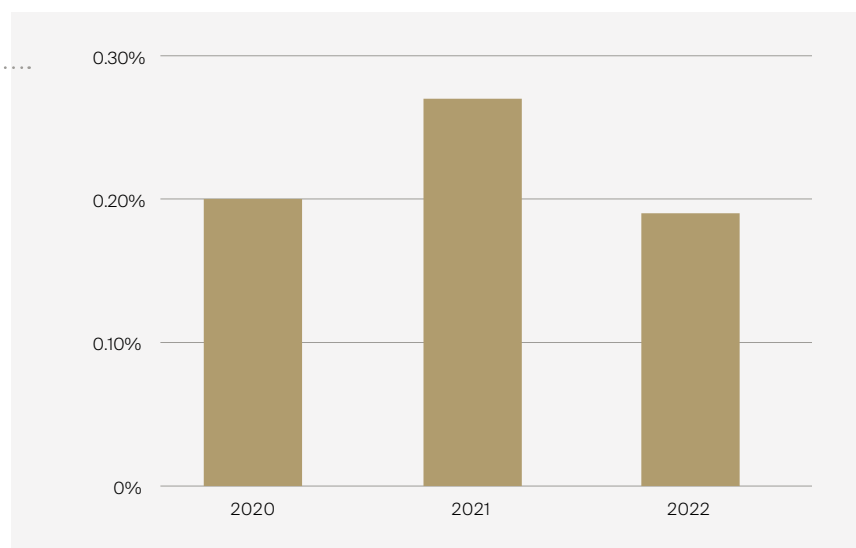


Fig. 13 Hours lost due to occupational accidents

# Together we will reach our goal

"How do we raise awareness of strategic issues such as quality, sustainability or health among our workforce? How can we better communicate what V-ZUG is doing in these areas?"

These and similar questions are ones the internal Quality Taskforce asked themselves in response to the 2021 employee survey. Seven working groups led by a topic leader and the relevant Executive Committee member worked on teasing out new ideas.

This resulted in the "Be aware" project, a format to engage employees across the company. Since October of the reporting year, around 80 employees acting as ambassadors have communicated one strategic issue to their teams each month and initiated group discussions. "By doing this we are deliberately loosening up top-down communication by managers and putting V-ZUG's employees centre stage", explains HR Training & Development specialist Sabrina Tobler who is responsible for the project and is herself an ambassador.

The topic-focused exercises have a simple and uniform structure. Ambassadors are supported by the awareness team, but have a great deal of leeway when it comes to implementation. "Many are motivated and creative, and it was exciting to see what developed", says Tobler. The first topic addressed was sustainability, which was linked to a V-ACT Challenge over several weeks. The "Be aware" project not only delivered concrete improvements, some employees also discovered a new personal interest along the way. The ambassadors meet regularly: "These cross-company meetings are valuable and help foster a community spirit", says Tobler.



Fig. 14 Internal campaign logo

# Fewer cuts, fewer screams



## Preventing cuts in the workplace

Preventing cuts: together we can put a stop to one of the most common types of accident at V-ZUG!

Internal campaign against cut injuries

Head of Quality Management Cernal Yilmaz, who is also responsible for occupational safety, knows where it hurts. Following on from his successful tripping hazard campaign – which resulted in a 35 percent reduction in falls at V-ZUG between December 2021 and spring 2022 – Yilmaz launched a new initiative. "Through the campaign 'Preventing cuts in the workplace', we tackled the issue of cuts, the third most common type of accident at V-ZUG", states Yilmaz. Cuts – almost always to the hands and forearms – account for every fifth injury requiring medical treatment. According to Suva statistics, such injuries cost Swiss firms a total of CHF 480 million every year.

Yilmaz therefore decided to take action: in the summer of the reporting year he hung up posters and distributed flyers that highlighted the causes of cut injuries. "In our company, these injuries arise primarily in our production and assembly facilities, when people are handling sharp metal parts, for example", explains Yilmaz. But, with increased vigilance around potential hazards, wearing the correct protective gear or more careful organization of assembly lines and storage areas, everyone can easily reduce the likelihood of these types of injuries occurring. Production team leaders used punchy information leaflets to inform their teams about preventive measures. And, as with the last campaign, an e-learning module was also available to encourage self-reflection for those frequently exposed to potential cut hazards. V-ZUG is aiming to reduce the number of cut injuries by 50 percent by the end of 2023.



# We are officially a "Friendly Work Space"!

V-ZUG has always taken the health of its employees very seriously. But what characterizes good occupational health management? "To strengthen our commitment, we decided to seek accreditation as a 'Friendly Work Space'", explains Head of Health Management Fabian Britschgi. This label, awarded by the Swiss Health Promotion Foundation since 2009, attests to the fact that companies systematically practice a high standard of health management. Accreditation focuses on six quality criteria that provide a comprehensive overview of how health management is embedded, planned, implemented and evaluated in a company. A company's perception of its social responsibility as regards the health of other stakeholders is also evaluated.

Our Zug site conducted a self-assessment using these six criteria. This assessment was then reviewed by two accredited experts in the spring of 2022. V-ZUG achieved a score of 3.91 points on a scale of 1 to 5. Britschgi was delighted: "This is higher than average for all first accreditations – better even than our own estimate". By signing up to this scheme, we commit ourselves to ongoing evaluation and optimization of our health management. Among other things, V-ZUG is therefore planning to develop a more effective communications concept and identify ways of more actively engaging employees with workplace health and safety.



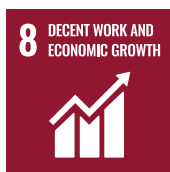
The HR project team and CEO Peter Spirig receiving the Friendly Work Space label

As of the reporting year, V-ZUG has now joined the ranks of the 92 organizations in Switzerland that can call themselves Friendly Work Spaces. The health management team accompanied by our CEO accepted the award at a ceremony held in Zurich in November.



**"V-ZUG devotes considerable resources to occupational health management across the entire company – this shows a strong commitment. From offices right through to production, workplaces are designed to promote health and employees are trained to use the available resources such as standing desks correctly."**

Sandra Bittel, Head of Occupational Health Management at Visana Services AG and Friendly Work Space Assessor



#### **Contribution to SDG 8**

We influence SDG 8 by the way in which we shape the working environment and relationships, and by where we create jobs. We follow high standards in personnel management and invest in safe, attractive jobs, as well as in the skills and employability of all our staff. In so doing, we want to create interesting prospects for employees and offer young people in particular outstanding apprenticeship training and exciting development paths. We promote diversity and equal opportunities, integrate people with disabilities and deliver equal pay for equal work.



# Environment and climate protection



In accordance with our philosophy of avoiding, reducing and offsetting, we are reducing our CO<sub>2</sub> emissions. We see the associated challenges as opportunities too. We are switching to renewable energy and, in the process, exploring pioneering methods. In the interests of a circular economy, we are finding creative solutions for our waste flows and developing attractive business models. We are thinking holistically and endeavouring to reduce emissions along the entire length of the value chain. By way of offsetting, we have been manufacturing carbon-neutrally since 2020. Environmental management at our Zug site is certified in accordance with ISO 14001.

#### **Carbon neutrality: our approach**

Our daily business operations generate emissions and consume resources. We heat our buildings, rely on numerous consumables, and our employees and logistical operations cause mobility-related environmental pollution. Our products consist of raw materials, some of which undergo energy-intensive processing. So reducing our footprint calls for a holistic approach: we are focusing on energy-efficient buildings and renewable energy supplies, we are reviewing our collaboration with suppliers, forging innovative partnerships and recirculating resources. V-ZUG has signed a target agreement with the Swiss Confederation on reducing CO<sub>2</sub>, which includes a fixed reduction schedule. By 2030, we want to achieve an 80 percent reduction compared with the baseline year of 2020 in what the Greenhouse Gas Protocol (GHGP) refers to as Scope 1 emissions, which we directly cause by the fuel consumption of our vehicles and the natural gas and oil heating in our buildings, and our indirect Scope 2 emissions, which are generated by the production of the electricity we purchase. We have not yet succeeded in avoiding all CO<sub>2</sub> emissions. So that we can nevertheless offer our customers V-ZUG appliances that have been produced carbon-neutrally, we have since 2020 offset a proportion of our emissions in conjunction with the Ripa Gar Foundation. Our offsetting contributions are going towards the recently planted V-Forest, a reforestation project in Scotland. By means of the V-Forest, we are offsetting our Scope 1 and 2 emissions as well as those emissions generated by our business flights (Scope 3).



### **Indirect emissions: new Scope 3 reduction target**

V-ZUG is also assuming responsibility for the upstream and downstream indirect emissions along the entire value chain, from the extraction of raw materials by our suppliers to those emissions that result from the use of our appliances in homes.

(«Giving something back to the environment», page 75). Last year, we screened the 15 Scope 3 categories defined in the GHGP. Together with SwissClimate, we recorded data for the 11 categories that are most relevant for V-ZUG, thereby laying the foundations to enable us to draw up pertinent targets. By 2030, V-ZUG wants to reduce Scope 3 emissions by 30 percent compared to the baseline year 2020. This target is composed of our own efforts, such as developing more energy-efficient appliances, and of market developments such as expanding the use of renewable energy and more low-emission materials («Scope 3 emissions: data-based reduction», page 60). During the reporting year, we achieved a Scope 3 reduction of 7,4 percent compared with 2020.



V-Forest, Scotland



### **Increased ecological efficiency**

Transparency is the cornerstone for evidence-based improvements. For the first time in 2021, we conducted operational life cycle assessments for our three production sites in Zug, Arbon (now Sulgen) and Changzhou. Together with our product life cycle assessments («Products and services for a future-fit society», page 23), this means we are quantifying all the environmental impacts that our production processes, products and services cause throughout their entire life cycle. Using the recognized ecological scarcity method (MöK2021), we calculate our ecopoints (EP). From the life cycle assessment, we derive a key indicator for our impact – ecological efficiency. This describes environmental impact relative to net sales. We want to increase our ecological efficiency by 40 percent between now and 2030, thereby decoupling growth from environmental impact. In the reporting year, we increased our ecological efficiency by 19 percent, cumulated and compared to the base year 2020.

### **Transformation as an opportunity**

Climate change and, more recently, the current energy crisis call for a transformation of the entire economy and society. This presents us with huge challenges, but also provides opportunities. Society's critical expectations are spurring us on to offer increasingly energy-efficient products and manage our operations in a more environmentally friendly manner. The utmost importance of using resources carefully is allowing us to explore new business models that have a positive impact on consumer behaviour. Investment in sustainable energy pays off in the medium to long term. In order to encourage sustainable business decisions, we established a voluntary internal carbon offset levy in 2018. Together with Metall Zug Group companies, we pay CHF 120 into an internal company fund for every tonne of CO<sub>2</sub> emitted. In the reporting year, we funded our contribution to the "Association for the Decarbonization of Industry", which seeks to switch industrial production to more sustainable hydrogen. We want to use this fuel in future for our enamelling process and also for mobility. The association is also exploring technology that actually removes CO<sub>2</sub> from the atmosphere. It is only thanks to such technology that Switzerland will be able to achieve "net zero" («Joining forces to create sustainable hydrogen», page 62).

### **Smart infrastructure, clever mobility**

V-ZUG is investing in sites that are socially, economically and environmentally sustainable, and is setting new standards with numerous flagship projects ("Real estate projects", 2022 Annual Report, page 26). For new buildings, we are systematically using energy-efficient construction technology and building methods, for instance at our refrigerator factory in Sulgen ("Energy from the sun and the ground", 2021 Sustainability Report, page 56f.) and at the "Zephyr East" production and assembly building («Zephyr East – Our new flagship building», page 73). The Multi Energy Hub (MEH) has since December 2022 been supplying our Zug site and the surrounding neighbourhood with renewable energy from photovoltaics, groundwater and lake water in a phased manner. Together with our more environmentally friendly operations at Sulgen and the end of temporary parallel operations at Arbon, we were therefore able to reduce our Scope 1 and 2 emissions by 14.9 percent in 2022. The ongoing connection of our buildings to the MEH over the coming years will reduce emissions caused by natural gas and ultimately put an end to them altogether. Moreover, we are purchasing 100 percent renewable electricity at Zug and Sulgen, in the form of Swiss hydropower.

By optimizing our transport routes and developing an integrated mobility strategy, we are addressing those ecopoints that, according to our operational life cycle assessment, are due to logistics (9 percent) and mobility (23 percent). As well as selecting nearby suppliers in Switzerland and Europe, we will be replacing our entire truck fleet with electric vehicles by 2030. During the reporting year, we took delivery of an electric battery-powered post bus for internal logistics. A further 15 e-service vehicles will arrive in 2023. We are expanding the charging infrastructure for them on our site and also at our service technicians' homes.

### Closing the loop together

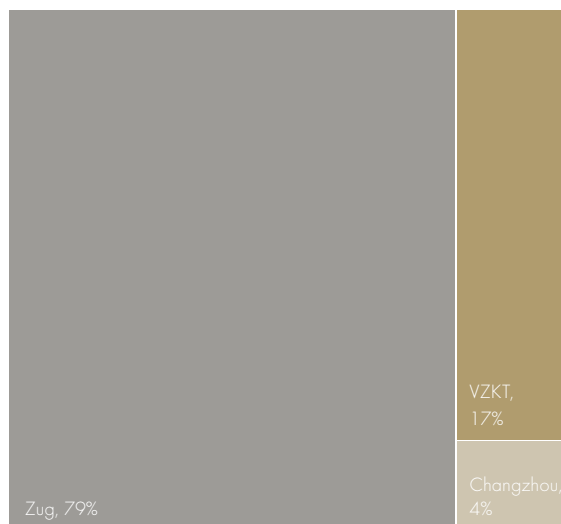
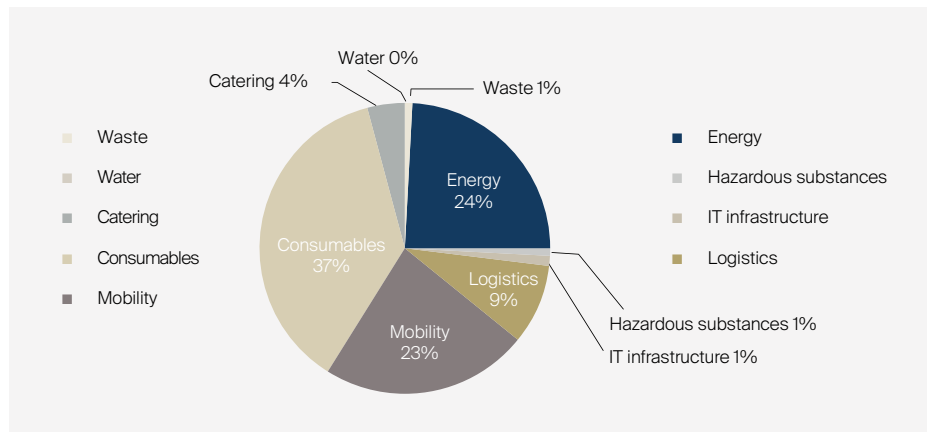
The operational life cycle assessments for 2022 once again showed that, at 37 percent, consumables such as paper, cardboard and packaging represent a large proportion of our environmental impact. We are holding ongoing discussions regarding cross-divisional measures, and are raising an awareness of greater resource efficiency in all departments. To reduce our paper consumption, we digitized all invoices, payslips and internal order forms in 2022 in production and spare parts. We are essentially trying to produce as little waste as possible, and keep materials in circulation. One way in which we are achieving the latter is through innovative partnerships, thanks to which our waste will be reused as raw materials («One man's trash is another man's treasure», page 63). Materials that we cannot recycle are disposed of appropriately. Around 80 percent of our waste goes to be recycled.



First electric vehicle in V-ZUG's fleet

### High appliance recycling rate

When recycling returned and worn-out V-ZUG appliances, we are helped by the nationwide return system for electrical and electronic appliances and also light bulbs, which is operated by the SENS Foundation. Its services are funded by consumers via the pre-paid recycling charge (vRG). In order to fully discharge our responsibilities as a manufacturer, we joined this voluntary system. We regularly report on the number and type of appliances sold, and pay the corresponding disposal fees. This means our customers can always dispose of their worn-out appliances at a convenient nearby location, significantly contributing to Switzerland's high collection and recycling rate.



**Fig. 15** Share of total environmental footprint per site (left) – percentage distribution of ecopoints (EP) overall per category (above)

# Targets, facts and figures

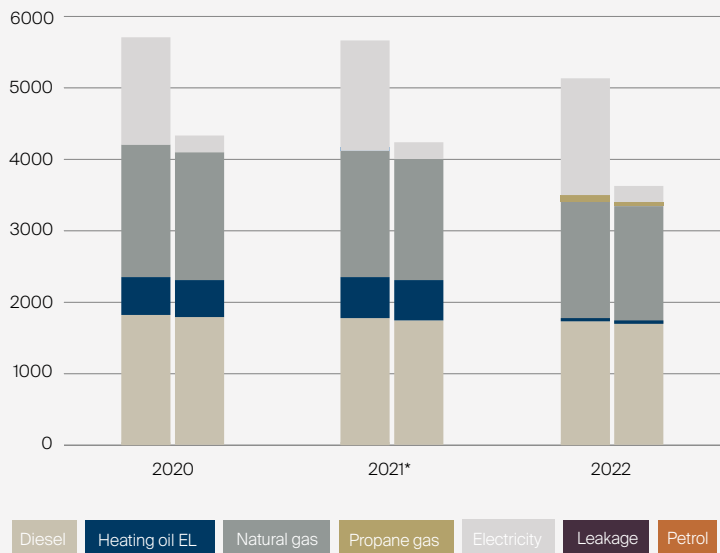
Targets	Baseline and target years	2022 results	Status	Metrics
CO <sub>2</sub> emissions				
To be carbon-neutral at all production sites within scopes 1 & 2 (incl. offsetting)	Annually	The remaining emissions in the 2022 reporting year will once again be offset in collaboration with the Ripa Gar Foundation with high-quality reforestation in the V-Forest.	Achieved (since 2020)	Scope 1 and 2 emissions as per Greenhouse Gas Protocol (market-based)
To reduce the remaining Scope 1 & 2 emissions by 80%.  (long-term ambition: 100%)	2020; 2030	2020: 4,449 tonnes CO <sub>2</sub> 2021: 4,340 tonnes CO <sub>2</sub> 2022: 3,692 tonnes CO <sub>2</sub> Market-based figures, for details see «GRI index», page 87  Significant reduction (14.9%) compared with 2021 The move to the new refrigerator factory in Sulgen almost entirely eliminated emissions caused by heating oil at the old location. The drop in natural gas consumption can be attributed to the warm autumn and an optimized enamelling process. For details see «GRI index», page 87	On track	Scope 1 and 2 emissions as per Greenhouse Gas Protocol
To have transparency regarding our Scope 3 emissions	-; 2021	Has been recorded annually since 2021: 11 out of 15 categories are relevant for V-ZUG – two categories together account for around 90% of emissions: 3.11: Use of Sold Products / 3.1: Purchased Goods and Services – for details see «GRI index», page 87 Target finally achieved: Scope 3 recording is included as standard in reporting	Achieved	Scope 3 emissions as per Greenhouse Gas Protocol

Targets	Baseline and target years	2022 results	Status	Metrics
To reduce Scope 3 emissions by 30%	2020; 2030	<p>Target finally defined in reporting year – the focus is on the two categories that together account for approx. 90% of emissions: 3.11: Use of Sold Products / 3.1: Purchased Goods and Services</p> <p>Scope 3 emissions 2020: 479,343 tCO<sub>2</sub>  Scope 3 emissions 2021: 456,995 tCO<sub>2</sub>  (-4.7% based on 2020)  Scope 3 emissions 2022: 444,058  (-7.4% based on 2020)</p> <p>We have already been reducing indirect emissions for years through constant increases in the energy efficiency of our products, a mobility strategy at our Zug headquarters, our geographical proximity to suppliers, the use of wood as a construction material for buildings, the professional disposal of waste, and the extensive return and recycling of household appliances at the end of their life cycle.</p>	On track	Scope 3 emissions as per Greenhouse Gas Protocol, annual survey of main categories (11 out of 15)
Environment and waste				
To continuously reduce the amount of waste through targeted initiatives and by optimizing disposal methods. For years, we have not disposed of any waste in landfill sites, and we are maintaining this approach.	2020; 2030	<p>Survey of waste and disposal methods: 2022: Recycling 78.6% / composting 0.2% / incineration: 20.7% / special waste: 0.5% / landfill: 0% (see «GRI index», page 8797 for details)</p> <p>Focus in 2022: packaging and paper  Reduction projects achieved by digitizing: payslips, order forms, invoices, logistics, spare parts warehouse, production orders, etc.</p>	On track	Waste amount in tonnes and by waste type
To reduce the relative impact on the environment continuously and increase ecological efficiency by at least 40% by 2030  (Environmental efficiency: environmental impact, relative to net sales)	2020; 2030	<p>The operational life cycle assessment method was optimized and applied once again in the reporting year. Assessments were produced for the three manufacturing sites at Zug, Sulgen and Changzhou:</p> <p>2020: Environmental footprint: 20,237 million EP / net sales: CHF 569.4 million  2021: Environmental footprint: 21,602 million EP / net sales: CHF 631.3 million / increase in ecological efficiency: +4%  2022: Environmental footprint: 18,419 million EP / net sales: CHF 636.3 million / increase in ecological efficiency: +19% (cumulated, based on 2020)</p>	On track	Ecopoints (EP) (in accordance with the Swiss ecological scarcity method of life cycle assessment, version 2021), indexed net sales adjusted for currency effects, environmental impact relative to net sales

Possible statuses: Achieved, On track, Delayed, Not achieved (if new target: Initiated)

**Table 5** Targets, results and status in relation to the focus topic "Environment and climate protection"





**Fig. 16** CO<sub>2</sub> emissions (in tonnes of CO<sub>2</sub>) – location-based (left-hand bar) and market-based (right-hand bar)

### Emissions reduced by 14.9 percent – new refrigerator factory is having an impact

In 2022, our emissions fell substantially compared with the previous year by 14.9%. The heat pump in the new refrigerator factory in Sulgen almost entirely eliminated emissions caused by heating oil at the old location. The warm autumn and an optimized enamelling process led to a reduction in natural gas consumption. The commissioning of the Multi Energy Hub (MEH) at the Zug site in December 2022 will result in a further significant reduction of emissions due to natural gas in 2023.

We are now showing the emissions generated by purchased electricity (Scope 2) twice: once as market-based (right-hand bar, purchase of renewable power, 100% Swiss hydropower for Zug and Sulgen), and once as location-based (left-hand bar, emissions of power obtained at sites). This serves to provide transparency and comparability for the emissions generated by power consumption.

Scope 3 emissions (11 relevant categories) can be seen in the accompanying GRI index.

\*Natural gas emissions as stated in 2021 report have been corrected (calorific value amended).

### Energy consumption reduced thanks to discontinuation of heating oil

In 2022, V-ZUG's absolute energy consumption was 107.95 terajoules. This is broken down as follows: electricity (49.69%), natural gas (27.54%), biogas (0.05%) and heating oil (0.36%), plus the diesel (21.53%) and petrol (0.03%) used by our fleet of vehicles. There was a reduction in energy consumption compared with 2021 (-5.3%).

This drop was largely due to the move to the new refrigerator factory in Sulgen and therefore the discontinuation of oil heating at the old site.

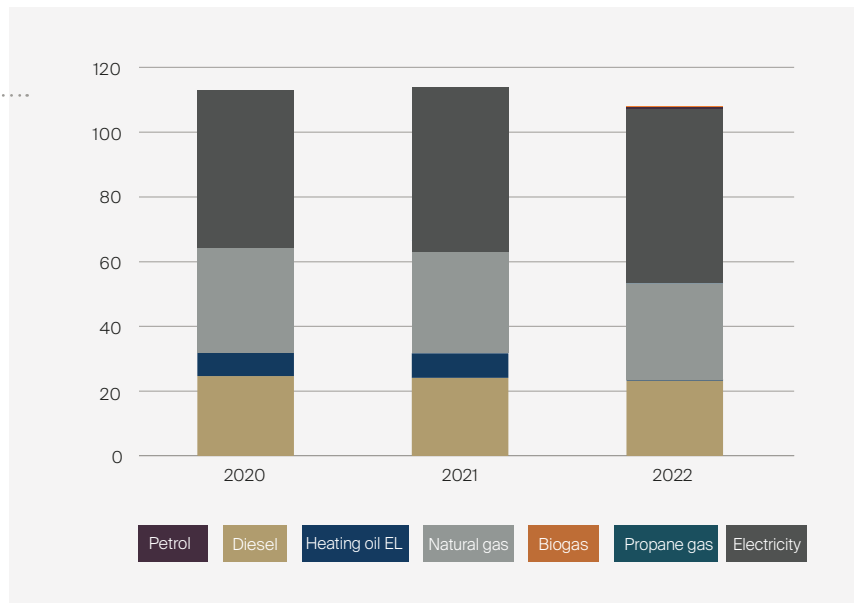
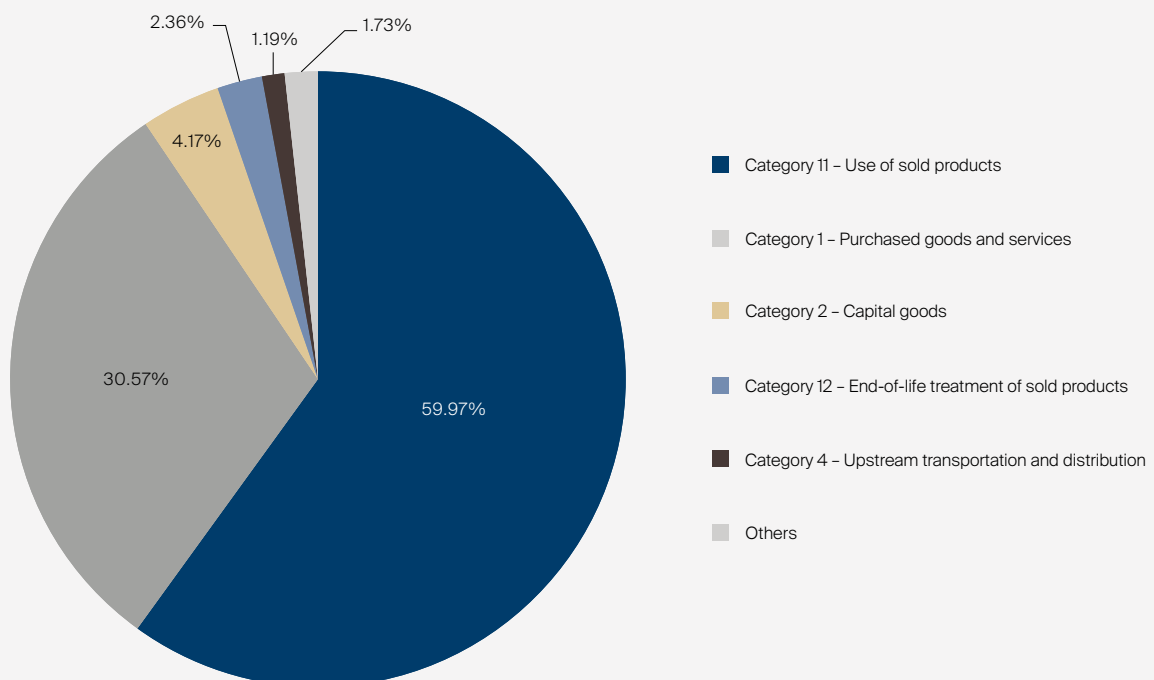


Fig. 17 Energy consumption at V-ZUG by energy source (in terajoules)

# Scope 3 emissions: data-based reduction

What is the breakdown of our Scope 3 emissions – the indirect upstream and downstream emissions? In which area do we have the most leverage; in other words, where should we prioritize our measures? Together with *SwissClimate*, we shed some light on this subject and calculated the annual Scope 3 emissions for the 11 out of 15 GHG categories that are most relevant for V-ZUG. Two categories are of particular consequence, making up almost 90 percent of our Scope 3 emissions.



**Fig. 18** Scope 3 emissions at V-ZUG in 2021 (when the target was defined). See GRI index for a detailed overview of Scope 3 for 2020-2022

The first of these, accounting for 60 percent, are emissions that arise when our customers use V-ZUG appliances. To reduce these emissions, we are manufacturing appliances that are fundamentally energy efficient, and also feature eco programmes. "But we also give our customers positive incentives with tips on environmentally friendly use and with our CO<sub>2</sub> Webshop, where they can offset emissions by supporting the V-Forest," explains Marcel Niederberger, Head of Sustainability at V-ZUG («Giving something back to the environment», page 75). Ultimately, the power mix in the relevant markets plays a role. "If this becomes increasingly green by 2050, these emissions will continue to fall," he declares.

Secondly, 30 percent of our Scope 3 emissions can be attributed to upstream raw materials and purchased goods. For these, we need to develop lower-carbon solutions for the key product categories together with our suppliers. "Certain suppliers have already made significant progress, but others are scarcely even aware of their own emissions," states Niederberger. The industry must therefore exert pressure and make progress together. The reusability and recyclability of our appliances also matters. The greater this is, the fewer primary materials we need. In this way, V-ZUG wants to reduce Scope 3 emissions by 30 percent by 2030 compared to the baseline year 2020.

# Joining forces to create sustainable hydrogen

The target of net zero by 2050 calls for concerted innovation by society as a whole. Alongside a fundamental reduction and a switch to renewable energy, we need more technologies that remove CO<sub>2</sub> from the atmosphere. So – on the initiative of Tech Cluster Zug (TCZ) – the canton of Zug, the Empa research institute and 15 major companies, including V-ZUG, founded the non-profit Association for the Decarbonization of Industry. Its aim is the environmentally friendly production of hydrogen for use in both high-temperature processes and mobility solutions. For instance, V-ZUG wants to use hydrogen instead of natural gas and diesel for its enamelling oven and its truck fleet.

Water will be split into hydrogen and oxygen in a plant using electricity-based electrolysis. "We are using renewable power for this purpose, so the hydrogen will be considered to be green," explains Andreas Bittig, project manager at TCZ. A second process is being investigated in parallel with this: using methane pyrolysis, which is less power-hungry, methane obtained from biogas or natural gas is heated in a reactor and split into gaseous hydrogen and powdered carbon. The latter can be used in agriculture to enrich humus, or reused in the construction industry. Best of all, if synthetic methane were to be used, additional CO<sub>2</sub> would be removed from the atmosphere in its manufacturing process. The waste heat generated during pyrolysis will be fed back into the Multi Energy Hub.

This flagship project is second to none. "The industrial production of hydrogen is unique throughout the world," enthuses Bittig. A total of CHF 8 million will be invested in this project, with around CHF 1 million coming from V-ZUG's CO<sub>2</sub> fund. The plant is set to go live in 2024.



V-ZUG production facility with enamelling plant (high-temperature process) for ovens



# One man's trash is another man's treasure

The subject of sustainability permeates our entire value chain, including packaging. V-ZUG strives to keep as much packaging material as possible in circulation. This applies in particular to waste cardboard: "Waste cardboard amounts to 340-500 tonnes per year," states Marcel Niederberger, Head of Sustainability at V-ZUG. So ten years ago, we formed a partnership with the family company Model, which turns waste cardboard into our new packaging. Thanks to our eight baling presses and sophisticated logistics, we avoid empty trips and save on storage space, since new deliveries always coincide with collections of waste cardboard. This collaboration is particularly efficient and worthwhile for all concerned due to the geographical proximity of the Model factory, where cardboard and paper are made from up to 70 percent recycled material. While V-ZUG has found a sustainable solution for its appliance packaging and waste cardboard and receives a monthly credit on new packaging, Model benefits from raw material. "For us, the partnership is exemplary and we are seeking to carry out further circular economy projects with other materials," declares Niederberger.



Appliance packaging made from 70% recycled cardboard that was returned to the supplier

We have also found an innovative solution for polystyrene. Instead of being incinerated, our polystyrene – which amounted to around ten tonnes in the reporting year – now goes to the company swisspor. It processes polystyrene for its building envelopes and insulation products. "For other people, our waste is a raw material – by upcycling it, we are recirculating resources," says Manuela Schneider-Hirth, Environmental Manager at V-ZUG. This collaboration is reflected in our life cycle assessment: "We have been able to avoid 28 tonnes of CO<sub>2</sub>, equating to 28.9E6 ecopoints," enthuses Schneider-Hirth.

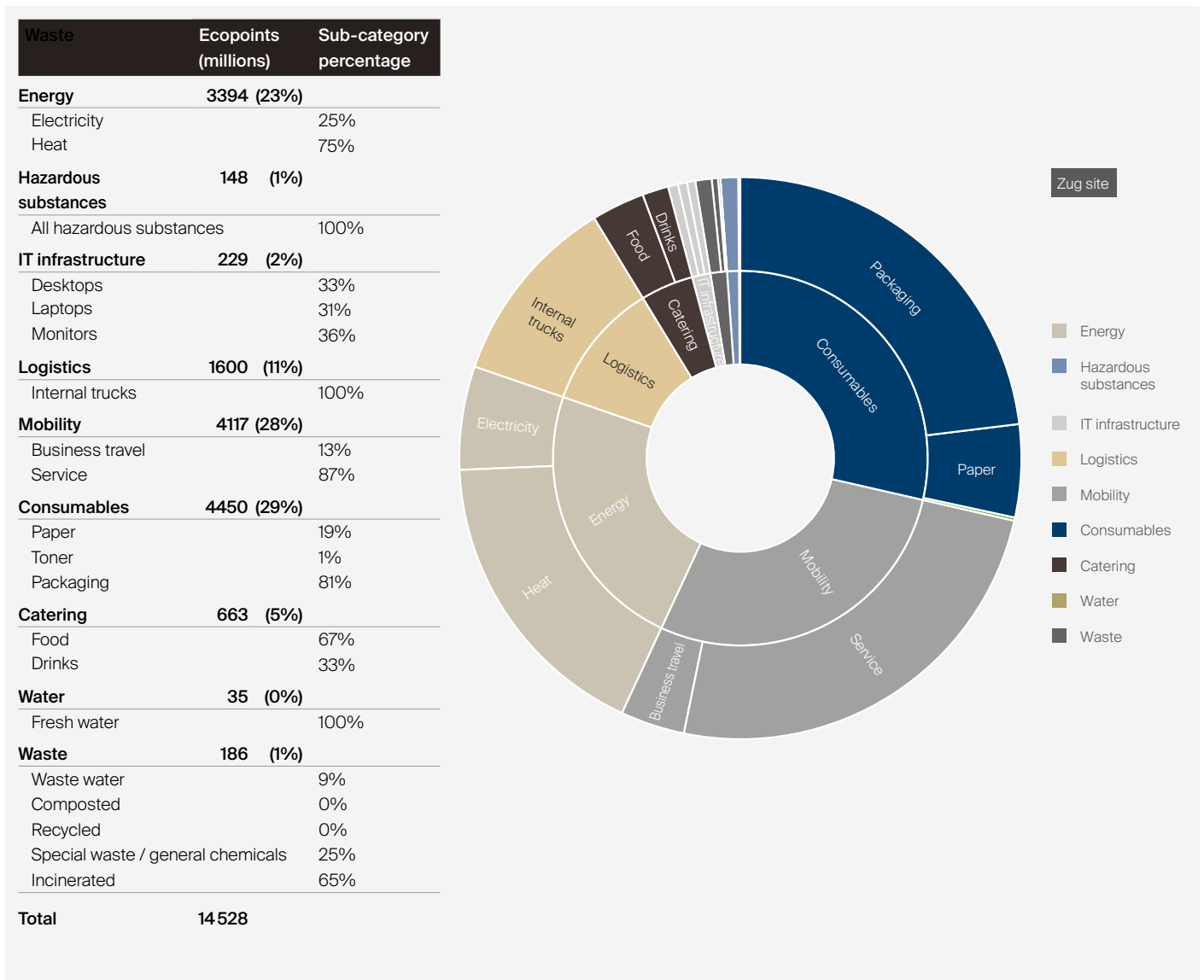


Fig. 19 Operational life cycle assessment for Zug site (headquarters), 2022



**"The circular economy is embedded in the DNA of SENS. For over 30 years, we have been able to rely on our partnership with V-ZUG. Working closely with them, we are developing future-oriented solutions and tackling the issue holistically."**

Pasqual Zopp, Managing Director of SENS



### Contribution to SDGs 7, 9, 12 and 13

Climate change, environmental pollution and loss of biodiversity are global problems that affect us all. For Tech Cluster Zug, V-ZUG is quite literally turning production upside down and reducing its ground footprint. The use of ecological construction solutions is creating innovative, sustainable workplaces. With pioneering projects such as the MEH, we want to send out a strong signal and make an impact. In Zug and in Sulgen, we are increasingly using renewable energy. At the same time, we are optimizing our processes and machinery,

in order to manufacture V-ZUG appliances energy-efficiently and resource-efficiently. An internal CO<sub>2</sub> levy provides specific incentives for this. We are offsetting our remaining CO<sub>2</sub> emissions, and the offsetting contributions are helping to plant trees as part of V-Forest, our own forestry project. This growing forest is removing CO<sub>2</sub> from the atmosphere and sequestering it long term. At the same time, it is helping to restore and boost biodiversity in the long term in a region that has been badly affected by deforestation.



# Entrepreneurship for sustainable prosperity



Zug is our home. Since the founding of Verzinkerei Zug in 1913, V-ZUG has been firmly rooted in Zug society. Here and in Sulgen, we manufacture household appliances of the highest quality and brainstorm innovative business models. We are investing in our home advantage and, together with Tech Cluster Zug (TCZ), are strengthening the economic ecosystem. V-ZUG is equally proud of its international expansion. We address issues that concern society, and maintain relations with our neighbours and the authorities. But above all, we manage our company in accordance with the principles of ethical governance, thereby securing our success and our contribution to society sustainably.

#### **Fit for a flourishing future**

Zug as a location has always been part of V-ZUG's recipe for success. Its favourable locational factors and highly trained workforce enable us to develop products and services that embody the world-renowned excellence of "Swiss made": innovation, quality, reliability and durability. We want to safeguard local jobs and the benefits of our location. Together with our partners, we are therefore pressing ahead with the transformation at our main site in Zug with great pioneering spirit. As in previous years, V-ZUG once again in 2022 invested over CHF 50 million in new production facilities and buildings – and therefore in an attractive site that will appeal to further companies, researchers and talented people. TCZ resembles a testing ground for showcase projects in the fields of living, building, working and mobility. Visions for a more sustainable society and economy are being realized here. The 80-metre-high timber tower block Pi, in which the V-ZUG pension fund is investing, will create an affordable and environmentally friendly space in which to live. And the growing Zephyr East production and assembly building is a prime example of structural sustainability – it extends over five floors and will be commissioned at the end of 2023. Zephyr East, together with the Mistral, Hangar and ZUGgate buildings, comprise all the production areas of V-ZUG's vertical factory («Zephyr East – Our new flagship building», page 73).

In March 2022, the timely commissioning of V-ZUG Cooling Technology Ltd's new refrigerator factory in Sulgen was an event to celebrate. We endeavoured to retain jobs in eastern Switzerland, and are therefore delighted that most of our employees from Arbon followed us to the new site. In 2022, we opened new V-ZUG Studios at prime locations in Paris and London.



### Corporate citizenship – our commitment

Our dedication to a more sustainable society is multifaceted. We always act where we can make the greatest difference.

Positive changes in behaviour require knowledge. We have a responsibility to show owners of V-ZUG household appliances how their use impacts on the environment. Alongside environmentally friendly product functions, we offer our customers a simple solution in the form of our new CO<sub>2</sub> Webshop that enables them to offset the emissions that result from using their appliances («Giving something back to the environment», page 75). As a manufacturer of premium kitchen appliances, the subject of healthy and sustainable nutrition is particularly important to us. Via our V-Kitchen app, we reach out to our customers with healthy and more environmentally friendly menus, and impart handy tips for avoiding food waste. Through a variety of campaigns, we also encourage our employees to adopt a diet and lifestyle that are more sustainable in the long term («What are you doing today for greater sustainability?», page 76).

New refrigerator factory in Sulgen – investment in "Swiss made"



New showroom at 27 Wigmore Street, London



V-ZUG's commitment is broad-based. In the reporting year, we supported the "Zug+ climate charter" with start-up funding. In line with Zug's climate objectives, this initiative helps local companies to consistently and rapidly implement measures to reduce emissions. As a sponsor of cultural and sporting events, we position our company at the heart of the community. V-ZUG enters into partnerships that are in keeping with its values. For instance, we are the proud main sponsor of the para-cycling athlete *Sandra Stöckli*: her success bears witness to her drive and resilience. We also regularly collaborate with universities. We provide input for lectures and support master's theses that are advantageous for all involved. We also get involved in associations in order to advance industry-wide solutions. On the subject of the circular economy, we are achieving this through our CEO's presence on the *SENS* Foundation's Board of Trustees.

Lastly, the V-ZUG pension fund is pursuing a sustainable strategy of investment. Managing over CHF 700 million in line with ESG criteria demands investment in sustainable fields of business that benefit society as a whole.

#### **Core values as a reliable compass**

In the long term, sustainable value creation, excellence and innovation can only be achieved through business management with integrity. These traditional core values act as V-ZUG's compass for all its business activities. We act fairly, communicate transparently and protect the *privacy and data* of our potential and existing customers in accordance with current legal regulations. This is laid down in our *Code of Conduct*, which is binding for all employees, including members of the Board of Directors. During the reporting year, we revised our Code of Conduct. The amended version contains a stronger commitment to human rights and sets out the principles of good corporate governance as part of our *vision, mission and core values*. The revised Code of Conduct comes into force this year, and will be underpinned with training sessions and e-learning modules for all employees. We regularly conduct compliance audits. Any non-compliance must be reported to line management, the internal legal department or, for serious grievances, to the external reporting point of the *Stiftung Krisenintervention Schweiz [The Swiss Crisis Intervention Foundation]*. Employees who make a report in good faith need not fear that this will have any negative repercussions for their employment at the company. With this contemporary governance, we are protecting our brand and reputation from the consequences of improper conduct.

#### **Responsibility throughout the value chain**

It is our duty to act as a role model for our suppliers and to implement our core values and standards systematically. Around 60 percent of our suppliers are based in Switzerland, and another 30 percent or so are located in nearby European countries. We obtain most of our electronic components from highly specialized markets in Asia; our procurement office in Shanghai assists us by contacting these suppliers directly. V-ZUG's supplier management is based on its procurement strategy, which follows clear quality and sustainability standards. We focus on resilient partnerships, and consider the inclusion of a supplier in our portfolio to be a strategic investment. When selecting suppliers, we examine social and environmental factors such as working conditions, use of resources and geographical proximity. V-ZUG

has a zero-tolerance attitude towards forced labour and child labour. When onboarding new suppliers, we initiate self-assessments beforehand and, where necessary, pre-audits, and obtain financial information.

Due to increasing regulatory requirements and society's expectations, we are continuously improving our supplier management. The *riskmethods* and *IntegrityNext* tools we introduced in 2021 have proved to be successful ("Together we are strong", 2021 Sustainability Report, page 68). Using global real-time information, we can monitor the ESG and compliance performance of our suppliers on a daily basis. During the reporting year we conducted in-depth audits of 50 suppliers, who account for almost 80 percent of our purchasing volume. A further 50 suppliers will be audited in 2023. Where our standards are not adhered to, we draw up action plans together with our suppliers or, in the case of repeated insufficient progress, terminate the partnership. In the reporting year, no suppliers were excluded due to increased risk. Our suppliers play an important role in our Scope 3 emissions, and reducing these emissions demands intensive and innovative collaboration («Environment and climate protection», page 50).

Due to the crisis-stricken economic environment, V-ZUG will be further strategically consolidating its supplier network. At the same time, our procurement people are working closely with our development department to identify critical raw materials at the product design stage and diversify suppliers accordingly.

We are finalizing our supplier code in line with our new Code of Conduct.



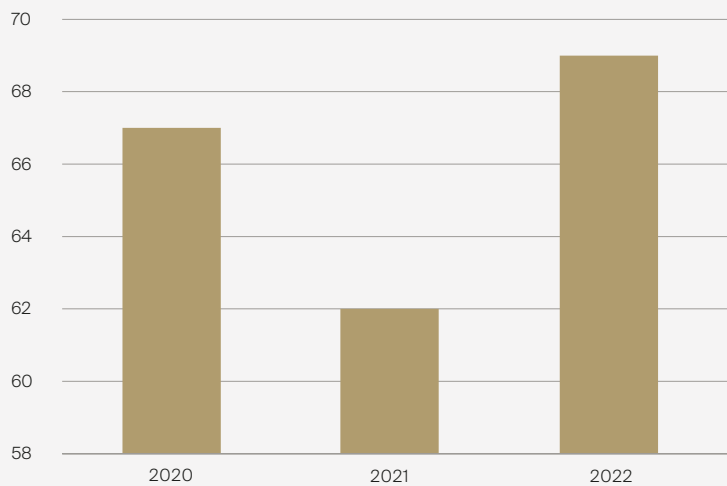
New refrigerator factory in Sulgen, production area

# Targets, facts and figures

Targets	Baseline and target years	2022 results	Status	Metrics
To generate a significant two-digit EBIT margin in the medium term (10-13%), in order to be able to invest sustainably and thereby maintain our future viability	Annually	EBIT margin 2020: 8.6% EBIT margin 2021: 9.9% EBIT margin 2022: 1.6%  See 2022 Annual Report for background and details	Not achieved	EBIT margin as per Annual Report
To achieve organic sales growth of 3%	Annually	Sales growth 2020: + 4.7% Sales growth 2021: + 9.5% Sales growth 2022: + 0.8%  See 2022 Annual Report for background and details	Not achieved	Sales growth as a percentage as per Annual Report
To have audited all our key suppliers (covering at least 80% of our sales volume) in line with sustainability criteria	-; 2025	Tools and processes introduced and being established (IntegrityNext, risk methods, supplier code of conduct, training, etc.).  Regular supplier audits conducted, including sustainability aspects. Stepped up again following pandemic-related reduction. Sales volume KPI first recorded in 2023.	On track	Procurement volumes and number of suppliers
To account for one core element per product category, with a transparent supply chain down to the lowest possible level	-; 2025	Initial core elements considered in detail with the procurement department:  <ul style="list-style-type: none"> <li>▪ Washing machine plinth (plastic)</li> <li>▪ Washing machine drawer (plastic)</li> <li>▪ Interior of dishwasher and CombiSteamer (stainless steel)</li> </ul> Internal transparency established. External communication via website in the pipeline. Additional elements to follow in 2023.	On track	Core element per product category

Possible statuses: Achieved, On track, Delayed, Not achieved (if new target: Initiated)

**Table 6** Targets, results and status in relation to the focus topic "Entrepreneurship for sustainable prosperity"



### More supplier audits

Following a general return to normal travel, the number of supplier audits increased slightly in the reporting year. The audits cover quality, environmental and social standards.

**Fig. 20** Number of supplier audits involving social and environmental criteria



# Zephyr East – Our new flagship building

"What is being created here is no ordinary building," proudly asserts Christoph Graf, Head of Industrial Transformation at Tech Cluster Zug (TCZ). He is referring to the construction work for Zephyr East on the TCZ site. V-ZUG's new five-storey production building will house areas for manufacturing and assembly, an automated warehouse and also offices and break rooms. The new building acts as a link between the Mistral production building and the recently opened Zephyr Hangar. "The preliminary work underground was complex, but now the building is growing day by day," enthuses Graf. Like all the other V-ZUG buildings, Zephyr East is also connected to the Multi Energy Hub.

Site for the Zephyr East  
production and assembly building  
Photographer: Philippe Hubler



From a sustainability point of view, Zephyr East is an experimental project. In the invitation to tender, the developer called for the use of low carbon concrete. What is being used is recycled concrete from Holcim, which is transformed from dismantled regional mineral material into high-quality secondary raw materials with the aid of state-of-the-art technology. This is then reused to produce concrete. With the aid of a pioneering process developed by the ETH spin-off Neustark, the recycled concrete is enriched with CO<sub>2</sub> from a wastewater treatment plant, thereby permanently binding it to the material. Thanks to some clever planning involving an optimized girderless roof support system, hollow inserts and therefore more lightweight ceilings, there is no need for additional concrete or reinforcing steel. This reduces the environmental footprint of the building: "By using 4,200 m<sup>3</sup> of recycled concrete, we are saving around 71 tonnes of CO<sub>2</sub> compared with a conventional construction method," reckons Graf.

Zephyr East is the biggest construction project in Switzerland so far to use more climate-friendly concrete. Incorporating sustainability from the outset – that's what V-ZUG is doing.



**"Working with Tech Cluster Zug has given our young company a huge boost. Major projects such as Zephyr Ost send out an important message: building with more environmentally friendly concrete is possible – and necessary for a promising future for all generations!"**

Valentin Gutknecht, Co-founder and Co-CEO of Neustark

# Giving something back to the environment

Anyone who buys a V-ZUG household appliance is receiving a product that has been manufactured carbon-neutrally. But of course the electricity consumed when they use this appliance generates CO<sub>2</sub> emissions. With our new CO<sub>2</sub> Webshop, we are now giving our customers the opportunity to offset these emissions directly and contribute towards combating climate change.

Based on an underlying price of CHF 40/tCO<sub>2</sub>, the CO<sub>2</sub> Webshop shows the emissions that will, on average, be generated by using each appliance for 15 years. The usage pattern data was derived from studies, eco-design guidelines and real-life figures from V-ZUG's repair service. The emission figures are lower for best-in-class appliances and if customers purchase renewable electricity. CHF 10 is enough to completely offset emissions for certain appliances, while a fully equipped kitchen costs around CHF 120. The CO<sub>2</sub> Webshop tells our customers quite clearly what emissions their appliance is causing, but at the same time gives them an immediate solution for addressing this," says Marcel Niederberger, Head of Sustainability at V-ZUG. Owners of our products can therefore take responsibility and develop a greater awareness of their electricity consumption and underlying power mix. And if customers want to do even more for the environment, they can offset additional personal emissions, such as those for air travel or petrol consumption, at the same time.

All the offsetting payments go towards our V-Forest reforestation project, which we are carrying out in Glen Lochay, Scotland in conjunction with the Ripa Gar Foundation.

CO<sub>2</sub> Webshop for customers.

Carbon offsetting with V-ZUG

Dear V-ZUG customer,  
Thank you for choosing a V-ZUG appliance from carbon-neutral production.  
We're delighted that you're interested in offsetting the carbon emissions produced as a result of using your appliance through the V-Forest.  
We hope you get much enjoyment from the eco-friendly usage of your V-ZUG appliance and we'd like to thank you for your contribution.

Select a product for carbon offsetting:

- Washing Machine [Select](#)
- Tumble Dryer [Select](#)
- Dishwasher [Select](#)
- Refrigerator [Select](#)
- Oven [Select](#)



# What are you doing today for greater sustainability?



As a socially responsible company, we encourage our employees to adopt a sustainable lifestyle and healthy diet. At our company, we are achieving this via numerous campaigns under the direction of the sustainability working group. During the reporting year, for instance, we introduced "Climate Fridays". Using a calculation tool developed by eaternity, we display the carbon footprint of the menus in our staff restaurant on Fridays and, to counter food waste, employees can take away leftover meals in recyclable containers at the internal kiosk. On one day a week, we offer more vegetarian menu options. "And other activities, such as the sustainability-focused film evening, are going down well with our employees," declares sustainability intern Linda Mauri.



Internal training course on sustainability at the V-ZUG Academy

The three-week V-ACT Sustainability Challenge took place in October in conjunction with the platform provider WeAct. Over 500 V-ZUG Group employees formed 97 teams that took on 20 tasks, diligently collected points and were rewarded with prizes. "Some of the tasks were really difficult, for example packaging-free shopping and, on one day, generating no waste," explains Daniel Frost of the V-ZUG Innovation Lab, who was a member of the competition project team. "But it was also great to see that people already have positive habits," adds Mauri. "Thanks to WeAct's professional support and evaluation, we know that 45 percent of participants learned something new, and that together we saved around 19.3 tonnes of CO<sub>2</sub>," asserts Mauri. Approximately 60 percent of participants indicated they would be including the tasks in their everyday lives in the long term. "This long-term impact was our objective," enthuses Frost.



### Contribution to SDGs 8, 9 and 12

Innovative solutions are the drivers for our future viability. We are purposefully boosting our internal innovative energy and strengthening it with external partnerships. This is also illustrated by the fact that we are investing in a modern, resource-efficient industry. At our sites, we are developing a sustainable, integrated infrastructure in dialogue with local stakeholder groups for the benefit of society, business and the environment. We are creating attractive industrial jobs and supporting

local businesses by buying regional goods and services wherever possible. With our cooperative relations, we are promoting environmental and social standards along the entire length of the supply chain. We are also committed to a sustainable business model. Via transparent product information, we are facilitating sustainable consumption, raising customer awareness of environmental protection via our appliances, helping to reduce food waste and promoting healthy eating.



# About this report

This sustainability report covers the significant economic, environmental and social impacts of the production sites of V-ZUG Holding Ltd (V-ZUG Group) and explains our commitment to a sustainable future. These are: V-ZUG Ltd, headquartered in Zug, V-ZUG Cooling Technology Ltd, headquartered in Sulgen (since 2022), and the foreign subsidiary V-ZUG (Changzhou) Special Components Co. Ltd., which is based west of Shanghai.

It was last published in spring 2022, covering the period from 1 January 2021 to 31 December 2021. In line with GRI standards, V-ZUG Holding Ltd produced this report covering the period from 1 January 2022 to 31 December 2022.

The four sections "Products and services for a future-fit society", "Healthy and committed employees", "Environment and climate protection" and "Entrepreneurship for sustainable prosperity" essentially describe the key management approaches of the V-ZUG Group's three production locations. Details that relate to the Swiss market, irrespective of the organizational units, are indicated as such.

The selection of key figures, activities and impacts portrayed has its roots in the materiality matrix («Fig. 3 Materiality matrix at V-ZUG», page 20), an analysis based on the Sustainable Development Goals («Table 2 V-ZUG's contribution to SDGs 7, 8, 9, 12 and 13», page 22) and a series of interviews with internal managers and experts conducted during the period from December 2022 to February 2023.

The report scope, including the key figures for 2020 to 2022, therefore comprises a total of 1,743 FTE employees (excluding temporary employees). This equates to 80 percent of the total number of V-ZUG Group employees which, on 31 December 2022, amounted to 2,193 FTEs (including temporary employees).

This report represents and addresses all genders and favours inclusive wording. In exceptional cases, gender-inclusive wording has not been used in order to improve readability.

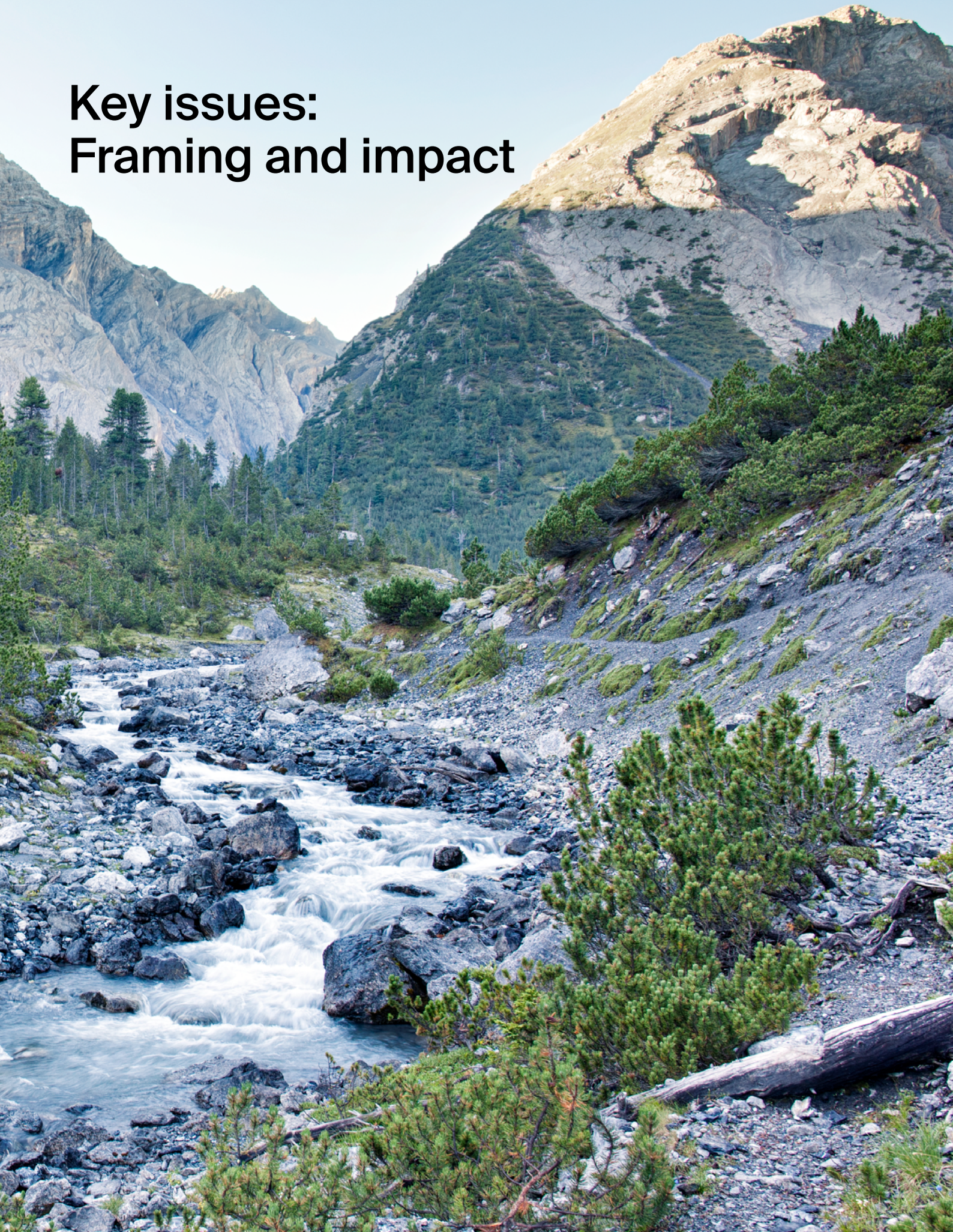
We are publishing this report for the tenth time because we see it as an important prerequisite for the ongoing systematic dialogue with our stakeholder groups.

We seek to depict progress and challenges in a transparent, comprehensible and verifiable manner.

We will be pleased to receive any questions or feedback via [marcel.niederberger@vzug.com](mailto:marcel.niederberger@vzug.com).



# Key issues: Framing and impact





# Focus topic: Products and services for a future-fit society

## Issue 1: Circular product design

### Description:

The following aspects are considered at a very early stage of product development:

- **Resource-efficient design:** Energy efficiency and water efficiency of the product.
- **Ecological functions:** Integration of functions to enable products to be used ecologically.
- **Materials used** e.g. recycled, environmentally friendly and recoverable materials; hazardous substances.
- **Durability**
- **Ease of repair** e.g. spare parts management
- **Modularization / upgradeability and retrofitting capability:** This relates to standardizing the parts used across different products and product variants, and the possibility of modernizing products with specific components.
- **Recyclability**
- **End of life:** e.g. second life, second-hand sales, upcycling
- **Primary packaging**

### Impact:

- Environmental impact of appliances throughout their entire lifespan: Climate change, quality of water, soil and air, biodiversity, etc.
- Influence on material innovations for the materials used and also primary packaging (development, commercial viability, etc.)
- Role model / innovator within the industry for championing sustainability and therefore influencing competitors / the market and other players (e.g. recycling partners)
- Maintaining the value of V-ZUG appliances throughout their lifespan, thereby influencing users' prosperity
- Keeping resources in circulation for as long as possible in tip-top condition

## Issue 2: Sustainable consumption and healthy eating (by users)

### Description:

- **Quality products that provide long-term benefits:** This is about the product not only having a long lifespan, but also being very user friendly, e.g. because it can be updated and repaired.
- **Sustainable use:** Users are familiar with options that enable appliances to be operated resource-efficiently, and make use of these.
- **Quality of life and a healthy lifestyle:** V-ZUG products contribute to a high quality of life, e.g. by helping to reduce the time taken for domestic chores and by assisting users to eat healthily.
- **Sustainable lifestyle:** This relates to the product helping users to eat in a climate-friendly manner and minimize food waste.

### Impact:

- Influence on user health, e.g. by promoting a more healthy, balanced diet
- Ecological households: The environmental impact (influence on climate change, water quality, biodiversity, etc.) of users when they use V-ZUG appliances, e.g. by using appliances that are more resource-efficient in general, using specific ecological functions, avoiding food waste and promoting a climate-friendly diet
- Encouraging and making it easier for users to behave sustainably
- Environmental awareness of users and society in general
- "Consumerism"/consumer behaviour in relation to V-ZUG appliances
- Maintaining the value of V-ZUG appliances throughout their lifespan, thereby influencing users' prosperity

# Focus topic: Healthy and committed employees

## Issue 3: Health and safety of employees

### Description:

- **Mental and physical health:** By this, we mean both preventative and accompanying measures that contribute towards health in the workplace (in the office or at home) and a healthy lifestyle during leisure time. We consider one important factor of this to be personal resilience and measures that promote it.
- **Health and safety culture:** This is about establishing and personifying a culture of health and safety within the company. Key influential methods include HR management and communication.
- **Occupational safety and workplace conditions:** Employees should be safe at their workplace. This is about safe workplaces in areas such as production, and suitable occupational safety measures such as protective clothing. Healthy workplace conditions generally involve setting up all workplaces so that they are as conducive to health as possible, e.g. in terms of ergonomics, noise emissions and temperatures.

### Impact:

- Short-term and long-term physical and mental health of employees, with an impact on their employability and therefore their independent economic wellbeing (job security and prosperity)
- Impact on the health and social insurance system (including health costs)
- Influence on the health-conscious and health-promoting behaviour of employees and indirectly on people with whom they come into contact.
- Perception and importance placed on health in society (indirectly)
- Balanced, resilient employees

## Issue 4: Developing potential and managing expertise

### Description:

- **Employability:** By this, we mean the employability of our staff, which it makes sense to enhance and maintain. Development measures may vary depending on their age, profession and potential.
- **Education and training:** This concerns the technical, methodological and social development of employees, and also training positions such as apprenticeships and internships.
- **Career development:** Employees should have the opportunity for advancement. Career development enables prospects to be highlighted and the associated development to be fostered.
- **Successful targeted recruitment:** This aspect includes the extent to which we are able to find and successfully recruit suitable employees.
- **Targeted retention management:** How much fluctuation of what type is desirable or harmful? Targeted retention management optimizes social and corporate responsibility.
- **Identifying, promoting and exploiting potential:** The focus here is on successfully exploiting potential. The first step here is to identify it and then, only after that, to promote and exploit it.
- **Succession planning and managing expertise:** This is about how to retain employee expertise within the company and make it usable by all employees. This also includes internal succession planning for key personnel and jobs.

### Impact:

- Attractiveness to the workforce on the local labour market: attractive site / innovative capacity / availability of qualified manpower
- Employability and therefore the ability of employees to independently and sustainably secure their economic wellbeing (job security and prosperity).
- Employee satisfaction
- Employer reputation: Exemplary role and standard-setter on the labour market in terms of employer attractiveness, employee development, etc.

## Issue 5: Diverse and inclusive working culture

### Description:

- **Equality:** This relates here to equal opportunities and equal treatment, and covers issues such as equal pay and career opportunities.
- **An integrative participatory culture that affirms diversity:** The focus is on subjects such as respect, openness, tolerance and mutual appreciation.
- **Ban on discrimination:** This aspect of risk relates to how discrimination is prevented and how possible incidents are dealt with in the company.
- **Flexible working:** This means working independently of time or place, and how the company deals with the many opportunities and risks associated with flexible working.
- **Forms of work:** This is about forms of work that promote a diverse and inclusive work culture, such as part-time working, job sharing and interdisciplinary collaboration.

### Impact:

- Attitudes and behaviour with regard to diversity and inclusion of employees, which may also influence their personal social sphere (indirect impact on inclusion in society as a whole / equal opportunities for the local community)
  - Expansion of opportunities for people who are disadvantaged and/or affected by discrimination on the labour market
  - Long-term employment for employees across various stages of their life, thereby giving them economic security (job security and prosperity)
  - Role model and influence on competitors and other companies with regard to flexible working and forms of work (perhaps also with regard to other subsidiary aspects of the issue, but these tend to be less visible)
-



# Focus topic: Environment and climate protection

## Issue 6: Resource-efficient sites (operations)

### Description:

- **Energy management:** What energy mix are we using? Are we investing in renewable energy (e.g. photovoltaics)?
- **Energy-efficient production:** This relates to the energy consumption of machinery, plant and processes, as well as analysing and optimizing this.
- **Greenhouse gas emissions:** This is to do with the greenhouse gases emitted from sources within the company, such as the vehicle fleet, heating, process gas (Scope 1) and emissions from the electricity used (Scope 2).
- **Water management:** This is to do with the efficient use of water as a resource, and the environmental compatibility of its withdrawal, consumption and discharge.
- **Resource-efficient production facilities:** This concerns the lifespan and resource-efficiency of the production facilities.
- **Structural ecology:** This is to do with the use of building materials such as concrete and timber, and adherence to sustainability standards for construction. It also includes the energy consumption of buildings.

Logistics and waste management are explicitly excluded, and are addressed as separate issues.

### Impact:

- Climate change, local biodiversity and the quality of water, soil and air as a result of environmental pollution and resource consumption
- The dissemination of environmentally friendly technology and solutions (through pilot projects and increasing their cost-effectiveness), e.g. in the fields of energy systems and construction methods
- Role model/inspiration, e.g. via flagship projects, thereby influencing the behaviour/investment decisions of other stakeholders
- Quality of life at sites (e.g. water and air quality)

## Issue 7: Operational waste management

### Description:

- **This issue covers the following categories of waste:**
  - Production waste (metal, plastic, special waste, etc.)
  - Operational waste (office, food, electronics, etc.)
  - Secondary packaging (wooden pallets, cardboard, film, polystyrene, etc.)
- **Waste reduction:** This relates to measures for reducing waste, particularly that which cannot be reused or recycled.
- **Waste collection and declaration**
- **Reuse**
- **Recycling**
- **Proper disposal** of waste that cannot be reused (oil, hazardous substances, etc.)

### Impact:

- Climate change, local biodiversity and the quality of water, soil and air as a result of environmental pollution and resource consumption
- Material innovations, e.g. for packaging (impact on development, commercial viability, etc.)
- Consumer behaviour through the provision of new services and launch of new business models, e.g. sale of used appliances

## Issue 8: Logistics and mobility

### Description:

The particular focus here is on the greenhouse gas emissions resulting from the following aspects:

- **Upstream and downstream logistics:** This relates to the logistics further up and further down the value chain.
- **Intra-company logistics:** This is to do with issues such as optimizing transport between V-ZUG sites (incl. route planning).
- **Warehouse management:** Optimal warehouse size and efficient warehouse management are paramount here.
- **Fleet management:** This is to do with the type of vehicles and their powertrain technology.
- **Business travel**
- **Commuter traffic:** The focus here is on using different means of transport to and from work (employee mobility).

### Impact:

- Environmental pollution and resource consumption: Climate change, the quality of water, soil and air, etc. (e.g. via emissions, microplastics, the pollution of marine ecosystems e.g. by contaminants or noise emissions)
  - Impact on behaviour/awareness of employees and logistics partners
-

# Focus topic: Entrepreneurship for sustainable prosperity

## Issue 9: Responsible and resilient supply chain

### Description:

- **Supplier management:** This concerns structuring the supplier-customer relationship, building and maintaining a supplier base, appropriate risk management and security of supply.
- **Stable partnerships:** This relates to partnerships that are based on trust and contribute toward the resilience of the commercial chain.
- **Sustainable procurement guidelines:** This is about demanding, auditing and practising standards regarding ecology, social responsibility and economic efficiency in the supply chain.
- **Traceability and transparency:** This is to do with creating the greatest possible transparency with regard to individual supply chains, thereby ensuring that individual responsibility can be assumed.
- **Capacity building:** This involves helping players within the supply chain to expand and improve their skills.

### Impact:

- Impact on suppliers' sustainable behaviour (employee welfare, environmental impact, etc.)
- Creating and safeguarding jobs and thereby economic development at sites.
- Knowledge transfer and mutual learning with an impact e.g. on supplier innovation
- Role model and standards in supply chain management

## Issue 10: Long-term corporate success as added value for society

### Description:

- **Profit and productivity:** This is to do with long-term corporate success, which is a fundamental prerequisite for investment in general and for the benefit of sustainability.
- **Innovation:** This relates to product and process innovation, as well as innovative business models.
- **Doing business within planetary limits:** This is about taking account of the ecological limits of our planet when using natural resources and polluting the environment.
- **Investment for a future-fit society:** This may involve investment in infrastructure projects or the investment philosophy of the V-ZUG pension fund.
- **Site policy and its indirect economic impacts:** This relates to aspects such as the impact of our commitment to Switzerland as well as developing the expertise hub and boosting innovation at the site.
- **Partnerships, joint ventures and collaboration:** Added value and innovation often have their roots in partnerships, and some challenges necessitate working with other organizations. Collaboration may be undertaken with a large number of players from the fields of research, academia, business networks, associations, business partners, the public sector, charitable organizations, etc.

### Impact:

- Safeguarding jobs for employees (through stable profits and productivity)
- Influencing public debate (on sustainability in general, players involved in long-term site policy, etc.), e.g. by injecting dynamism
- Economic (and therefore social) development of sites, e.g. by creating varied jobs and training positions
- Impact on site attractiveness
- Impact on quality of life at sites
- Impact on sustainable infrastructure development at sites
- Multiplier effects in partnerships
- Impact on the innovative capacity of partners and the site in general

## Issue 11: Business ethics and compliance

### Description:

- **Corporate ethics (code of conduct):** This is about how V-ZUG carries out its business activities. As well as legal compliance, there is the particularly important matter of whether business operations are commensurate with ethical and moral principles (e.g. adherence to human rights).
- **Corporate governance:** This is to do with binding roles, clear responsibilities and effective supervisory and oversight functions between the Executive Committee and the Board of Directors.
- **Policy management (internal):** This relates to whether internal guidelines and policy documents exist and how they are communicated to employees and established within the company.
- **Reporting mechanisms:** This concerns confidential complaints procedures that enable any misconduct or grievances relating to V-ZUG's business activities to be reported.
- **Transparency and communication (with stakeholders):** This is about the company's communication and information policy, which can at times influence the extent to which stakeholder groups are able to form a truthful and complete picture of the company.
- **Product safety:** This is to do with ensuring products can be used without danger.
- **Standards:** Application and compliance with mandatory and voluntary standards, e.g. relating to product quality or management systems for quality, the environment, staff, etc.
- **Data management:** This is about dealing with sensitive internal and external data.

### Impact:

- Role model and inspiration for other players
  - Trust/mistrust in company/private business in general
  - Impact on the regulatory environment that affects the company (e.g. in the event of non-compliance, lack of transparency, etc.)
  - Safety/health of users
-



# GRI index

The following GRI index is based on V-ZUG's current materiality matrix («Fig. 3: Materiality matrix at V-ZUG», page 20), which it drew up in 2022 with input from external and internal stakeholders. Relevant information is presented transparently in this sustainability report and in the 2022 Annual Report, and is supplemented with additional details in the index. The following table shows the association between the relevant GRI Standards and the subjects evaluated in the materiality process, plus the top-level focus topics.

Focus topic	Subject	GRI indicator	SDG
Products and services for a future-fit society	Circular product design	GRI 301, GRI 306	7, 9, 12, 13
	Sustainable consumption and healthy nutrition	GRI 416	
Healthy and committed employees	Health and safety of employees	GRI 403	8
	Developing potential and know-how management	GRI 401, GRI 404	
	Diverse and inclusive working culture	GRI 405	
Environment and climate protection	Resource-efficient operations	GRI 302, GRI 303	7, 9, 12, 13
	Logistics and mobility	GRI 305	
Entrepreneurship for sustainable prosperity	Responsible and resilient supply chain	GRI 204, GRI 308, GRI 414	8, 9, 12
	Long-term corporate success as added value for society	GRI 201, GRI 203	
	Business ethics and compliance	GRI 2-23, GRI 419	

## General details

Indicator	Description	Comment/reference
<b>Foundation (2022)</b>		
GRI 1	Foundation 2022	V-ZUG Holding Ltd has reported in accordance with the GRI Standards for the period from 1 January 2022 to 31 December 2022.
<b>The organization and its reporting practices (2022)</b>		
GRI 2-1	Organizational details	V-ZUG Holding Ltd Company limited by shares under Swiss law; listed on the SIX Swiss Exchange stock market Head Office: Zug, Switzerland See «Company profile», page 8 and 2022 Annual Report.
GRI 2-2	Entities included in the organization's sustainability reporting	The Annual Report covers the companies that make up V-ZUG Holding Ltd. Unless otherwise stated, the Sustainability Report covers the following three companies: V-ZUG Ltd, V-ZUG Cooling Technology Ltd and V-ZUG (Changzhou) Special Components Co., Ltd. (see «About this report», page 78). The Annual Report (Financial Report) covers all the V-ZUG Group companies owned directly or indirectly by V-ZUG Holding Ltd (see 2022 Annual Report). Entities are consolidated in line with the consolidation approach. See 2022 Annual Report.
GRI 2-3	Reporting period, frequency and contact point	V-ZUG reports annually for the financial year, 1 January 2022 to 31 December 2022, reporting date: 31 December 2022 The Annual Report is also produced annually for the previous financial year (1 January 2022 to 31 December 2022, reporting date 31 December). The last report was published on 29 April 2021. The contact person for questions is Marcel Niederberger, marcel.niederberger@vzug.com (Head of Sustainability).
GRI 2-4	Restatements of information	In 2022, we set ourselves specific targets for 2030 for the four focus topics, and illustrated these in our 2025 Roadmap with tangible measures and key performance indicators. An overview of the specific targets and results can be found under "Targets, facts and figures" in each of the sections. In order to report on our energy consumption even more transparently, figures were recorded on both a location and a market basis. In the 2021 Sustainability Report, the natural gas consumption for the Zug site was incorrectly shown as the upper calorific value. In the 2022 Sustainability Report, the lower calorific value has once again been used. The 2021 figures have been amended accordingly. The management category was redefined in 2022. It is now subdivided into a leadership and management team. The associated staffing figures are therefore not directly comparable with those of previous years. The method for collecting fleet efficiency (yearly energy consumption data updated) was refined and retroactively adjusted. This data was also linked to the Scope 3 measurement for the first time in order to show the change based on the energy label. The method for collecting the operational life cycle assessment data was refined and figures for packaging material were corrected. This has been retroactively adjusted for 2020 and 2021. The method for collecting Scope 3 emissions was refined and adjusted retrospectively (assessment of electronics, metals and equipment consumption data). The net revenue for the previous year's period was partially adjusted in connection with changes in accounting principles, see page 72 of the Annual Report for details. This has an impact on the eco-efficiency and the adjustments were made accordingly.
GRI 2-5	External assurance	The 2022 Sustainability Report has not been externally audited.

Indicator	Description	Comment/reference
<b>Activities and employees (2022)</b>		
GRI 2-6	Activities, value chain and other business relationships	<p>Industry: Household appliances</p> <p>Value chain:</p> <p>V-ZUG has its own sales companies or branches in Australia, Austria, Belgium, China, France, Germany, Hong Kong, Luxembourg, the Netherlands, Singapore, Thailand, the United Kingdom and Vietnam. V-ZUG products are also available via distributors in Israel, Italy, Lebanon, Turkey, Ukraine and the USA. V-ZUG serves a total of 20 markets including Switzerland, its home market.</p> <p>Business relations with Russia have been suspended due to sanctions. Business relations still exist with Ukraine, but there is no demand for appliances due to the war.</p> <p>See «Company profile», page 8.</p> <p>Organizational supply chain:</p> <p>In total, we are working with and maintaining long-term relationships with around 1,500 Tier 1 suppliers. We also have an estimated 5,000 additional indirect suppliers (Tier 2). Around 60 percent of our Tier 1 suppliers are based in Switzerland, and another 30 percent or so are located in nearby European countries. Payments amount to approximately CHF 200 million per year.</p> <p>See «Entrepreneurship for sustainable prosperity», page 66.</p> <p>Downstream activities and entities:</p> <p>Private customers, specialist retailers, property management companies and real estate owners.</p> <p>V-ZUG's products are sold predominantly via trade outlets. The traders sell them to installers and display them in various settings including showrooms, where end consumers can obtain information about the products. V-ZUG also operates 21 exhibition and advisory centres as well as V-ZUG Studios worldwide. In addition to commercial firms and kitchen designers, key customer groups primarily include property management companies and real estate owners, as well as their agents (such as architects and general contractors). Private customers purchase V-ZUG appliances via specialist retailers, kitchen designers, general contractors and architects.</p> <p>See «Company profile», page 8, «Products and services for a future-fit society», page 23.</p> <p>Other relevant business relationships:</p> <p>Strategic partnerships:</p> <ul style="list-style-type: none"> <li>▪ Tech Cluster Zug, Zug</li> <li>▪ Universities and higher education establishments: HSLU, ZHAW, HWZ, FHNW, OST, ETH, EMPA</li> <li>▪ SENS – Foundation for recycling electrical and electronic appliances</li> </ul> <p>Further memberships and commitments:</p> <ul style="list-style-type: none"> <li>▪ ActionJam</li> <li>▪ aha! Swiss Allergy Centre (joint venture)</li> <li>▪ amk – "The Modern Kitchen" working group</li> <li>▪ EEBUS – Empowering the digitalisation of Energy transition</li> <li>▪ ETH Foundation</li> <li>▪ Europa Forum</li> <li>▪ HSLU – University of Applied Sciences Council</li> <li>▪ Zug+ Climate Charter Initiative</li> <li>▪ LACE – Laboratory for a Circular Economy, National Science Foundation Project 73 (project partner)</li> <li>▪ PWN Professional Women's Network</li> <li>▪ Reffnet (Swiss Resource Efficiency Network)</li> <li>▪ sia – Swiss Society of Engineers and Architects</li> <li>▪ Suissetec</li> <li>▪ Swiss Triple Impact programme (STI programme)</li> <li>▪ Switzerland Innovation Park Central</li> <li>▪ tfz – Technologie Forum Zug (Board)</li> <li>▪ Zug Chamber of Commerce, member (Board)</li> <li>▪ Zurich Chamber of Commerce</li> </ul>

Indicator	Description	Comment/reference
		<p>Social engagement: At its production facilities in Zug, V-ZUG Ltd works with the "zuwebe" Foundation, enabling people with disabilities to integrate into the work process.</p> <p>V-ZUG Cooling Technology Ltd in Sulgen has for many years maintained a partnership with Obvita, which supports the integration of people with visual disabilities and mental disorders into professional and social life.</p> <p>Via this collaborative initiative, a working group from Obvita regularly carries out assembly tasks at V-ZUG's refrigerator production facilities.</p>
GRI 2-7	Employees	<p>Total number of employees plus breakdown by gender and region:</p> <ul style="list-style-type: none"> <li>▪ Women: 403</li> <li>▪ Men: 1444</li> </ul> <ul style="list-style-type: none"> <li>▪ Zug: 1658</li> <li>▪ Sulgen: 146</li> <li>▪ Changzhou: 43</li> </ul> <p>Total number of employees with permanent contracts:</p> <ul style="list-style-type: none"> <li>▪ Women: 391</li> <li>▪ Men: 1424</li> </ul> <ul style="list-style-type: none"> <li>▪ Zug: 1627</li> <li>▪ Sulgen: 145</li> <li>▪ Changzhou: 43</li> </ul> <p>Total number of employees with fixed-term contracts:</p> <ul style="list-style-type: none"> <li>▪ Women: 12</li> <li>▪ Men: 20</li> </ul> <ul style="list-style-type: none"> <li>▪ Zug: 31</li> <li>▪ Sulgen: 1</li> <li>▪ Changzhou: 0</li> </ul> <p>Employees with no guaranteed working hours: At V-ZUG, there are no employees without guaranteed working hours.</p> <p>Total number of full-time employees:</p> <ul style="list-style-type: none"> <li>▪ Women: 239</li> <li>▪ Men: 1320</li> </ul> <ul style="list-style-type: none"> <li>▪ Zug: 1380</li> <li>▪ Sulgen: 136</li> <li>▪ Changzhou: 43</li> </ul> <p>Total number of part-time employees:</p> <ul style="list-style-type: none"> <li>▪ Women: 164</li> <li>▪ Men: 124</li> </ul> <ul style="list-style-type: none"> <li>▪ Zug: 278</li> <li>▪ Sulgen: 10</li> <li>▪ Changzhou: 0</li> </ul> <p>V-ZUG's business operations do not cause any significant seasonal fluctuations in staffing levels.</p> <p>See «Healthy and committed employees», page 36.</p>
GRI 2-8	Workers who are not employees	<p>Temporary workers, appointed via external agencies: 155</p> <p>External contractors (support): 130</p>



Indicator	Description	Comment/reference
<b>Corporate management (2022)</b>		
GRI 2-9	Governance structure and composition	<p>The Board of Directors of the V-ZUG Group has an Audit Committee and a Human Resources and Compensation Committee (for details, see "Corporate Governance" on the website).</p> <p>The Executive Committee's operational management structure is made up of the following departments (for details, see "Executive Committee" on the website):</p> <ul style="list-style-type: none"> <li>▪ CEO V-ZUG Group: Digital Transformation, Sustainability, Corporate Communication</li> <li>▪ International Department: Market Subsidiaries, Distributors, OEM Business</li> <li>▪ Finance Department: Group Finance and Controlling, Business Controlling, Legal and Compliance, Investor Relations</li> <li>▪ Sales and Service Department: Market Switzerland, Global Service and Support, Market Project Management Office Marketing Controlling, Marketing Services Switzerland</li> <li>▪ Operations Department: Supply Chain Management, Project Management, Global Quality Management, Industrial Engineering, Cross Product Manufacturing, Manufacturing, Procurement, Infrastructure and Maintenance</li> <li>▪ Engineering Department: Innovation/Services and Technology, Engineering Appliances, Engineering Electronics/SW and Shared Services, Strategic Industrial Engineering, Corporate Design</li> <li>▪ Human Resources Department</li> <li>▪ Marketing Department: Global Product Management, Global Marketing and Communications, Communications Process Center, Global Commercial Excellence</li> </ul> <p>Committees responsible for decision-making on environmental and social topics:</p> <ul style="list-style-type: none"> <li>▪ Executive Committee</li> <li>▪ "V-ZUG Sustainability Workforce" working group led by the Head of Sustainability</li> <li>▪ Internal Auditors for Quality, Environment and Occupational Safety</li> </ul> <p>In June 2020, the V-ZUG Group broke away from the Metall Zug Group, and was simultaneously listed on the SIX Swiss Exchange. Metall Zug Ltd retains around 30% of V-ZUG Holding Ltd shares and remains an anchor shareholder.</p> <p>See "Spin-off and listing" on the website.</p>
GRI 2-10	Nomination and selection of the highest governance body	See 2022 Annual Report.
GRI 2-11	Chair of the highest governance body	<p>The Chair of the highest governance body is Oliver Riemenschneider. Like all members of the Board of Directors, he is non-executive.</p> <p>See 2022 Annual Report.</p>

Indicator	Description	Comment/reference
GRI 2-12	Role of the highest governance body in overseeing the management of impacts	<p>Key issues are approved by the Board of Directors and the Executive Committee. Building on this, medium and long-term sustainability goals are defined and approved by the Board of Directors and the Executive Committee. Those members of the Executive Committee who are responsible for focus topics regularly evaluate the degree to which these topics have been achieved, together with the Head of Sustainability and the Sustainability Working Group.</p> <p>At the four regular Board of Directors' meetings each year, information regarding sustainability issues is regularly presented and/or decisions submitted.</p> <p>Sustainability issues also form an integral part of the risk management process, which is overseen annually by the Board of Directors.</p> <p>There is no structured stakeholder discussion regarding sustainability issues at board level. Issues are addressed as required.</p> <p>In 2024, the Sustainability Report will be integrated into the Annual Report for the 2023 financial year, and approved by the Board of Directors.</p>
GRI 2-13	Delegation of responsibility for managing impacts	<p>Overall responsibility is delegated to the CEO. Four members of the Executive Committee are each responsible for a single focus topic. The impact of measures and campaigns is assessed by means of a quarterly review of the targets.</p> <p>Annual sustainability reporting provides information about targets and the degree to which they have been met. It is made available to all stakeholders including the highest governance body.</p>
GRI 2-14	Role of the highest governance body in sustainability reporting	<p>The Board of Directors defines the targets and approves the Sustainability Report.</p> <p>In 2024, the Sustainability Report will be integrated into the Annual Report for the 2023 financial year, and approved by the Board of Directors.</p> <p>See editorial «Resiliently forging ahead with a pioneering spirit», page 5</p>
GRI 2-15	Conflicts of interest	<p>Conflicts of interest are avoided or lessened by the rules in the organizational regulations (see "Organizational regulations" on the website).</p> <p>Conflicts of interest are disclosed to stakeholders, see 2022 Annual Report and Code of Conduct.</p>
GRI 2-16	Communication of critical concerns	<p>Critical matters are reported via the official reporting point (compliance@vzug.com) and prepared for the attention of the Audit Committee (a Board of Directors' committee), where they are considered, finalized and documented (see "Audit Committee Regulations" dated 1 June 2020).</p> <p>In 2022, five cases were reported via compliance@vzug.com and dealt with by V-ZUG. Two cases were additionally reported via the external reporting point (The Swiss Crisis Intervention Foundation). These were addressed by employee counselling. However, the content of these reports cannot be disclosed as this is confidential information.</p>
GRI 2-17	Collective knowledge of the highest governance body	<p>Aspects of the "sustainable development" issue are discussed in the quarterly Board of Directors' meetings. The Board of Directors therefore always has the latest information regarding key V-ZUG sustainability issues and thus the associated demands, challenges, opportunities and risks. Dedicated training is scheduled for 2023/2024.</p>
GRI 2-18	Evaluation of the performance of the highest governance body	<p>The performance of the Board of Directors is not evaluated.</p>
GRI 2-19	Remuneration policies	<p>See 2022 Annual Report, page 60 – Remuneration Report</p>

Indicator	Description	Comment/reference
GRI 2-20	Process to determine remuneration	<p>The process for determining remuneration is laid down in the 2022 Remuneration Report. See 2022 Annual Report, page 60 – Remuneration Report.</p> <p>The results of stakeholder voting regarding the remuneration policies and proposals are published in the minutes of the Annual General Meeting. See "Annual General Meeting" on the website.</p>
GRI 2-21	Annual total compensation ratio	The compensation for the Board of Directors and Executive Committee is disclosed in the Remuneration Report. See 2022 Annual Report, page 60 – Remuneration Report.
<b>Strategy, policies and practices (2022)</b>		
GRI 2-22	Statement on sustainable development strategy	See editorial «Resiliently forging ahead with a pioneering spirit», page 5.
GRI 2-23	Policy commitments	<p>V-ZUG undertakes to trade in a responsible entrepreneurial manner. Its operational principles are formalized in its Code of Conduct and will also be laid down in the V-ZUG Code of Conduct for Suppliers (to be published in March 2023).</p> <p>Our Code of Conduct calls on us to treat everyone with respect and tolerance. No discrimination whatsoever will be accepted.</p> <p>The amended version contains a stronger commitment to human rights and sets out the principles of good corporate governance as part of our vision, mission and core values.</p> <p>The precautionary principle is enshrined in V-ZUG's ethical principles and management guidelines and is monitored by an integrated management system (quality, environment and occupational safety). Certifications in accordance with ISO 9001, ISO 14001 and ISO 45001 at the Zug site (incl. service centres and V-ZUG Studios in Switzerland) also contribute to the precautionary principle, in the shape of preventive measures within the company's operations. Published documents (accessible via website):</p> <ul style="list-style-type: none"> <li>▪ ISO 9001 certificate (Zug site)</li> <li>▪ ISO 14001 certificate (Zug site)</li> <li>▪ ISO 45001 certificate (Zug site)</li> </ul> <p>The Code of Conduct and the Code of Conduct for Suppliers contain a zero-tolerance stance towards forced labour and child labour.</p> <p>V-ZUG's key mission statements, codes of conduct and principles (see website) are:</p> <ul style="list-style-type: none"> <li>▪ The Code of Conduct of the V-ZUG Group (accessible via website), including guidelines for ethical business decisions.</li> <li>▪ Vision, mission, core values (accessible via website)</li> <li>▪ Principles of collaboration</li> <li>▪ Terms of Employment (TOE)</li> <li>▪ Annex 1 to the TOE (ethical principles)</li> <li>▪ ISO 9001, 14001 and 45001 certificates (including annexes, accessible via website)</li> <li>▪ EU General Data Protection Regulation</li> <li>▪ Swiss Data Protection Act</li> <li>▪ Internal competency model</li> </ul> <p>The Code of Conduct is approved by the President of the V-ZUG Holding Ltd Board of Directors and the CEO of V-ZUG Holding Ltd.</p> <p>The Code of Conduct applies globally for all employees, including members of the Board of Directors and other governance bodies of companies belonging to the V-ZUG Group. The Code of Conduct is available in six languages.</p> <p>New joiners are trained in the Code, and all employees sign it as part of their employment contract. The Code of Conduct is available on the website for business partners and stakeholders to view.</p> <p>The Code of Conduct for Suppliers will form part of supplier agreements. When onboarding new suppliers, we initiate self-assessments beforehand and, where necessary, pre-audits, and we obtain financial information.</p>

Indicator	Description	Comment/reference
GRI 2-24	Embedding policy commitments	<p>It is the job of V-ZUG management to ensure that all employees are familiar with the Code of Conduct, understand it and act accordingly.</p> <p>In future, regular training and e-learning courses will additionally take place for all employees, and compliance audits will be carried out.</p> <p>If the Supplier Code is breached, action plans will be drawn up together with our suppliers. In the case of insufficient progress or repeated breaches of the Code, the partnership will be terminated.</p> <p>Where the standards in the Supplier Code are not adhered to, we will draw up action plans together with our suppliers or, in the case of repeated insufficient progress, terminate the partnership.</p> <p>See also: GRI 2-23.</p>
GRI 2-25	Processes to remediate negative impacts	<p>V-ZUG has an internal process for dealing with grievances, which are handled on a case-by-case basis.</p> <p>In the event of negative impacts, an internal team will draw up further measures (e.g. product safety, emergency and crisis management).</p>
GRI 2-26	Mechanisms for seeking advice and raising concerns	<p>Employees who believe in good faith that certain behaviour violates our Code of Conduct have a duty to report such behaviour to their manager or, ultimately, to the legal department (compliance@vzug.com). Such reports are treated in confidence. Employees who report in good faith a potential violation of the Code of Conduct need have no fear that reporting their suspicions will have negative repercussions for their employment at the company. There is also an external reporting point for serious grievances (bullying, sexual harassment)</p>
GRI 2-27	Compliance with laws and regulations	<p>V-ZUG complies with laws and regulations worldwide. For reasons of confidentiality, no details are published.</p>
GRI 2-28	Membership associations	<p>V-ZUG Ltd is a member of or is represented on the board of the following associations and interest groups:</p> <ul style="list-style-type: none"> <li>▪ SWISSMEM, the Swiss association for mechanical and electrical engineering industries, board member</li> <li>▪ FEA (the Swiss association for household and commercial appliances), board member</li> <li>▪ Küche (the Swiss kitchen association), board member</li> <li>▪ SENS e Recycling, Foundation for recycling electrical and electronic appliances, board of trustees</li> <li>▪ Association for the Decarbonization of Industry</li> <li>▪ öbu – Swiss Business Council for Sustainable Development</li> <li>▪ IG exact (Excellence in Applied Electronics and Technologies)</li> <li>▪ Economiesuisse</li> <li>▪ Electrosuisse – Association for electrical, energy and information technology</li> </ul>



Indicator	Description	Comment/reference
<b>Stakeholder engagement (2022)</b>		
GRI 2-29	Approach to stakeholder engagement	<p>Key stakeholder groups have been defined in dialogue with internal departments. To achieve broad-based support for our materiality process, we consulted 68 representatives of V-ZUG's central stakeholders in an online survey. These included the Board of Directors, Executive Committee, employees, customers, partners, suppliers, banks and investors, along with representatives from politics and academia.</p> <p>The stakeholder groups engaged in the 2021 materiality process were: end customers, sales partners, suppliers, investors and stakeholders from the fields of research, finance and politics. Also internal stakeholders such as employees, management and the Board of Directors. The materiality matrix that resulted from the consultation («Fig. 3: Materiality matrix at V-ZUG», page 20) forms an important basis for reporting.</p> <p>V-ZUG's stakeholders are engaged as follows:</p> <ul style="list-style-type: none"> <li>▪ Customers: Customer surveys, customer contact (around 300 service technicians in field sales and customer service), customer magazine ("ZugerRötel" in the Swiss market, "V-ZUG Inspirations" in international markets), guided tours of the Zug manufacturing facilities. In order to experience the wide variety of product functions, free appliance demonstrations are additionally offered by V-ZUG customer advisors.</li> <li>▪ Employees: Employee survey, "BLUELine" employee magazine, intranet and Yammer (internal social media platform); specialist internal communication unit and various central and local functions (including human resources, legal and compliance, and management)</li> <li>▪ Investors/shareholders: General Meetings of Shareholders, Annual Report, investor roadshows</li> <li>▪ Suppliers: Supplier audits</li> <li>▪ Sales partners: Annual product presentation and various symposiums, Swissbau and other trade fairs (it was not possible to hold many trade fairs in 2021 due to the COVID-19 pandemic; symposiums were held online)</li> <li>▪ Trade unions: Within the context of the collective employment agreement (CEA)</li> <li>▪ Media: Information provided by Corporate Communications &amp; Investor Relations</li> <li>▪ Research and education: Board activities (e.g. on the board of the MINERGIE association), lecturing activities by senior executives, participation in working groups with educational institutions, advisory board of the WERZ institute for knowledge, energy and raw materials in Zug.</li> </ul>
GRI 2-30	Collective bargaining agreements	<p>All employees at the Zug site in Switzerland are subject to the collective employment agreement (CEA) of the Association of Swiss Engineering Employers (ASM). The current CEA was revised as scheduled on 1 July 2018 and is valid for five years, until 30 June 2023. The employees' associations Angestellte Schweiz, Unia, Syna, Swiss Association of Commercial Employees, Schweizer Kader Organisation (SKO) and the employers' association ASM are involved as negotiation partners.</p> <p>It is important for V-ZUG that employees are able to represent their interests and participate in the company's development. According to the CEA, the employee representative body represents the interests of the workforce to HR and the Executive Committee, and works to ensure the CEA provisions are adhered to. It also seeks to promote trusting collaboration between the Executive Committee and employees, helps to create attractive working conditions and acts as a contact and advisory point for differences of opinion. The members of the employee representative body are elected in predefined electoral groups by all employees.</p> <p>The Sulgen site (V-ZUG Cooling Technology) and the Changzhou site in China are not subject to a collective bargaining agreement. V-ZUG Cooling Technology is a separate legal entity, and employment contracts are subject to the individual employment contract (EAV) and the Swiss Code of Obligations. Employment contracts in Changzhou are concluded in line with V-ZUG employment guidelines and in accordance with human rights conventions.</p>

## Specific details

Aspect	Indicator	Description	Comment/reference																												
<b>Key issues</b>																															
<b>GRI 3 (2022)</b>																															
GRI 3-1		Process to determine material topics	<p>In the reporting year, we refined our sustainability priorities. As a first step, the Sustainability Workforce revised the list of potentially relevant sustainability topics. We then combined these 11 topics into four priority areas, and consolidated them to form groundbreaking focus topics. These provide the structure for our reporting. To achieve broad-based support for our materiality process, we consulted 68 representatives of V-ZUG's central stakeholders in an online survey. These included the Board of Directors, the Executive Committee, staff, customers, partners, suppliers, banks, investors and also representatives from politics and academia. The results were subsequently discussed and finalized with selected members of the Executive Committee and the Board of Directors. Here, too, we based our deliberations on the findings of our life cycle and CO<sub>2</sub> assessments. We then drew up an appropriate materiality matrix (see «Fig. 3: Materiality matrix at V-ZUG», page 20).</p> <p>See «Company profile», page 8 and «Key issues: Framing and impact», page 79.</p>																												
GRI 3-2		List of material topics	See «Company profile», page 8.																												
<b>Products and services for a future-fit society</b>																															
<b>Circular product design</b>																															
GRI 3-3		Management of material topics	See «Products and services for a future-fit society», page 23, «Environment and climate protection», page 50 and «Key issues: Framing and impact», page 79.																												
GRI 301 Materials (2016)	GRI 301-1	Materials used by weight or volume	<p>Materials used by type (in tonnes):</p> <table border="1"> <thead> <tr> <th>Type of material</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Iron</td> <td>6884</td> <td>7426</td> <td>8031</td> </tr> <tr> <td>Stainless steel</td> <td>1537</td> <td>1755</td> <td>1711</td> </tr> <tr> <td>Aluminium</td> <td>196</td> <td>229</td> <td>148</td> </tr> <tr> <td>Non-ferrous metal</td> <td>87</td> <td>84</td> <td>80</td> </tr> <tr> <td>Oils, fats, lubricants</td> <td>24</td> <td>21</td> <td>16</td> </tr> <tr> <td>Hazardous substances</td> <td>837</td> <td>675</td> <td>640</td> </tr> </tbody> </table>	Type of material	2020	2021	2022	Iron	6884	7426	8031	Stainless steel	1537	1755	1711	Aluminium	196	229	148	Non-ferrous metal	87	84	80	Oils, fats, lubricants	24	21	16	Hazardous substances	837	675	640
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Aspect	Indicator	Description	Comment/reference																																																											
GRI 306 Waste (2020)	GRI 306-1	Waste generation and significant waste-related impacts	<p>See «Products and services for a future-fit society», page 23, «Environment and climate protection», page 50 and website.</p> <p>Published documents (accessible via website):</p> <ul style="list-style-type: none"> <li>Environmental policy (Zug site)</li> </ul> <p>Examples of relevant internal documents:</p> <ul style="list-style-type: none"> <li>Hazardous goods checklist</li> </ul>																																																											
	GRI 306-2	Management of significant waste-related impacts	See «Products and services for a future-fit society», page 23, «Environment and climate protection», page 50 and website.																																																											
	GRI 306-3	Waste generated	<p>Waste by type (in tonnes):</p> <table border="1"> <thead> <tr> <th>Type of waste</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Waste wood</td> <td>600.3</td> <td>688.4</td> <td>738</td> </tr> <tr> <td>Bulky industrial/commercial items</td> <td>216.0</td> <td>236.7</td> <td>230</td> </tr> <tr> <td>Plastics</td> <td>53.3</td> <td>45.3</td> <td>166</td> </tr> <tr> <td>Scrap metal</td> <td>1624.9</td> <td>1866.6</td> <td>1892</td> </tr> <tr> <td>Paper/cardboard</td> <td>505.3</td> <td>528.9</td> <td>668</td> </tr> <tr> <td>Oils, fats, lubricants</td> <td>9.0</td> <td>14.0</td> <td>3.6</td> </tr> <tr> <td>Special waste</td> <td>13.0</td> <td>28.0</td> <td>19.6</td> </tr> <tr> <td>Returned household appliances*</td> <td>1086.3</td> <td>1304.8</td> <td>923.9</td> </tr> <tr> <td>Other (old tyres, electrical waste, green waste)</td> <td>26.6</td> <td>26.2</td> <td>24.3</td> </tr> </tbody> </table> <p>*This figure corresponds to the number of household appliances that customers returned to V-ZUG via its own service organization. In the Swiss market (in 2022, approx. 85% of V-ZUG appliances sold were sold in the Swiss market) virtually 100% of the household appliances in circulation are returned for professional disposal (the collection rate is almost 100%). Details regarding the collection rate and also the recycling rate are published each year in the annual report of the SENS Foundation (tasked by manufacturers to organize the return and professional recycling of electrical appliances). V-ZUG plays an active role in the SENS Foundation, and CEO Peter Spirig sits on the Foundation's Board of Trustees.</p> <p>Waste by disposal type:</p> <table border="1"> <thead> <tr> <th>Type of disposal</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Recycled</td> <td>79.7%</td> <td>79.6%</td> <td>78.6%</td> </tr> <tr> <td>Composted</td> <td>0.2%</td> <td>0.3%</td> <td>0.2%</td> </tr> <tr> <td>Incinerated</td> <td>19.7%</td> <td>19.5%</td> <td>20.7%</td> </tr> <tr> <td>Special waste</td> <td>0.3%</td> <td>0.6%</td> <td>0.5%</td> </tr> </tbody> </table> <p>Scrap metal and returned household appliances are recycled and waste wood is incinerated. Hazardous waste (oils, fats, lubricants and other special waste) makes up a small proportion of the waste generated, and is disposed of or recycled separately.</p>	Type of waste	2020	2021	2022	Waste wood	600.3	688.4	738	Bulky industrial/commercial items	216.0	236.7	230	Plastics	53.3	45.3	166	Scrap metal	1624.9	1866.6	1892	Paper/cardboard	505.3	528.9	668	Oils, fats, lubricants	9.0	14.0	3.6	Special waste	13.0	28.0	19.6	Returned household appliances*	1086.3	1304.8	923.9	Other (old tyres, electrical waste, green waste)	26.6	26.2	24.3	Type of disposal	2020	2021	2022	Recycled	79.7%	79.6%	78.6%	Composted	0.2%	0.3%	0.2%	Incinerated	19.7%	19.5%	20.7%	Special waste	0.3%	0.6%
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Aspect	Indicator	Description	Comment/reference												
	GRI 306-4	Waste diverted from disposal	<p>Waste by disposal type in tonnes:</p> <table border="1"> <thead> <tr> <th>Type of disposal</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Recycled</td> <td>3297</td> <td>3770.3</td> <td>3666.8</td> </tr> <tr> <td>Composted</td> <td>8.0</td> <td>15.1</td> <td>11.0</td> </tr> </tbody> </table> <p>Main recycling partner for returned appliances: Thommen Recycling, ISO 14001-certified.</p> <p>We do not export any waste.</p>	Type of disposal	2020	2021	2022	Recycled	3297	3770.3	3666.8	Composted	8.0	15.1	11.0
Type of disposal	2020	2021	2022												
Recycled	3297	3770.3	3666.8												
Composted	8.0	15.1	11.0												
	GRI 306-5	Waste directed to disposal	<p>Waste by disposal type in tonnes:</p> <table border="1"> <thead> <tr> <th>Type of disposal</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Incinerated</td> <td>816.1</td> <td>925.2</td> <td>968</td> </tr> <tr> <td>Special waste</td> <td>13.0</td> <td>28.0</td> <td>19.6</td> </tr> </tbody> </table> <p>We do not dispose of any waste in landfill sites.</p>	Type of disposal	2020	2021	2022	Incinerated	816.1	925.2	968	Special waste	13.0	28.0	19.6
Type of disposal	2020	2021	2022												
Incinerated	816.1	925.2	968												
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<b>Sustainable consumption and healthy nutrition</b>															
GRI 3-3		Management of material topics	See «Products and services for a future-fit society», page 23, «Entrepreneurship for sustainable prosperity», page 66 and «Key issues: Framing and impact», page 79.												
GRI 416 Customer health and safety (2016)	GRI 416-1	Assessment of the health and safety impacts of product and service categories	<p>All operating instructions for our appliances contain information on safe use, proper disposal of packaging materials and of the appliance, as well as tips for saving energy (and water, in the case of washing machines). Our appliances meet the IEC 60335-1 standard (Safety of electrical appliances for household use). Furthermore, our appliances satisfy the EU's RoHS and the WEEE directives. For the WEEE directive, this means in particular that all V-ZUG appliances are labelled according to the standard and the operating instructions contain information about proper disposal.</p> <p>In addition, in the installation instructions for the appliances, which are aimed directly at installation professionals, we describe what needs to be taken into account when installing our appliances for them to function as well as possible, with maximum energy efficiency.</p>												
	GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No incidents												

Aspect	Indicator	Description	Comment/reference																				
<b>Healthy and committed employees</b>																							
<b>Health and safety of employees</b>																							
GRI 3-3		Management of material topics	<p>See «Healthy and committed employees», page 36 and «Key issues: Framing and impact», page 79.</p> <p>The health and safety at work policy forms part of the management process and supports the V-ZUG organization and its strategy. Numerous processes and specification documents are held in the internal management system. Safety management conforms with legal requirements and meets the guidelines published by the Federal Commission for Occupational Safety and also the ISO 45001 standard (Zug site). The organization actively seeks not only to meet the minimum legal requirements, but also to get employees to participate actively by involving them in work processes and promptly implementing suggestions for improvements. Internal occupational safety experts and the in-house paramedic (at the Zug site) are available to advise employees in all matters regarding health, the prevention of occupational accidents, occupational illnesses and leisure accidents. Training and campaigns are intended to motivate managers and staff to incorporate occupational health and safety into their everyday activities.</p> <p>Published documents (accessible via website):</p> <ul style="list-style-type: none"> <li>▪ ISO 45001 certificate (Zug site)</li> <li>▪ Policy on health and safety at work (Zug site)</li> </ul> <p>Examples of relevant internal documents:</p> <ul style="list-style-type: none"> <li>▪ Emergency response strategy</li> <li>▪ Safety patrol.AA</li> <li>▪ Procedure for determining hazards.AA</li> </ul>																				
GRI 403 Occupational health and safety (2018)	GRI 403-9, 403-10	Work-related accidents, illnesses and lost days	<p>For accidents, we make a distinction between significant occupational accidents, minor occupational accidents and non-occupational accidents. No such distinction is made for illnesses when recording statistics.</p> <p>Lost hours by cause:</p> <table border="1"> <thead> <tr> <th>Cause</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Illness</td> <td>100,784</td> <td>109,410</td> <td>138,088</td> </tr> <tr> <td>occupational accident</td> <td>6,877</td> <td>9,619</td> <td>6,922</td> </tr> <tr> <td>non-occupational accident</td> <td>13,234</td> <td>13,837</td> <td>13,388</td> </tr> <tr> <td>Total</td> <td>120,895</td> <td>132,866</td> <td>158,398</td> </tr> </tbody> </table> <p>See «Targets, facts and figures», page 41 in "Healthy and committed employees"</p>	Cause	2020	2021	2022	Illness	100,784	109,410	138,088	occupational accident	6,877	9,619	6,922	non-occupational accident	13,234	13,837	13,388	Total	120,895	132,866	158,398
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Aspect	Indicator	Description	Comment/reference																		
<b>Developing potential and know-how management</b>																					
GRI 3-3		Management of material topics	See «Targets, facts and figures», page 41 and «Key issues: Framing and impact», page 79.																		
GRI 401 Employment (2016)	GRI 401-1	Total number and rate of newly hired employees and staff turnover	<p>Number of newly hired employees:</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>246</td> <td>258</td> <td>280</td> </tr> </tbody> </table> <p>Rate of newly hired employees:</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>14.2%</td> <td>14.7%</td> <td>15.1%</td> </tr> </tbody> </table> <p>Staff turnover:</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>11.2%</td> <td>12.5%</td> <td>10.9%</td> </tr> </tbody> </table>	2020	2021	2022	246	258	280	2020	2021	2022	14.2%	14.7%	15.1%	2020	2021	2022	11.2%	12.5%	10.9%
2020	2021	2022																			
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11.2%	12.5%	10.9%																			
GRI 404 Training and education	GRI 404-2	Programmes for upgrading employee skills and transition assistance programmes	<p>As a means of enhancing employability, professional development is in the interests, and is the responsibility, of both V-ZUG and its employees. With the three-tier competency model and "V-ZUGconnect", V-ZUG specifically supports the promotion of individual talents and a culture of lifelong learning. Employees have the right, on request, to be released from their work for professional development within or outside the company, provided certain conditions are met. V-ZUG will pay all or part of the costs of the further training on request.</p> <p>For more information, see «Healthy and committed employees», page 36.</p>																		
<b>Diverse and inclusive working culture</b>																					
GRI 3-3		Management of material topics	<p>See «Healthy and committed employees», page 36, and «Key issues: Framing and impact», page 79 and website.</p> <p>V-ZUG regularly conducts an equal pay analysis with the help of external experts.</p> <p>Examples of relevant internal documents: Working time regulations</p>																		

Aspect	Indicator	Description	Comment/reference																																																												
GRI 405 Diversity and equal opportunity (2016)	GRI 405-1	Percentage of people in governance bodies and among employees, by gender and age group	<p>Employees by gender and hierarchical level: (including Board of Directors)</p> <table border="1"> <thead> <tr> <th>Gender</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Women on the Board of Directors</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Men on the Board of Directors</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Women on the Executive Committee</td> <td>1</td> <td>2</td> <td>2</td> </tr> <tr> <td>Men on the Executive Committee</td> <td>7</td> <td>6</td> <td>6</td> </tr> <tr> <td>Female managers*</td> <td>104</td> <td>107</td> <td>111*</td> </tr> <tr> <td>Male managers*</td> <td>413</td> <td>408</td> <td>432*</td> </tr> <tr> <td>Female employees</td> <td>274</td> <td>273</td> <td>290</td> </tr> <tr> <td>Male employees</td> <td>933</td> <td>965</td> <td>1006</td> </tr> <tr> <td><b>Total women</b></td> <td><b>382</b></td> <td><b>385</b></td> <td><b>406</b></td> </tr> <tr> <td><b>Total men</b></td> <td><b>1356</b></td> <td><b>1382</b></td> <td><b>1447</b></td> </tr> </tbody> </table> <p>*2022: Changes to management categorization</p> <p>Employees by age (excl. Board of Directors):</p> <table border="1"> <thead> <tr> <th>Age group</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Under 30</td> <td>313</td> <td>308</td> <td>334</td> </tr> <tr> <td>30 – 50</td> <td>863</td> <td>907</td> <td>953</td> </tr> <tr> <td>Over 50</td> <td>556</td> <td>546</td> <td>560</td> </tr> </tbody> </table> <p>See «Healthy and committed employees», page 36, and "Corporate Governance", 2022 Annual Report, for detailed information on members of the Board of Directors and Executive Committee (including ages).</p>	Gender	2020	2021	2022	Women on the Board of Directors	3	3	3	Men on the Board of Directors	3	3	3	Women on the Executive Committee	1	2	2	Men on the Executive Committee	7	6	6	Female managers*	104	107	111*	Male managers*	413	408	432*	Female employees	274	273	290	Male employees	933	965	1006	<b>Total women</b>	<b>382</b>	<b>385</b>	<b>406</b>	<b>Total men</b>	<b>1356</b>	<b>1382</b>	<b>1447</b>	Age group	2020	2021	2022	Under 30	313	308	334	30 – 50	863	907	953	Over 50	556	546	560
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## Environment and climate protection

### Resource-efficient operations

GRI 3-3		Management of material topics	<p>See «Products and services for a future-fit society», page 23, «Environment and climate protection», page 50 and «Key issues: Framing and impact», page 79.</p> <p>Published documents (accessible via website):</p> <ul style="list-style-type: none"> <li>ISO 14001 certificate (Zug site)</li> <li>Environmental policy (Zug site)</li> </ul> <p>Examples of relevant internal documents:</p> <ul style="list-style-type: none"> <li>Hazardous substances storage</li> <li>Dealing with hazardous substances</li> </ul>						
GRI 302 Energy (2016)	GRI 302-1	Energy consumption within the organization	<p>Absolute energy consumption in terajoules:</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>113.2</td> <td>114.0</td> <td>108.0</td> </tr> </tbody> </table> <p>See «Targets, facts and figures», page 56 in "Environment and climate protection".</p>	2020	2021	2022	113.2	114.0	108.0
2020	2021	2022							
113.2	114.0	108.0							
	GRI 302-2	Energy intensity	See «Targets, facts and figures», page 56 in "Environment and climate protection".						

Aspect	Indicator	Description	Comment/reference																								
GRI 303 Water and effluents (2018)	GRI 303-3	Water withdrawal	<p>Water withdrawal by site in megalitres:</p> <table border="1"> <thead> <tr> <th></th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Zug</td> <td>26.9</td> <td>29.3</td> <td>29.3</td> </tr> <tr> <td>Arbon</td> <td>19.1</td> <td>19.5</td> <td>2.3</td> </tr> <tr> <td>Sulgen</td> <td>-</td> <td>0.4</td> <td>1.2</td> </tr> <tr> <td>Changzhou</td> <td>0.5</td> <td>0.4</td> <td>0.4</td> </tr> <tr> <td>Total</td> <td>46.5</td> <td>49.6</td> <td>33.2</td> </tr> </tbody> </table> <p>The water withdrawn is equivalent to the water fed back.</p>		2020	2021	2022	Zug	26.9	29.3	29.3	Arbon	19.1	19.5	2.3	Sulgen	-	0.4	1.2	Changzhou	0.5	0.4	0.4	Total	46.5	49.6	33.2
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### Logistics and mobility

GRI 3-3		Management of material topics	<p>See «Environment and climate protection», page 50 and «Key issues: Framing and impact», page 79.</p> <p>The CO<sub>2</sub> assessments in Scope 1 and 2, and also the statement regarding carbon neutrality at production sites, were externally validated by Swiss Climate (see Assurance Statement: Carbon Footprint and Compensation Measures).</p>																												
GRI 305 Emissions (2016)	GRI 305-1	Direct GHG emissions (Scope 1)	<p>For Scope 1, the following emissions were taken into account:</p> <p>Direct emissions of greenhouse gases from sources that are owned or controlled by V-ZUG.</p> <p>Emissions in tonnes of CO<sub>2</sub> equivalent (Scope 1):</p> <table border="1"> <thead> <tr> <th></th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Petrol</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Diesel</td> <td>1810</td> <td>1770</td> <td>1711</td> </tr> <tr> <td>Heating oil</td> <td>528</td> <td>560</td> <td>29</td> </tr> <tr> <td>Natural gas</td> <td>1829</td> <td>1763*</td> <td>1668</td> </tr> <tr> <td>Propane gas</td> <td>0</td> <td>0</td> <td>56</td> </tr> <tr> <td>Total Scope 1</td> <td>4169</td> <td>4096*</td> <td>3467</td> </tr> </tbody> </table> <p>*Amendment to 2021 natural gas figure – changed from upper calorific value to lower calorific value.</p> <p>See «Targets, facts and figures», page 56, and explanation of «Scope 3 emissions: data-based reduction», page 60 in "Environment and climate protection".</p>		2020	2021	2022	Petrol	2	2	2	Diesel	1810	1770	1711	Heating oil	528	560	29	Natural gas	1829	1763*	1668	Propane gas	0	0	56	Total Scope 1	4169	4096*	3467
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Aspect	Indicator	Description	Comment/reference																												
	GRI 305-2	Indirect energy-related GHG emissions (Scope 2)	<p>For Scope 2, the following emissions were taken into account:</p> <ul style="list-style-type: none"> <li>Indirect greenhouse gas emissions resulting from the generation of purchased electricity at the headquarters in Zug (V-ZUG Ltd) and the sites at Arbon / Sulgen (V-ZUG Cooling Technology Ltd) and Changzhou (V-ZUG (Changzhou) Special Components Co. Ltd.). This corresponds to the reported electricity consumption.</li> <li>Low-emission Swiss hydroelectric power is used at Zug and Sulgen. At Arbon, V-ZUG obtains low-emission power from nuclear sources (the Arbon site closed down part way through 2022).</li> </ul> <p>Emissions in tonnes of CO<sub>2</sub> equivalent (Scope 2, market-based):</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>280</td> <td>244</td> <td>225</td> </tr> </tbody> </table> <p>Emissions in tonnes of CO<sub>2</sub> equivalent (Scope 2, location-based):</p> <table border="1"> <thead> <tr> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>1491</td> <td>1551</td> <td>1625</td> </tr> </tbody> </table> <p>See «Targets, facts and figures», page 56, and explanation of «Scope 3 emissions: data-based reduction», page 60 in "Environment and climate protection".</p> <p>Supplementary note:</p> <p>For the Zug production site and also, since 2022, at the Sulgen production site, 100% hydropower has for many years been purchased (Swiss-sourced in 2022) in order to support the expansion of renewable energy. The CO<sub>2</sub> emissions are declared accordingly by certified source (market-based, in accordance with the reporting regulations of the Greenhouse Gas Protocol).</p> <p>For reasons of comparability, the emissions of the power used (location-based) are also shown. This comparison is helpful in discussions regarding the known discrepancy between the power that is purchased and that which is actually used.</p>	2020	2021	2022	280	244	225	2020	2021	2022	1491	1551	1625																
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	GRI 305-3	Other indirect GHG emissions (Scope 3)	<p>Screening emissions in tonnes of CO<sub>2</sub> (Scope 3):</p> <table border="1"> <thead> <tr> <th></th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Purchased goods and services (1)</td> <td>94,644 (19.7%)</td> <td>121,783 (26.6%)</td> <td>108,675 (24.5%)</td> </tr> <tr> <td>Capital goods (2)</td> <td>19,847 (4.1%)</td> <td>15,895 (3.5%)</td> <td>12,700 (2.9%)</td> </tr> <tr> <td>Fuel and energy-related emissions (not included in Scope 1 or 2) (3)</td> <td>989 (0.2%)</td> <td>1,593 (0.3%)</td> <td>1,050 (0.2%)</td> </tr> <tr> <td>Upstream transportation and distribution (4)</td> <td>2,109 (0.4%)</td> <td>4,148 (0.9%)</td> <td>4,434 (1.0%)</td> </tr> <tr> <td>Waste (5)</td> <td>880 (0.2%)</td> <td>1,048 (0.2%)</td> <td>812 (0.2%)</td> </tr> <tr> <td>Business travel (6)</td> <td>791 (0.2%)</td> <td>871 (0.2%)</td> <td>899 (0.2%)</td> </tr> </tbody> </table>		2020	2021	2022	Purchased goods and services (1)	94,644 (19.7%)	121,783 (26.6%)	108,675 (24.5%)	Capital goods (2)	19,847 (4.1%)	15,895 (3.5%)	12,700 (2.9%)	Fuel and energy-related emissions (not included in Scope 1 or 2) (3)	989 (0.2%)	1,593 (0.3%)	1,050 (0.2%)	Upstream transportation and distribution (4)	2,109 (0.4%)	4,148 (0.9%)	4,434 (1.0%)	Waste (5)	880 (0.2%)	1,048 (0.2%)	812 (0.2%)	Business travel (6)	791 (0.2%)	871 (0.2%)	899 (0.2%)
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Aspect	Indicator	Description	Comment/reference		
		Employee commuting (7)	1,227 (0.3%)	1,273 (0.3%)	1,375 (0.3%)
		Upstream leased assets (8)	1,252 (0.3%)	1,186 (0.3%)	1,623 (0.4%)
		Use of sold products (11)	349,828 (73%)	300,833 (65.8%)	304,048 (68.5%)
		End-of-life treatment of sold products (12)	7,682 (1.6%)	8,276 (1.8%)	8,351 (1.9%)
		Downstream leased assets (13)	92 (0.0%)	87 (0.0%)	91 (0.0%)
		Total Scope 3	479,343	456,995	444,058
		Change to 2020 base	(0%)	(-4.7%)	(-7.4%)

The categories "Downstream transportation and distribution" (9), "Processing of sold products" (10), "Franchises" (14) and "Investments" (15) were not recorded because they are of minimal relevance in our context.

## Entrepreneurship for sustainable prosperity

### Responsible and resilient supply chain

GRI 3-3		Management of material topics	<p>See «Company profile», page 8, «Entrepreneurship for sustainable prosperity», page 66, and «Key issues: Framing and impact», page 79</p> <p>Published documents (accessible via website):</p> <ul style="list-style-type: none"> <li>▪ Environmental policy (Zug site)</li> </ul> <p>Examples of relevant internal documents:</p> <ul style="list-style-type: none"> <li>▪ V-ZUG Group Code of Conduct</li> <li>▪ Supplier audit questionnaire</li> <li>▪ Supplier contract</li> </ul>		
GRI 204 Procurement practices (2016)	GRI 204-1	Proportion of spending on local suppliers	<p>Around 60 percent of our suppliers are based in Switzerland, and another 30 percent or so are located in nearby European countries. We obtain most of our electronics components from highly specialized markets in Asia.</p>		
GRI 308 Supplier environmental assessment (2016)	GRI 308-2a	Number of suppliers assessed for environmental impact	<p>See «Targets, facts and figures», page 71 in "Entrepreneurship for sustainable prosperity".</p>		
GRI 414 Supplier social assessment (2016)	GRI 414-2a	Number of suppliers assessed for social impact	<p>See «Targets, facts and figures», page 71 in "Entrepreneurship for sustainable prosperity".</p>		



Aspect	Indicator	Description	Comment/reference
<b>Long-term corporate success as added value for society</b>			
GRI 3-3		Management of material topics	See «Company profile», page 8, «Entrepreneurship for sustainable prosperity», page 66, «Key issues: Framing and impact», page 79 and on the website.
GRI 201 Economic performance (2016)	GRI 201-1	Direct economic value generated and distributed	See "Financial report", 2022 Annual Report.
GRI 203 Indirect economic impacts (2016)	GRI 203-1	Infrastructure investments and services supported	V-ZUG invests via various projects and partnerships in its production facilities and a sustainable, integrated infrastructure, particularly at its main site in Zug (see Tech Cluster Zug) and with the new building for V-ZUG Cooling Technology Ltd in Sulgen.  See «Environment and climate protection», page 50, «Entrepreneurship for sustainable prosperity», page 66 and "Real Estate" segment report, 2022 Annual Report.
<b>Business ethics and compliance</b>			
GRI 3-3		Management of material topics	See «Entrepreneurship for sustainable prosperity», page 66 and «Key issues: Framing and impact», page 79. For embedding policy commitments, see "GRI 2-23" and "GRI 2-24".
GRI 419 Socio-economic compliance (2016)	GRI 419-1	Non-compliance with laws and regulations in the social and economic area	V-ZUG complies with laws and regulations worldwide. For reasons of confidentiality, no details are published.

