Combined Management Report

Group Fundamentals

GROUP STRUCTURE

Company structure and shareholdings

As the publicly listed parent company of the MVV Group, MVV Energie AG, which has its legal domicile in Mannheim, directly or indirectly owns shares in the company which form part of the Group and also has its own operations. Including MVV Energie AG, the MVV Group comprises 131 fully consolidated companies and 32 companies which are consolidated via the equity method (at-equity companies). Our group of companies has its largest locations in Mannheim, Kiel, Offenbach and Wörrstadt in Germany. We are also present in around 20 other countries, of which the United Kingdom and the Czech Republic are the most important.

Organisational structure

We manage MVV in five segments on which we also base our external reporting:

The **Customer Solutions** reporting segment comprises the business fields of Retail, Business and Commodities.

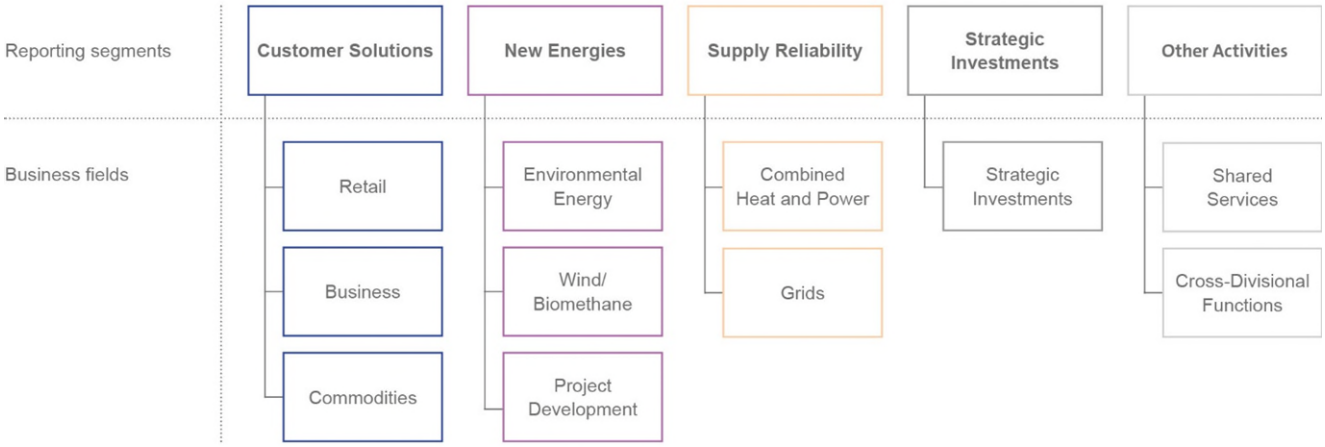
The Environmental Energy, Wind/Biomethane and Project Development business fields are allocated to the **New Energies** reporting segment.

The **Supply Reliability** reporting segment includes the Combined Heat and Power and the Grids business fields.

The **Strategic Investments** reporting segment mainly consists of Köthen Energie and MVV Energie CZ and also includes the at-equity result of Stadtwerke Ingolstadt.

Our shared-service companies and cross-divisional functions are pooled in the **Other Activities** reporting segment. The shared-service companies perform services such as metering, billing, IT and customer service for MVV.

REPORTING SEGMENTS AND BUSINESS FIELDS



BUSINESS MODEL

We cover all key stages of the energy industry value chain and, based on calculations compiled by the Association of the German Energy and Water Industries (BDEW), are one of Germany's leading energy companies. We generate and trade with energy, distribute energy via proprietary grid companies, market energy solutions to various customer groups and operate in the environmental energy business. We also have water production and distribution activities. We have a special focus on renewable energies. Here, we are active in the fields of project development for wind turbines and photovoltaics systems and operations management for windfarms and solar parks, as well as for biomass plants. Furthermore, we also have these kinds of plant in our own generation portfolio and market electricity from these plants and on behalf of third parties, also via power purchase agreements (PPAs) and power sale agreements (PSAs).

Customer Solutions segment

The Customer Solutions reporting segment includes the energy and water retail and wholesale businesses. Here, we aim to provide our customers with energy from environmentally-friendly generation. That is why we have a broad range of products and services meeting ecological standards – from renewable energies through to environmentally-friendly district heat – that we offer to our retail and business customers. This also includes the portfolio of solutions we offer to enable customers to generate their own electricity from photovoltaics and power their own e-mobility. In addition, e-mobility is an integral component of our activities in Smart Cities, where we act as a system partner to local authorities and offer networked solutions for towns and cities. Our range of solutions for business customers focuses on projects and measures to enhance efficiency and optimise energy use at industrial, retail and real estate customers. The Customer Solutions segment also includes the commodities, service and trading business at MVV Trading, where we pool energy procurement, energy product trading, marketing electricity from renewable generation, also in PPA/PSA models, and portfolio management for our group of companies. We also offer all these services to third-party customers on the market. Moreover, our trading subsidiary is also responsible for the renewable energies direct marketing business.

New Energies segment

In the New Energies reporting segment we on the one hand pool our competence in making ecological use of waste and biomass. We draw on this expertise not only at our plants in Mannheim, Offenbach, Leuna, Königs Wusterhausen and Flörsheim-Wicker, but also in the United Kingdom, where we operate an energy from waste plant with heat extraction in Plymouth, a biomass power plant with CHP capability at Ridham Dock and an energy from waste plant in the Scottish city of Dundee. In Germany, we also have biogas and biomethane plants, including bio-waste anaerobic digestion. On the other hand, the New Energies segment also contains our proprietary wind turbines and photovoltaics systems, as well as our national and international project development business. The focus in the international business is on photovoltaics, while in Germany onshore wind power is an additional focal point. Furthermore, we act as operations managers for windfarms and solar parks and develop hybrid projects in which, depending on requirements, we supplement various energy systems such as photovoltaics or wind turbines with storage units and manage these using smart measurement and control technology.

Supply Reliability segment

The Supply Reliability reporting segment includes our generation portfolio for conventional energies with CHP. These include our gas-fired CHP plant in Kiel, our CHP plant in Offenbach and our minority shareholding in the power plant Grosskraftwerk Mannheim AG. High-performing grids are crucial to guarantee a reliable supply of energy and water and to implement the energy transition. For this reason, this segment also includes the grid business at our distribution grid operators in Mannheim, Kiel and Offenbach. All in all, within the MVV Group we operate electricity, district heat, gas and water grids with a total length of around 19,300 kilometres.

CORPORATE STRATEGY

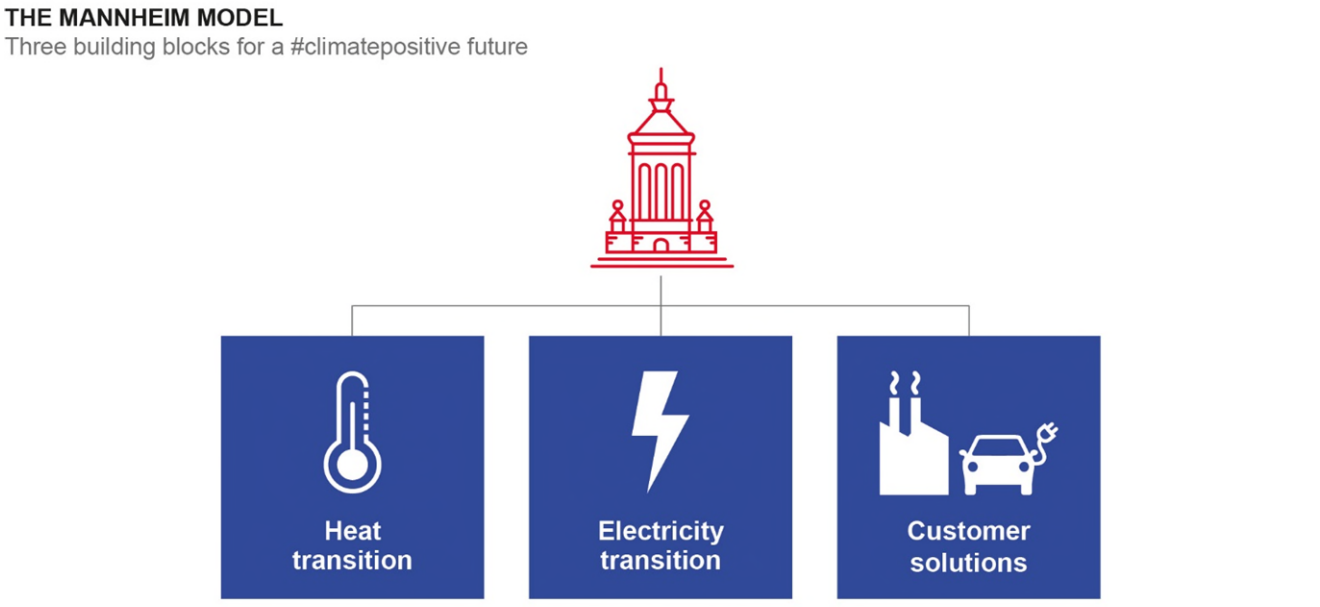
Sustainability is firmly anchored in our strategy
Sustainability is at the heart of our strategy. By 2030, we will reduce our direct CO_2 emissions by more than 80 %. We will be climate neutral by 2040 and climate positive at the latest from then onwards. In our communications, we summarise this approach with the hashtag #climatepositive. Put simply, our future is #climatepositive. That is the goal which our employees, who total more than 6,500, work each day to achieve. We are consistently pursuing our strategic sustainability targets: doubling our electricity generation from renewable energies, achieving capacities of 10 GW in our renewable energies project development, investing more than Euro 3 billion by 2026, implementing the energy transition for our customers and complying with the agreed climate targets. The section Environmental Concerns Aspect in the chapter Combined Non-Financial Declaration provides further information about our activities in these areas. We are implementing these targets by investing in green heat, stepping up our expansion of renewable energies, smartly extending our grid infrastructure and continually assessing the efficiency potential of our processes. Implementing the energy transition – tangibly and on location – is what distinguishes MVV from its competitors and enables us to generate sustainable and profitable growth.

The knock-on effects of the war in Ukraine mark a turning point towards greater independence and resilience in the energy system in Germany and Europe. You can find further information in the chapter Business Framework. Safeguarding the supply has become more important than ever and has top priority for MVV as well. In this dynamic environment, we remain emphatically committed to our climate targets. We will offset the temporary increase in our CO_2 emissions now required by stepping up our efforts to cut emissions in the medium term. This way, we will remain on the 1.5-degree trajectory. Extensive information about this can be found in the chapter Combined Non-Financial Declaration.

By consistently aligning our strategy towards sustainability, we laid the right foundations many years ago already. We are well prepared and can therefore further step up our activities and press rapidly ahead with implementation.

Our Mannheim Model provides the blueprint
The Mannheim Model sets out MVV's course as it heads for #climatepositive, a goal which Kiel and Offenbach are also working towards. Based on an 8-point programme with clear milestones, Stadtwerke Kiel is pursuing its "Climate Neutrality Course". Energieversorgung Offenbach has clearly formulated its aim of achieving climate neutrality by 2040 in connection with the company's 175th anniversary and is currently elaborating this goal in greater detail.

The Mannheim Model – our path to the future



We are pressing ahead with the heat transition
Our customers are crucial to implementing the heat transition. All customers at our locations are able to convert their heat supply to climate-compatible alternatives. To this end, by 2040 we will expand our district heat grids and increase their density, transform gas grids, remove parallel grid structures and strengthen electricity grids to meet growing demand, especially from heat pumps and e-mobility. Particularly in Mannheim, we are accelerating our measures to increase the density of district heat and, in select areas, are reviewing the option of withdrawing from gas in order to remove duplicate infrastructures. Mannheim's connection to the European hydrogen transport infrastructure is also planned for 2030. In this context, we are reviewing options for using hydrogen and of converting natural gas grids to hydrogen and green gases, particularly for industrial customers.

We are stepping up sales of heat pumps and decentralised solutions in order to tap market potential and support our customers in implementing their own heat transitions. Here, we aim to extend our value chain by forming partnerships with heat pump manufacturers and tradespeople. We also plan to increase the depth of service provision in the grids business. This is intended, among other aspects, to safeguard implementation of the heat transition while at the same time boosting our services business and providing bespoke solutions for our customers.

We have clear ideas as to how we intend to convert our district heat generation portfolio in Mannheim, Kiel and Offenbach, but also remain open to adjustments. We will further develop green heat generation in Mannheim by, among other measures, building one of Europe's largest river heat pumps, connecting our biomass CHP plant, using additional waste heat from waste incineration and drawing on heat from deep geothermal energy. At the same time, we are continually reviewing further alternatives: green heat from electrode boilers (power-to-heat), biomethane-powered combined heat and power generation, further large-scale heat pumps and industrial waste heat.

We are implementing the electricity transition
We are expanding our generation capacities from renewable energies to 800 MW by 2026, particularly by adding onshore wind turbines and photovoltaics capacities. Together with partners, we are investing in renewable energies and, thanks to joint ventures with Stadtwerke Kiel, can accelerate the expansion in renewable energies in Schleswig-Holstein. We pooled our project development capacities in the 2022 financial year. The international project development business is being stabilised and the domestic business expanded. In this, we are actively participating in innovation tenders and making increasing use of power purchase agreements (PPAs). In our pilot project in Stassfurt, we will work together with regional partners to produce hydrogen from wind power and then make this available for regional use in rural areas.

We are partners to our customers
We aim to inspire our customers with the standard of our customer service and our portfolio of products and services, to convince them and to achieve high levels of customer satisfaction. We therefore intend to make our customers the focus of all our employees' activities even more closely than to date. To this end, we have initiated the "Create a Wow!" customer satisfaction programme.

We also intend to offer solutions to all customers to support them in implementing their own energy transitions. Here, electrification has a major role to play. Our approach covers the portfolio of solutions offered to business customers by MVV Enamic, products for decentralised energy solutions in our sales activities with retail and commercial customers, energy trading and portfolio management at MVV Trading and trade and other services for third parties. One important aspect involves dovetailing sales activities and underlying processes for these solutions components, including data centres, as well as extending the sustainability advice we provide to business customers. In parallel, we are promoting nationwide renewable energies growth based on retail customer solutions, with our Beegy subsidiary acting as the nucleus for these activities, and building cooperations with tradespeople to support implementation of these solutions. This way, MVV aims to secure installation and service capacities on the market. In Offenbach, we are also building the 110kV grid to cover increased service demand in this large built-up area.

Our future: #climatepositive
We are establishing innovative and sustainable solutions for the circular economy. Two key ways in which we intend to implement our climate targets involve making sustainable use of non-recyclable materials as resources and energy and exploiting additional district heat potential at all our locations. To help build a circular economy, we recycle phosphorous from sewage sludge and, in a pilot project, are producing biomass carbonate using pyrolysis. We will gradually turn our climate targets into reality by building a pilot carbon capture facility for our energy from waste plant in Mannheim, forging partnerships for potential CO_2 use and storage, recovering CO_2 in bio-waste anaerobic digestion and biomethane plants and implementing a CO_2 sink based on biomass carbonates in this field of activity as well. In the UK, we plan to implement further energy from waste plants and extend our existing portfolio of plants.

We are boosting our fitness for the future
One key success factor that will assist us in achieving our targets is a new world of work. We are becoming more dynamic and flexible and promoting mobile work. Examples here are home office provisions, desk-sharing concepts and hybrid work in teams based on new technical options, not least to protect the health of our employees during the coronavirus pandemic. We have implemented all these measures in the past two years and will work consistently to develop them further.

We are building structures that are fit for the future. In this context, our Soluvia IT-Services (SIT) subsidiary, for example, already launched ReThink SIT in October 2020. This reorganisation programme is intended to make the company fit for the future as an agile and scalable IT service provider. To this end, we are enhancing structures, processes and service customisations. We are also introducing an extensive change programme that focuses on targeted training measures for employees and cultural changes. We started implementing this reorganisation concept in January 2022.

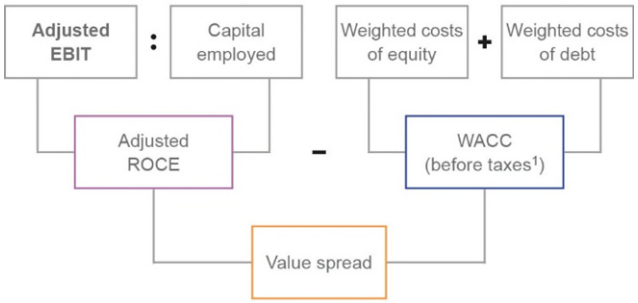
In addition, we are continually working to further develop our IT protection measures and provide training on potential cyber-threats. In digitalising our business, we are basically taking a decentralised approach in which business fields and their units are themselves responsible for implementing digitalisation. Central departments offer support in this and networks are built to share experience and information. We are consistently seizing potential improvements offered by digitalisation and process enhancement, whether these involve optimising applications, further developing mass processes or overarching cloud migration.

In the 2022 financial year, we also further developed our employee and management development activities by redesigning management feedback and expanding the range of virtual training options on offer. We see diversity as an opportunity and are promoting this with measures such as our “Energy for Diversity” programme. Further information can be found in the section Employee Concerns Aspect in the chapter Combined Non-Financial Declaration.

VALUE-BASED CORPORATE MANAGEMENT

Our value-based corporate management has the objective of sustainably increasing MVV's value and offering an attractive dividend to our shareholders. We achieve this by generating a positive value spread, i.e. by ensuring that the adjusted return on average capital employed (adjusted ROCE) is higher than the costs of capital (WACC). The most important parameter in this respect is adjusted operating earnings before interest and taxes (adjusted EBIT). We adjust this key earnings figure to eliminate earnings items resulting from the measurement of financial derivatives pursuant to IFRS 9 as of the reporting date, items resulting from the structural adjustment for part-time early retirement and, if applicable, restructuring expenses. We add interest income from finance leases, which is reported in financing income, to our adjusted EBIT. This income results from contracting projects and therefore forms part of our operating business.

CALCULATION OF VALUE SPREAD
(simplified presentation)



1 WACC before taxes = WACC after taxes/0.7

We reviewed the individual parameters used to calculate the WACC figure relevant to MVV for the year under report and partly updated these to account for market changes.

On this basis, we calculated equity costs after taxes of 6.9 % (previous year: 6.3 %) and debt costs after taxes of 1.1 % (previous year: 1.2 %). The capital structure of MVV's peer group amounts to 59.8 % for equity (previous year: 55.7 %) and to 40.2 % for debt (previous year: 44.3 %). The Group tax rate is unchanged at 30 % (previous year: 30 %). The WACC calculated on this basis for the 2022 financial year stands at 4.6 % after taxes (previous year: 4.1 %) and at 6.6 % before taxes (previous year: 5.9 %).

KEY VALUE MANAGEMENT FIGURES
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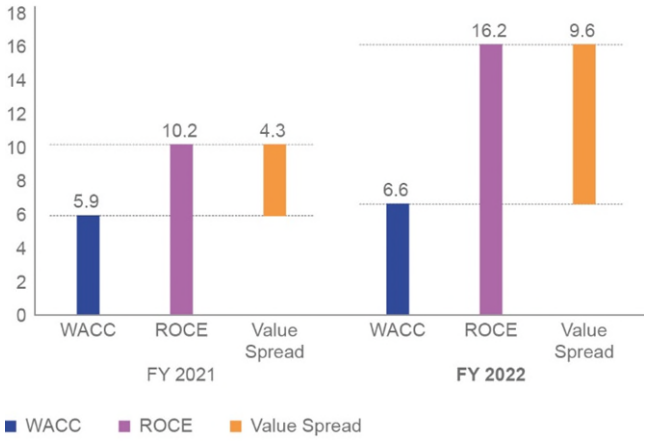


The ROCE rose from 10.2 % to 16.2 % in the 2022 financial year. One factor driving this increase was adjusted EBIT which, mainly as a result of disposal gains, rose significantly in the 2022 financial year. A further key driver was the reduction in capital employed. This was due above all to the increase in cash and cash equivalents by Euro 627 million on account of the high inflows of funds for security deposits for counterparty default risk (margins). One half of this increase has been deducted for the purpose of calculating average capital employed.

Following the subtraction of WACC before taxes of 6.6 %, the increase in ROCE led the value spread to rise to 9.6 %. In the previous year, this key figure amounted to 4.3 %.

TECHNOLOGY AND INNOVATION

Innovative research and development

We have set ourselves the goal of developing smart energy products and innovative solutions that meet our customers' needs. Our efforts to meet this objective are driven among other areas by our Customer Experience and Innovation department. Here, innovation managers and market researchers work on research and development projects, as well as on specific projects aimed at increasing customer satisfaction in which colleagues from our operating business fields are also involved. Moreover, our operating units and our Digital City department are also independently involved in forward-looking projects. As a result, the development expenses for technology and innovation are not fully reflected in the research and development expenses reported in accordance with IFRS.

Current projects

Networked solutions based on LoRaWAN
Our Digital City MVV Smart Cities department supports municipal utility companies and local authorities in developing digital infrastructures with smart technologies based on the Internet of Things (IoT). These are intended to enhance urban infrastructures and promote sustainable urban development. Networked IoT architectures also facilitate the efficient implementation of legislative and regulatory requirements. Key instruments deployed here are the MVV data platform specially developed for this purpose and an integrated LoRaWAN wireless network that ensures energy-efficient and secure data transmission.

One example: The requirements of the German District Heat or District Cooling Consumption Metering and Billing Ordinance (FFVAV), which came into effect in October 2021, can be implemented on this basis. Newly installed heat meters can be read on a remote basis and transmit consumption data via the LoRaWAN network to MVV's data platform. From there, the data is prepared and fed into downstream billing systems. This way, we can provide all district heat customers with a precise monthly bill including their actual consumption data.

Mannheim developing into a smart city
With our joint venture sMArt City Mannheim GmbH, we began work in the 2022 financial year on the operative implementation of the targets we have set ourselves.

In the area of decarbonisation, we identified potential spaces to develop ground-mounted photovoltaics projects and checked whether any restrictions applied. These potential spaces are now being processed by surveyors. Alongside ground-mounted photovoltaics systems, various rooftop photovoltaics systems have also been planned and in some cases already implemented. As well as numerous smaller systems on schools and kindergartens with a customary size of 30 kW_p, larger systems are also being built on a 100 kW_p scale. The systems commissioned by the end of the 2022 financial year have total capacities of 1 MW_p. Further systems on properties owned by the City of Mannheim are in the project pipeline.

One special photovoltaics project in Mannheim is being prepared for the roof of the "U-Halle", the central exhibition building for the 2023 Federal Garden Show. On two sections of the hall, we are building a photovoltaics system with installed capacities of nearly 1 MW. Once operations are launched, we will hand this over to the City of Mannheim in turnkey condition. Various units of the Group are working closely together to ensure that operations can be launched on schedule ahead of the opening of the 2023 Federal Garden Show. As well as our Avantag subsidiary, which is seeing to the planning and construction of the system, MVV Grids is responsible for refurbishing the roof, civil engineering work and connecting the system to the grid, while MVV Energie and sMArt City Mannheim are dealing with the stakeholder and project management.

Alongside these decarbonisation activities, one key focus is on the sMArt roots project for the City of Mannheim, which is being supported by the Federal Ministry for Housing, Urban Development and Building (BMWSB). The project is drawing on solutions devised by MVV Smart Cities. On the one hand, existing solutions from the Internet of Things (IoT) are being used while, on the other, new solutions for the smart city are being developed together with the City of Mannheim and its companies with the aim of exploiting digital opportunities in the fields of energy, transport and resources. At present, a climate measurement network is being installed to record microclimatic conditions in Mannheim. On this basis, we will derive a climate model that simulates the impact of climate change on urban space and additionally portrays the effects of intervention measures.

In addition to these, further projects in the fields of mobility and resource handling are also being implemented. We will draw on the insights gained and solutions arising as a result to expand our product portfolio.

Furthermore, sMArt City Mannheim is accompanying the City of Mannheim in developing its smart city strategy. Here, MVV is contributing insights in the field of data management, especially data security and data protection.

Smart networking at "SynergieQuartier Walldorf"
Launched on 1 July 2020, the three-year research project "SynergieQuartier Walldorf" has the goal of optimising grid operations for additional loads resulting from decentralised electricity generators and consumers, such as photovoltaics systems, battery storage facilities, charging points and heat pumps. The project is being supported by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and carried out together with the Karlsruhe Institute of Technology (KIT), the FZI Research Center for Information Technology, Stadtwerke Walldorf and our subsidiary Beegy.

The project has attracted 27 pilot households that are customers of Stadtwerke Walldorf and participate with photovoltaics systems and in some cases heat pumps or charging points. The also received access to Beegy's energy management system and the smart charging app HERMINE and are being equipped with smart meter gateways during the project. Since the beginning of 2022, various field trials have been performed to investigate the impact of new loads and generation facilities on a distribution grid. One key focus involves grid loads that are called up due to optimised charging processes that account for variable electricity prices. In dialogue formats, project participants are regularly questioned about their own experiences and needs. These can then be factored into the further course of the project.

Hydrogen and green gases: a new market is arising
Hydrogen is playing an ever-greater role in energy policy. The Federal Government aims to install electrolysis capacity of 10 GW by 2030, a target that may be further raised in the announced update to the National Hydrogen Strategy. In the amendment to the German Renewable Energies Act (EEG) adopted in the "Easter Package", two tender segments were newly created to promote both hydrogen storage and electricity generation using hydrogen. Moreover, depending on their capacity new CHP plants will in future also have to be able to work with hydrogen (H_2-ready). The amendment to the German Energy Industry Act (EnWG) in the "Easter Package" further establishes that the construction of hydrogen pipelines is a matter of overriding public interest – initially for a limited period until the end of 2025 – and strengthens the need for transport infrastructure within the definition of aims meriting public protection. This in turn may speed up planning and approval processes.

In our "Hydrogen Programme", we have established a team within the MVV Group that will promote the exchange of information about hydrogen, ensure cross-departmental cooperation for hydrogen enquiries and safeguard the transfer of expertise to individual units. By planning the Stassfurt Energy Region, we are already implementing an initial pilot project. Part of the wind power generated by a windfarm to be newly built with a capacity of 36 MW is to be converted into hydrogen using a 1 MW electrolysis plant. The hydrogen is to be used above all in regional mobility and the heat supply. The project is being developed in close cooperation with the regional partners Stadtwerke Stassfurt, Erdgas Mittelsachsen and Stassfurt Town Council.

MVV's subsidiary Juwi is pursuing a further approach together with the Mannheim industrial company LANXESS. This special chemicals group intends to become climate neutral by 2040. A feasibility study is being compiled to ascertain how green hydrogen can be produced at the Mannheim site to supply the LANXESS plants in future. Initial findings should be available by the end of 2022.

EU project NUDGE: using incentives to achieve greater energy efficiency
Launched in 2020, the EU project NUDGE aims to reduce private energy consumption and optimise own use of proprietary solar electricity by providing non-monetary incentives, known as "nudges". Nudging is a strategy to motivate people to change their behaviour, for example, as in the present case, to make more efficient use of energy or avoid using it at all.

NUDGE comprises five pilot projects being carried out with different focuses across Europe. More than 100 households in Mannheim and the region are taking part in the German pilot project. What all participants have in common is that they use self-produced electricity from their photovoltaics systems. They have access to a web portal providing them with information about their individual energy balance sheets. Around half the pilot households also have charging points and electric vehicles. These households additionally have access to smart charging management via the smartphone app HERMINE.

The project is subdivided into a pre-intervention phase and three nudging phases. In the year under report, the basic data of participating households was initially collected in the pre-intervention phase. In Nudging Phase 1, pilot customers were then provided with the first incentives in the web portal and the HERMINE charging app. The primary focus in this phase was to obtain greater transparency about individual energy situations. This phase was completed at the start of July 2022 with an online survey in which supplementary data was collected about energy consumption behaviour, the customers' experience with energy applications and individual attitudes to energy-related issues.

The second nudging phase began in July 2022. Here, the customers were offered additional functionalities in the two applications as an incentive. Pilot customers can compare their current energy statistics with the previous year's figures. Moreover, they are provided with tips as to how to use surplus solar power in the next one to three days. The HERMINE charging app also includes new notifications and functionalities particularly enabling customers to monitor the charging process.

The third and final nudging phase is set to take place from November 2022, with additional nudges currently being developed and tested for this purpose. The results will be analysed and documented. Based on the findings, proposals will then be derived for future measures and directives, as well as for country-specific recommendations.

Progress in expanding charging infrastructure at our locations

Another area in which we are taking the same course as the City of Mannheim is in structuring the transport transition and expanding the range of e-mobility solutions. Since early summer 2019, we have installed and launched operations with more than 160 electric vehicle charging points in Mannheim and region, most of which funded by federal grants from the charging infrastructure subsidy programme. Within the "TENK Network", all our charging points are connected with further charging infrastructure across other towns in the Rhine-Neckar metropolitan region. We are also continuing to expand our own charging network. By the end of 2022, we will make more than 200 public charging points available in Mannheim. This expansion has two key focuses: On the one hand, by increasing the density of the existing alternating current (AC) normal charging infrastructure we aim to ensure that charging infrastructure is within walking distance in all districts of Mannheim. On the other hand, we are pressing ahead with expanding direct current (DC) rapid charging points. Here, we also plan to install high power charging (HPC) hubs. With high charging capacities of around 300 kW, these significantly reduce the time needed for charging processes while also making it possible to charge larger vehicle classes, such as e-trucks. We opened the first rapid charging park at the P 4 car park at Mannheim's central railway station in September 2022. Here, a total of five HPC charging stations with two charging points each are now in operation.

Our subsidiaries and shareholdings are making consistent progress in expanding their charging infrastructure as well. In the 2022 financial year, Energieversorgung Offenbach built three new charging stations in Mainhausen and two further charging stations in Seligenstadt, where 14 charging points were already installed in the previous year. In the year under report, Stadtwerke Kiel added 18 charging points at four locations. The company thus now operates a total of 78 public charging facilities with 155 charging points at 50 locations. Stadtwerke Ingolstadt currently operates around 70 charging points in Ingolstadt, of which 4 rapid charging stations with charging capacity of 300 kW each. In the past year, the expansion nevertheless focused above all on private and company charging infrastructure. In parallel, specific planning is underway for a rapid charging park at the IN-Campus site. This will initially have 16 rapid charging points that can be extended in line with future requirements.

Making Mannheim's traffic smart

We are supplementing our e-mobility services with smart technologies. Today already, most public charging points in Mannheim are equipped with modern parking space sensors working with long-range wireless technologies and linked up to MVV's data platform. These sensors can detect whether charging points are occupied regardless of whether a vehicle is actually connected to the point with a cable or the space is otherwise occupied. This makes it possible to drive directly to the infrastructure and lowers the volume of traffic on the lookout for vacant charging opportunities.

Furthermore, thanks to the successful completion of the subsidised MaVI project, vehicles are automatically counted and allocated to the correct class with the assistance of smart sensors located around downtown Mannheim and on access roads. The data thereby collected is combined with environmental and weather data. This way, predictions can be made as to the level of pollution. Close cooperation with the City of Mannheim and transport companies should make it possible in future to offer alternatives to private transport, particularly on days for which high levels of particular pollution are predicted.

Stadtwerke Kiel receives Silver for AI project at STADTWERKE AWARD 2022
Stadtwerke Kiel is actively deploying artificial intelligence in its "Customer segmentation & active customer targeting using AI" project. This software supports the company's sales staff in the large numbers of customer calls they take by offering additional information about their customers. The artificial intelligence divides the customers into various categories and, based on data analysis, can determine the focus of advice and suitable individual products and services for the respective customer. By improving individual customer targeting measures, the AI-assisted project makes it possible to address customers efficiently.

Innovative wind and storage project connected to grid
In June 2022, Juwi connected a wind and storage project to the grid, the first and to date only project of its kind in Germany to be selected in an innovation tender. The project is located in the district of Randowtal in the Uckermark region of Brandenburg. In the past year, the Schmölln II windfarm was already extended by two wind turbines with a capacity of 3.6 MW each. In spring 2022, the lithium-ion storage facility with a capacity of 3 MWh was then also installed. The storage system offers greater flexibility in terms of feeding in electricity, which means, for example, that additional electricity can be fed into the grid during periods of low wind volumes. The wind and storage combination is being operated by the Hamburg-based CEE Group, which acquired the first three turbines at the windfarm in 2018 already.

Innovation processes

Successful special ideas management campaigns
Our ideas management programme is allocated in organisational terms to the Personnel and Cultural Development department. It is intended to actively involve our employees in the continuous improvement process and raise their awareness of permanent change.

Thanks to two special campaigns, one tackling 150 years of ideas management in Germany upon the anniversary and the other, in line with our corporate strategy, dealing with customer focus, we received numerous new proposals for solutions in the year under report. We completed 351 proposed improvements in the 2022 financial year. By implementing these ideas, we achieved savings of Euro 101 thousand in the first year alone. We distributed bonuses of 32 thousand to the relevant employees. The multiyear benefit (four years) of the proposals implemented in the year under report currently amounts to Euro 238 thousand.

Tapping the entrepreneurial potential of our employees
The "Ready for Take-Off" initiative, which was launched in March 2021 already and continued in the year under report, aims to activate the potential available among our employees and boost our culture of innovation by offering numerous impulses to trigger creativity and innovation. Around 700 colleagues took part in the events in total. Keynote presentations and workshops with internal and external experts on the topics of sector coupling and the energy transition attracted large audiences. The intensive training in which employees learn how to coordinate ideas workshops in their teams was also highly popular. The purposes of these activities is to prepare "Take-Off", our internal innovation process that is due to start again in autumn 2022.

Innovation competition at Juwi
In 2021, Juwi launched an internal innovation competition to promote new ideas for Juwi and the energy transition. Well over 100 employees took part in the Power:ON initiative and submitted 45 projects. The winner was selected in February 2022, with first place being jointly awarded to two teams. One of the two winning teams looked into a geo-planning tool and developed this further. The second group of winners devised a concept for combining various renewable generation forms with storage and hydrogen technologies.

Group Business Performance

- Slight growth in adjusted sales
- Group earnings influenced by disposal gains from sale of shareholdings
- Equity ratio and net financial debt remain stable with high liquidity
- Ongoing high volume of investments

MAJOR DEVELOPMENTS AND OVERALL SUMMARY

Major developments in year under report

Geopolitical events and their consequences confront us with challenges

Since the onset of the war in Ukraine, the actions taken by politicians and businesses, and thus also our actions as an energy company, have been determined by the associated implications, as has everyday life within society as a whole. Since March 2022, the uncertainty surrounding gas, crude oil and coal supplies has led market prices for fuels and electricity to record highs. In response to sanctions imposed by the West and EU states, Russia reduced the supply of natural gas. Alongside climate protection, diversification of energy imports has therefore become massively more important for Germany. The Federal Government initiated numerous measures in the shortest of timeframes. These developments also have implications for our business, whether due to increased volatility on the energy trading markets, changes in energy and climate policy or regulatory interventions. We are countering the resultant adverse effects with targeted measures and cost savings.

Investments in sustainable growth

One firm component of our corporate strategy is our investment programme, which is broad based and has a long-term perspective. Between 2016 and 2026, we intend to invest a total of Euro 3 billion in sustainable growth. In the 2022 financial year, we invested Euro 335 million – our highest volume of investment in the past six years. We are making targeted investments in further expanding renewable energies, green heat, enhancing energy efficiency and developing innovative products and services. All our investments have one thing in common: They contribute to our target of being climate positive as a company from 2040 onwards.

In the 2022 financial year, we pressed ahead above all with expanding green heat in Mannheim. That is because we aim to convert our district heat supply for Mannheim and the region to 100 % green energy sources by 2030 at the latest. In the year under report, we began work on building a first river heat pump. With heat generation capacity of 20 MW_t, this will draw on environmental heat in the Rhine from the coming heat period. Moreover, in Mannheim we are also building plants to provide backup and peak load cover for our district heat supply. A phosphorous recycling plant where we intend to recover the phosphorous contained in sewage sludge for use in fertiliser production is being built at our Friesenheimer Insel location.

We also made further advances in expanding our own renewables-based generation portfolio: We took over several photovoltaics parks and one windfarm into our portfolio. At the end of the year under report, our electricity generation capacity from renewable energies stood at 614 MW, 50 MW higher than in the previous year. By 2026, this figure is set to exceed 800 MW.

One of our major projects began commercial operations at the end of January 2022: Our new energy from waste plant in the Scottish City of Dundee is now sustainably generating energy.

Project development business boosted

In promoting the expansion in renewable energies, one particular focus is on our project development business. Here, we merged our Windwärts subsidiary into Juwi in the 2022 financial year. With Juwi, we offer the whole spectrum of project development and services for planning, building and operations management for onshore wind turbines and ground-mounted photovoltaics systems, as well as for combined systems with battery storage facilities. We also took over Avantag in the year under report and boosted our project development business for photovoltaics in the B2B sector.

Growth in sales and adjusted EBIT
Adjusted sales increased to Euro 4.2 billion in the 2022 financial year (previous year: Euro 4.1 billion). Our sales performance was mainly influenced by higher wholesale prices for electricity and gas, higher electricity volumes and price-related factors in connection with providing CO_2 emission rights to a company recognised at equity.

At Euro 353 million, adjusted EBIT was significantly higher than in the previous year (Euro 278 million). Our earnings performance in the 2022 financial year was significantly influenced by disposal gains of Euro 55 million generated from the sale of fully consolidated companies and of companies recognised at equity. Excluding these one-off items, which were not accounted for in the first forecast for the 2022 financial year, adjusted EBIT amounted to Euro 298 million and was thus 8 % above the adjusted EBIT excluding disposal gains for the previous year (Euro 275 million). We generated higher earnings in the year under report by exploiting price volatilities in our energy trading business. Earnings also benefited from the development in wholesale electricity prices and addition of new capacities to our wind portfolio. Earnings were adversely affected, by contrast, above all by the reduction in earnings in our project development business, downstream effects of lower plant availability at a company recognised at equity, milder weather conditions than in the previous year and increased costs for operating resources.

Pre-tax earnings (adjusted EBT) increased year-on-year by Euro 87 million to Euro 322 million. This key figure was also influenced above all by disposal gains. Adjusted annual net income after minority interests improved by Euro 26 million and amounted to Euro 176 million in the year under report. Adjusted earnings per share amounted to Euro 2.67 (previous year: Euro 2.28).

Overall summary of business performance and economic position

The environment in which we operated in the 2022 financial year was very challenging both for the energy industry and in terms of energy policy. The energy and procurement markets showed increased volatility with rapid movements in prices. Despite these conditions, we can look back on a robust year.

We had expected to generate significant sales growth compared with the previous year. At Euro 4.2 billion, however, sales were only 2 % up on the previous year. Adjusted EBIT excluding disposal gains from the sale of shareholdings rose to Euro 298 million, up by 8 % on the comparable figure for the previous year (Euro 275 million). Earnings were thus consistent with our forecast, in which we had assumed that, from an operating perspective, adjusted EBIT would show a moderate increase.

Our operating performance in the 2022 financial year shows that our strategy, with its focus on climate protection, and our broad-based business portfolio offer a stable foundation for MVV's successful further development.

COMPARISON OF EXPECTED AND ACTUAL BUSINESS PERFORMANCE AND OUTLOOK

Comparison of expected and actual business performance and outlook

	Forecast FY 2022	Results FY 2022	Outlook FY 2023
Adjusted EBIT	Moderately higher than previous year's level (Euro 278 million); forecast supplemented after end of first quarter and second quarter of 2022 financial year: Earnings set to additionally benefit from positive earnings contributions due to changes in our portfolio of shareholdings; including these items, adjusted EBIT will significantly exceed previous year's level	Adjusted EBIT of Euro 353 million (+ 27 %) Adjusted EBIT excluding disposal gains of Euro 298 million (+ 8 %)	At least at previous year's level (excluding disposal gains); subject to uncertainties influenced above all by the consequences of the war in Ukraine; in general dependent on weather and wind conditions, electricity and fuel prices and the availability of our plants. High volatility in renewable energies project development business
Adjusted equity ratio	Target > 30 %	Adjusted equity ratio of 27.1 % (34.3 % excluding security deposits for counterparty default risk (margins))	Target > 30 %
Adjusted ROCE	Excluding security deposits for counterparty default risk (margins) at around previous year's level (8.9 %)	Adjusted ROCE of 10.7 % excluding security deposits for counterparty default risk (margins) and of 9.0 % excluding disposal gains	At around previous year's level (excluding security deposits for counterparty default risk (margins) and excluding disposal gains)
Investments	Significant increase on previous year (Euro 306 million)	Total investments of Euro 335 million	At around previous year's level
Employees	Increase in personnel totals in growth fields; further efficiency measures in existing business	Increase in personnel totals to 6,556 employees at 30 September 2022 (previous year: 6,470)	Increase in personnel totals in growth fields; further efficiency measures in existing business

BUSINESS FRAMEWORK

Energy policy developments

Financial year shaped by numerous far-reaching developments

Energy policy produced fundamental changes in the energy industry landscape, and that in the shortest of timespans, in the 2022 financial year. In particular, the Federal Government's ambitious plans for the energy transition and geopolitical developments in Europe led to the introduction of numerous legislative proposals at an unprecedented pace on both German and European levels. Rapid action was required, although this speed came at the expense of statutory participation procedures. We accompanied these proposals very closely, both via major industry associations and in direct contact with decision-making bodies.

War in Ukraine impacts on energy policy actions

The war in Ukraine and its implications have significantly determined the energy policy and energy industry agenda since February 2022. The uncertainty surrounding supplies of gas, crude oil and coal from Russia led market prices for fuels and electricity to surge to record levels since March 2022. In response to sanctions imposed by the West and EU member states, Russia reduced the volume of natural gas supplied via those pipelines in operation. This led the Federal Government to activate the early warning level of the Gas Emergency Plan at the end of March 2022. In June 2022, it subsequently activated the alert level after Russia cut the volume of gas supplied via the Nord Stream 1 pipeline to 40 % of its usual level.

In its daily status reports, the Federal Network Agency (BNetzA) has repeatedly stated that Germany's gas supply is currently stable and that supply reliability is still ensured. In fact, there are no grid shortages in Germany or MVV's grids. None of the potential capacity restrictions on the level of upstream gas grid operators are currently in place, meaning that no grid-related measures have to be implemented by distribution grid operators in Germany or, by analogy, in MVV's grids. No grid-related measures are currently in force along the grid operator cascade between transmission and distribution grid operators or on the sovereign level. These would require the final warning level, the emergency level, to be activated. In this level, the Federal Network Agency would act as the federal load allocator and issue general and/or individual authorisations to end consumers or grid operators.

In parallel, the Federal Government has created a framework for upholding a high level of supply security even in the event of a gas shortage by amending the German Energy Security Act (EnSiG). This amendment took effect at the beginning of July 2022. The "gas allocation" originally provided for in the EnSiG legislation, which would have enabled natural gas importers to pass on the sharp rise in procurement prices to gas consumers, was halted by lawmakers at the end of September. It is to be replaced by direct assistance for importers including the option of nationalisation. At the same time, on 30 September 2022 the Federal Parliament approved a temporary reduction in the value added tax on natural gas and district heat from 19 % to 7 %. A "protective shield" of up to Euro 200 billion, which is due to last until 2024 and includes a price cap on electricity, gas and heat, is intended to further ease the burden on consumers.

The volume of gas used to generate electricity is also to be reduced. To achieve this, the Federal Government has introduced new requirements in the German Energy Industry Act (EnWG). These also allow power plants that are not powered by natural gas and that have already been decommissioned or are part of the grid reserve to participate in the electricity market on a temporary basis in the event of a gas shortage. In July 2022, the Federal Cabinet drew on these legal possibilities in two ordinances. The greater deployment of oil-fired and coal-fired power plants will temporarily increase CO_2 emissions, but this should not lead to any changes in statutory climate targets.

Together with the other EU member states, the Federal Government aims to avoid any supply shortages in the 2022/23 heating period by extending and diversifying natural gas procurement, taking measures to reduce demand and ensuring that natural gas storage facilities remain adequately filled. The EU Commission and member states have agreed that member states should reduce their natural gas consumption by 15 %. On 30 September 2022 the energy ministers of EU states further agreed that member states have to introduce a temporary electricity revenue cap, the details of which they may determine themselves. This is intended to siphon off any unexpectedly high profits from electricity generation.

The German Gas Storage Facility Act dating from the end of April 2022 was further amended by Ministerial Order at the end of July 2022. It requires Germany's natural gas storage facilities to be 75 % filled by the start of September, 85 % by 1 October and 95 % by 1 November. Following the further reduction in the volume of Russian gas supplied by the Nord Stream 1 pipeline to 20 % from the end of July 2022, discontinuation of supplies from 31 August 2022 and severe damage to the Nord Stream 1 and 2 pipelines at the end of September 2022, it is unclear whether the targets stipulated by the German Gas Storage Facility Act for November 2022 can be met. As of 6 November 2022, stock levels stood at 99.5 %.

Due the sharp rise in wholesale market prices, MVV will also be unable to avoid raising its prices.

Energy transition accelerated with Easter and Summer Packages

In its Coalition Agreement dated November 2021, the Federal Government set out ambitious targets for the energy transition and climate action. The focal point involves expanding electricity generation from regenerative sources to at least 80 % and increasing climate-neutral heat generation to at least 50 % by 2030. This course has gained new urgency due to the war in Ukraine. Alongside diversified procurement and an accelerated market launch for hydrogen, the expansion in renewable energies is intended as the third pillar to secure the energy supply in Germany.

In its Current Climate Action Status, in January 2022 the Federal Ministry for Economic Affairs and Climate Action announced that it would be presenting two extensive legislative packages in the current year. These would lay foundations for Germany to achieve climate neutrality by 2045. Adopted in July 2022, the first package ("Easter Package") stipulates that building and operating renewable energy generation plants is "in the overriding public interest" and serves to ensure "public security". It contains amendments to numerous energy laws and focuses above all on expanding renewable electricity generation. The tender volumes for the generation of electricity from renewable sources were raised sharply and the allocation under the German Renewable Energies Act (EEG) abolished. Lawmakers also created better framework conditions for photovoltaics systems and wind turbines.

Several minor amendments to the EEG legislation supplemented these measures in the course of the summer, such as those intended to make more space available for renewable energies and to simplify and accelerate planning and approval processes for renewable energies plants.

The acceleration in the renewable energies expansion and greater priority attached to this process are developments that MVV has long called for. Particularly positive is the introduction of improved subsidy conditions ("south quota") for wind turbines at less windy locations and specifically for projects south of the River Main. In the past, we urgently pointed out the need for such measures. The legislative packages support our strategy, which builds on expanding wind and solar power, as well as on green heat. However, the Federal Government will have to introduce more far-reaching measures, particularly in the heat sector, if it is to reach the targets it has set itself.

Subsidy system offers preferential treatment for refurbishment and expanding heat grids

Alongside transport, buildings are the only sector which failed to meet the savings targets set by the Federal Government in 2021. One reaction to this was a further restructuring of the subsidy system for energy-efficient buildings as of 15 August 2022: The Federal Ministry for Economic Affairs has consistently focused the Federal Funding for Efficient Buildings (BEG) on the refurbishment of existing buildings and is supporting both energy efficiency refurbishment measures and the replacement of gas and oil heating systems with efficient and climate-friendly technologies. Furthermore, at the beginning of August 2022 the European Commission provided its approval for the long-awaited Federal Funding for Efficient Heat Networks (BEW). This will become the most important instrument for us as well when it comes to expanding green heat. The funding policy took effect in mid-September 2022.

It is foreseeable that the amendment to the German Building Energy Act (GEG), due to take effect from the beginning of 2023, will maintain the direction already set. This is expected to include projects such as that, from 2024, new heating systems should be at least 65 % powered by renewable energies. In the implementation concept known of to date, district heat is set to assume a central role in meeting the requirements of the legislation, particularly in large built-up areas. It should also form a key component of the municipal heat plans that, based on a concept of the Federal Government, all municipalities of 10,000 inhabitants upwards should be required to develop and implement in the coming years. Corresponding federal legislation has been announced for spring 2023. We see this as providing tailwind both for our Mannheim Model and for district heat at all our locations. Further information about this can be found in the chapter Corporate Strategy.

EU Commission presents second part of "Fit for 55" Package
In December 2021, the EU Commission presented the second part of "Fit for 55", its package of measures aimed at implementing the Green Deal. This includes proposals for a European legal framework intended to support the ramp-up in renewable and decarbonised gases. Furthermore, the Commission aims to avoid methane emissions and reduce energy requirements in buildings. To this end, it has also proposed the gradual introduction of minimum energy standards for existing buildings. These proposals are now passing through the customary EU process: The European Parliament has addressed the proposal submitted by the Commission and found common positions on the main legislative items (including the Renewable Energy Directive, Energy Efficiency Directive, Emissions Trading Directive). These are expected to be discussed in the trialogue process between the Parliament, Commission and Council during 2023 and then adopted, enabling the legislation to take effect in 2024.

In response to the war in Ukraine, in May 2022 the EU Commission also introduced the "REPowerEU" strategy. In this framework, an additional total of up to Euro 300 billion is to be channelled into energy infrastructure and converting to energy energies. The aim is to end Europe's dependence on Russian fuels and accelerate the energy transition. The interventions announced in the electricity market design on EU level are intended to serve the same purpose.

Equity returns stipulated for fourth regulatory period
In October 2021, the Federal Network Agency (BNetzA) published the stipulations for future rates of equity return for electricity and gas grid operators. In these, the BNetzA set a uniform equity return for electricity and gas grid operators, and thus also for our grid companies. These amount to a return of 5.07 % before corporate income tax for new systems (previously 6.91 %). For existing systems, a return of 3.51 % before corporate income tax was stipulated (previously 5.12 %). The new rates of return apply from the fourth regulatory period, which begins in the 2023 calendar year for gas grid operators and in the 2024 calendar year for electricity grid operators. From the perspective of grid operators, this level of return threatens the performance and investment capacity of grid operators, and thus the success of the energy transition. In particular, the market risk premium proposed by the BNetzA is very low compared with other European countries.

Higher Regional Court in Düsseldorf annuls general sectoral productivity factor for electricity grid operators
In a ruling dated March 2022, the Higher Regional Court in Düsseldorf annulled a resolution adopted by the Federal Network Agency (BNetzA) in November 2018 which stipulated the general sectoral productivity factor for electricity grid operators (Xgen electricity) for the 3rd regulatory period. It also obliged the authority to adopt a new resolution that takes due account of the court's legal opinion.

The general sectoral productivity factor (Xgen) is important in determining the level of grid fees, and thus also earnings at grid operators. The Xgen reduces the permissible revenue cap. Its calculation is based on the assumed level of progress in grid productivity compared with the overall economy. This factor is countered by inflation.

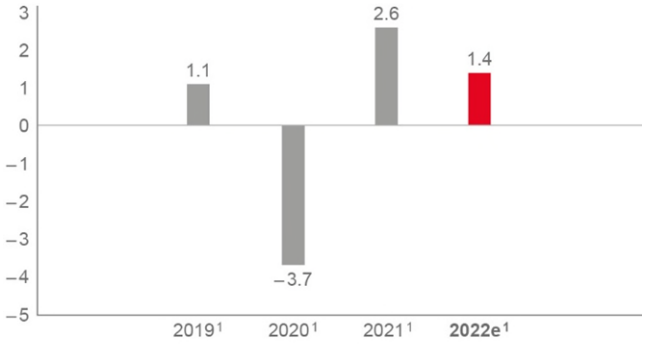
We welcome the ruling, not least due to concerns about the methodology used in the calculation and the significantly lower corresponding stipulation for the gas sector.

BSI withdraws market declaration
In May 2022, the Federal Office for Information Security (BSI) withdrew its General Ruling on the Rollout of Smart Meter Systems (iMSys) dated February 2020 due to questions as to its lawfulness. To secure the rollout to date, the BSI issued a General Ruling for Assessments pursuant to § 19 (6) of the German Metering Point Operation Act (MsbG), on which basis metering point operators (MSBs) may continue to install and operate smart meters (iMSys). The rollout of such systems has nevertheless suffered a setback, which we regret. The withdrawal of the General Ruling means that the metering point operators responsible for the respective sites are no longer subject to any rollout obligation. The start date, and thus expiry, of the deadline for a minimum rollout quota of 10 % also no longer apply. A new deadline would only begin upon the issuing of a new market declaration. Further implications are not yet fully foreseeable.

Market climate and competition

German economy in reverse gear
In their Joint Economic Forecast dated autumn 2022, Germany's leading economic research institutes reduced their growth expectations for the country's economy in the 2022 calendar year. Having forecast GDP growth of 2.7 % in the spring, the experts now expect gross domestic product to rise by 1.4 %. The German economy is increasingly being held back by the energy price crisis.

GDP DEVELOPMENT IN GERMANY
(%)



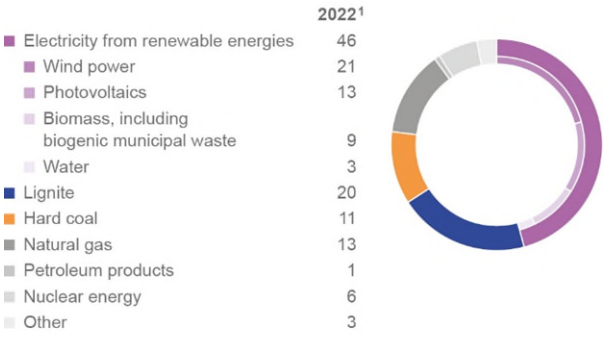
1 Calendar year

Source: Forecast in autumn survey of leading German economic research institutes (September 2022)

Increase in electricity generation in Germany
Based on current calculations compiled by the Association of the German Energy and Water Industries (BDEW), gross electricity generation volumes totalled 434 billion kWh in Germany in the first nine months of 2022. They were thus around 1 % higher than the previous year's figure (428 billion kWh).

Renewables share of German electricity generation rises to 46 %
According to BDEW estimates, the renewable share of gross electricity generation in Germany totalled 46 % in the first nine months of the 2022 calendar year, up from 42 % in the previous year's period. Part of this relative increase is also due to lower electricity consumption in Germany, which fell by around 1 % compared with 2021 to 393 billion kWh in the first three quarters of 2022. Wind-based generation played a key role in the increase in the renewables share. Electricity generation volumes from onshore wind turbines were 18 % higher than in the previous year. Offshore wind turbines reported a 5 % increase. Photovoltaics systems also produced around 20 % more electricity. Biomass and biogenic municipal waste generated around 3 % more electricity than one year earlier. Overall, around 198 billion kWh of electricity was generated from renewable energies.

GROSS ELECTRICITY GENERATION IN GERMANY
Shares (%)



1 January to September 2022

Source: BDEW Monthly Statistics, Destatis, EEX, VGB, ZSW (October 2022)

Wind power expansion remains at low level
In January 2022, the German Wind Energy Association (BWE) published its "Wind Energy Fact Sheet Germany" for the 2021 calendar year. Overall, gross onshore wind power capacity totalling 1,925 MW was newly installed in Germany. The gross volume of new capacity added remains low, but is slowly recovering from the downturn in new capacity in 2019 and 35 % higher than the equivalent figure for the previous year. Total installed onshore and offshore wind power capacity stood at 63,924 MW and was around 2 % higher than the previous year's figure.

Gross onshore wind power capacity totalling 977 MW was added in Germany in the 1st half of the 2022 calendar year. This was around 1 % more than in the first six months of the previous year. Cumulative installed onshore capacity amounts to 56,848 MW.

Current studies confirm our strategic alignment
In 2021, the EU resolved to become climate neutral, i.e. not to cause any net emissions, by 2050. A 55 % reduction in emissions is to be achieved by 2030 already. Germany's Federal Government raised its emissions reduction target for 2030 to 65 % and has committed the country to becoming climate neutral by 2045. By 2030, 80 % of electricity generation in Germany is to be based on renewable energies, while electricity demand is also expected to increase. Current studies show that these targets are achievable and compatible with energy security. To meet the targets, however, it will be necessary to act quickly, lay the right foundations and significantly speed up the pace of implementation across all state bodies directly or indirectly involved in decision-making processes.

From our perspective, five major studies analysing Germany's transformation to climate neutrality were published in 2021. These were the dena pilot study "Road to Climate Neutrality", "Climate Pathways 2.0" published by the Federation of German Industries (BDI), "Towards a Climate-Neutral Germany 2045" published by the Climate Neutrality Foundation, Agora Energiewende and Agora Verkehrswende, "Germany on the Way to Climate Neutrality 2045" published by the Ariadne Kopernikus Project and the "Long-Term Scenarios" commissioned by the Federal Ministry for Economic Affairs and Climate Action (BMWK). Together, these five institutions performed a structured "Comparison of the Big 5 Climate Neutrality Scenarios" in 2022. This shows that the central pillars of a climate-neutral energy system as presented in the studies are consistent: a significant rise in energy efficiency, the electrification of end consumption, the expansion in renewable energies and the use of hydrogen and hydrogen-derived products. Technical and natural CO_2 sinks also play a role in all the studies.

"EnergySystem 2050", a study published by Transnet BW GmbH in June 2022, investigates how European climate neutrality can be achieved in 2050 and, by reference to a detailed model, compares two cost-optimal pathways. The authors conclude that the energy transition can only be implemented efficiently if it is jointly planned and executed on European level. Moreover, electricity and gas infrastructure are to be viewed as the backbone of the energy transition. In future, it will therefore be necessary to ensure temporal flexibility for electricity by working with storage facilities and demand management in all connected sectors.

The "Scenario Framework for the 2037 Electricity Grid Development Plan" compiled by Germany's transmission grid operators for the first time presents the complete transformation in the energy sector in 2045. A significant rise in electricity consumption is assumed in all scenarios. The main drivers of this demand growth particularly include e-mobility, heat pumps, hydrogen electrolysis and the decarbonisation of industry.

In "Combining Energy Security and Climate Protection – Measures for the Way Out of the Fossil Energy Crisis", a paper published in March 2022, Agora Energiewende illuminates the target of climate neutrality in conjunction with Europe's energy policy sovereignty in light of its structural dependence on Russian energy supplies. The investigation concludes that Germany can end its dependence on Russian gas imports and cut its gas needs by one fifth by 2027 while simultaneously making achievable progress in terms of climate protection. The existing instruments proposed for climate protection boost energy security; however, the new urgency requires political decisions to be taken quickly. Should Russian imports be discontinued in full, then Germany's gas demand could be temporarily reduced by up to 260 TWh. This is only possible if all players in society pull together and make great efforts. Targeted financial support is needed for low-income households, as is a protective shield for Germany's industry.

For the electricity sector, reducing Germany's dependence on gas will require a significantly accelerated introduction of renewable energies, hydrogen and storage facilities. This is shown in "Climate-Neutral Germany 2035" a study compiled in June 2022 against the backdrop of the war in Ukraine (Agora Energiewende). The study nevertheless also underlines clear that investments in energy efficiency and digitalisation are crucial levers for Germany to emerge from the energy crisis.

Our strategic alignment focuses on sustainability and supply reliability. We will benefit from the implementation of climate targets in the long term: in our energy generation from renewable energies, our project development and operations management for renewable energies plants and our marketing of the energy produced, our decentralised energy and heat supply and our energy efficiency solutions and services.

Sharp rise in wholesale prices for fuels and electricity

Wholesale prices (average) from 1 October to 30 September

	FY 2022	FY 2021	+/– change	% change
Crude oil [1] (US$/barrel)	96.63	62.20	+ 34.43	+ 55
Natural gas [2] (Euro/MWh)	93.58	21.56	+ 72.02	+ 334
Coal [3] (US$/tonne)	189.44	79.52	+ 109.92	+ 138
CO_2 rights [4] (Euro/tonne)	80.80	43.52	+ 37.28	+ 86
Electricity [5] (Euro/MWh)	234.72	61.62	+ 173.10	+ 281

1 Brent crude oil; front-month
2 Market region Trading Hub Germany/Net Connect Germany; front-year
3 Front-year
4 Front December contract
5 Front-year

The 2022 financial year was shaped by developments on the energy market that must be termed historical and extremely severe. Energy markets were shaped by an increasingly serious energy crisis, the main cause of which is the war in Ukraine and the resultant trade sanctions. Further issues, such as unusually low availability levels at French nuclear power plants and an extremely dry and very warm summer, also contributed to a persistently tense market situation. Prices repeatedly reached and exceeded new record highs, particularly in the electricity and gas markets. It was only towards the end of the financial year that markets witnessed an initial fall in prices compared with the highs reached at the end of August.

Having already witnessed a strong upward trend in the 2021 financial year, oil market prices showed a further marked increase in the year under report, rising by an average of + 55 %. Prices for Brent crude oil for supply in the following month peaked at more than US$ 130/bbl in March 2022, their highest level since the financial crisis in 2008.

The coal market also saw a sharp upward trend in the past year, reporting an average year-on-year price increase of + 138 % in the period under report. After comparatively moderate price movements in the first months of the financial year, with the onset of war in Ukraine at the end of February 2022 front-year prices for hard coal in the ARA region (Amsterdam, Rotterdam, Antwerp) surged upwards and reached a preliminary high at the end of August and beginning of September (front-year contract). Prices were well above the levels seen in recent decades.

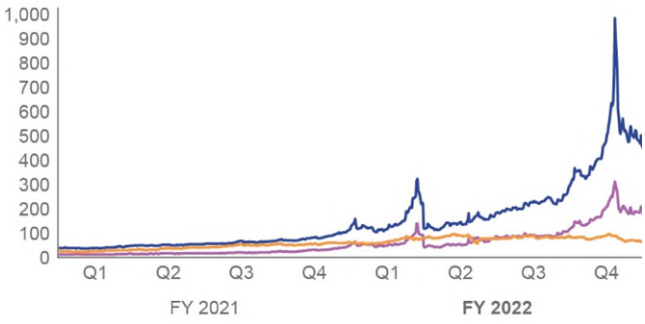
Within the energy sector, it was the gas market that showed the sharpest relative rise in prices in the past financial year. At the start of the year, the German gas market regions NetConnect Germany and Gaspool were merged to form the Trading Hub Europe (THE) market region. Comparison of THE prices traded in the period under report for the 2023 calendar year with the corresponding prices in the NCG market region in the previous year reveals an increase by a factor of more than four. The price rise between the start and end of the financial year (forward market product for the 2023 financial year in each case) is even higher at a factor of around six.

The market for CO_2 emission rights (EUA) also showed an increase, with prices almost doubling in the period under report (+ 86 %). Having risen sharply since the peak of the coronavirus crisis, the emission rights price was already listed at just over Euro 60/tonne at the start of the financial year. In the period under report, it rose further on several occasions and peaked just below the Euro 100/tonne mark.

Prices for base load electricity for supply in the following year averaged Euro 235/MWh in the year under report and thus rose by 281 % compared with the previous year's figure. Alongside the gas market as the main driver, European electricity markets were also affected by extreme aridity in spring and summer 2022 and very low availability levels at French nuclear power plants. Compared with previous years, there were changes, some notable, in the volumes of electricity imported and exported between European countries.

The margins achieved from generating electricity from coal and gas – the clean dark spread (CDS) and clean spark spread (CSS) – showed highly disparate developments in the past financial year. With great volatility within the financial year, the CDS rose sharply while the CSS showed a negative development on average.

DEVELOPMENT IN WHOLESALE MARKET PRICES FOR ELECTRICITY, GAS AND CO_2 RIGHTS

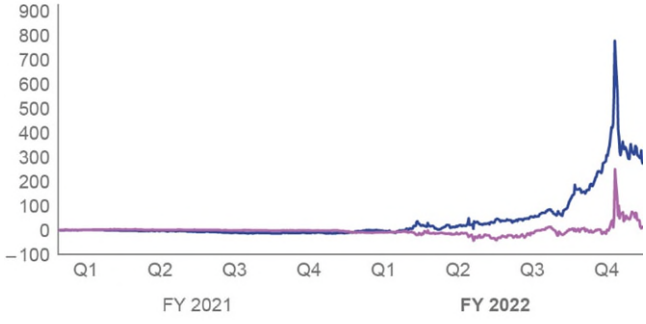


- EEX electricity base front-year (Euro/MWh)
- EEX natural gas Trading Hub Germany/ Net Connect Germany front-year (Euro/MWh)
- EUA front-year (Euro/tonne CO_2)

DEVELOPMENT IN WHOLESALE PRICES FOR OIL AND COAL

- Brent crude oil front-month (US$/barrel)
- API2 coal front-year (US$/metric tonne)

DEVELOPMENT IN CLEAN DARK SPREAD AND CLEAN SPARK SPREAD 2023



- Clean dark spread 2023 (Euro/MWh)
- Clean spark spread 2023 (Euro/MWh)

MVV consolidates its strong market positions

- Based on analysis performed by the consultancy ecoprog, we are one of Germany's largest operators of energy from waste and biomass plants. At our locations in Germany, we accepted a total of 1.6 million tonnes of non-recyclable waste and refuse-derived fuels for incineration in the 2022 financial year.

- According to the Market Master Data Register at the Federal Network Agency (BNetzA), with our Juwi subsidiary we are one of Germany's leading renewable energies project developers.

- Directly marketing electricity from renewable energies in the market premium model also forms part of our portfolio. At the end of the year under report, we had around 3,800 MW under contract in Germany. According to Energie & Management, the energy market journal, this makes us one of Germany's largest direct marketers.

- Our grid companies in Germany have district heat grids with a total length of around 1,200 kilometres. In the year under report, we generated district heat turnover of 6.0 billion kWh in Germany. According to statistics compiled by the AGFW industry association, including industrial steam this makes us the second-largest district heat provider in Germany.

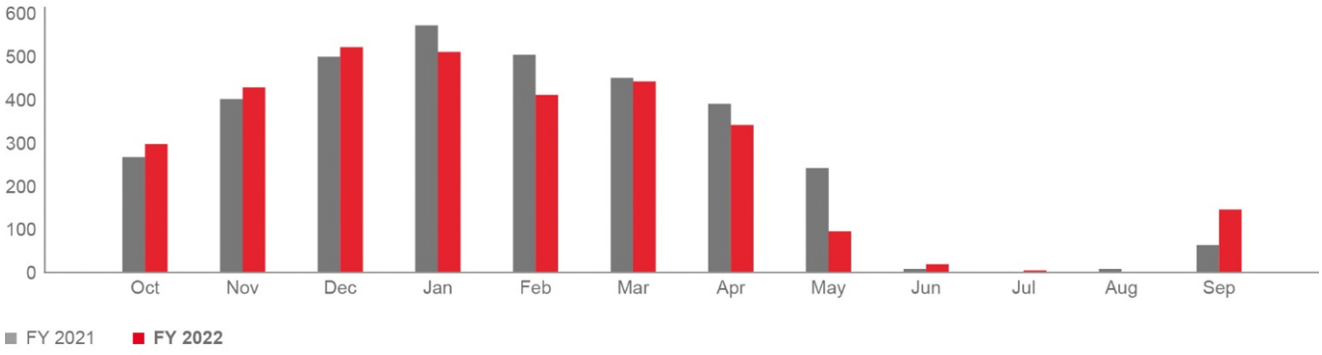
Impact of weather conditions

Milder weather leads to lower degree day figures
Higher outdoor temperatures lead to lower heat requirements at our customers. That is also reflected in lower degree day figures, which are used as an indicator of temperature-based heat consumption. It was milder in the year under report than in the previous year. Degree day figures were around 6 % lower than the figures for the previous year.

Wind volumes at previous year's level
By analogy with our customers' heat requirements, electricity generation volumes at our renewable energies plants are also influenced by weather conditions. Wind volumes, on which the amount of electricity generated by our wind turbines significantly depends, are particularly significant in this respect.

In the regions relevant to us, the volume of usable wind power in the 2022 financial year was around 4 % lower overall than the long-term average. Wind volumes were thus at the previous year's level. For this comparison, we draw on the "EMD-ERA" wind index with a reference period (historic average).

DEGREE DAY FIGURES



PRESENTATION OF EARNINGS PERFORMANCE

The period under report is the 2022 financial year, which started on 1 October 2021 and ended on 30 September 2022. Unless otherwise indicated, the comments below refer to the MVV Group ("MVV"), i.e. all companies fully consolidated and the updated measurement of those shareholdings that are recognised at equity. Figures have been rounded up or down to the nearest million-euro amounts. Discrepancies may therefore arise between the aggregate sums of individual items and the totals stated.

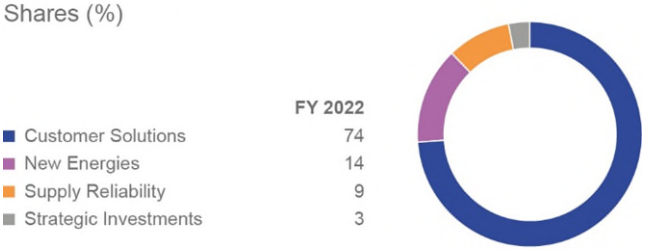
MVV from 1 October to 30 September

Euro million	FY 2022	FY 2021	+/– change	% change
Development in turnover				
Electricity (kWh million)	27,115	24,380	+ 2,735	+ 11
Heat (kWh million)	6,708	6,940	– 232	– 3
Gas (kWh million)	19,259	27,094	– 7,835	– 29
Water (m^3 million)	40.2	40.3	– 0.1	0
Adjusted sales excluding energy taxes	4,199	4,131	+ 68	+ 2
of which electricity revenues	1,534	1,989	– 455	– 23
of which heat revenues	438	391	+ 47	+ 12
of which gas revenues	1,215	776	+ 439	+ 57
of which water revenues	91	90	+ 1	+ 1
Adjusted EBIT	353	278	+ 75	+ 27
Adjusted EBIT excluding disposal gains	298	275	+ 23	+ 8

In sales, we eliminate the difference between the hedge and reporting date prices as of the respective realisation date pursuant to IFRS 9. This resulted in net totals of Euro 1,724 million at 30 September 2022 and Euro 102 million at 30 September 2021. The development in adjusted sales in the year under report was influenced above all by the rise in wholesale prices for electricity and gas, higher electricity volumes and price-related factors in connection with the provision of CO_2 emission rights to a company recognised at equity. Overall, adjusted sales grew year-on-year by 2 % to Euro 4.2 billion. In our forecast, we still expected to achieve significant sales growth. MVV generated 93 % of its consolidated sales in Germany in the 2022 financial year (previous year: 92 %), while 7 % of sales were generated abroad (previous year: 8 %).

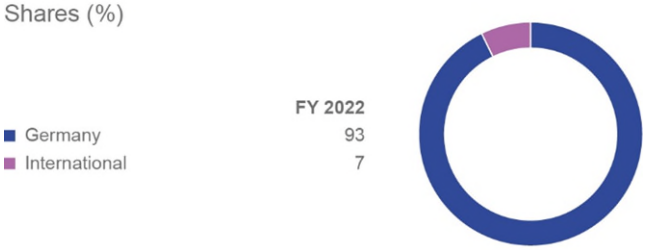
ADJUSTED SALES EXCLUDING ENERGY TAXES BY REPORTING SEGMENT

Shares (%)



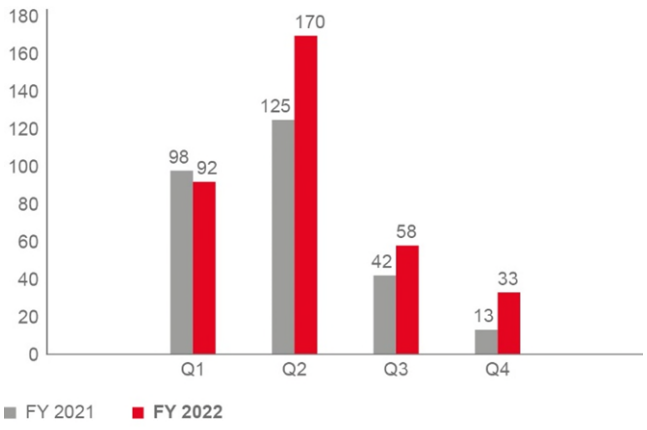
ADJUSTED SALES EXCLUDING ENERGY TAXES BY REGION

Shares (%)



At Euro 353 million, adjusted EBIT was 27 % higher than in the previous year. The earnings performance in the 2022 financial year was mainly shaped by disposal gains of Euro 55 million from the sale of fully consolidated companies and companies recognised at equity (previous year: Euro 3 million). Excluding these one-off items, i.e. on a basis comparable with the previous year, adjusted EBIT grew by 8 % from Euro 275 million in the previous year to Euro 298 million in the year under report. This figure is consistent with our forecast, in which we assumed that, from an operating perspective, adjusted EBIT would show a moderate increase. We achieved higher earnings in the year under report by exploiting price volatilities in our energy trading. Moreover, adjusted EBIT benefited from the development in wholesale electricity prices and the addition of new capacities to our wind portfolio. By contrast, our earnings were adversely affected above all by lower earnings in our project development business, the downstream impact of lower plant availability levels at an at-equity company, milder weather conditions compared with the previous year and increased costs for operating resources.

ADJUSTED EBIT BY QUARTER
Euro million



Customer Solutions reporting segment

Customer Solutions from 1 October to 30 September

Euro million	FY 2022	FY 2021	+/– change	% change
Development in turnover				
Electricity (kWh million)	26,546	23,832	+ 2,714	+ 11
Heat (kWh million)	4,664	4,948	– 284	– 6
Gas (kWh million)	18,841	26,714	– 7,873	– 29
Water (m³ million)	39.3	39.3	0,0	0
Usable residual waste delivered (tonnes 000s)	145	156	– 11	– 7
Adjusted sales excluding energy taxes	3,106	3,101	+ 5	0
Adjusted EBIT	136	47	+ 89	>+ 100

The rise in electricity volumes chiefly resulted from higher trading volumes. Heat turnover fell short of the previous year's figure, with this principally being due to mild weather conditions. Lower trading volumes were the main reason for the lower level of gas turnover.

Adjusted sales were at the previous year's level.

Adjusted EBIT in the Customer Solutions segment benefited in the year under report from disposal gains resulting from the sale of shareholdings. In addition, we generated higher earnings in the past financial year by exploiting price volatilities in our energy trading business.

New Energies reporting segment

New Energies from 1 October to 30 September

Euro million	**FY 2022**	FY 2021	+/– change	% change
Development in turnover				
Electricity (kWh million)	238	350	– 112	– 32
Heat (kWh million)	1,369	1,271	+ 98	+ 8
Gas (kWh million)	273	258	+ 15	+ 6
Usable residual waste delivered (tonnes 000s)	2,186	2,152	+ 34	+ 2
Adjusted sales excluding energy taxes	579	622	– 43	– 7
Adjusted EBIT	150	120	+ 30	+ 25

The reduction in electricity turnover and increase in heat volumes were mainly due to the fact that we generated more district heat at our energy from waste plant in Leuna. The rise in gas turnover resulted above all from the launch of operations at our bio-waste anaerobic digestion plant in Bernburg in the 2022 financial year.

The decrease in adjusted sales was attributable to our project development business.

Adjusted EBIT benefited in the year under report from the development in wholesale electricity prices. Moreover, earnings contributions from our wind turbines were ahead of the previous year's figure due to the addition of new capacities to our wind portfolio. These factors more than offset the downturn in earnings in our project development business, that is generally characterised by a high level of volatility, as well as the adverse impact on earnings due to lower plant availability in our environmental energy business.

Supply Reliability reporting segment

Supply Reliability from 1 October to 30 September

Euro million	**FY 2022**	FY 2021	+/– change	% change
Adjusted sales excluding energy taxes	387	310	+ 77	+ 25
Adjusted EBIT	37	78	– 41	– 53

The growth in adjusted sales was attributable above all to price factors in connection with the provision of CO_2 emission rights to a company recognised at equity.

The reduction in adjusted EBIT chiefly resulted from the downstream impact of lower plant availability at a company recognised at equity in connection with the high level of energy market prices. These negative factors were partly offset by higher earnings contributions from our fully consolidated generation plants and our grid business.

Strategic Investments reporting segment

Strategic Investments from 1 October to 30 September

Euro million	**FY 2022**	FY 2021	+/– change	% change
Development in turnover				
Electricity (kWh million)	331	198	+ 133	+ 67
Heat (kWh million)	675	721	– 46	– 6
Gas (kWh million)	145	122	+ 23	+ 19
Water (m^3 million)	0.9	1.0	– 0.1	– 10
Usable residual waste delivered (tonnes 000s)	117	124	– 7	– 6
Adjusted sales excluding energy taxes	126	97	+ 29	+ 30
Adjusted EBIT	18	22	– 4	– 18

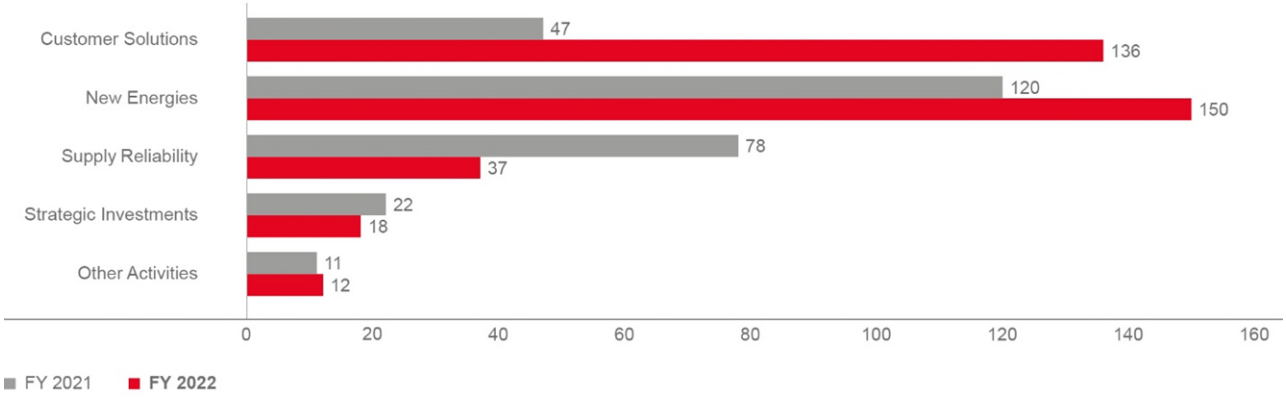
The increase in electricity turnover resulted among other factors from improved electricity marketing at our Czech subsidiary. The reduction in heat turnover was due above all to milder weather conditions, while the increase in gas turnover particularly resulted from the new customer business in Germany. The growth in adjusted sales reflects the development in electricity and gas turnover, while the decrease in adjusted EBIT was primarily attributable to higher gas procurement expenses at our Czech subsidiary.

Other Activities reporting segment

Other Activities from 1 October to 30 September				
Euro million	**FY 2022**	FY 2021	+/– change	% change
Adjusted sales excluding energy taxes	1	1	0	0
Adjusted EBIT	12	11	+ 1	+ 9

Adjusted EBIT was at around the same level as in the previous year.

ADJUSTED EBIT BY REPORTING SEGMENT
Euro million



Reconciliation with adjusted EBIT

In the following table, we show how we reconcile the EBIT reported in the income statement for the 2022 financial year with the adjusted EBIT relevant for management purposes.

Reconciliation of EBIT (income statement) with adjusted EBIT from 1 October to 30 September			
Euro million	**FY 2022**	FY 2021	+/– change
EBIT as reported in income statement	35	530	– 495
Financial derivative measurement items	315	– 256	+ 571
Structural adjustment for part-time early retirement	–	<1	–
Interest income from finance leases	3	4	– 1
Adjusted EBIT	**353**	**278**	**+ 75**

For our value-based management, we refer to adjusted EBIT and calculate this key operating earnings figure by chiefly adjusting our operating earnings before interest and taxes to eliminate the positive and negative items due to fair value measurement as of the reporting date of financial derivatives recognised pursuant to IFRS 9. These came to net totals of Euro – 315 million at 30 September 2022 and of Euro 256 million at 30 September 2021. These measurement items reflect the development in prices on the commodities and energy markets. They have no impact on payments, neither do they affect our operating business or dividend.

Development in key income statement items
In cost of materials, we eliminate the difference between the hedge and reporting date prices pursuant to IFRS 9. **Adjusted cost of materials** decreased by Euro 17 million to Euro 3,131 million and was thus approximately at the same level as in the previous year. The development in cost of materials chiefly reflects the rise in wholesale prices for gas and electricity, as well as higher electricity volumes. These factors were countered by volume effects for gas and lower cost of materials in our project development business.

Due above all to the growth in our workforce, **adjusted employee benefit expenses** rose by Euro 24 million to Euro 511 million.

Within other operating income, IFRS 9 measurement items amounted to Euro 4,635 million (previous year: Euro 1,224 million). Excluding these measurement items, the development in **adjusted other operating income** (further details under Notes to Income Statement, Note 4) was mainly influenced by measurement effects for cavern management. Overall, adjusted other operating income rose year-on-year by Euro 150 million to Euro 260 million.

In other operating expenses, IFRS 9 measurement items amounted to Euro 4,507 million (previous year: Euro 899 million). Excluding these measurement items, **adjusted other operating expenses** (Notes to Income Statement, Note 7) increased by Euro 179 million to Euro 384 million. This development was also mainly influenced by measurement effects relating to cavern management.

In the Income Statement, IFRS 9 measurement items are included in other operating income and other operating expenses. Their net balance resulted in a positive item of Euro 128 million in the 2022 financial year (previous year: Euro 325 million).

Income from companies recognised at equity rose by Euro 28 million to Euro 65 million, with this chiefly being driven by the sale of at-equity companies in the year under report. The previous year's figure was raised in particular by remeasurement of the shares in Fernwärme Rhein-Neckar given the subsequent full consolidation of this company.

Depreciation and amortisation (chapter Notes to Income Statement, Note 9) increased by Euro 7 million to Euro 211 million. This rise was attributable above all to investments and operations launches with property, plant and equipment in the period under report.

Largely as a result of currency translation items and measurement effects, the **adjusted financial result** improved by Euro 12 million and stood at Euro – 32 million.

Net of the adjusted financial result, **adjusted EBT** came to Euro 322 million and rose year-on-year by Euro 87 million (previous year: Euro 234 million). Adjusted taxes on income stood at Euro 73 million (previous year: Euro 58 million).

Adjusted annual net income rose by Euro 72 million and amounted to Euro 249 million for the year under report.

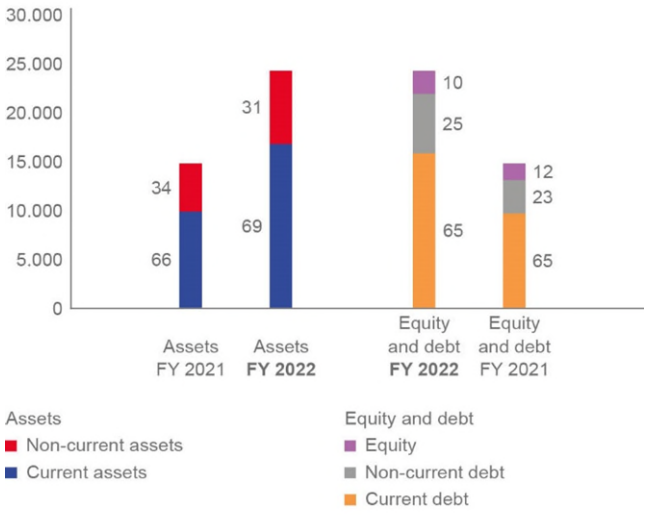
At Euro 72 million, **adjusted non-controlling interests** were Euro 46 million higher than in the previous year, a development chiefly due to improved earnings at Energieversorgung Offenbach and Stadtwerke Kiel. **Adjusted annual net income after minority interests** rose by Euro 26 million to Euro 176 million (previous year: Euro 150 million). On this basis, **adjusted earnings per share** amounted to Euro 2.67 (previous year: Euro 2.28). The number of shares was unchanged at 65.9 million.

PRESENTATION OF ASSET POSITION

Balance sheet structure

Euro 000s	30 Sep 2022	30 Sep 2021	% change
Assets			
Non-current assets	7,569,386	4,968,905	+ 52
Current assets	16,758,893	9,840,753	+ 70
Total assets	**24,328,279**	**14,809,658**	**+ 64**
Equity and debt			
Equity	2,446,071	1,758,624	+ 39
Non-current debt	5,998,445	3,373,131	+ 78
Current debt	15,883,763	9,677,903	+ 64
Total and equity debt	**24,328,279**	**14,809,658**	**+ 64**

BALANCE SHEET STRUCTURE
Euro million, shares (%)



Balance sheet development

Total assets amounted to Euro 24,328 million at the balance sheet date and were thus Euro 9,518 million higher than at 30 September 2021. Further details can be found in the Balance Sheet.

Non-current assets increased by Euro 2,600 million to Euro 7,569 million. Property, plant and equipment rose by Euro 67 million to Euro 2,955 million. This was chiefly due to the high volume of investments, which therefore exceeded depreciation and amortisation. The development in non-current other receivables and assets (chapter Notes to Balance Sheet, Note 22) particularly reflects the changed level of market prices and resultant rise in the positive fair values of energy trading transactions recognised under IFRS 9. This factor amounted to Euro 3,765 million at the balance sheet date (30 September 2021: Euro 1,240 million). Overall, non-current other receivables and assets rose by Euro 2,521 million to Euro 3,781 million.

Current assets grew by Euro 6,918 million to Euro 16,759 million. Above all, current other receivables and assets (chapter Notes to Balance Sheet, Note 22) rose by Euro 5,943 million to Euro 13,908 million, a development chiefly due to the higher level of market prices and resultant rise in the positive fair values of energy trading transactions recognised under IFRS 9. This factor amounted to Euro 13,662 million at the balance sheet date (30 September 2021: Euro 7,757 million). Inventories increased by Euro 141 million to Euro 352 million, with this being due in particular to higher stocks in our project development business, gas storage in a cavern and coal stocks. Primarily as a result of the higher level of prices on energy markets, trade receivables (chapter Notes to Balance Sheet, Note 24) grew by Euro 178 million to Euro 554 million. Cash and cash equivalents (chapter Notes to Balance Sheet, Note 26) rose to Euro 1,885 million, up by Euro 627 million compared with the previous year's balance sheet date. This increase was principally driven by high inflows of security deposits for counterparty default risk (margins), which amounted to Euro 895 million in the period under report (previous year: inflows of Euro 843 million), the disposal of companies and a high volume of net new borrowing.

Our equity including non-controlling interests amounted to Euro 2,446 million at the balance sheet date and was thus Euro 687 million higher than in the previous year (chapter Notes to Balance Sheet, Note 28).

Non-current debt increased to Euro 5,998 million, up by Euro 2,625 million compared with the previous year's balance sheet date. Within this item, non-current other liabilities (chapter Notes to Balance Sheet, Note 32) rose by Euro 2,304 million to Euro 3,590 million. This increase was primarily due to the changed level of market prices and resultant rise in the negative fair values of energy transactions recognised under IFRS 9. This item amounted to Euro 3,428 million at the balance sheet date (30 September 2021: Euro 1,125 million). The increase in deferred tax liabilities by Euro 253 million to Euro 527 million was due above all to the change in the positive fair values of derivatives recognised under IFRS 9.

Current debt grew by Euro 6,206 million and amounted to Euro 15,884 million in total. This development was notably influenced by current other liabilities (chapter Notes to Balance Sheet, Note 32), which rose by Euro 6,144 million to Euro 14,949 million. This increase was in turn chiefly due to the more marked changes in market prices and resultant rise in negative fair values of energy trading transactions recognised under IFRS 9. This item stood at Euro 13,178 million (30 September 2021: Euro 7,733 million). Moreover, the development in current liabilities was also influenced by high inflows of funds for security deposits for counterparty default risk (margins) in the period under report. As a result, liabilities for security deposits for counterparty default risk (margins) rose by Euro 632 million. The increase in trade payables (chapter Notes to Balance Sheet, Note 33) by Euro 124 million to Euro 507 million mainly reflects the higher level of wholesale prices on the energy markets.

For Group management purposes, we adjust our consolidated balance sheet at 30 September 2022 to eliminate cumulative IFRS 9 measurement items. On the asset side, we eliminate positive fair values of derivatives and allocable deferred taxes, which amounted to Euro 17,441 million (30 September 2021: Euro 8,994 million). On the equity and debt side, we eliminate negative fair values and allocable deferred taxes, which stood at Euro 16,858 million (30 September 2021: Euro 8,897 million). Within equity, we then eliminate the net balance of Euro 583 million (30 September 2021: Euro 97 million). This resulted in adjusted equity of Euro 1,863 million at 30 September 2022 (30 September 2021: Euro 1,662 million). As a percentage of adjusted total assets of Euro 6,888 million (30 September 2021: Euro 5,815 million), the adjusted equity ratio came to 27.1 % at 30 September 2022, compared with 28.6 % at 30 September 2021. This reduction is attributable above all to the substantial growth in total assets due to unusually high inflows of security deposits for counterparty default risk (margins). Excluding these margins, the adjusted equity ratio would amount to 34.3 % at 30 September 2022 (30 September 2021: 33.3 %).

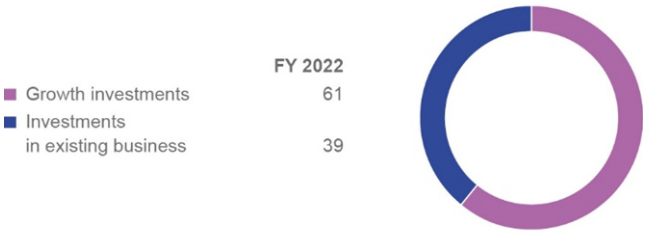
Investments

We invested a total of Euro 335 million in the 2022 financial year (previous year: Euro 306 million), and thus more than in any of the past six years.

Investments from 1 October to 30 September

Euro million	**FY 2022**	FY 2021	+/– change	% change
Customer Solutions	58	34	+ 24	+ 71
New Energies	109	124	– 15	– 12
Supply Reliability	135	125	+ 10	+ 8
Strategic Investments	11	8	+ 3	+ 38
Other Activities	22	15	+ 7	+ 47
Total	**335**	**306**	**+ 29**	**+ 9**

INVESTMENTS
Shares (%)



Our largest investment projects involved:

- Taking over 100 % of the shares in Avantag Energy and its associate Philipp Rass Energy
- Investing in green heat generation plants, including building a plant to provide backup and cover peak load in our district heat supply, building a river heat pump and the new grids required for this
- Building solar parks and a windfarm and taking these over into our proprietary portfolio
- Constructing a further bio-waste anaerobic digestion plant
- Installing a new plant technology to produce phosphorous from sewage sludge in Mannheim
- Maintaining and renewing our distribution grids to safeguard supply reliability.

PRESENTATION OF FINANCIAL POSITION

Current and non-current financial debt grew by Euro 31 million to Euro 1,917 million. The taking up of new loans and issue of a promissory note loan were countered by repayments of existing loans. At the same time, cash and cash equivalents rose by Euro 627 million to Euro 1.885 million, a development due above all to high inflows of security deposits for counterparty default risk (margins) in the period under report, as well as to the disposal of companies. Overall, **net financial debt** (current and non-current financial debt less cash and cash equivalents) fell by Euro 596 million to Euro 32 million. Net financial debt excluding margins stood at Euro 1,449 million (previous year: Euro 1,450 million).

Based on lower earnings before taxes (EBT) compared with the previous year, the elimination of non-cash and non-operating income and expenses led the **cash flow before working capital and taxes** to increase by Euro 63 million. The largest item in this elimination related to the non-cash-effective measurement of derivatives pursuant to IFRS 9. By contrast, this cash flow figure was negatively affected by the reclassification of non-operating income from sales of fully consolidated and at-equity companies to the cash flow from investing activities.

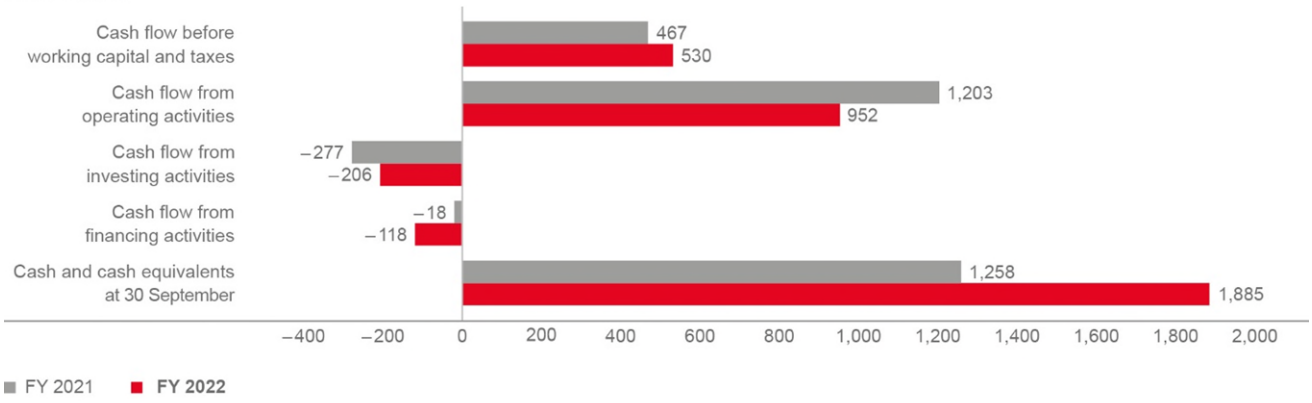
The **cash flow from operating activities** fell year-on-year by Euro 251 million. This resulted above all from lower inflows of security deposits for counterparty default risk (margins). From an operating perspective, factors reducing the cash flow more significantly than in the previous year chiefly included the more marked rise in trade receivables due to the higher level of wholesale prices on energy markets and the higher increase in inventories. These factors were countered, with a correspondingly positive impact, in particular by the invoicing of projects in our project development business and the more marked rise in trade payables due to the higher level of wholesale prices on energy markets.

The development in the **cash flow from investing activities** was mainly shaped by higher proceeds from the sale of fully consolidated and at-equity companies in the period under report. These were countered by higher payments for the acquisition of companies in the period under report, as well as by higher payments for investments in non-current assets. Overall, the cash flow from investing activities decreased year-on-year by Euro 70 million.

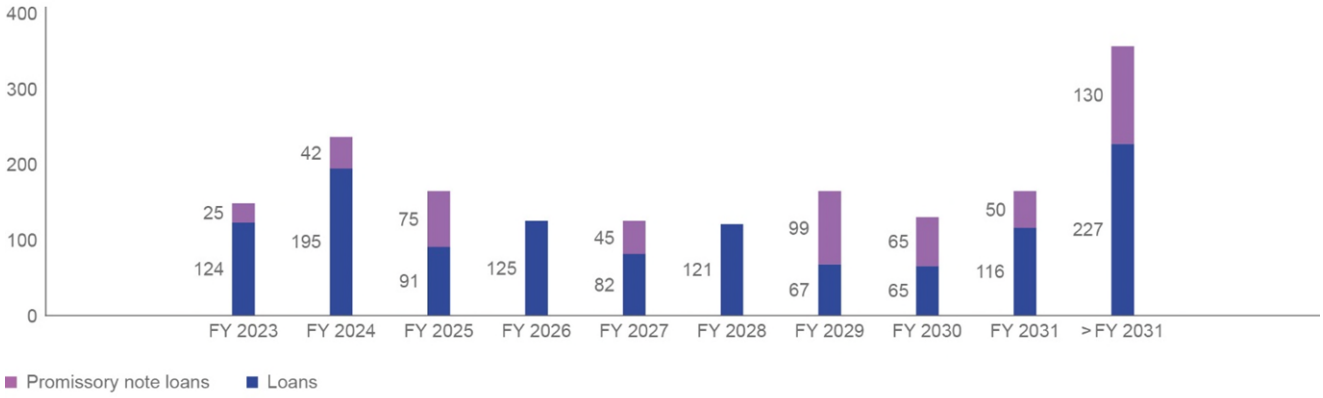
The **cash flow from financing activities** fell by Euro 100 million compared with the previous year, a development which mainly resulted from a lower volume of net new borrowing.

At 30 September 2022, MVV posted **cash and cash equivalents** of Euro 1,885 million (30 September 2021: Euro 1,258 million). Excluding margins, cash and cash equivalents amounted to Euro 468 million (previous year: Euro 436 million).

CASH FLOW STATEMENT
Euro million



REPAYMENT PROFILE
Euro million



Financial management

Our access to the capital markets is as strong as ever, meaning that we have no difficulty in covering MVV's liquidity requirements. We benefit here from our strong creditworthiness, our diversified business portfolio and our corporate strategy, which focuses on sustainable and profitable growth. MVV has very strong liquidity in the form of cash funds and firmly committed bank credit lines.

Our repayment profile shows consistency over a horizon of several years.

At the balance sheet date, MVV Energie managed a cash pool for itself and 31 companies in our Group. In this capacity, it manages, procures and secures both its own short-term liquidity and that of subsidiaries included in the pool. Long-term financing required for investments is provided to the subsidiaries in the form of shareholder loans.

Credit rating

MVV is not assessed by any rating agencies. In the rating talks we hold with our core banks, however, we receive regular feedback on our creditworthiness. Based on this information, we can assume that MVV continues to be classified at stable investment grade level.

COMBINED NON-FINANCIAL DECLARATION

General information

By publishing this Combined Non-Financial Declaration (NFD), we have complied with our reporting obligations in accordance with § 289b (1) and § 315b (1) of the German Commercial Code (HGB). We submit the NFD both for the MVV Group (MVV) and for its parent company, MVV Energie AG. The guidelines and concepts applied by MVV and MVV Energie AG are consistent with each other; no non-financial targets refer solely to MVV Energie AG. The NFD comprises this chapter and forms a constituent part of the combined management report. In connection with Regulation EU 2020/852 (EU Taxonomy), we have published the key performance indicators required by Article 8 of the EU Taxonomy and the supplementary Delegated Act for the first time for the 2022 financial year. These involve the shares of sales ("turnover"), investments ("CapEx") and operating expenses ("OpEx") associated with taxonomy-aligned economic activities and supplementary qualitative disclosures. Furthermore, we report on the processes introduced at MVV to promote ongoing implementation of the EU Taxonomy. All disclosures made pursuant to Article 8 of the EU Taxonomy can be found in the section EU Taxonomy at the end of this NFD.

The reporting in the NFD refers to MVV and thus, as in other sections of this Annual Report, to all subsidiaries fully consolidated in the consolidated financial statements. For select key figures in the environmental aspects section, we additionally provide information on shareholdings recognised at equity. If, for select reporting topics, we focus on our main locations in Mannheim, Offenbach, Kiel and Wörrstadt, then we indicate this accordingly. To avoid redundancies within our combined management report, in relevant sections of the NFD we refer to further information included in other chapters. References to disclosures outside the combined management report constitute supplementary information and do not form part of the NFD.

The Supervisory Board commissioned PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC), Munich, to perform a limited assurance audit on the NFD. This was based on the International Standards on Assurance Engagements ISAE 3000 (revised). The audit opinion can be found in the chapter Other Disclosures.

From 1 January 2023, MVV will be subject to the scope of application of the German Act on Corporate Due Diligence Obligations for the Prevention of Human Right Violations in Supply Chains (LkSG), which was adopted in summer 2021 and lays down new requirements for processes and reporting on aspects relevant to human rights. We have reviewed the statutory requirements in connection with our existing supply chain-related processes and will ensure that these are complied with at MVV.

We are consistently working to minimise any potentially negative implications of our business activities and to make measurable contributions to transforming the energy supply and protecting the climate and environment. In our Annual Report and on our website, we have for many years now provided information about the challenges we face and the progress we have made as a company that acts sustainably. Moreover, we will publish our Sustainability Report for the 2022 financial year on our website in February 2023. We prepare this in accordance with the GRI Standards of the Global Reporting Initiative. By publishing the Sustainability Report, we will in customary form satisfy the transparency requirements of our stakeholders – and go beyond our statutory reporting obligations.

The contents of the NFD and our Sustainability Report are determined on the basis of our materiality analysis. To perform this, we continually monitor public discussions and the positions of our stakeholders. We regularly assess whether and how the relevance of our material topics has changed. This multistage process includes:

- Desk-based research and internal analysis
- Surveys of those specialist departments which have interfaces with our external stakeholder groups
- Workshops and interviews with select stakeholders
- External online surveys of MVV's stakeholders and customers
- Use of external AI-based data providers

We review all aspects of the materiality process every three to four years, most recently in the 2021 financial year. Moreover, we also update the main characteristics and prioritisations on an annual basis. In terms of its contents, the materiality analysis also accounts for global challenges and megatrends, Sustainable Development Goals, industry and technology-related trends and the expectations of our internal and external stakeholders. Our materiality analysis comprises three content-related perspectives, namely stakeholder relevance, business relevance and impact of our business activities. Analysing these dimensions enables us to meet the various requirements placed in the materiality analysis by different reporting standards.

To identify which sustainability topics are particularly significant to us, in 2022 we performed a materiality analysis in accordance with GRI Standards and voluntarily supplemented this with the business relevance dimension. In the second stage, we allocated the results of this analysis, where applicable, to the aspects listed in § 289c HGB, namely environmental concerns, employee concerns, social concerns, respect for human rights and combating corruption and bribery. We reviewed which disclosures were needed for these aspects to provide an understanding of the course of business, business results and situation of MVV Energie AG and the MVV Group, as well as the implications of our business activities for these aspects. As in previous years, this review showed that fewer aspects are relevant for the NFD than we report in our GRI Sustainability Report. The table on the following page provides an overview of these aspects. We base our description of concepts and our non-financial key figures in this NFD on GRI Standards; in our Sustainability Report for the 2022 financial year, which will be published in February 2023, we will meet these standards.

Business model and risk analysis

We are pursuing a long-term sustainability-driven strategy. This involves providing our customers with a supply of energy that is generated in ways that are as environmentally friendly as possible and supporting them with innovative solution enabling them to implement their own energy transformation and achieve climate neutrality. We cover all major stages of the energy industry value chain. Further information can be found in the chapters Business Model and Corporate Strategy.

Within our existing risk management system, which is described in the chapter Opportunity and Risk Report, we record and evaluate all material risks, including non-financial risks, that are associated with our business activities and business relationships. The review process performed on non-financial risks in the 2022 financial year concluded that there were no risks which satisfied the materiality criteria set out in § 289c (3) Nos. 3 and 4 HGB.

One dominant development in the year under report was the war in Ukraine and resultant disruption on energy markets. We report on this in the chapter Business Framework. This situation gave rise to financial and non-financial risks that were continually recorded and evaluated by our risk management. In this context, one knock-on effect involves climate protection: The generation structure in Germany changed, with an increase in coal-based electricity generation in particular in order to consume less natural gas. For the energy industry and energy companies, this resulted in a temporary rise in CO_2 emissions. This development has reduced the likelihood of Germany meeting its national CO_2 targets or of being able to comply with the CO_2 budgets for 1.5 degrees Celsius. We explain how we are reacting to this situation in the environmental concerns aspect in the section Climate Neutrality.

We are also carefully monitoring the ongoing coronavirus pandemic and its implications. Its impact on our own business processes and activities is not only direct. As well as our employees, our business partners and customers also face direct and indirect potential health risks. The pandemic continues to impact on our operating business and on the political implementation of the energy transition and decarbonisation, whether due to shifting political priorities or changed fiscal scope. However, the focuses set by the Federal Government to date are moving more closely towards transforming the economy and society along the lines of climate neutrality. This approach is also to be viewed in connection with the final section of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), released in spring 2022, which calls for accelerated implementation of climate protection measures.

Sustainability management

Our sustainability management focuses on those topics, processes and measures that we view as forming part of our core business (please also see the chapter Business Model) and is based on our corporate strategy (find out more in the chapter Corporate Strategy). Our strategic decarbonisation and sustainability targets (here we refer to the section Environmental Concerns Aspect) were adopted by the Executive Board and discussed by the Supervisory Board; they form an integral component of our corporate strategy and of the business field strategies adopted on this basis.

Our sustainability management is anchored on various levels of the Group. The Executive Board bears overall strategic responsibility. The sustainability department, which is located in organisational terms in our group strategy and energy industry department, coordinates the sustainability strategy, reports to the Executive Board and relevant bodies and manages the groupwide sustainability programme. This department shares information across business fields and is also where projects and measures are planned and implemented. Moreover, sustainability management is also responsible for major aspects of MVV's stakeholder management. The specialist departments continually review, evaluate and manage MVV's performance based on sustainability indicators and medium-term targets. For many years now, we have evaluated investment projects by reference to sustainability criteria and in terms of the contribution they make to our decarbonisation and sustainability targets. The measures and management systems are implemented on an operative level by the business fields acting under their own responsibility.

Disclosures on contents of combined non-financial declaration

Contents of combined non-financial declaration		
Aspects pursuant to § 289c HGB	**MVV area of action pursuant to MVV materiality analysis according to GRI**	**Disclosures on concepts, targets, measures, results, due diligence processes and non-financial key figures pursuant to § 289c HGB in section**
Environmental concerns	Energy system transformation	Climate neutrality Renewable energies and energy transition Supply reliability
	Environment and resources	Resource efficiency Local environmental protection Sustainable circular economy
Employee concerns	Social responsibility	Employer attractiveness
Social concerns	Social responsibility	Corporate social responsibility
Respect for human rights and combating corruption and bribery	Social responsibility	Responsibility for supply chain and human rights Compliance and respect for human rights

Environmental concerns aspect

Climate neutrality

The final section of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) made it clear that stricter climate protection measures are required both globally and nationally as the remaining CO_2 budget has decreased. Published at the beginning of 2022, this IPCC report underlines the need to limit the rise in global temperatures to 1.5 degrees Celsius, as the overall ecosystem risks passing irreversible tipping points. Moreover, the level of vulnerability, i.e. the extent to which a system such as an ecosystem, economic system or social system is threatened by changes in the climate, will otherwise increase disproportionately. As temperatures rise, the frequency and intensity of extreme weather events will significantly increase. This will also be the case in Germany. For example, extended periods of heat and drought such as those in summer 2022 will occur ever more frequently. According to the IPCC, it is still possible to limit global warming to 1.5 degrees Celsius, but only if a significant portion of the required reduction in CO_2 is achieved in the current decade already. Here, industrial countries, and the EU in particular, will have a key role to play as they can demonstrate the compatibility of economic growth, prosperity and climate protection.

In the EU, climate neutrality is to be achieved by 2050 at the latest. In the German Climate Protection Act (KSG), the Federal Government stipulated in 2021 that Germany should become climate neutral by 2045 already. It will be necessary to achieve negative emissions from the 2040s onwards in order to offset unavoidable emissions, such as those from agriculture. We describe the associated developments in energy policy in the chapter Business Framework. We have accorded great importance to climate protection, decarbonisation and renewable energies for many years already.

Energy industry has a key role to play

To achieve climate neutrality, the energy industry has to quickly reduce its direct emissions to zero. This means doing entirely without fossil fuels. The great challenges for the 2020s involve rapidly exiting from coal-based power generation, reducing energy consumption in absolute terms and the use of heating oil, and that in parallel with completing the exit from nuclear energy. At the same time, it will be necessary to build or modernise the infrastructures needed to safeguard a fully climate-neutral energy supply by 2040 at the latest. This involves accelerating the expansion in renewable energies and the infrastructures needed to generate, transport and use climate-neutral gases. These are the technical preconditions enabling the use of fossil-based natural gas to be gradually phased out in the 2030s while simultaneously upholding supply reliability. With the National Hydrogen Strategy adopted by the Federal Government in 2020 and the beacon projects already initiated, lawmakers have provided initial political momentum for facilitating the transition from fossil-based natural gas to green hydrogen, particularly for industry. The war in Ukraine has further underlined the importance of this topic and the significant role played by dependence on natural gas and associated energy security considerations. It is now crucial for lawmakers to lay the right foundations: Liquid natural gas (LNG) can only provide temporary assistance. Gas consumption, whether fossil-based or green, has to be significantly reduced throughout the economy. With the transition from natural gas use to electricity-based applications or other renewable energies, part of the existing natural gas grid structure will no longer be needed in the long term. The remaining sections of grid infrastructure are expected to be transformed from natural gas to hydrogen, especially for industry. Associated transformation planning is being promoted nationwide by the H2vorOrt (H2 on Location) initiative.

The short-term increase in CO_2 emissions in the energy industry is one factor that makes it necessary to convert to renewable energies even more quickly. Due to the geopolitical consequences of the war in Ukraine, the volume of coal-based electricity generation is rising in order to safeguard supply reliability. The additional CO_2 emissions arising as a result are reducing the remaining emissions budget for the 1.5-degree trajectory. These additional emissions will have to be saved again by 2045. This can only be achieved by converting even more quickly to 100 % renewable energies, and here in particular by increasing domestic energy production from wind and solar power and importing green hydrogen. The current setback due to geopolitical developments will therefore have to be offset with greater tempo in future. Due to the complexity involved and pace required, the installation of a new energy infrastructure in less than one generation also represents a great social and financial challenge. Rising interest rates and sector risk premiums, decreasing macroeconomic growth potential and geopolitical uncertainties – these factors increase the costs of capital and reduce investment potential in a period requiring the allocation of very large volumes of capital to green energy infrastructures and climate protection technologies. Despite this difficult climate, MVV is maintaining a very high pace of investment in the energy transition.

Like all other sectors, the energy industry will also have to reduce its indirect emissions to zero. These are emissions arising at upstream suppliers and end customers. In this regard, full climate neutrality will only be achieved when other economic sectors also succeed in protecting the climate. We report our direct and indirect CO_2 emissions in Scopes 1, 2 and 3 in our climate balance sheet (see section MVV's Climate Balance Sheet within Climate Neutrality).

Climate neutrality is only an interim stage

The German Climate Protection Act (KSG) states that, by 2045, greenhouse gas emissions have to be reduced far enough for the country to achieve "net greenhouse gas neutrality". The target hereby formulated is consistent with the terms agreed in the Paris Climate Agreement and means that all greenhouse gas emissions caused by people will have to be removed from the atmosphere in other areas to enable the climate balance sheet to reach zero and global temperatures to stabilise. Net zero is increasingly used as the term to summarise this process for political and communication purposes. Particularly on company level, the term climate neutrality is increasingly used to refer to strategies in which the focus is not on reducing fossil-based energy to zero ("net zero") but on achieving arithmetic neutralisation by working with offsetting measures. In this context, it is often significant that companies only implement those climate protection measures that are economically viable rather than all measures that would be technically possible. As the 2022 IPCC Report makes clear, however, it will be necessary not only to forego all use of fossil-based energies; the net balance sheet will have to become negative by the middle of the century, meaning that CO_2 will have to be permanently removed from the atmosphere. MVV has coined the term #climatepositive to describe this process. We will be one of the first energy companies to achieve negative overall emissions, and that without drawing on offsetting certificates.

#climatepositive is our target

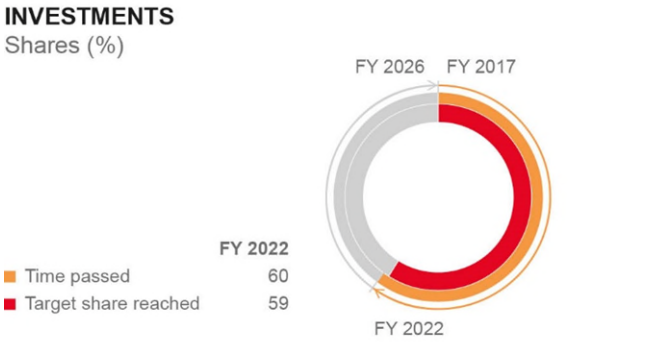
At MVV, we define net zero as follows: We do not exclude any sources of emissions from our climate balance sheet and thus from our decarbonisation targets. We include all direct and indirect sources of emissions at our fully consolidated companies and, on a voluntary basis, the prorated share of emissions at our at-equity shareholdings. This way, we also assume responsibility for emissions arising at our customers due to the products we sell, such as natural gas, as well as for indirect greenhouse gases at our upstream suppliers, such as those emitted in the production of wind turbines and photovoltaics systems. We do not account for any offsetting measures but do include negative emissions for CO_2 permanently removed from the atmosphere. For MVV, climate neutrality – and net zero – is achieved when, on portfolio level, we have reduced our direct and indirect emissions by at least 95 % in absolute terms and offset potential technically unavoidable residual emissions with our own permanent CO_2 sinks. We will reach this target at the latest by 2040. We understand residual emissions as involving those unavoidable greenhouse gas emissions which we cannot reduce any further in technical terms by drawing on other alternatives for the same application. Current examples here are the incineration of waste or upstream emissions resulting from ground movements in agriculture. To achieve full climate neutrality here as well, we will offset these unavoidable residual emissions in the

long term with our own CO_2 sinks in MVV's portfolio or ensure permanent and secure storage of the greenhouse gases.

In the long term, we will go one step further and become climate positive as a company. Our climate balance sheet will show negative emissions due to additional CO_2 sinks from 2040 at the latest. As a company, and including emissions at our customers and suppliers, MVV will be climate positive.

To meet our targets, we are investing in sustainable growth. We have aligned our investment programme, which is broad-based and has a long-term focus, to our ambitious decarbonisation and sustainability targets. In future, we will be drawing even more closely on the opportunities arising in the course of the energy transition. For the period from 2016 to 2026, we have set ourselves the following target:

We are investing Euro 3 billion in the energy system of the future.



MVV's decarbonisation targets in the Mannheim Model

Our decarbonisation targets are the centrepiece of our Mannheim Model, which directly links climate protection with our corporate strategy.

Our actions will be determined by ensuring that our company's development is compatible with the 1.5-degree trajectory. We are aware that the reduction trajectory set out in the 2021 German Climate Protection Act (KSG) is not sufficient to meet the 1.5-degree target. The reduction in our direct energy industry emissions on the decarbonisation trajectory for the overall energy sector in Germany is therefore only an approximation.

MVV is going beyond the political targets set in the German Climate Protection Act (KSG) and the EU's Green Deal, which are based on specific reference years, such as 2030 and 2045. Internally, we are pursuing a budget-based approach, i.e. taking account of various allocation methods we intend not to exceed a maximum remaining CO_2 budget. We have decided not to include this information in our external reporting as the associated developments in energy generation and turnover over extended periods in some cases constitute competition-relevant information.

For our company-specific decarbonisation targets, we continue to take 2018 as our base and reference year and to set milestone year-based targets to document our progress for the general public.

For indirect greenhouse gas emissions (Scopes 2 and 3), existing norms do not permit the derivation of any suitable decarbonisation path, not least due to the highly heterogeneous structure of our international value chain. We therefore refer to the 1.5-degree decarbonisation trajectory recommended by the Science Based Target initiative for the energy industry sector as guidance and as a minimum reduction path for Scopes 2 and 3.

In terms of the groupwide decarbonisation targets set within the Mannheim Model, we go well beyond the decarbonisation trajectory set out in the KSG legislation. While the KSG provides for a 64 % reduction in CO_2 emissions in the energy industry between 2018 and 2030 and calls for climate neutrality by 2045, we aim to be notably more ambitious in implementing climate protection and reduce our CO_2 emissions significantly faster than the sector. To achieve this, we are pressing ahead with the electricity transition and associated expansion in renewable energies, as well as supporting our customers in their own decarbonisation; above all, we are promoting the heat transition.

We aim to be one of the first climate-positive energy companies in Germany.

From 2040 at the latest, we will not only be net zero in terms of all our direct and indirect emissions sources; we will actually be climate positive. We aim to achieve this on the one hand by deploying suitable technologies to remove greenhouse gases from the atmosphere on a permanent basis. On the other hand, with our services and green products we will support our customers, whether they are private households, companies or local authorities, to become climate neutral themselves. To this end, we are further expanding our portfolio of climate-neutral products and services.

MVV validated by Science Based Target initiative under net zero standard

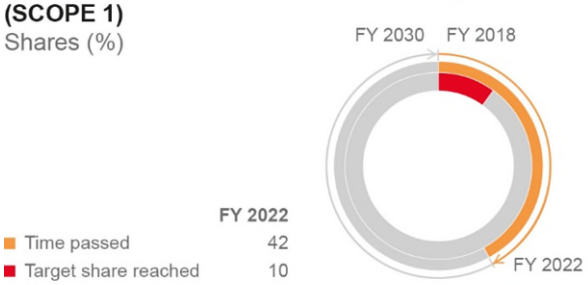
Our decarbonisation targets were certified by the Science Based Target initiative (SBTi) several times in 2021 already. Back in 2015, we were one of the first European companies to join the SBTi, and that ahead of the Paris Climate Agreement already. Since then, MVV's sustainability and decarbonisation targets have been reviewed by the SBTi on several occasions. In 2021, MVV was the first German energy company to receive certification that it was pursuing a scientifically verified 1.5-degree trajectory. In autumn 2022, MVV was the first German energy company, and only the third worldwide, to receive validation based on the new and even stricter net zero standard. This provided further confirmation that our medium and long-term sustainability and decarbonisation targets comply with the strictest standards. These Mannheim Model targets form the basis for our strategic group planning, which we operationalise within the company with further detailed and interim targets. Our corporate strategy is specified in greater detail on a decentralised basis by our business fields. On group level, the investments made by all business fields are assessed in terms of their contribution to #climatepositive.

In what follows, we present our targets, areas of action and activities:

By 2030, we will reduce our energy industry Scope 1 emissions by more than 80 % compared with 2018.

REDUCTION IN ENERGY INDUSTRY CO_2 (SCOPE 1)

Shares (%)

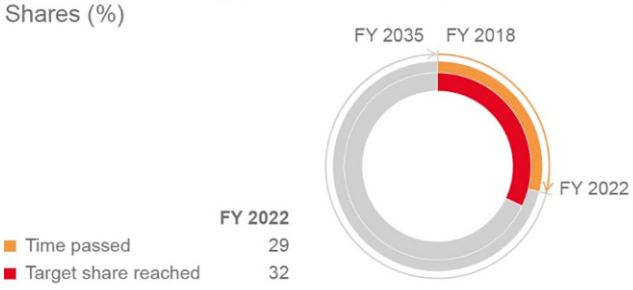


This corresponds to emissions of less than 0.5 million tonnes in 2030 (Scope 1). Key decarbonisation measures for direct emissions (Scope 1) are:

- We will maintain a high pace of expansion for renewable energies to generate electricity and green heat with the aim of providing our customers with a fully climate-neutral, failsafe and affordable energy supply.
- We will convert our district heat supply for Mannheim and the region to 100 % green energy sources by 2030 at the latest.
- We will consistently press ahead with the coal exit decided by lawmakers.
- We are reducing the use of fossil-based natural gas at existing plants by adding renewable energies and using green gases.
- We will not build any new (CHP) power plants fired by fossil-based natural gas for the general public supply, i.e. electricity and district heat.

By 2035, we will reduce indirect greenhouse gases (Scopes 2 and 3) by more than 80 % compared with 2018.

REDUCTION IN CO_2 (SCOPES 2 AND 3)
Shares (%)



This corresponds to emissions of less than 1.5 million tonnes (Scope 3) by 2035. Key decarbonisation measures for indirect emissions (Scopes 2 and 3) are:

- We support our customers in achieving their own climate neutrality by promoting the procurement and supply of green energy and offering services and solutions for their own energy transitions and energy efficiency.
- We are gradually making our products and services 100 % climate neutral. When it comes to supplying green energy to our customers, we are already able to offer all necessary products and services.
- From 2035, we will no longer offer any fossil-based energy forms for sale, but then rather supply our customers exclusively with green energy.
- In our procurement of goods and services right through to power plants, we ensure that our suppliers aim for ambitious reductions in their CO_2 footprints.
- We are enhancing our own energy efficiency and using green energies in our own buildings and to operate our grids.

Our approach to unavoidable residual emissions
In our climate balance sheet, we have voluntarily reported the total waste-related emissions at our power plants fired by waste and refuse-derived fuels as a separate line item for many years now. As a basic public service, waste incineration forms part of the disposal mandate for non-recyclable municipal and commercial waste. Due to the general ban on landfilling in Germany, there is a statutory obligation to incinerate untreated municipal waste at waste incineration plants (energy from waste plants/EfW plants).

Around half of the non-recyclable waste incinerated at energy from waste plants comprises biological components, such as bio-waste, paper residues, cellulose components and woody residues. Where no better technical alternatives are available for the same application, the other half of the non-recyclable waste generates unavoidable greenhouse gases. These are attributed to the products thereby incinerated and the disposal process, rather than to the energy products derived in the form of the waste heat used. Based on technology currently available, it is not yet possible to sort the non-recyclable waste delivered, particularly municipal waste delivered by local authorities, in such a way that significant volumes can be treated and made available for use other than incineration.

The energy acquired from waste heat at the energy from waste plants makes a material contribution towards protecting the climate as it reduces the use of fossil-based fuels harmful to the climate. As this waste heat arises in any case due to the municipal disposal mandate and would otherwise remain unused, the law states that the energy acquired from waste heat at the energy from waste plants counts as CO_2 neutral. The district heat produced by these plants is therefore also CO_2 neutral and placed on a par with renewable energies when it comes to building energy assessments. Compared with other players in the sector, our energy from waste plants also have very high energy efficiency levels. The plant in Mannheim is one of the most energy-efficient plants worldwide.

By adding CO_2 capture technologies and storing or using CO_2 on a long-term basis, energy from waste plants can also achieve physical climate neutrality. When biogenic emissions sources are used, end-to-end concepts of this nature are referred to as Bio-Energy Carbon Capture Utilisation and Storage (BECCUS). If it can be ensured that the CO_2 thereby captured remains permanently bound, then the biogenic share of emissions involves “negative emissions”. Consequently, the share of non-biogenic emissions thereby captured is made CO_2 neutral. This way, energy from waste plants not only become climate neutral in the long term; they even turn climate positive, i.e. become large-scale industrial CO_2 sinks. Thanks to BECCUS, the CO_2 previously bound in the biomass is no longer returned to the atmosphere. This helps to reduce the global concentration of CO_2. The technology used to capture CO_2 is already mature, yet options for sustainable implementation are still limited by a current lack of political regulation, limited acceptance within society, a lack of CO_2 transport infrastructures and economic viability. We therefore only expect to see widespread application in the course of the 2030s.

We are closely reviewing the technical, economic and ecological feasibility of fitting our own energy from waste plants with CO_2 capture and downstream CO_2 storage paths. We will deploy this technology on a permanent basis as soon as long-term, sustainable and secure storage or long-term recirculation of the CO_2 can be ensured and the political and social framework permits its use. We assume that the CO_2 thereby captured will be stored in gas fields beneath the North Sea that are already empty rather than in Germany. For this “export” of CO_2, existing legal hurdles will still have to be dismantled in the medium term. Moreover, clear regulation will be required to determine that negative emissions generated this way are imputed to or tradable in the EU-ETS or in the national scope of the German Fuel Emissions Trading Act (BEHG).

BECCUS and other negative emissions technologies, such as generating biomass carbonates from pyrolytic carbonisation of plant-based raw materials, will play the decisive role in turning MVV into a climate-positive company by 2040 at the latest. Should it be technically, politically and economically viable to capture and store the CO_2 at an earlier date, then we will accelerate the implementation of our activities in this area. Today, we already generate a low volume of negative emissions in connection with CO_2 capturing at our bio-waste anaerobic digestion plant in Dresden. The CO_2 captured there is made available for industrial use in other sectors.

Key decarbonisation measures for unavoidable residual emissions are:

- We are extending our own expertise in the field of BECCUS for energy from waste and biomass plants and seeking to exchange views and experience with relevant players in business and science, within society and in the political arena.
- We will build a first CO_2 capture pilot plant, most likely in 2023, at the energy from waste plant in Mannheim in order to gain expertise in the operating processes, logistics and technology required for BECCUS on an industrial scale.
- We are pressing ahead with feasibility analyses and plans through to preparing plant technology at our energy from waste and biomass plants with the aim of making it possible to implement BECCUS from the 2030s.
- We aim to create proprietary CO_2 sinks for unavoidable residual emissions or facilitate the permanent and secure storage or use of greenhouse gases (BECCUS).
- We are reviewing and piloting further technologies for negative emissions, such as the generation of biomass carbonates aimed at permanently demobilising the constituent carbon. We are capturing CO_2 at one of our bio-waste anaerobic digestion plants and looking into ways of putting this to industrial use.

Rising CO_2 emissions in the 2022 financial year
Previously unforeseeable developments on the commodity markets due to the war in Ukraine also impacted directly on MVV. The short-term substitution of coal-based electricity generation for gas-based generation, a move called for by energy policy, led to an increase in production volumes, particularly at our at-equity shareholding Grosskraftwerk Mannheim AG (GKM), and thus to higher volumes of prorated CO_2 emissions.

From both political and business perspectives, it is a difficult matter of balancing competing targets: upholding supply reliability and avoiding any gas shortage in the short term while ensuring compliance with self-imposed climate protection targets in the medium and long term. After in-depth consideration, MVV decided to prioritise upholding supply reliability for its industrial, commercial and household customers in the short term, with the effect that its CO_2 emissions will also rise in the short term. Matters of energy and security policy played a crucial role in this decision. The review currently still underway as to whether the district heat backup plants being built at the Mannheim location should be fitted for bivalent use in future is also to be viewed in this context. This would enable us, in the event of any shortage, to use heating oil – alongside natural gas – and thus lower our dependency on the latter and guarantee the highest level of supply reliability for our district heat. Based on current developments, we have to assume that this exceptional situation on the energy markets will still have repercussions for future financial years as well.

With regard to the 2022 financial year, this meant that our Scope 1 CO_2 emissions grew by 4 % overall. That is a development we had neither planned nor expected. Our decarbonisation path is based on a contracting climate balance sheet, even if we expect this development to be graded rather than linear. Being realistic, the ongoing tense situation on the energy markets obliges us to assume that we will fall short of the required decarbonisation path in subsequent years as well. Should Block 7 at Grosskraftwerk Mannheim, a coal-based generation block which is in the grid reserve, be called on to produce electricity for the market again on a temporary basis, then this could also involve increased emissions.

We are aware that current and foreseeable additional emissions will significantly reduce the remaining budget required to comply with a 1.5-degree trajectory. In view of this, MVV immediately introduced operative and strategic measures to additionally save these extra emissions over the next ten years. This way, we aim to ensure that we can nevertheless comply with our long-term decarbonisation targets. These measures include stepping up the expansion of renewable energies in our own portfolio. Furthermore, once the tense current situation in the German gas and electricity markets has eased we will manage our conventional generation portfolio even more closely on the basis of its CO_2 emissions.

Irrespective of these developments, we pressed ahead once again in the 2022 financial year with numerous projects and activities that will shrink our CO_2 balance sheet in the medium term. Examples here include:

- Building the river heat pump with a capacity of 20 MW_t at the Mannheim location
- Extending our proprietary renewable generation portfolio by 50 MW_e
- Extending our range of solutions: further developing our B2B advisory services, including sustainability and climate protection management, planning and building photovoltaics systems and electric charging infrastructure, implementing sustainable solutions for our customers' own energy transitions. Thanks to Avantag, the subsidiary acquired in the 2022 financial year, for example, we can launch operations with significantly greater volumes of photovoltaics at our customers.
- Group-wide inventory of SF_6 gases, i.e. the greenhouse gas sulphur hexafluoride, and identification of measures to reduce emissions
- Increased sales activities for green commodities, also aimed at reducing consumption of fossil-based natural gas
- Improvement in the basis of data for our CO_2 footprint for Scope 3 emissions
- Active participation in municipal climate protection activities at our locations, such as our involvement in the 2030 Climate Action Plan of the City of Mannheim

MVV's climate balance sheet

In our climate balance sheet, we distinguish between direct and indirect CO_2 emissions.

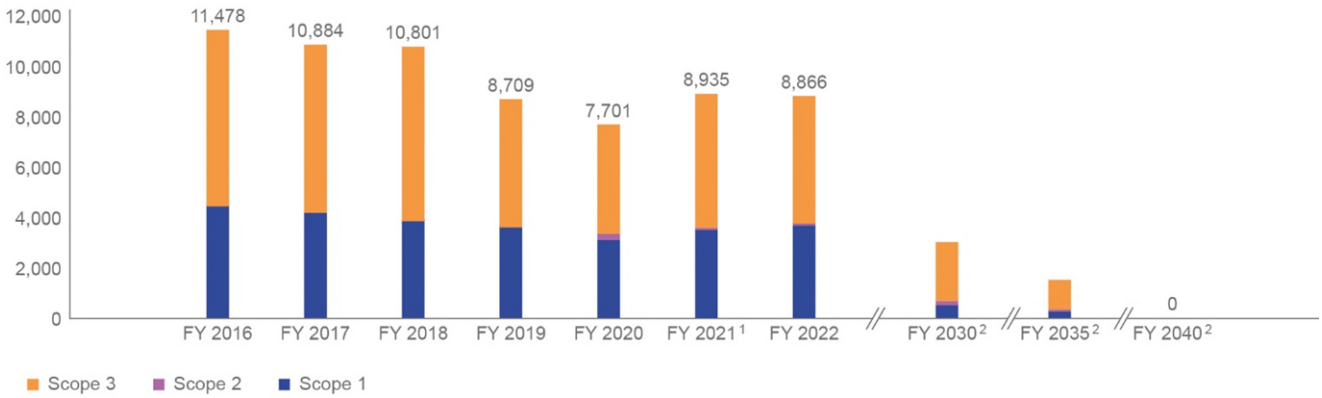
STRUCTURAL COMPOSITION OF OUR CLIMATE BALANCE SHEET

36 %	2 %	41 %	21 %
Scope 3 upstream	**Scope 2[1]**	**Scope 1**	**Scope 3 downstream**
» Purchased electricity and heat » Purchased goods and services » Upstream emissions for fuels and transport » Grid losses for purchased electricity and heat » Business travel and employee commuting	» Grid losses in proprietary grids » Energy consumption at business locations	» Energy industry: energy generation (electricity, heat) » Disposal industry: EfW, RDF » Methane and sulphur hexafluoride emissions in grid and plant operations	» Burning by end customers of natural gas sold » Emissions from customer use of sold products and generation plants » Emissions from customer disposal of sold products » Waste

1 Location-based

DEVELOPMENT IN TOTAL EMISSIONS

Fully consolidated and at-equity companies
1,000 tonnes CO_{2eq}



1 Previous year's figures adjusted
2 Target figures: simplified assumption of linear development for Scope 1 in 2035 and Scope 3 in 2030

The generation of energy at our proprietary plants or at plants from which we procure contingents gives rise to direct CO_2 emissions. These are designated as Scope 1 under the Greenhouse Gas Protocol.

On the one hand, direct CO_2 emissions are influenced by weather-based demand for heat, as well as by movements in wholesale prices. These factors cannot be influenced by MVV but are reflected in capacity utilisation rates at our generation plants. On the other hand, the medium to long-term development in direct emissions largely depends on the dates at which existing plants which use fossil-based fuels are decommissioned and on the new plants required to uphold the supply.

Our direct Scope 1 emissions showed a year-on-year increase of 4 % in the 2022 financial year. The main reason for this was the increased production at coal-based CHP plants due to the changed market situation in connection with the geopolitical consequences of the war in Ukraine. We describe this in the chapter Business Framework.

Indirect CO_2 emissions, Scope 2, mainly result from the energy we use for our business operations outside energy generation. These emissions are only of subordinate significance at MVV and were 28 % higher in the year under report than in the previous year.

Indirect CO_2 emissions, Scope 3, comprise greenhouse gases arising in upstream and downstream stages of the value chain. CO_2 emissions in upstream value chain stages arise at suppliers manufacturing products and services purchased by MVV. These relate, for example, to the production of photovoltaics systems and wind turbines or the procurement of electricity not generated by MVV. Emission activities in downstream stages of the value chain chiefly involve the use of natural gas supplied by MVV to its customers. The annual development in Scope 3 emissions is chiefly determined by sales volumes for electricity, gas and heat, as well as by volumes in the renewable energies project development business. This key figure also includes emissions from non-commodities procurement activities. In the interests of transparency, from the 2022 financial year we are reporting further non-material emissions sources in our climate balance sheet.

The reduction in Scope 3 emissions by 4 % in the 2022 financial year largely reflects the lower volume of gas turnover and the development in our project development business. We still expect the overall trend in our total direct and indirect emissions to continue in future and to be able to meet our decarbonisation targets for 2030, 2035 and 2040.

Ongoing high volume of net CO_2 savings achieved
In 2016, we set ourselves the target of tripling our CO_2 savings in the entire climate system to 1 million tonnes a year. We reached this target in the 2021 financial year already, and thus within half of the time originally planned. In the 2022 financial year, we virtually matched the high volume of net CO_2 savings achieved in the previous year.

Rise in specific CO_2 emissions
The higher volume of conventional electricity generation led to a year-on-year increase in the specific CO_2 emissions for our generation portfolio.

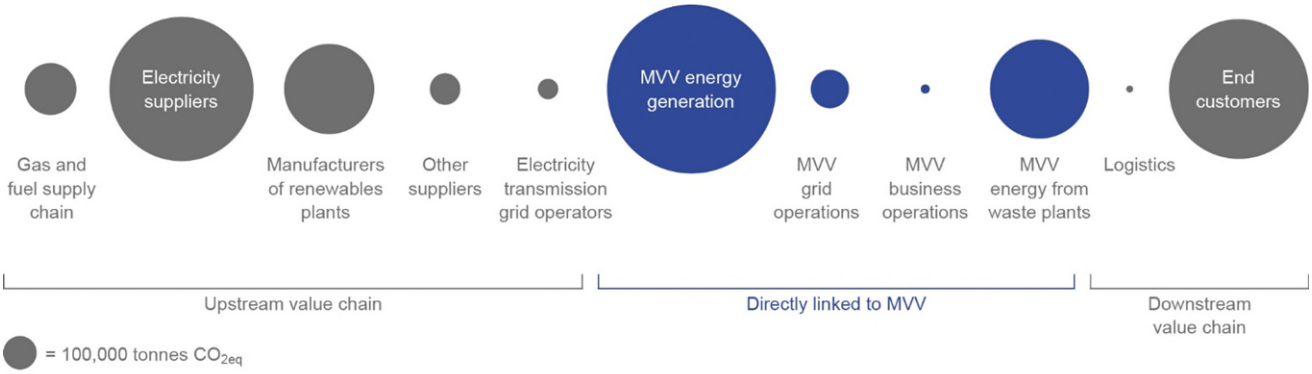
Specific CO_2 emissions in the groupwide generation portfolio

g CO_2/kWh	FY 2022	FY 2021
Electricity generation	460	422
Heat generation	122	124
Energy generation in the generation portfolio	249	231

We again operated our plants in accordance with the approvals granted and relevant legal requirements in the 2022 financial year. We continually monitored compliance with the threshold values applicable to the plants.

DIRECT AND INDIRECT CO_2 SOURCES AT MVV

Fully consolidated companies and companies recognised at equity



Climate balance sheet
Fully consolidated companies and companies recognised at equity

1,000 tonnes CO_{2eq}	**FY 2022**	FY 2021	+/– change	% change
Direct CO_2 emissions (Scope 1) [1, 2]	3,647	3,510	+ 137	+ 4
Energy industry activities [2]	2,701	2,561	+ 140	+ 5
of which CH_4 emissions [3, 4]	55	69	– 14	– 20
of which SF_6 emissions [4, 5]	1	5	– 4	– 80
Disposal activities (TAB) [6]	946	949	– 3	– 0
Indirect CO_2 emissions (Scope 2) [2, 7]	147	115	+ 32	+ 28
of which energy procured for proprietary plants [2]	7	7	0	0
of which energy used for grid operations [2]	140	108	+ 32	+ 30
Indirect CO_2 emissions (Scope 3) [2]	5,072	5,310	– 238	– 4
of which purchased goods and services (GHG category 1) [8]	872	986	– 114	– 12
of which fuel and energy-related activities (GHG category 3)	2,302	2,270	+ 32	+ 1
of which waste generated in operations (GHG category 5) [4]	1	1	0	0
of which business travel (GHG category 6) [4]	1	1	0	0
of which employee commuting (GHG category 7) [4]	6	6	0	0
of which use of sold products (GHG category 11) [2]	1,887	2,043	– 156	– 8
of which end-of-life treatment of sold products (GHG category 12) [4]	1	1	0	0
of which downstream leased assets (GHG category 13) [4]	2	2	0	0
Net CO_2 savings	978	1,002	– 24	– 2
For information: indirect emissions from gas grid use by third-party sales operations [4, 9]	620	525	+ 95	+ 18
For information: climate-neutral biogenic emissions	1,706	1,721	– 15	– 1

1 We refer to industry-typical factors from GEMIS/Öko-Institut for fuel-related emissions, the emissions factors issued by the Federal Environment Agency (UBA) for electricity and the certified emissions factors of the respective locations for district heat.

2 Previous year's figure adjusted

3 Emissions from gas motor combustion

4 Reported for the first time; data in some cases refer to calendar years and are in some cases not collected each year.

5 Inspection work performed on an older plant enabled leakages to be remedied, significantly reducing SF_6 emissions.

6 Including RDF plants

7 Indirect Scope 2 emissions (location-based) cover the Mannheim, Kiel and Offenbach locations and are recorded on a calendar year basis.

8 GHG Protocol methodology used: spend-based and average data method

9 Due to its SBTi certification, MVV is required to publish regular reports. This involves natural gas volumes channelled by other energy companies through our gas grids.

Renewable energies and energy transition

Renewable energies

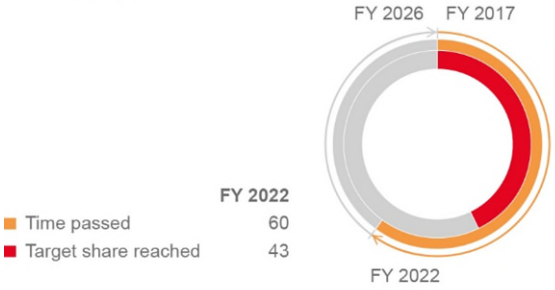
Active contribution to achieving climate protection targets

At least 80 % of electricity generation in Germany should be based on renewable energies by 2030. It should be based almost entirely on renewable energies by 2035 at the latest. These have a crucial role to play in meeting national climate protection targets. This situation harbours growth potential for our company; not least because of this, renewable energies are a key focus of our strategic alignment. By expanding renewable energies, we are also making a measurable contribution towards achieving climate protection targets on behalf of society as a whole. In this area as well, we set two specific sustainability targets in 2016 already and intend to reach these by the end of the 2026 financial year.

We will double our proprietary electricity generation from renewable energies between 2016 and 2026.

To make it possible for us to meet our target of doubling our electricity generation capacities from renewable energies from 400 MW to more than 800 MW, we are consistently investing in expanding our proprietary renewable energies generation portfolio. Our key focus here is on onshore wind turbines and increasingly on photovoltaics as well.

RENEWABLE ENERGIES
ELECTRICITY GENERATION CAPACITY
Shares (%)



Our green generation portfolio

In the 2022 financial year, we made further progress on the way to reaching our target. Including our shareholdings recognised at equity, our electricity generation capacity from renewable energies stood at 614 MW at the end of the 2022 financial year, 50 MW higher than one year earlier. This growth was mainly driven by the expansion in our wind power and photovoltaics portfolio.

At the end of the 2022 financial year, electricity generation at renewable energies plants (including biomass/biogas plants and EfW/RDF) accounted for 47 % of our total electricity generation capacity (previous year: 45 %). Should Grosskraftwerk Mannheim decide to deploy Block 7, currently in the grid reserve, in the electricity market on a temporary basis again in order to uphold supply reliability, then the share of installed capacities attributable to conventional generation may rise from the 2023 financial year for the period in which the block is deployed.

Electricity generation capacity
Fully consolidated companies and companies recognised at equity

MW_e	**FY 2022**	FY 2021	+/– change	% change
Biomass and biogas plants [1]	121	117	+ 4	+ 3
EfW [2]	176	176	0	0
Wind power	290	265	+ 25	+ 9
Photovoltaics	25	4	+ 21	>+ 100
Hydroelectricity	2	2	0	0
Renewables and EfW	**614**	**564**	**+ 50**	**+ 9**
Conventional CHP and other	703	702	+ 1	0
Total	**1,317**	**1,266**	**+ 51**	**+ 4**

1 Including biomethane plants

2 Including RDF plants

The generation capacity of our biomethane plants stood at 34 MW at the end of the 2022 financial year (previous year: 30 MW). The increase is due to our new plant in Bernburg. The biomethane produced at our plants in an environmentally compatible manner is one of the most versatile green fuels. It can be used both to generate electricity and heat and as a fuel for vehicles. In the medium term, we plan to further expand our biomethane generation capacities from waste digestion.

At the end of the financial year, green heat accounted for a 21 % share of our total heat generation capacities (previous year: 19 %).

Heat generation capacity
Fully consolidated companies and companies recognised at equity

MW_t	**FY 2022**	FY 2021	+/– change	% change
Biomass and biogas plants	99	34	+ 65	>+ 100
EfW [1]	762	759	+ 3	0
Green heat capacity	**861**	**793**	**+ 68**	**+ 9**
Conventional CHP and other	3,150	3,292	– 142	– 4
Total	**4,011**	**4,085**	**– 74**	**– 2**

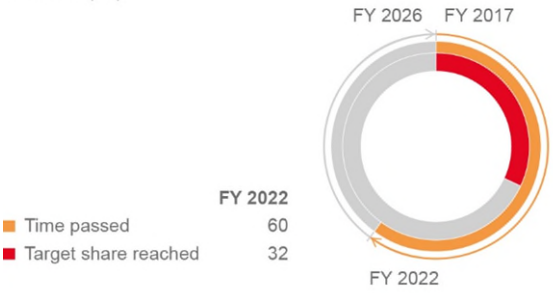
1 Including RDF plants

Project development business

We have all-round expertise in developing, building and launching operations with renewable energies plants. We aim to reach the projecting target in particular by installing onshore wind turbines and photovoltaics systems both in Germany and abroad. Smaller contributions will be made by biomass and photovoltaics systems at customer locations.

We will connect 10,000 MW of renewable energies to the grid between 2016 and 2026.

COMPLETED DEVELOPMENT OF NEW RENEWABLE ENERGIES PLANTS
Shares (%)



Since the beginning of the 2017 financial year, we have connected renewable energies plants with capacities of 3,229 MW to the grid. In the 2022 financial year, we added new capacities of 476 MW.

Completed development of new renewable energies plants

MW_e	**FY 2022**	FY 2021	+/– change	% change
Wind power	58	92	– 34	– 37
Photovoltaics	418	518	– 100	– 19
Total	**476**	**610**	**– 134**	**– 22**

Project development business strengthened in 2022 financial year

We merged our subsidiaries Juwi O & M and Windwärts into Juwi in the year under report and redesigned this company's market and brand presence. With Juwi, we offer end-to-end project development and services for planning, building and managing operations at onshore wind turbines and ground-mounted photovoltaics plants, as well as for hybrid projects, i.e. systems combined with battery storage facilities. Moreover, we also strengthened our project development business for photovoltaics in the B2B segment by taking over Avantag in the 2022 financial year.

The project development business is inherently volatile, both in Germany and in our international markets. The volume of new renewable energies plants at which operations are launched each year depends, among other factors, on social and political acceptance, the length of approval processes, regulations governing subsidies for renewable energies and specific implementation dates for individual projects. The volume can therefore vary widely from year to year. Moreover, changes in underlying conditions, such as those due to the coronavirus pandemic or changes in national subsidy mechanisms for renewable energies, may have a notable impact on the implementation of projects.

Operations management for renewable energies plants

MW_e	**FY 2022**	FY 2021	+/– change	% change
Wind power	1,261	1,282	– 21	– 2
Photovoltaics	2,518	2,529	– 11	0
Total	**3,779**	**3,811**	**– 32**	**– 1**

Supply reliability

Energy companies play a key role in the energy system transformation by investing in the energy infrastructure to prepare this for the energy transition and make it fit for the future. At the same time, they perform what is for society the important task of ensuring that the supply of electricity, gas, heat and water remains reliable and stable. The advancing energy transition raises new questions, as the volume of electricity fed in from wind turbines or photovoltaics systems fluctuates in line with weather conditions and the time of day. As an energy company and distribution grid operator, we ensure that we at all times provide our customers with a secure and reliable supply of energy. That makes it necessary at first to smartly combine renewable energies with highly efficient, flexible and controllable power plants.

Supply reliability became even more important as a topic in the year under report due to the implications of the war in Ukraine. With regard to our district heat supply, we continue to plan for a very high level of supply reliability. The so-called N-2 security level means that the district heat supply must still be secure if the two largest generation units suffer downtime at the same time, whether due to technical problems, damage or temporary fuel shortage. For this reason, we are building two backup plants at the Mannheim location to safeguard a seamless transition between the decommissioning of coal-fired blocks at our at-equity shareholding Grosskraftwerk Mannheim and the launch of operations with green heat generation. Ideally, these plants will be ready for deployment in the 2023/24 heating period already.

The reliability, smartness and performance capacity of our grids also have a key role to play in this respect. That is why we continually invest in maintaining, expanding and optimising our grids and plants and thus help to maintain supply reliability. At the same time, when it comes to the gas supply it is not only grid availability that counts, but also the availability of natural gas. Should any gas shortage arise, the German Energy Security Act (EnSiG) stipulates that the Federal Network Agency (BNetzA) would then ration gas volumes. This may result in MVV being obliged to limit the gas supply to the customers or customer groups named by the Federal Network Agency. In this case, MVV would not be able to exercise any discretion of its own. We are therefore in close contact with our natural gas customers and keep them proactively informed at an early date about current and foreseeable developments.

Furthermore, we have invited all residents of Mannheim to take part in MVV's gas bonus programme. MVV customers and non-customers in Mannheim have the chance to receive a financial bonus paid by MVV to reward proven gas savings. This is helpful in two ways: We are easing the financial strain on residents while also helping to avoid the risk of a gas shortage by reducing natural gas consumption.

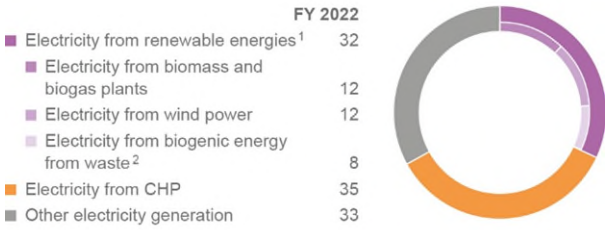
Generation portfolio

Gradual conversion of our generation portfolio progressing

To shape the energy system transformation along social, ecological and economic lines, we are working to an increasing extent with renewable and to a decreasing extent with conventional energies and relying here on a variety of energy sources and technologies. The doubling of our proprietary electricity generation from renewable energies, a target we set ourselves to achieve by 2026, will change our generation portfolio, which will become even more diversified. This kind of generation portfolio helps us to ensure a secure energy supply for our customers. That is particularly true for the supply of heat to those retail, business and industrial customers connected to our district heat and industrial steam grids in Mannheim, Offenbach and Kiel.

At the end of the 2022 financial year, the electricity generated at renewable energies plants (including biomass/biogas and the biogenic share of waste/refuse-derived fuels) accounted for a 32 % share of our total electricity generation (previous year: 32 %).

ELECTRICITY GENERATION
Shares (%)



1 Due to their immaterial shares, electricity generation volumes from hydroelectricity and photovoltaics have not been presented in this overview.

2 Including RDF plants

Electricity generation volumes
Fully consolidated companies and companies recognised at equity

kWh million	FY 2022	FY 2021	+/– change	% change
Biomass and biogas plants	492	522	– 30	– 6
Biogenic share of EfW [1]	306	268	+ 38	+ 14
Wind power	480	421	+ 59	+ 14
Hydroelectricity	5	3	+ 2	+ 67
Photovoltaics	12	3	+ 9	+ 300
	1,295	**1,217**	**+ 78**	**+ 6**
Electricity from CHP	1,438	1,594	– 156	– 10
Other electricity generation [2]	1,345	1,030	+ 315	+ 31
Total	**4,078**	**3,841**	**+ 237**	**+ 6**

1 Including RDF plants

2 Previous year's figure adjusted

The reduction in electricity generation volumes at our biomass and biogas plants is due above all to our Mannheim biomass plant in particular generating lower electricity volumes in order to generate higher heat volumes. The increase in generation volumes at our energy from waste plants is chiefly due to the launch of full-scale operations with Line 3 at our new energy from waste plant in Dundee/Scotland in the 2022 financial year. The higher generation volumes from wind power and photovoltaics result from additions to our portfolio. The reduction in generation from combined heat and power (CHP) is due above all to a lower volume of electricity generated at our gas-fired CHP plant in Kiel.

Heat generation volumes
Fully consolidated companies and companies recognised at equity

kWh million	FY 2022	FY 2021	+/– change	% change
Biomass and Biogas plants [1]	147	97	+ 50	+ 52
EfW [2]	2,515	2,464	+ 51	+ 2
Green heat generation	**2,662**	**2,561**	**+ 101**	**+ 4**
Other heat generation	4,121	4,466	– 345	– 8
Total	**6,783**	**7,027**	**– 244**	**– 3**

1 Previous year's figure adjusted

2 Including RDF plants

At the end of the 2022 financial year, green heat generation accounted for a 39 % share of our total heat generation volumes (previous year: 36 %). Particularly at our biomass plant in Mannheim, we generated higher heat volumes at the expense of lower electricity volumes. Our energy from waste plants in Gersthofen and Leuna also generated more heat.

Biomethane generation volumes
Fully consolidated companies and companies recognised at equity

kWh million	FY 2022	FY 2021	+/– change	% change
Biomethane generation	288	269	+ 19	+ 7

The increase in biomethane generation volumes was due to higher throughput compared with the previous year, as well as to our new plant in Bernburg.

Grid stability

Upholding grid stability even with growing loads
One way to assess the reliability of the energy supply involves measuring the frequency and duration of grid downtime. Our three large grid companies MVV Netze, Energienetze Offenbach and SWKiel Netz have set themselves the goal of ensuring a secure supply free of interruptions and thus to avoid grid downtime and remedy any downtime as quickly as possible. One key task for our grid companies is to work on further developing and operating our grid infrastructure. They therefore invest large sums in maintenance and modernisation measures. In the 2022 financial year, we invested Euro 126 million in maintaining and expanding our grids.

One key non-financial performance indicator which shows the security of the energy supply is the system average interruption duration index (SAIDI), which presents the average interruption to the supply in minutes per year and customer. The SAIDI figure only accounts for unplanned downtimes lasting longer than three minutes and not due to force majeure.

We aim to minimise any interruption-induced failure in the supply.

The management teams at our grid companies are kept regularly informed about interruptions and also discuss this information with the Executive Board. Any countermeasures thereby required are factored into our investment and maintenance projects.

We were able to maintain the cumulative SAIDI figure for our grid regions in the 2021 calendar year at almost the previous year's level. We provided our customers with an electricity supply that was largely free of interruptions and once again ahead of the national average.

Electricity supply interruptions (SAIDI)

Minutes/year	**2021** [1]	2020 [1]	+/– change	% change
Electricity at MVV	10	9	+ 1	+ 14
Electricity in Germany [2]	13	11	+ 2	+ 15

1 Calendar year

2 Source: Federal Network Agency (BNetzA)

Resource efficiency

Due to population growth and increasing prosperity, the volume of resources we consume has risen more than ten times in just over a century. Less than half of our current volume of resource consumption would be just about sustainable. The consequences of this situation are apparent in much-discussed issues such as biodiversity, resource scarcity or emissions of pollutants. Climate change offers the most striking example of these effects.

We use natural resources to generate energy. Our conventional generation plants also use finite resources such as natural gas and hard coal as fuels. We accord great importance to very high resource efficiency. One key indicator of efficient use involves the highest fuel efficiency rates resulting from optimised use of the energy contained in the fuel. This means that we minimise the energy losses arising when the fuels are converted into end energy, such as electricity or heat. It also means that we consistently invest in enhancing the energy efficiency of our generation plants and expanding green heat in conjunction with highly efficient combined heat and power generation. Where technically possible, we are increasingly relying on recycled products and input materials.

We further significantly stepped up our efforts to save energy in our own business operations in the 2022 financial year. We identified and implemented additional savings potential, not least in view of the energy savings required in winter 2022/23 to safeguard supply reliability in Germany. Measures here include significantly lowering temperatures at our office building to 19 degrees Celsius and reducing and in some cases completely avoiding the use of electricity applications. At our Mannheim location, for example, this is also apparent to the local population due to a marked reduction in night-time lighting and the fact we now only make sporadic use of the LED walls on our head office building that can otherwise be seen from a great distance.

Energy and resource use at MVV

Fuel efficiency rate documents high level of generation efficiency

The fuel efficiency rate key figure shows the efficiency of generation by presenting the volume of end energy generated (electricity and heat) as a ratio of the energy input (primary energy). If the fuel efficiency rate increases, the generation portfolio has a higher yield. By continually increasing the fuel efficiency rates of our plants, we reduce the volume of fuels used and cut emissions. In the year under report, our plants had an average fuel efficiency rate of 66 %. Our energy yield is thus ahead of the German average for generation activities. The Working Group on Energy Balances (AG Energiebilanzen) published an average fuel efficiency rate of 51.9 % for electricity generation at German power plants in 2021.

We operate our major generation plants almost exclusively with highly efficient combined heat and power (CHP) generation. After all, the fuel efficiency rate for CHP is significantly higher than when electricity and heat are generated separately.

The volume of fuel used in individual financial years largely depends on developments in weather conditions and market prices, as well as on the properties of the fuel in question. In the year under report, the geopolitical situation also had a significant impact. By-products, primarily ash and slag, arise in our energy from waste and CHP plants. The relevant data can be found in the section Local Environmental Protection. The volume of this ash and slag is determined by technical factors or by the fuels used and does not lie within our control. Wherever technologically possible and economically viable, we put these by-products to further use. After suitable treatment, they are returned to the economic cycle, for example as products for the construction industry.

Fuels and waste used at power plants and energy from waste plants
Fully consolidated companies and companies recognised at equity

	FY 2022	FY 2021	+/– change	% change
Biomass (tonnes 000s)	559	566	– 7	– 1
Waste/RDF (tonnes 000s)	2,018	2,014	+ 4	0
Natural gas (kWh million)	2,954	3,501	– 547	– 16
Hard coal (tonnes 000s)	806	688	+ 118	+ 17
Other fossil fuels (kWh million)	354	307	+ 47	+ 15

Average fuel efficiency rate
Fully consolidated companies and companies recognised at equity

%	**FY 2022**	FY 2021	+/– change	% change
Average fuel efficiency rate	66	67	– 1	– 1

Low volume of coal use

With the revision to the German Federal Climate Protection Act (KSG) that came into effect at the end of August 2021, lawmakers have on federal level taken due account both of European climate targets and of the ruling adopted by the Federal Constitutional Court with regard to climate justice (ruling of the First Senate dated 24 March 2021). The centrepiece of the legislation involves the obligation to reduce greenhouse gas emissions in Germany by at least 65 % by 2030. For the energy industry, this target means that it will only be permitted to emit a maximum of 108 million tonnes of CO_{2eq} in 2030, a reduction of 57 % compared with 2019. This reduction can only be achieved if coal-based generation is largely discontinued.

With its capacity of 60 MW_e, the power plant in Offenbach is the only hard coal-fired power plant in our conventional generation portfolio in Germany. Due to the lead time needed to build new low-CO_2 heat generation capacity, we expect this plant to be decommissioned in a few years.

In the Czech Republic, we operate several small coal-based plants to generate and secure the heat supply.

We are a minority shareholder in Grosskraftwerk Mannheim AG (GKM), with a 28 % stake, and do not operate this plant ourselves. GKM still operates three hard-coal fired CHP blocks. Block 9 at GKM is one of the newest and most efficient hard coal-fired power plants in Germany. In its Coalition Agreement signed in 2021, the Federal Government agreed that Germany would “ideally” exit from coal-based energy generation by 2030. To achieve this, it will be necessary to streamline the relevant legislative procedures and bring forward the decommissioning of coal-based power plants either with market-based measures or on the basis of regulatory requirements. In this respect, we are basing our plans and measures on coal-based electricity generation being brought to an end by the end of the 2020s. The setting of specific decommissioning dates for individual power plant blocks is subject to the proviso of supply reliability, as well as to the legal framework and the agreements reached with GKM and its shareholders. The speed at which substitute green technologies and backup capacities for district heat generation become available also plays a role in this respect. The coal exit legislation does not stipulate the precise modalities and dates for the decommissioning process.

Further decarbonisation of heat generation

The Federal Government aims to promote investments in renewable generation capacities. For the heat segment, it envisages a 50 % share of climate-neutral heat by 2030.

Due to the war in Ukraine, the transition from natural gas to green heat sources is to be promoted in particular in the years ahead. From 2024, for example, every newly installed heating system must be at least 65 % operated with renewable energies. At the same time, district heat systems are to be converted even more quickly to green heat, particularly in large built-up areas, thus offering an alternative to gas-fired heating systems. Additional subsidy incentives are to be provided to promote this.

Whereas numerous district heat operators have chiefly relied on gas-based systems in recent years, MVV announced many years ago that it would skip this interim stage and convert heat generation for the district heat grid in Mannheim and parts of the Rhine-Neckar region directly to green heat sources. Energieversorgung Offenbach is also pressing ahead with comparable plans adapted to local conditions.

To decarbonise the district heat supply, we are compiling various concepts which account for all significant forward-looking technologies. We took the first major step for the Mannheim location in 2020 by connecting our waste-fired CHP plant in Mannheim to the regional district heat grid. This means that up to 30 % of annual district heat volumes for Mannheim and the region are now already generated on a CO_2-neutral basis.

The next specific steps we will take to decarbonise district heat in Mannheim and the region are:

- GKM is building a first river heat pump on our behalf. With heat generation capacity of 20 MW_t, we will be able to draw on the environmental heat in the Rhine from the coming heating period.
- We will launch operations with a plant to recycle phosphorous from sewage sludge in 2023.
- We will launch operations with the backup plants currently being built in 2024 at the latest. This way, we will meet the technical prerequisite for decommissioning Block 8 at GKM.
- We are extending our biomass power plant (waste timber) to include a heat extraction facility. With a future heat extraction capacity of 45 MW_t, this CHP plant will make a major contribution to the district heat supply in regular operations from 2024 onwards.
- We are gradually tapping the potential for industrial waste heat at the plants at our energy park.
- We will access regional potential for deep geothermal energy. With GeoHardt, a joint venture with EnBW, we are investigating up to three preferred areas for geothermal energy plants to the south of Mannheim. Moreover, we have signed a cooperation agreement with Vulcan Energy for the medium-term supply of geothermal heat.

Intensive preparations are currently underway for further options. Examples include solutions such as further river heat pumps, the use of biomass, biomethane CHP plants and the use of further industrial waste heat potential. We are also working on green heat concepts at MVV's other locations with heat activities.

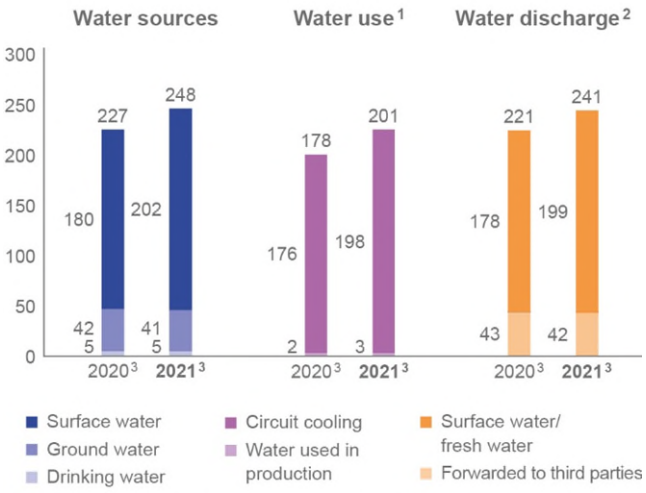
Increased water use required

On a global basis, the availability of clean fresh water and drinking water is an increasingly important topic, partly as a result of climate change and partly due to the increasing overuse of groundwater and surface water. Our subsidiaries MVV Netze and Stadtwerke Kiel play an active role in protecting ground water and water surfaces. As they are responsible for the supply of drinking water in their regions, their supply systems have to be regularly analysed and checked. Here, the production, treatment and distribution of drinking water are not only of economic significance; the public supply mandate serves the common good. As a crucial source of life, drinking water is governed by strict quality standards. The most important objective for the water supply is to comply with these quality standards and minimise relevant contents. We have formulated the targets for our drinking water supply in detail in our Water Policy **mvv.de/water-policy.** MVV's water balance sheet clearly shows that the majority of our water use relates not the production of drinking water, but rather to circuit cooling at power plants. Here, we and our at-equity shareholdings chiefly take water from rivers and channel it back following cooling.

We are pursuing the objective of systematically reducing our ecological footprint on the level of water use as well. We intend to back up this objective with more far-reaching activities and will perform suitable detailed analysis and specify measures in the next two years. The growth in our water footprint in the 2021 calendar year was due to increased conventional energy generation within our portfolio. We expect conventional generation to decrease significantly in the medium to long term, thus also reducing the corresponding need for cooling water.

WATER VOLUMES

Fully consolidated and at-equity companies
m^3 million



1 Due to the low shares involved, closed-circuit cooling has been omitted from this overview.
2 Due to the low shares involved, water discharged to sewage plants has been omitted from this overview.
3 Calendar year

Local environmental protection

Local environmental protection is a further fixed component of our management systems, into which quality and compliance aspects are also integrated. For us, environmental protection on both national and local levels is closely based on legal requirements. The approvals granted and legal requirements form the basis for our activities, and that both when we build or modernise plants and in our day-to-day operations. Compliance, particularly with the prescribed threshold values, is monitored by the relevant authorities. Certain aspects of our operations, such as plant-specific emissions at large combustion plants, are subject to reporting requirements. Our subsidiaries and shareholdings are responsible for the operative management of environmental concerns on a decentralised basis. As they use different technologies and our stakeholders in the regions have different concerns, these companies set their own relevant focuses within the framework provided by our groupwide guidelines. Given the very tense current situation on the energy market and in global supply chains, there is an increasing risk of temporary shortages of specific chemical additives and input materials, such as ammoniac. This in turn could result either in threshold values for emissions being temporarily exceeded or in energy generation have to be curtailed. By working with forward-looking procurement, MVV is attempting to reduce the risk of this situation arising.

We work with decentralised environmental and energy management systems for the control and operative implementation of environmental protection measures. Where possible, we avoid other harmful environmental effects resulting from the generation and provision of our products and services or reduce these to a minimum. We pay attention, for example, to reducing other air pollutants. We treat the pollutants incurred very carefully. In the interests of a circular economy, unavoidable waste from energy generation and waste incineration, such as ash, metals and slag – so-called by-products – is turned wherever possible into products for other companies. Where this is not possible, the waste is disposed of correctly.

We are making a crucial contribution towards a sustainable circular economy with the ecological disposal of municipal sewage sludge. At our Offenbach location, we have since 2021 used a single-purpose sewage sludge incineration plant with an annual volume of 80,000 tonnes of sewage sludge. At our Mannheim location, a sewage sludge treatment plant with capacity for up to 180,000 tonnes of sewage sludge a year is currently being built. In future, this will be able to recover phosphorous on location for use in fertiliser production.

At our conventional power plants, we generate electricity and heat by using fossil fuels, here especially natural gas and hard coal, as well as regenerative fuels. The latter fuels include both solid biomass and refuse-derived fuels (RDF), which are produced from waste and have a biogenic share of around one half.

Other emissions and by-products
Fully consolidated companies and companies recognised at equity

Tonnes	**2021** [1]	2020 [1]	+/– change	% change
NO_x	2,970	2,924	+ 46	+ 2
SO_2	971	885	+ 86	+ 10
Dust	28	18	+ 10	+ 56
Fly ash	94,039	90,470	+ 3,569	+ 4
Ash and slag	528,235	529,882	– 1,647	0

1 Calendar year

Further environmental protection aspects form part of the environmental management systems at our subsidiaries and shareholdings.

Biodiversity

The environmental topic of biodiversity is increasingly important for MVV. On an international level, it is discussed at the regular UN Biodiversity Conference. New global biodiversity targets are expected to be agreed at the next COP15 Conference in December 2022. The background to this is the increasing rate of species extinction, with climate change putting pressure on ecosystems in Europe as well. In the World Risk Report of the World Economic Forum, the loss of biodiversity is already ranked as the third-largest long-term economic risk, as the destruction of natural capital and reduction in diversity of species harbours the risk of irreversible consequences for the environment, humanity and thus economic activity. In view of this, the EU has already included the topic of biodiversity as one of its five strategic environmental objectives. The goal here is to achieve conservation status for all species and types of habitat in the EU by 2050 and no longer to cause any loss of biodiversity outside the EU. This has already resulted in specific legal requirements in companies, such as the obligation to integrate biodiversity as a focus topic in the EU Taxonomy for sustainable investments and in future reporting obligations required by the Corporate Sustainability Reporting Directive (CSRD). In connection with these requirements, we too will report in more detail about our strategy and measures to uphold biodiversity.

MVV directly touches upon biodiversity when it builds new or upgrades existing energy infrastructure. When we build new renewable energies plants, for example, we commission surveys to investigate the location-specific impact on flora, water and fauna, including birds, bats and rodents. Environmental impact assessments evaluate potential negative impacts, impose restrictions or call for offsetting measures. This can create tensions between local animal protection, regional species conservation and climate protection measures. To date, these have to be resolved on individual case level. With a view to accelerating the expansion of renewable energies, the Federal Government intends, within certain limits, to grant renewable energies priority over species conservation concerns.

However, biodiversity is also relevant to MVV in areas other than infrastructure projects. We use various types of biomass to generate energy, whether these be biogenic non-recyclable waste, regenerative resources, landscaping material or waste timber. We are aware that the use of fresh wood to generate energy, for example, is not only questionable from a climate protection perspective but may also impact negatively on forests. In view of this, we attach value both to sustainable forestry and to avoiding the use of fresh wood to generate energy. The waste timber we dispose of at our plant in pollutant categories III and IV includes contaminated timber, such as railway sleepers that would otherwise introduce pollutants and hazardous substances into the natural world.

Sustainable circular economy

A sustainable circular economy focuses on closing materials cycles and making effective use of waste, either by returning it to the economic cycle as a secondary raw material or by generating energy. This means that, even when it has been correctly separated, household and commercial waste is by no means “rubbish”. We make effective use of this valuable commodity in order to protect natural resources.

At MVV, the circular economy mainly plays a major role in the environmental energy business field and here in particular in treating waste at the end of the waste hierarchy. However, in our business customer and strategic investments business fields we also make major contributions to saving resources and the circular economy.

Our targets and measures for further developing these business fields therefore directly help to promote a sustainable circular economy. We will review and, where applicable, hone our strategy for and management of the circular economy in connection with the future requirements of the Corporate Sustainability Reporting Directive (CSRD).

Using the materials and energy contained in waste makes a major contribution towards reaching the target of building an economy that is as circular as possible. The best solution should always be to design products in such a way that they can remain in the cycle on a permanent basis, for example due to recycling, and do not become non-recyclable waste. That is also the aim of the long-term political targets set out, for example in the Green Deal of the European Commission. Until that aim is achievable in terms of the underlying technology and regulation, and in cases where it is not possible, the next-best solution is to use unavoidable waste to generate energy. If it were possible to enhance global production in the long term in such a way that all waste incurred is free of fossil fuels, then the energy generated at energy from waste plants would be fully regenerative.

Treating the waste in strictly controlled conditions at an energy from waste plant offers threefold benefits. Firstly, the waste is sanitised, meaning that materials harmful to people’s health or the environment are destroyed. Secondly, the energy contained in the waste is used to produce steam for industry, heat for businesses and households and electricity. Put simply, households deliver their non-recyclable waste to MVV and in return receive energy in the form of heat and electricity. Around 50 % of the energy generated is renewable, as around half of the waste is of biogenic origin. Thirdly, incineration in this way makes an active contribution to climate protection. The alternative – landfilling – would lead to the emission of large volumes of methane, which is harmful to the climate. Thermal treatment of the waste avoids this.

We operate a total of eight energy from waste plants in Germany, the UK and the Czech Republic. At these plants, we incinerated around 2.4 million tonnes of non-recyclable waste and refuse-derived fuels in the 2022 financial year. At our Energieversorgung Offenbach subsidiary, we have since 2021 used a sewage sludge incineration plant in order to treat municipal sewage. A further plant where we will simultaneously recover phosphorous is currently being built at our Mannheim location. Phosphorous is used as a valuable resource in fertiliser production. In Bernburg, Saxony-Anhalt, we provided a further example of a modern and sustainable circular economy in the year under report. Here, we connected our second bio-waste anaerobic digestion and energy generation plant to the regional gas grid. Since then, the bio-waste delivered to the plant has been treated on location and the resultant biomethane fed into the grid.

Employee concerns aspect

As an energy company with regional roots, we are part of society at the locations and in the regions in which we operate. In view of this, our goal is to make positive contributions for our employees and for local populations.

We offer attractive and secure jobs to our employees, who now number more than 6,500, in an environment in which everyone can make his or her contribution to promoting decarbonisation and upholding supply reliability. That is also a great responsibility, one that we are aware of and factor into our strategic decisions.

The ongoing coronavirus pandemic has presented us with particular challenges since the 2020 financial year. Working together, however, the Executive Board, managers, employees and employee representatives have managed these challenges successfully. The decisions we have taken to handle the crisis have enabled us to live the values underpinning our corporate culture – Community, Responsibility, Appreciation and Courage – in our daily work. To protect our employees and safeguard operating processes, we have agreed rules based on the respective status of the pandemic and implemented solutions. We amended our forms of working together, communicating with each other and entering into dialogue in line with requirements. We have noticed that these changes have influenced our activities, management and communication. We are monitoring these developments and will draw on the positive aspects at MVV in future as well.

Employer attractiveness

Our employees are our future
Motivated, healthy and well-qualified employees are crucial to MVV's success. Viewed in the long term, demographic trends and changes in the population structure will create additional challenges if we wish to attract and retain suitable employees in future as well.

This being so, in our personnel strategy we are focusing on the following areas:

- Leadership: We are continually and systematically improving the quality of management at the company and adapting this in line with changing market and employee requirements.

- Demographics, work-life balance, remuneration management: We aim to remain an attractive employer. That is why we offer attractive remuneration packages and are committed to helping our employees combine their work with family or nursing care commitments. In our recruitment, we particularly focus on expanding diversity at the company and especially on equal opportunities for women.

- Work organisation: We are making continuing efforts to further develop our company and corporate culture and aim to retain and enhance our employees' skills. To this end, we invest in training our workforce and enhancing its willingness to embrace change. After all, we need highly trained, flexible and innovative specialists and managers who are keen to make their contribution to the new energy system. We are actively shaping our company for the future. Mobile work, for example, has become a fixed component of our work organisation.

- Talent management: We deliberately identify, support and cultivate upcoming talent – within the company from among our trainees and new recruits through to employees who have the potential to take on management positions, and externally with strong personnel recruitment efforts on the market.

MVV is strengthening the company's forward-looking development with an approach to diversity management that is in line with the times: "Energy for Diversity". This is because we see diversity as a foundation for success. The programme is based on the three pillars: promoting women, work and family, and demographic management.

With our broad range of training options, we also offer young people a wide variety of vocational opportunities at the company. We also upheld our high training rates during the coronavirus pandemic.

The Executive Board Personnel Director is responsible for all personnel-related activities. Reporting on relevant personnel topics is provided to the full Executive Board on a regular basis and whenever necessary due to individual events or topics. The specific structure and implementation of the personnel strategy is organised on a decentralised basis. This way, targeted focuses can be set in line with circumstances on location.

MVV has a Group Works Council, as well as works council bodies and committees on the relevant levels. The company's management works together with these bodies on a basis of trust, meaning that both the company's concerns and those of its workforce are accounted for in all significant decisions. The Supervisory Board of MVV Energie AG **https://www.mvv.de/en/about-us/overview/corporate-structure/supervisory-board** includes equal numbers of shareholder and employee representatives. This means that employee concerns are also central to any important company decisions.

We aim to protect the physical and mental wellbeing of our own employees and of those who work on our behalf. To this end, we are making ongoing efforts to improve work safety at the Group. Consistent with this objective, we have established groupwide programmes to increase safety at work. These programmes are taken up by the work safety officers on a decentralised basis and then backed up and supplemented with suitable measures. The current status is reported on Group level and discussed by the Executive Board on a quarterly basis.

Key figures for year under report

Personnel figures (headcount) at balance sheet date

	30 Sep 2022	30 Sep 2021	+/– change	% change
MVV [1]	**6,556**	**6,470**	**+ 86**	**+ 1**
of which in Germany	5,552	5,520	+ 32	+ 1
of which abroad	1,004	950	+ 54	+ 6

1 Including 335 trainees (previous year: 340)

We employed a groupwide total of 6,556 individuals as of 30 September 2022. The growth in our workforce was due above all to higher employee totals in our growth fields.

Our international workforce includes 502 employees at our Czech subgroup, 305 at Juwi's shareholdings and 159 at the British subsidiaries of MVV Umwelt.

Training and development

Training with promising prospects for the future
In Mannheim alone, we offer the next generation of employees training in more than 16 different commercial and technical vocations, as well as combined training and study programmes. In Mannheim, Offenbach, Kiel and Gersthofen close to Augsburg, we are among the largest trainers in the respective regions.

Our broad range of training programmes aims to show young people the wide variety of career opportunities at our company.

As of 30 September 2022, a total of 335 women and men were in training at MVV. Since March 2020, our trainees in combined training and study programmes and our commercial trainees have mostly worked from home. This enabled us to maintain the high quality of training despite the restrictions resulting from the coronavirus pandemic. As a result, we were able to avoid any trainees leaving the company for this reason.

Targeted personnel development: training concept implemented
For us, targeted personnel development is a key factor which also determines our competitive success. We have therefore developed numerous measures and instruments based on the experience we have gained in the rapidly changing economic climate in which we operate.

In the 2022 financial year, we pressed consistently ahead with our training concept and offered numerous virtual seminars on various topics on all levels of the hierarchy. Our employees made intensive use of this training.

Our further training measures and a variety of knowledge platforms enable us to ensure a shared basis of knowledge on overriding strategic topics. Alongside in-house training on various topics, we also offer team development and individual measures, such as coaching and mentoring.

We aim to develop the potential of our employees.

Key focuses of our staff development measures in the 2022 financial year on the one hand included the launch of our General Management series intended to develop our management staff and on the other hand further expanding our IT training for all employees. We also launched an online platform for specialist journals.

In Mannheim, we work with a management review system to record the skills and further training needs of our managers and high-potential employees and to plan their next career steps. This involves a graded process including self-assessment, third-party assessment, internal management review conferences and concluding feedback talks between employees and managers. Individual development measures are implemented under the responsibility of specialist departments, while employees with management potential are developed within a well-established talent management process. Our understanding of talent also extends to specialist and upcoming staff, such as trainees and career starters.

MVV's specific competency model forms the basis for personnel-development meetings and individual support programmes for all employees. We also regularly hold appraisals and surveys at our main locations in Germany. This way, our employees have the opportunity to provide honest feedback and we can enhance the quality of management at our company.

"Energy for Diversity"

WOMEN AND MEN
Shares (%)

	FY 2022
Women	28
Men	72

Status: 30 September 2022

The Supervisory and Executive Boards of MVV Energie AG firmly believe that the company can generate sustainable business success only if responsibility is assigned to women and men on a basis of equality. Particularly in view of demographic change, it makes sense for both social and economic reasons to promote all talents regardless of their gender. Among others, this approach also has the benefit of proactively countering the effects of any shortage of specialist and management staff. To date women have only made up a comparatively low share of the overall workforce at companies operating in the energy sector. The Supervisory and Executive Boards of MVV Energie AG believe that increasing the share of women working at the group of companies on a long-term basis is one key to the company's successful further development.

By 30 September 2026, we aim to raise women's share of our workforce to 35 % and of our total management staff to 25 %.

We have therefore set ourselves the target of raising women's share of our Group's workforce to 35 % by 30 September 2026, up from 28 % at 30 September 2022. Among our management staff, we also aim to increase the share of women to 25 %; at the balance sheet date on 30 September 2022, this share stood at 16 %. To achieve our targets by 2026, we will consistently implement our promotional measures and programmes and further expand these in the years ahead. That is particularly true for our targeted personnel activities for women who have the potential to take on management positions.

We are supplementing existing activities to increase the share of women by implementing measures aimed at raising the visibility of women at MVV both within and outside the company. One key aspect is the establishment of "wom:energy", our groupwide network of women that holds regular networking meetings and organises its own formats. Moreover, we have also taken measures to increase the number of applications we receive from promising external and internal women candidates.

For MVV Energie AG, we report on the share of women in the first and second management tiers below the Executive Board. In September 2021, the Executive Board set targets for the share of women at 25 % for the first and 30 % for the second management tiers, with both targets to be reached by 30 September 2026. The share of women in the first management tier amounted to 18 % at 30 September 2022 and was thus ahead of the previous year (30 September 2021: 14 %). In the second management tier, the share of women amounted to 22 % (30 September 2021: 31 %) and thus fell short of the target level set. We see the share of women in the first management tier as offering an improved basis for meeting our target and will further step up our internal efforts to raise the share in the second management tier.

We promote equal opportunities for women
As well as raising awareness for all aspects of diversity, the key focus of the new central department, Diversity and Prevention, chiefly involves equal opportunities for women. To promote this objective, the department is developing and implementing measures in the areas of employer image, recruitment, personnel and cultural development. The new department is also planning campaigns and pursuing targets in close cooperation with specialist departments.

To reach our targets, we are drawing on a variety of promotional measures and programmes and expanding these further. To increase diversity at the company, we offer voluntary training to all managers. This addresses MVV's diversity standards, unconscious prejudice, judgemental habits and the handling of discrimination. We are promoting the exchange of information and experiences between employees with "Diversity Talk", our new format in which we look into a variety of topics. Furthermore, we attach great importance to offering targeted personnel development to women with suitable potential. One example is the individual support offered to women in mentoring schemes. In X-Company-Mentoring, a cross-company programme organised each year in cooperation with other well-known companies in the region, male and female mentors in the management tiers of participating companies pass on their skills and experience to talented women employees for a period of one year. This is intended to support employees in their own personal development, with a separate special focus on management. We supplement this with an internal mentoring programme in which women managers advise and support select experts and next-generation talent. Thanks to our corporate membership in "European Women's Management Development", an association for professional women, and "Spitzenfrauen BW", a regional project for women in Baden-Württemberg, we offer free membership for interested women employees. This way, they benefit, for example, from free contingents of places in presentations and seminars and from access to areas of knowledge specially tailored to women.

Work and family can be combined at MVV
Our aim is for our employees to be able to successfully combine their family and work commitments on an ongoing basis. Over their working lives, our employees pass through many different stages of life. We aim to support them in mastering the daily requirements of their work and private lives. To this end, we offer a variety of worktime models with flexible working hours. Digitalisation and the use of modern communications appliances also facilitate mobile work in line with specific needs.

To assist our employees in dealing with the challenges presented by the coronavirus pandemic, in cooperation with the Works Council we have significantly extended the regular working hours to facilitate a more flexible approach.

Our part-time management concept is intended to retain high-performing employees at the company through various stages of their lives. This concept is targeted on the one hand at management staff in specific situations, such as parental or nursing care leave. It is also intended to help employees to return to work more quickly after parental leave. On the other hand, the concept is intended to encourage employees to directly assume part-time management positions.

Since the 2021 financial year, we have offered a family service. Here, we work together with an experienced service provider who can offer strictly confidential advice to employees who face work-related, family or financial difficulties. This offer is initially restricted to around 2,000 employees mostly at the Mannheim location, as well as at other, smaller locations.

Another area in which our employees will have greater needs in future involves caring for relatives. We are supporting them here as well. Employees caring for relatives can be granted leave from work. We also inform our staff about care options by holding information events, providing emergency folders with information about work and care and, like at our subsidiary Energieversorgung Offenbach, for example, by cooperating with a nursing care service.

We are actively tackling demographic management
In our third pillar of "Energy for Diversity", we are addressing the demographic challenges we face. As well as offering extensive services to help employees maintain their health and further develop their personal skillset, we also make use of a modern knowledge transfer method for employees leaving the company. The knowledge they have acquired over many years should be retained at the company after their departure. We organise a well-structured and moderated transfer of knowledge and coordinate which knowledge should be transferred, as well as the timeframe and manner in which this should take place. In select departments in Mannheim, for example, we perform so-called "parallel runs", in which employees due to retire from the company help to train their new colleagues over an extended period of time.

Occupational health and safety

Lived Safety still a key focus
We accord the utmost priority to protecting the health and safety of our employees and those who work on our behalf.

The following points form the core of our “Lived Safety” programme:

- Every accident is one too many. Our goal is therefore clear: no accidents.
- For us, protecting the health and safety of our employees is not just a task, but rather an obligation.
- All employees are important to us and are involved in health and safety decisions.
- All managers and employees know their responsibilities and actively live up to these in the areas which they are able to influence.
- The aim is to continually improve the safety and health protection of all employees based on a prevention-driven approach.

It is about people
For “Lived Safety” to be effective, everyone has to make their own individual contribution. Based on clearly defined roles and equipped with corresponding skills, those involved in occupational safety are therefore the key pillars of our safety philosophy.

Our accident statistics and the prevention measures taken are evaluated on Executive Board and group level on a quarterly basis, with further measures also being discussed and planned. The work safety committees required by § 11 of the German Occupational Safety Act (ASiG) are formed by the companies on location and comprise both employer and employee representatives. The great importance our company attaches to work safety is also reflected in the fact that this is a fixed agenda item at the meetings of our Supervisory Board. We liaise closely with professional associations and employee representatives and agree our work safety and prevention strategies and measures with them.

Our aim is to prevent accidents from occurring at all.

Every accident is one too many
We are making continuous efforts to improve work safety at the Group and are clear that every accident is one too many. This is the only way we can help to ensure that safety is actually lived within our company and beyond.

Structured programmes and measures form a key foundation in this respect. Examples here include an electronic instruction system with occupational safety training tailored to the respective workplace, an inspection concept and regular safety briefings aimed at raising safety awareness and firmly establishing this on all levels.

In line with the German Industrial Safety Act (ArbSchG), we perform risk assessments in all areas of the company. This way, we identify any work-related hazards, assess associated risks and lay down suitable technical, organisational and personnel measures. Together with the safety specialists, managers compile the risk assessments and, where necessary, consult the company doctor and the Works Council. This cooperation enables us to ensure that we account for all relevant requirements and information.

In around 80 % of our domestic company departments, these risk assessments are performed and documented via a software tool. Here, we analyse the workplaces used, the activities performed, the work equipment used and any hazardous materials deployed. Where necessary, account is also taken of groups of persons who are at particular risk. Once we have implemented protective measures and conclusively checked their effectiveness, we reassess the remaining residual risk. Furthermore, implementation of various work safety ordinances is also factored into our analyses. We perform a review at least once a year to ascertain whether new findings or new legal or operating requirements mean that we have to amend the risk assessments.

All employees are called on to report any work-related risks and dangerous situations to their managers. If necessary, we can then add these to the risk assessment and lay down suitable measures. Persons who find themselves in a work situation where there is an acute risk of injury or sickness must stop work and immediately consult their managers. We have laid this down in corresponding instructions. We systematically investigate any accidents and near-accidents reported. Here too, we consider whether we have to make any amendments to our risk assessments.

In our instructions, we explain the interrelationships involved and lay down work safety requirements. We supplement personal training by offering work safety training using an electronic instruction system. This is based on the results of the risk assessment and is tailored to individual workplaces. This way, our employees can flexibly and individually address a variety of basic topics relating to work safety.

We evaluate accident statistics on a systematic basis for the overall Group. In this, we consider all accidents at or on the way to or from work, including more minor injuries. We only perform a statistical evaluation of accidents with particularly severe injuries and of accident types on an incident-related basis. The assessment and evaluation are performed on a gender-neutral basis and in line with data protection requirements. We also assess which further preventative measures might be expedient.

Accident statistics

	FY 2022	FY 2021	+/– change	% change
Lost time injury frequency rate (LTIF) [1, 2, 3, 4]	3.7	4.1	– 0.4	– 10
Fatal accidents	0	0	0	0

1 Includes all fully consolidated companies in Germany (new fully consolidated companies only included in accident statistics in second financial year after acquisition)
2 Calculation based on work-related accidents from first day of absence per 1,000,000 working hours
3 Basis for FTE figures:
FTE figures at reporting date on 30 September
Basis for non-centrally recorded FTE figures:
FTE figures received directly from companies at reporting date on 30 September
Working hours = number of FTEs (full-time equivalents) at reporting date on 30 September multiplied by 1,700 hours (≙ 1 FTE)
4 Changes of methodology in FY 2022:
Definition of accidents included: Influenceable LTI arising during working hours due to a work assignment.
Adjustment in companies included: only domestic fully consolidated companies.

With an LTIF of 3.7, we were able to reduce the frequency of accidents by a further 10 % compared with the previous year. We have thus achieved a reduction of around 45 % in the past two financial years. There were no accidents with fatal consequences in the year under report.

Health protection particularly important during pandemic

We aim to promote the health of our employees on a preventative basis and therefore support them with a variety of measures offered in our company health management. Alongside extensive offerings available at our company medical services, as well as numerous information, events and fitness formats provided online, we also offer further health promotion services to employees at our main locations.

In the year under report, company doctors at our major locations again offered coronavirus vaccinations to our employees. This way, we helped to raise the vaccination rate. Following the first and second vaccinations already provided in the previous year, in the year under report the company offered and actively advertised the booster vaccination for all employees.

Social concerns aspect

Corporate social responsibility

We have the responsibility to use our resources to promote the conversion in the energy system so as to provide a more sustainable and efficient energy supply and, to this end, to maintain an open dialogue with our stakeholders. Our dealings with local communities therefore form a further important aspect of our responsibility towards society. For many of the projects involved in expanding renewable energies and the necessary infrastructure, acceptance by people on location is absolutely crucial. We are therefore committed to planning and implementing projects together with local populations and their representatives on location, promoting acceptance for these projects on the basis of dialogue and reaching decisions that also convince third parties. We have a project-specific approach which is handled on a decentralised basis by our subsidiaries and shareholdings.

As a company with regional roots, we are an active part of society in the locations and regions in which we operate. We are aware of the important role we play in society. We assume responsibility for our decisions, actions, products and services, and that towards our customers and capital providers, as well as towards the environment and society in which we live. The value we create on site makes us a major economic factor at our locations. We invest, award contracts to local or regional businesses where possible, safeguard jobs, offer high-quality training and pay taxes and duties. It goes without saying that we do not use any questionable measures to avoid taxes or move profits across borders.

With our social commitment, we contribute to the common good in those regions in which we operate. The way we deal with and exchange information with all relevant groups within society shapes the relationship between us as a company and local populations. As a rule, our social commitment is project-based. Responsibility for these activities lies with the management of the respective companies.

Social commitment – we set regional focuses

The companies within our Group are committed to promoting the development in society and support local and regional projects, especially in the fields of social welfare, education, science, culture and sport. One key focus is on promoting upcoming talent and young people. In view of the coronavirus pandemic, our companies offered greater support to social welfare initiatives and projects again in the past year. Based on shared values, our companies are responsible for determining the structure and scope of their regional social commitment. Staff on location are familiar with local needs, have contacts to local organisations and facilities and set the priorities they would like to address and the projects they intend to support with their activities. In most cases, the support is financial, taking the form of donations. This means that we provide support for clearly defined countermeasures and with corresponding benefits.

We are committed to the social environment in which we operate.

At MVV Energie, the Sponsorship Fund is one key component of its regional commitment. This provides financial support to innovative and creative projects at clubs, organisations and institutions in Mannheim and the Rhine-Neckar metropolitan region. Moreover, in 2020 MVV Energie launched the MVV Green Sponsorship Fund, which supports clubs in installing photovoltaics systems. The Emergency Fund at MVV Energie, which helps private customers who through no fault of their own are in situations of need to cover the costs of their electricity, gas, district heat and water, has been in place for 15 years already. With our “Monnem spart Energie” (Mannheim saves energy) campaign, we are supporting private customers in making targeted energy savings and have made numerous tips available to assist in this. The company’s largest sponsorship partners in the Rhine-Neckar metropolitan region are the art gallery Kunsthalle Mannheim, which holds MVV Art Evenings with free entry every first Wednesday in the month, the technology museum Technoseum, the Adler Mannheim ice hockey team, the Reiterverein Mannheim riding club and TSG Hoffenheim football club. With its “Heart and Soul for Your Project!” sponsorship concept, Energieversorgung Offenbach supports regional clubs and organisations. Stadtwerke Kiel has partnered Camp 24/7, in which around 6,000 children and young people a year learn how to sail and the only project of its kind in Germany, since 2002 already.

In dialogue with our stakeholders
We are open to the concerns of all our stakeholder groups and seek ongoing dialogue with them. This makes it possible to assess a variety of perspectives and concerns more closely and to factor these into our company's activities.

We take regular talks and interviews with stakeholders as an opportunity to review our material sustainability topics. Together with MVV's specialist departments and subsidiaries, we assess the extent and form in which specific concerns can be accounted for. Our experts then discuss the findings and implement these in our sustainability programme.

We operate at various locations and in diverse business fields and therefore touch on the interests of numerous, often heterogeneous groups of stakeholders. Our shareholders, employees and customers are among our most important stakeholders, as are government and political representatives. Other major stakeholder groups include non-government organisations (NGOs), analysts, local residents at our locations, the media, associations and suppliers. Further stakeholders are cooperation partners, business partners and research institutes.

Our aim is to communicate transparently and openly with our stakeholders.

We attach great value to maintaining an open and transparent dialogue with our stakeholder groups, and that both in our one-to-one contacts and via our websites, in press releases, on social networks and in specialist formats, such as analysts' or press conferences. We take part in public discussions and other events, such as specialist energy industry conferences and public information events. We play an active role in the relevant bodies, associations and networks, participate in research projects and take part in the public debate and focus here on the energy system transformation.

Via our membership in industry associations, we participate in energy policy and energy industry discussions. We are members, for example, in the following associations relevant to the areas in which we operate: Bundesverband der Energie- und Wasserwirtschaft e.V. (BDEW), Verband kommunaler Unternehmen e.V. (VKU), Energieeffizienzverband für Wärme, Kälte und KWK e.V. (AGFW), VGBe, the international association for the generation and storage of electricity and heat, Bundesverband Neue Energiewirtschaft e.V. (BNE), Bundesverband WindEnergie e.V. (BWE), Bundesverband Geothermie, Bundesverband deutscher Wohnungs- und Immobilienunternehmen (GdW) and BAUM e.V. Not only that, our subsidiaries and shareholdings on location are involved in local initiatives and networks. Apart from membership fees and project contributions, we do not make payments to associations or other institutions. We occasionally finance studies and surveys on matters relating to the energy industry. These are published and our involvement is suitably indicated.

In many of the projects in which we promote the expansion of renewable energies, we see how important it is to involve people on location and gain their acceptance. In view of this, in the 2022 financial year we were again actively involved in planning and implementing projects together with local populations and their representatives on location. We prepare these dialogues carefully and actively work together to reach decisions with which we can also convince third parties. We perform these measures on a project-by-project basis.

Respect for human rights and combating corruption and bribery aspect

Responsibility for supply chain and human rights

We exercise influence on topics relating to sustainability along our upstream and downstream supply chains as well. In the upstream supply chain, for example, we can decide who we wish to do business with and which minimum requirements we place in our suppliers. Key factors influencing our supplier selection from a non-financial perspective include the topics of anticorruption measures, human rights, employee rights, including work safety, and environmental protection.

We aim to avoid any situation in which activities along our value chain have or favour any harmful effects in terms of human rights.

MVV's procurement

The energy industry supply chain is greatly influenced by fuel trading, which is handled on energy exchanges or in bilateral agreements. A significantly lower share of our total procurement volumes relates to suppliers who provide us with goods or perform services for us.

Key factor: commodities
The majority of our procurement volumes involve energy carriers such as electricity and natural gas. We typically hedge these by way of financial transactions but do not physically procure them. In recent years, there has been increasing public interest in the greenhouse gas emissions resulting from the production and transport of natural gas. This relates in particular to natural gas from Russia and LNG gas from overseas. The topic of energy security also became more important in the year under report. Due to the discontinuation of Russian gas supplies, Germany is obliged to draw on alternative sources of natural gas, including LNG gas in particular. Depending on the procurement source, this may give rise to new ecological issues, ranging from local environmental protection to increased CO_2 emissions in the upstream supply chain. MVV does not procure the natural gas volumes it needs from source countries itself, but rather depends on importers. We analyse the issues involved very closely but cannot directly influence these.

We occasionally receive enquires as to the origin of the hard coal used at power plants and whether we exert influence on production conditions at the coal mines. The only coal-fired plant we operate ourselves is the CHP plant in Offenbach. For this, we directly procured around 125 thousand tonnes of hard coal in the 2022 financial year. Until the outbreak of the war in Ukraine, most of this hard coal came from Russia. Since then, this fuel has mainly been procured from South Africa and Latin America. We do not have any direct contractual relationships to mine operators but, given the low volumes involved, procure the fuels via intermediaries. Not only that, our very low volume of demand means that we have hardly any possibility of exerting influence on location. Hard coal is also used at the power plant Grosskraftwerk Mannheim AG (GKM), where we are minority shareholders. Here, we have no direct influence on business activities and fuel procurement, as we ourselves are not the operators of the plant. We are nevertheless aware of our responsibility and show our commitment by, for example, raising sustainability topics with GKM and requesting information. GKM has been a member of the Better Coal Initiative since March 2021.

Low volume of non-commodities
Apart from commodity procurement our other procurement volumes are comparatively low, corresponding to only around one fifth of commodity procurement. They mostly involve procuring goods and highly qualified services from contract partners often known to us for many years. Based on separate analysis, we also address the major potential risks further upstream in our supply chain. To this end, we have established a cross-location team of experts which acts early to assess legal requirements, discusses developments in central procurement and implements measures to shape further developments. This team of experts includes procurement staff, legal experts, our Human Rights Officer and our sustainability management. In a process managed by this expert team, starting in the 2023 financial year our suppliers will be subject to an automated risk review that will compile individual sustainability risk profiles.

One relevant topic again in the past financial year involved potential human rights violations in the photovoltaics supply chain. Public reporting has drawn attention to potential forced labour in select Chinese provinces where most of the global production of silicon is located. This risk is not specific to photovoltaics supply chains but rather constitutes a cross-industry risk involved in trading with China. We have longstanding supply relationships with module manufacturers, particularly via our Juwi subsidiary. We are in close contact with our suppliers with regard to these topics, although we have yet to gain awareness of any specific violations within our supply chains. We have nevertheless also contractually agreed more far-reaching precautions with the suppliers. Irrespective of this, we are closely looking into

which alternative procurement options may be available for photovoltaics modules in the medium term.

Procurement and business terms for suppliers

Our cooperation with suppliers and service providers in Germany and the European Union is based on applicable laws and regulations, including the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG), which will apply to us from 1 January 2023, as well as on those compliance regulations, forms of conduct and work practices relevant to us. Among others, these comprise the international conventions of the United Nations (UN), the International Labour Organization (ILO) and the Organisation for Economic Co-operation and Development (OECD), as well as the UN Global Compact. We agree with our suppliers that they will comply with our Compliance Code of Conduct and our Suppliers Code of Conduct, both of which are published on our website 💻 **www.mvv.de/zentraleinkauf.** Our suppliers undertake to comply with legal requirements and internationally recognised standards governing anti-corruption measures, the protection of human and workers' rights and environmental protection. If these obligations are breached, then contractual sanctions, including contractual penalties, termination and damages payments, are provided for. To implement the requirements of the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG), we initiated a groupwide project in which we introduced an AI-based risk analysis process in October 2022 and established supplier risk management connected to this. This will enable us to avoid, terminate or minimise any violations by our suppliers of human rights and/or human rights-related environmental protection requirements. The process already accounts for the requirements contained in the draft version of the EU Corporate Sustainability Due Diligence (CSDD) Directive.

Suppliers to MVV Energie, Energieversorgung Offenbach, Juwi and Stadtwerke Kiel are regularly assessed in terms of their sustainability, risks and compliance, as are the subcontractors we approve. In our supplier management system, all suppliers are required to provide disclosures on whether they have compliance or anticorruption requirements and a code of conduct, as well as on whether they are committed to the UN Global Compact. Moreover, they must disclose whether they have a sustainability concept and, if so, how this is implemented. Corresponding information and certificates are deposited in our supplier management system. These aspects are monitored within our compliance management system.

For the most important of our strategic suppliers, we perform additional in-depth analyses of their strategy and of the climate protection and sustainability measures they have in place. Compliance with social welfare standards also forms part of our contract awarding process. As a general rule, we do not obtain data from suppliers located further upstream in the supply chain ourselves, but rather draw on external sources of information.

The overwhelming share of our business activities takes place in Germany, the UK and the Czech Republic, i.e. in European countries where respect for human rights is a core aspect of entrepreneurial activity. Within our supplier management, we have taken specific measures to perform a sustainability evaluation of select business areas with potentially critical conditions. Acquisition of companies or shareholdings are subject to painstaking due diligence that also covers compliance with human rights, adherence to compliance-related requirements and further sustainability aspects, such as environmental protection and occupational safety.

Large numbers of subcontractors, most of which based in European countries, work on behalf of MVV. As human and employee rights are legally protected in these countries, we assume that employment conditions there are humane. High safety standards are also important to us for our subcontractors. We are therefore committed to ensuring that they comply with legal requirements and have issued corresponding requirements which provide, for example, for health and safety instructions to be issued to employees at third-party companies. We review our subcontractors in individual cases, particularly for major projects. We do not yet keep comprehensive records of working conditions at our subcontractors, especially at their production locations, but draw here too on external sources of information.

Compliance and respect for human rights

Compliance

Our compliance management system (CMS) supports us in safeguarding compliance with applicable laws, as well as with in-company guidelines and the ethical standards to which we are committed. The CMS is intended on the one hand to ensure that our managers and employees understand and adhere to these guidelines and standards and on the other hand to monitor all relevant business activities and processes within our Group.

We have summarised the most important requirements and necessary organisational structures and processes in our Compliance Management Handbook. This also lists the names of those employees who are responsible for our reporting system and describes the relevant processes in detail. The handbook is binding for all companies at the Mannheim subgroup of MVV Energie AG and is permanently available for downloading to all employees at this subgroup. The other subgroups have introduced equivalent compliance management systems.

MVV's Compliance Officer is responsible for our CMS with regard to its contents, organisation and processes. He compiles the relevant compliance regulations, updates these, and exchanges information with the various organisational units involved. He documents the regulations and ensures that they are implemented within business processes. Moreover, he is responsible for ensuring that employee training measures are implemented and that all CMS processes are adhered to. Furthermore, he acts in an advisory capacity to support measures intended to prevent and where necessary, investigate any violations of the law, corruption or deliberate acts harmful to the company. The Compliance Officer reports to the Executive Board regularly and whenever otherwise required by specific developments, as well as to the Audit Committee in the context of the annual financial statements.

We have structured our CMS in such a way that any breaches of compliance are avoided on a preventative basis, particularly by implementing preventative measures in the respective business processes (systemic compliance). We perform advance checks on relevant processes in sensitive areas, for example, and act early to take corrective measures where necessary. Donations and payments to parties and political organisations are strictly prohibited. Payments to equity providers exclusively take the form of dividends.

We aim to avoid any infringements of compliance requirements on a preventative basis.

We rely on active prevention measures within the actual business processes already in order to avert criminal or grossly improper violations of the law. Here, we pursue a zero-tolerance policy towards bribery and all other forms of corruption. With regard to corruption prevention, we provide extensive training to our employees, particularly those working in sales, related areas and procurement. We show them, for example, how to deal with gratuities and invitations, which we record and check. With these measures, we minimise the risk of so-called soft bribery. We likewise continually monitor all business fields, specialist divisions, group departments and subsidiaries to ascertain whether compliance requirements have been observed. Moreover, employees and third parties can contact the Compliance Officer or an external confidence lawyer directly via anonymous "whistle-blower" hotlines and thus provide tip-offs of potential misconduct. Among other places, the telephone number of the confidence lawyer is also published on our website at **www.mvv.de.**

Regular training is provided to all of MVV's managers and employees who have contact to customers, service providers or suppliers, as well as to employees with other latent compliance-related risk exposure, to ensure that they are extensively informed of general compliance requirements and also familiar with the legal requirements relevant to their respective business units. Examples of the topic covered by this training are combating corruption and money laundering, capital market, stock market, competition and cartel law, handling sanction lists, respect for human rights and the relevant requirements of energy industry law. In the 2022 financial year, 373 employees at the Mannheim subgroup and 441 employees at the other subgroups took part in this training.

Due to the coronavirus pandemic, most training sessions were still held as video conferences rather than in person. In parallel, 2,615 individuals completed an e-learning programme in the same period that was offered by our Stadtwerke Kiel and Energieversorgung Offenbach subsidiaries and the Juwi subgroup. All managers from a specific management level upwards are required to submit a Compliance Management Declaration (CMD) at the end of each financial year. The same requirement applies to the managing directors of our subsidiaries and select other shareholdings. In this, they must state whether all relevant compliance regulations and legal requirements have been complied with. Among others, the questions in the CMD include asking whether the employees of the individual manager have received the required instruction and suitable training for the CMS. Moreover, in the context of the CMD the

managers also provide detailed responses to questions specifically tailored to circumstances at their respective business unit.

Legal responsibility and liability

Questions relating to legal responsibility and liability arise in the environment in which the energy industry operates. We report on MVV's legal risks in the chapter Opportunity and Risk Report.

Respect for human rights

Respect for human rights is also integrated into our compliance management system. In our human rights policy **www.mvv.de/responsibility,** we underline our commitment to internationally recognised principles of human rights. With this commitment, we also take due account of the National Action Plan for Business and Human Rights (NAP) and the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG). Our human rights policy was adopted by our Executive Board, while the management at our companies and locations is responsible for compliance with the resultant requirements.

MVV's Human Rights Officer, who reports directly to the Executive Board, is responsible for ensuring that the requirements of the LkSG legislation are met. He is responsible for risk management relevant to human rights issues and for making sure that statutory due diligence obligations are adhered to in business processes. Among other aspects, this involves performing a human rights risk analysis each year and on specific occasions, implementing processes to prevent any violations of human rights in the supply chain and our own activities and meeting statutory reporting obligations. As the central point of contact, he is the first person to turn to for employees working in procurement. Not only that: In the event of potential violations, he ensures that these are remedied and investigated. It is important to us that all suspected cases should be recorded and reviewed. To this end, employees and third parties can either contact MVV's Human Rights Officer directly or use the anonymous whistle-blower hotline. We have published the relevant information in German and English on our homepage.

Employee training on the topic of human rights forms part of the obligatory compliance training.

In the year under report, we further developed the due diligence process and other processes relating to the supply chain in our "Sustainable Supply Chain" workgroup, which operates across business units and locations. The workgroup promotes the further development and harmonisation of existing processes in the field of supply chain management; it therefore also addresses compliance with human rights and raises awareness within the organisation for potential human rights risks. Moreover, in the Group's most important procurement units we successfully implemented projects intended to further develop existing risk management processes relating to human rights and ecology. In this year's due diligence process performed to identify any potential risks relevant to human rights, we concluded that there were no risks relevant to our reporting in terms of great significance or high probability of occurrence.

Other aspects

Promoting the digital transformation
Digitalisation is a major component of our corporate strategy. We make targeted use of digitalisation instruments to create modern hybrid ways of working and cooperating with each other and to continually enhance the efficiency and networking of our own business processes. Moreover, we use digital applications to increase our efficiency by optimising our own plants and grids with data-driven technologies and control systems. At the same time, we draw on the possibilities offered by digitalisation to analyse the energy situation for our customers, for example, and to structure individual optimal solutions. This way, we can also reduce the long-term environmental impact of energy consumption. Smart cities are another field of application now emerging for digital products. Digital solutions not only offer economic benefits, they also provide opportunities to reach ecological and social objectives. Viewed as a whole, the decentralised new energy world needs smart control and offsetting mechanisms. This being so, digitalisation, and here in particular the processing of large volumes of data using artificial intelligence (AI), is an important building block to make the energy industry, and thus also MVV, fit for the future. At MVV Trading, we have therefore founded a new unit that will implement and operate model-based trading strategies in modern cloud-based system architectures. Adaptable IT and a well-structured approach to data handling form the foundation enabling us to permanently secure a resilient competitive position and to deploy AI in other applications too. Like many other companies, we too are preparing to transition to the new world of SAP S/4HANA. We are thus streamlining, harmonising and automating our processes. With a joint and harmonised data model, we are laying a foundation to make more intensive use of data and fully exploit the potential offered by AI applications. At MVV, the overriding topic of digitalisation is being implemented in all business fields. We coordinate key aspects of this in our overall digitalisation programme.

Information security and data protection still in focus
We are committed to protecting sensitive information and data with a wide range of technical and organisational measures and generally adhere to the principle of data economy. One guarantor of this approach is the high level of awareness we have cultivated among our employees for this important topic. This applies in particular to personal data, which we collect in connection with the solutions and service products we offer to our customers and for employment and other contractual relationships with employees and suppliers. We process this in accordance with data protection requirements. Working with an information security management system based on the international norm DIN ISO 27001 and a continually growing data protection management system, the employees entrusted with this task manage and monitor the security of business processes in terms of IT and data protection law both centrally and on a decentralised basis and ensure that the information is protected against unauthorised viewing, loss or manipulation. Our measures to protect against cyberattacks, which are challenging corporate IT in increasing numbers, are also to be viewed in this context. All measures we implement in terms of information security and data protection are intended to detect and manage any potential risks. Our goal here is to maintain existing relationships of trust with our customers, shareholders, suppliers, service providers and employees and, where possible, to further extend this trust. In the year under report, we met our objective of sustainably protecting information and personal data by drawing on numerous technical and organisational measures and further raised awareness levels for this topic among our employees.

EU Taxonomy

The Sustainable Finance Action Plan (SFAP) plays a key role within the EU's Green Deal. It is intended to redirect capital flows towards environmentally sustainable technologies and companies. The framework for this plan is provided by Regulation EU 2020/852 (EU Taxonomy), which serves as a system of classification and, in supplementing Delegated Acts, lays down the technical criteria governing whether economic activities may be classified as "environmentally sustainable". Environmentally sustainable economic activities have to make a substantial contribution to one of the six following environmental objectives (pursuant to Article 9 of the EU Taxonomy):

1. Climate change mitigation

2. Climate change adaptation

3. The sustainable use and protection of water and marine resources

4. The transition to a circular economy

5. Pollution prevention and control

6. The protection and restoration of biodiversity and ecosystems

To determine whether they make a substantial contribution, the EU Taxonomy divides economic activities by reference to their taxonomy eligibility and alignment:

Pursuant to Articles 10 to 15 of the EU Taxonomy, **taxonomy-eligible** economic activities are activities that are described in the annexes to the Delegated Act. This classification is irrespective of whether or not the activities meet the technical screening criteria that have to be reviewed in the next stage.

Pursuant to Articles 10 to 18 of the EU Taxonomy, **taxonomy-aligned** and thus environmentally sustainable economic activities only include those activities that are described in the annexes to the Delegated Act, make a substantial contribution to achieving one or several of the six environmental objectives and do no significant harm ("DNSH") to achievement of the other five environmental objectives. These two latter conditions are deemed to have been met if the economic activities satisfy the currently valid version of the technical screening criteria. Moreover, compliance with minimum safeguards has to be ensured for all environmentally sustainable economic activities.

At present, the annexes to the Delegated Act only include final classification criteria for the first two environmental objectives, namely "climate change mitigation" (Annex 1) and "climate change adaptation" (Annex 2). These took effect as of 1 January 2022. The classification criteria for the other four environmental targets are due to be finalised by the end of 2022 and then take effect from 2023. In early March 2022, the European Commission published a Complementary Delegated Taxonomy Act on the environmental objectives of "climate change mitigation" and "climate change adaptation". This defines the criteria which, if met, allow investments in gas and nuclear activities to be classified as environmentally sustainable, as these activities have the potential to assist in accelerating the transition to a climate-neutral future with predominantly renewable energies. The Complementary Act requires mandatory application from 1 January 2023.

Implementation of EU Taxonomy at MVV

For first-time application of the EU Taxonomy reporting requirements, practical expedients have been provided in the form of an option. For the 2022 financial year, MVV is obliged to report on its taxonomy-eligible economic activities, as well as on their respective shares of its sales ("turnover"), investments ("CapEx") and operating expenses ("OpEx"). Over and above the statutory disclosures, for the 2022 financial year we have also voluntarily reported on our taxonomy-aligned economic activities and their respective shares of turnover, CapEx and OpEx. In the context of this Non-Financial Declaration, MVV also decided to make voluntary full application of the Complementary Act dated March 2022. This means we have reported all economic activities relevant to environmental objectives 1 and 2.

Identification and classification of our economic activities

We began by analysing all of MVV's economic activities on the basis of the descriptions provided in the Delegated Act and its annexes and then identifying our taxonomy-eligible activities (eligibility review).

On this basis, as well as of our assessment of compliance with the substantial contribution, DNSH and minimum safeguard requirements, we concluded for the 2022 financial year that the economic activities thereby identified contribute to the "climate change mitigation" environmental objective. According to the Delegated Act, these economic activities should account for the need to avoid greenhouse gas emissions arising, reduce such emissions or increase the reduction in greenhouse gases and long-term carbon storage. In the further process performed on our taxonomy-eligible activities to review their environmental sustainability (alignment review), we investigated the contribution they make to the second environmental objective of "climate change adaptation". Here, we established that allocation to the first environmental objective of "climate change mitigation" was currently suitable for MVV's economic activities. We will subject the allocation of our activities to the "climate change mitigation" environmental objective to an alignment review once again in subsequent years in conjunction with the newly added environmental objectives. Moreover, we will then review whether further MVV economic activities are to be classified as taxonomy-eligible or taxonomy-aligned.

In the next step, all economic activities identified were subject to an alignment review.

The recording and review of economic activities in terms of their taxonomy alignment is performed with the assistance of uniform assessment forms across the Group. These were devised on the basis of the Delegated Act and Annex 1 and serve as worksheets and documentary evidence. The review process is centrally managed, while the review of the respective economic activity takes place on a decentralised basis at the organisational unit responsible for the activity.

Review step 1: substantial contribution to the "climate change mitigation" environmental objective
This review is performed on an individual basis for each economic activity by reference to the technical screening criteria contained in Article 10 of the EU Taxonomy in conjunction with Annex 1 of the Delegated Act.

Review step 2: do no significant harm
A review is performed for each economic activity to ascertain whether it does any significant harm to the other environmental objectives. The DNSH criteria set out in Annexes A to E of Annex 1 to the Delegated Act chiefly relate to compliance with European and/or German legal requirements. "Significant" harm to the achievement of other objectives, for example, depends on the respective severity and probability of occurrence, but also on whether significantly better alternatives are available on the market.

Due to our energy industry activities, the review of DNSH conformity for the "climate change adaptation" environmental objective formed the key focus of our DNSH review process. We began by identifying climate risks on Group level. To evaluate climate risks and the climate forecast scenario, we accounted for all climate scenarios listed in Annex 1, but then focused our analysis on the future scenario RCP 2.6 "optimistic" in the 2021 Climate Impact and Risk Analysis (KWRA 2021) for Germany published by the German Federal Environment Agency (UBA). Moreover, select risks contained in the table in Section II of Annex A to Annex 1 were referred to when classifying climate risks. In our risk analysis, we assumed that the climate risks classified in Annex 1 will only arise from 2030 in terms of their frequencies and relevance. This follows the approach and context of the KWRA 2021, whose climate risk concept is based on the definition of the International Panel on Climate Change (IPCC) and the RCP 2.6 scenario. The analysis of unsubstantial risk fields resulted in the identification of five climate risks relevant to MVV. These were initially assessed in terms of their basic materiality without regard to the specific location of an economic activity. This was intended to facilitate the compilation and, where applicable, implementation of adaptation solutions.

The next step involved assessing the climate impact of the economic activities and/or plants over their expected lifetime. We performed this vulnerability assessment by conducting expert interviews on the level of the respective economic activity. Where initial statement led to identifiable substantial risks by 2030 and if MVV's respective economic activity or the plant was to be operated at the respective location for longer than a further ten years, a location analysis was performed in a further step. A climate risk assessment from the middle of the century for the cities and MVV locations of Mannheim, Wörrstadt and Offenbach, which are geographically close, was performed in detail for Offenbach. The findings of this risk assessment can be mapped from Offenbach to the other locations.

Review step 3: compliance with minimum safeguards for the topics of human rights (including employee and consumer rights), corruption and bribery, taxation and fair competition

We have adopted a groupwide approach to determine compliance with the minimum safeguards pursuant to Article 18 of the EU Taxonomy. With this approach, we ensure that due diligence obligations in respect of human rights are complied with on the level of individual economic activities. The same applies for our efforts to combat corruption and bribery. A key role is played in this respect by our compliance management system (CMS), which we report on in the section Compliance and Human Rights of this Non-Financial Declaration. This assists us in ensuring that all applicable laws are complied with, as are internal company guidelines and the ethical standards to which we are committed. Respect for human rights is also integrated in our CMS. With our Human Rights Policy, we underline our commitment to internationally recognised human rights norms, conventions, principles and policies. Among others, these include the International Bill of Human Rights of the United Nations (UN), the OECD Guidelines for Multinational Enterprises, the Ten Principles of the UN Global Compact, the Guiding Principles on Business and Human Rights of the United Nations and the Core Labour Standards of the International Labour Organization (ILO). These also form part of our Suppliers Code of Conduct. Moreover, we also further developed our supply chain-related processes in our "Sustainable Supply Chain" workgroup, which covers activities in all our business fields and at all our locations. Potential violations of human rights in the photovoltaics supply chain, a relevant topic in this year under report, were also subject to close risk monitoring and suitable precautionary measures. We report on this in the section Respect for Human Rights and Combating Corruption and Bribery Aspect of this Non-Financial Declaration.

MVV has implemented a group tax policy and a tax-related internal control system to safeguard compliance with all statutory and other relevant tax law requirements, guidelines and ethical standards. These govern the company's tax strategy, organisation, processes and control activities. MVV is not aware of any cases as of the balance sheet date in which it has been finally found to have violated tax laws.

We promote employee awareness of the importance of compliance with all applicable competition laws and regulations. Neither the company nor its senior management have been finally convicted either of violating competition laws or of corruption.

On this basis, we concluded overall that MVV complies with the requirements of the minimum safeguards.

Where the respective economic activity cumulatively meets all points of the three review steps outlined above, we classify this activity as "taxonomy-aligned". For the 2022 financial year, we identified the following economic activities as being taxonomy-aligned.

Overview of all taxonomy-aligned economic activities FY 2022

Economic activity pursuant to EU Taxonomy		Environmental objective [1]	MVV's activity
4.1.	Electricity generation using solar photovoltaic technology	Climate change mitigation	Projecting and construction of photovoltaics parks and generation of electricity from photovoltaics systems
4.3.	Electricity generation from wind power	Climate change mitigation	Projecting, construction and generation of electricity from onshore wind turbines
4.5.	Electricity generation from hydropower	Climate change mitigation	Generation of electricity from hydropower plants
4.8.	Electricity generation from bioenergy	Climate change mitigation	Generation of electricity from biomethane and biogas plants
4.9.	Transmission and distribution of electricity	Climate change mitigation	Distribution grid operator for electricity
4.11.	Storage of thermal energy	Climate change mitigation	Use of heat storage facilities
4.13.	Manufacture of biogas and biofuels for use in transport and of bioliquids	Climate change mitigation	Biomethane production
4.14.	Transmission and distribution networks for renewable and low-carbon gases	Climate change mitigation	Distribution grid operator for green gases
4.15.	District heating/cooling distribution	Climate change mitigation	District heat supply
4.16.	Installation and operation of electric heat pumps	Climate change mitigation	Construction and operation of a river heat pump
4.20.	Cogeneration of heat/cool and power from bioenergy	Climate change mitigation	Electricity generation using CHP at biomass plants
4.24.	Production of heat/cool from bioenergy	Climate change mitigation	Heat generation at biomass plants
4.25.	Production of heat/cool using waste heat	Climate change mitigation	Use of waste heat for district heat supply
4.31.	Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	Climate change mitigation	Gas-based backup facilities for district heat supply
5.1.	Construction, extension and operation of water collection, treatment and supply systems	Climate change mitigation	Water production and supply
5.5.	Collection and transport of non-hazardous waste in source segregated fractions	Climate change mitigation	Storage, use, treatment and elimination of waste
5.7.	Anaerobic digestion of bio-waste	Climate change mitigation	Biomethane production from bio-waste
6.15.	Infrastructure enabling low-carbon road transport and public transport	Climate change mitigation	Public charging infrastructure activities
7.3.	Installation, maintenance and repair of energy efficiency equipment	Climate change mitigation	LED contracting
7.4.	Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	Climate change mitigation	Charging infrastructure activities for business and commercial customers
7.5.	Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	Climate change mitigation	Meter operations
7.6.	Installation, maintenance and repair of renewable energy technologies	Climate change mitigation	Installation of photovoltaics systems for business, commercial and retail customers
9.3.	Professional services related to energy performance of buildings	Climate change mitigation	Energy efficiency consulting for business, commercial and industrial customers

1 As of 30 September 2022, all of MVV's activities have been allocated to the "Climate change mitigation" environmental objective.

For the 2022 financial year, we also classified the following economic activities as being taxonomy-eligible but not yet taxonomy-aligned:

Overview of all taxonomy-eligible but not taxonomy-aligned economic activities FY 2022

Economic activity pursuant to EU Taxonomy		Environmental objective [1]	MVV's activity
4.29.	Electricity generation from gaseous fossil fuels	Climate change mitigation	Gas power plants
4.30.	High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	Climate change mitigation	Generation of electricity and heat using gas-based CHP
4.31.	Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system	Climate change mitigation	Gas-based backup facilities for district heat supply
8.2.	Data-driven solutions for GHG emissions reductions	Climate change mitigation	Energy data collection and management systems

1 As of 30 September 2022, all of MVV's activities have been allocated to the "Climate change mitigation" environmental objective.

Focus on climate protection

As already outlined, all taxonomy-aligned economic activities make a substantial contribution to the "climate change mitigation" environmental objective. The EU Taxonomy and the Delegated Act include a selection of economic activities and thus not all conceivable activities. As a result, we have classified activities as non-taxonomy-eligible even though we believe they make an important contribution to climate protection. Examples here include the construction of new and operation of existing energy from waste plants and the use of waste timber at CHP plants. To withdraw carbon from the cycle we plan to capture carbon (CCU) by equipping our energy from waste plants accordingly. Further information about these activities can be found in, among others, the section Environmental Concerns Aspect of this Non-Financial Declaration.

We see the entry into effect of a new Delegated Act, including further annexes and thus additional environmental objectives, as offering the possibility to classify further MVV activities as taxonomy-eligible and taxonomy-aligned.

Calculation and definition of EU Taxonomy KPIs

We based our calculation of taxonomy-eligible and taxonomy-aligned shares on the following approach: Key performance indicators (KPIs) have been calculated based on the accounting policies applied in the consolidated financial statements that, pursuant to § 315e (1) HGB, we prepare in accordance with International Financial Reporting Standards (IFRS).

KPIs have basically been determined on the basis of the data in our consolidated financial statements. Where the calculation of EU Taxonomy KPIs and relevant components of such requires reference to local IT systems or the use of calculation keys, process conformity is safeguarded with suitable internal checks both in terms of processes (dual control principle) and of system assistance (validation), thus also avoiding duplicate inclusion.

Sales (turnover) correspond to adjusted sales excluding energy taxes. To determine this KPI, we adjust sales after electricity and natural gas taxes as stated in the Income Statement as of the balance sheet date to eliminate the difference between the hedge and reporting date prices as of the respective realisation date pursuant to IFRS 9 (further details can be found in the chapter Presentation of Earnings Performance in the chapter Group Business Performance). The taxonomy-eligible and taxonomy-aligned shares of our sales are determined by presenting total adjusted sales in our taxonomy-eligible and taxonomy-aligned economic activities (numerator) as a percentage of the MVV Group's adjusted sales (denominator). Further details can be found in the EU Taxonomy Tables.

Pursuant to EU Taxonomy requirements, **investment expenses** correspond to additions to intangible assets and property, plant and equipment. These are determined without including depreciation and amortisation, remeasurements or fair value changes. Furthermore, the investment concept used in the EU Taxonomy requires inclusion of the following additions:

- Additions to property, plant and equipment pursuant to IAS 16.73 (e) (i) and (iii)
- Additions to intangible assets pursuant to IAS 38.118 (e) (i)
- Additions to investment properties pursuant to IAS 40.79 (d) (i) and (ii)
- Additions to right-of-use assets pursuant to IFRS 16.53 (h)

The definition of investment expenses in the EU Taxonomy thus diverges from our definition of the investments KPI. In the following table we show how we reconcile investment expenses as defined in the EU Taxonomy with our investments in the 2022 financial year. Further information about MVV's investments can be found in the chapter Presentation of Asset Position.

Reconciliation of investment expenses

Euro million	FY 2022
Investment expenses pursuant to EU Taxonomy Regulation	**350**
+ Unfinished products in connection with finance leases	+ 5
+ Financial assets	+ 37
– Dismantling obligations	– (– 6)
– Right-of-use assets	– 18
– Company acquisitions	– 45
Investments pursuant to MVV definition	**335**

The taxonomy-eligible and taxonomy-aligned shares of our investment expenses are determined by presenting our total taxonomy-eligible and taxonomy-aligned investment expenses (numerator) as a percentage of the MVV Group's investments pursuant to the EU Taxonomy Regulation (denominator). Further details can be found in the EU Taxonomy Tables. In the 2022 financial year, virtually all our taxonomy-eligible investment expenses were also taxonomy-aligned. The numerator thus represents the "CapEx Category a" as defined in the Annex to the Delegated Act.

According to the Annex to the Delegated Act, the numerator for investment expenses also includes investment expenses in "CapEx Category b" and "CapEx Category c". Investment expenses that contribute to extending taxonomy-eligible economic activities, or to converting taxonomy-eligible economic activities into taxonomy-aligned economic activities within a CapEx plan require report in "CapEx Category b". The review of investments to assess their taxonomy eligibility or alignment is performed on the basis of individual investment projects and programmes. This process covers all current investment measures at MVV. In this respect, investments that extend beyond the current financial year and form part of our long-term investment programme are also included. No investment expenses requiring allocation to "CapEx Category b" were identified in the 2022 year under report.

Individual investments that relate to the acquisition of production for taxonomy-aligned economic activities and individual measures by means of which the target activities can be executed on a low-carbon basis or emissions of greenhouse gases reduced require report in "CapEx Category c". At MVV, these relate above all to investments involving cross-departmental activities, particularly at office buildings or in our vehicle pool. MVV only has material investments in Category a. Investments in Category c involve marginal and non-strategic investments and are also negligible in terms of their volume. The review of these investments for the 2022 financial year concluded that they accounted for significantly less than 1 % of our total investments. There is therefore no material CapEx in Category c that requires inclusion in the numerator.

The numerator and denominator used to calculate the **operating expenses** KPI are defined in the Delegated Act. Pursuant to the EU Taxonomy, the denominator comprises direct non-capitalised operating expenses for research and development, building refurbishment, short-term leases, maintenance and repairs, and all other direct expenses relating to the day-to-day maintenance of items of property, plant and equipment that are required to safeguard the ongoing effective functionality of these assets.

At MVV, this item chiefly comprises employee benefit expenses, cost of materials and other operating expenses, including prorated IT expenses for maintaining, repairing and cleaning energy generation and distribution facilities, and short-term lease expenses. Expenses for research and development and for building refurbishment currently only play a subordinate role at MVV.

According to the EU Taxonomy, the numerator comprises the share of those operating expenses included in the denominator that relate to assets or processes involved in taxonomy-aligned and taxonomy-eligible economic activities respectively (OpEx Category a). At MVV, the numerator simultaneously constitutes “OpEx Category a”.

Pursuant to the Annex to the Delegated Act, the numerator also includes the share of those operating expenses included in the denominator for “OpEx Category b” and “OpEx Category c”. We refer in this respect to the comments made above for investment expenses in “CapEx Category b” and CapEx Category c”. Accordingly, no material operating expenses requiring allocation to “OpEx Category b” or “OpEx Category c” were identified in the 2022 year under report. The amounts stated for OpEx were in some cases determined with the assistance of suitable value-based calculation keys.

Overview of EU Taxonomy KPIs

The complete disclosures of key performance indicators (KPIs) relating to taxonomy-eligible and taxonomy-aligned economic activities are presented in the chapter Other Disclosures.

EU Taxonomy KPIs: sales (turnover), investment expenses (CapEx) and operating expenses (OpEx)

	FY 2022 Euro million	FY 2022 Share %
Total sales (turnover)	**4,199**	**100.0**
of which taxonomy-eligible	934	22.2
of which taxonomy-aligned	756	18.0
Total investment expenses (CapEx)	**350**	**100.0**
of which taxonomy-eligible	264	75.6
of which taxonomy-aligned	262	74.9
Total operating expenses (OpEx)	**584**	**100.0**
of which taxonomy-eligible	159	27.3
of which taxonomy-aligned	156	26.6

Based on the number of taxonomy-eligible economic activities reported, it is apparent that MVV can report a very high number of economic activities compared with other energy companies. This clearly shows that we offer numerous business models and products that are consistent with the objectives targeted by the EU. The fact that the predominant share of our taxonomy-eligible economic activities are also taxonomy-aligned also affirms the course we have taken towards a sustainable energy supply and green energy-related services.

Sales (turnover)

We generate the overwhelming share of our sales by selling electricity and gas to our business, commercial, industrial and retail customers and, linked to these activities, with commodities trading (please see the comments provided in the chapter Presentation of Earnings Performance). These business activities are not recorded as economic activities in the EU Taxonomy. This means that only a relatively minor share of our sales is within the scope of the EU Taxonomy and thus taxonomy-eligible.

In the 2022 financial year, taxonomy-eligible economic activities accounted for a 22 % share of our sales. Of these, more than 80 % are also taxonomy-aligned and thus environmentally sustainable. Significant sales contributions came from our renewable energies project development business, electricity generation based on renewable energies and our activities in the distribution of electricity, water and district heat. For individual economic activities, such as the operation of our natural gas distribution grids (EA 4.14), taxonomy requirements do not permit any sales to be stated, but only investments. It is also only permitted to report a very low share of the revenues generated from operating our energy from waste plants in the environmental energy business field. The economic activities relating to natural gas generation (EA 4.29 to 4.31) include numerous individual power plants. As valuation is always based on asset level, both taxonomy-eligible and only taxonomy-aligned contributions have been stated. We assume that, based on suitable documentary evidence of the specific technical criteria, it will be possible in future to report part of the sales currently stated as not yet taxonomy-aligned as then being taxonomy-aligned.

Investment expenses (CapEx)

We have had a broad-based investment programme with a long-term horizon for many years. This programme is geared to our ambitious decarbonisation and sustainability targets (please also see the comments provided in the section Environmental Concerns Aspect of this Non-Financial Declaration). Most of our investments relate to projects that contribute to climate protection, such as investments in energy from waste plants or supply reliability that demonstrably reduce CO_2 emissions. However, not all of these investments are covered by the EU Taxonomy.

In the 2022 financial year, 76 % of our investments were within the scope of the EU Taxonomy and thus taxonomy-eligible. Virtually all taxonomy-eligible investments were simultaneously taxonomy-aligned. These therefore count as environmentally sustainable investments. To date, the EU Taxonomy only covers a fraction of business activities in industry and the services sector, including the energy industry. Our high ratio thus confirms that we are investing in the right, i.e. sustainable areas. The majority of our investments was channelled into our electricity and district heat grids, photovoltaics systems and wind turbines, and the generation of energy from waste heat. Avantag, a subsidiary we acquired in the year under report, also made a positive contribution. As they depend on implementation of larger-scale projects, we expect investment contributions from individual economic activities to fluctuate sharply between individual years.

SALES (TURNOVER)
Shares (%)

	FY 2022
of which taxonomy-aligned	18
of which taxonomy-eligible	22
of which non-taxonomy-eligible/not classified by EU Taxonomy	78

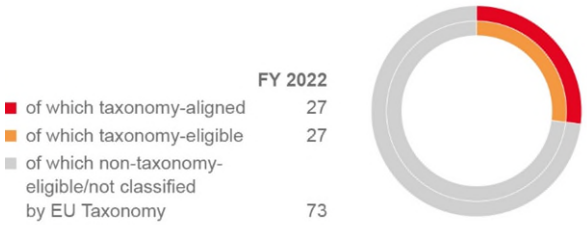
INVESTMENTS (CAPEX)
Shares (%)

	FY 2022
of which taxonomy-aligned	75
of which taxonomy-eligible	76
of which non-taxonomy-eligible/not classified by EU Taxonomy	24

Operating expenses (OpEx)

Of our operating expenses (OpEx) in the 2022 financial year, 27 % were within the scope of the EU Taxonomy. Of taxonomy-eligible operating expenses, 98 % were also taxonomy-aligned. The largest items relate to electricity, heat and water grids, as well as to the operation and maintenance of renewable energy plants. As the definition of operating expenses in the EU Taxonomy differs significantly from the definition usually applied in a commercial context, the key figures reported for the EU Taxonomy do not allow any robust conclusions to be drawn or analyses compiled with regard to the amount or structure of such expenses.

OPERATING EXPENSES (OPEX)
Shares (%)



Meaningfulness of EU Taxonomy for MVV

Reporting in line with EU Taxonomy indicators for the first time in full has confirmed our opinion that the conclusions that can be drawn on this basis with regard to MVV's sustainability-related activities are highly limited. On the one hand, the KPIs show that the overwhelming share of business activities covered by the taxonomy are also taxonomy-aligned, i.e. sustainable. On the other hand, only around a fifth of our business (measured in terms of sales) is covered by the taxonomy at all. At the same time, we are convinced that products and services such as directly marketing renewable energies or selling green commodities are sustainable. If the meaningfulness of the KPIs is to be enhanced, we believe it will be necessary to significantly broaden the scope of the taxonomy in future to cover all economic activities.

Business Performance of MVV Energie AG

Notes to annual financial statements of MVV Energie AG (HGB)

As the publicly listed parent company of the MVV Energie Group ("MVV"), MVV Energie AG prepares its annual financial statements based on the requirements of the German Commercial Code (HGB) and the supplementary requirements of the German Stock Corporation Act (AktG) and the German Energy Industry Act (EnWG). The consolidated financial statements of MVV Energie AG are prepared in line with International Financial Reporting Standards (IFRS) as adopted by the EU. Unlike in the HGB separate financial statements, in the consolidated financial statements income and expense items at consolidated subsidiaries are included in individual income and expense items in the consolidated income statement. Further differences between the separate financial statements of MVV Energie AG and the consolidated financial statements relate in particular to differences between the requirements of commercial law and those of IFRS international accounting standards in terms of the recognition and measurement of individual items.

The annual financial statements of MVV Energie AG, the consolidated financial statements of MVV and the combined management report for the 2022 financial year are published in the Federal Gazette (Bundesanzeiger). The complete 2022 annual financial statements of MVV Energie AG can be downloaded at **www.mvv.de/investors,** as can the consolidated financial statements and the combined management report.

By adopting the German Coal Exit Act (KAG) on 3 July 2020, lawmakers demonstrated their commitment to moving towards a climate-neutral energy system on economically sustainable terms. The coal exit resolved by the Federal Parliament provides for a gradual end to the generation of electricity from coal by 2038 at the latest. While the KAG includes legal requirements which set binding and thus plannable decommissioning dates for lignite power plants, backed up by a public law contract, the exit from generating electricity from hard coal will initially be managed with tenders and only subsequently with legal requirements. For new hard coal power plants, the KAG states that premature write-downs and undue hardship should be avoided. This may be achieved by providing compensation consistent with state aid requirements in cases of undue hardship or by implementing measures with the same effect.

The entry into effect of the KAG has led to shorter useful lives for the generation blocks at the power plant Grosskraftwerk Mannheim. At MVV, this led to additional expenses in a medium single-digit million amount in the year under report. These do not account for profits lost for the years of operation not realised between the date of statutory decommissioning and the original operating life, if longer, or for compensation granted for undue hardship.

Future compensation of this nature for expenses caused by the coal exit has been recognised under other receivables at the MVV RHE subsidiary.

Presentation of earnings performance of MVV Energie AG

Income statement

Euro 000s	**1 Oct 2021 to 30 Sep 2022**	1 Oct 2020 to 30 Sep 2021
Sales	2,813,211	1,631,755
Less electricity and natural gas taxes	– 126,701	– 125,782
Sales less electricity and natural gas taxes	**2,686,510**	**1,505,973**
Increase or reduction in finished and unfinished products	173	–
Other own work capitalised	81	41
Other operating income	60,685	28,586
Cost of materials	2,465,694	1,302,656
Employee benefit expenses	81,975	83,890
Depreciation and amortisation	21,356	20,480
Other operating expenses	130,698	96,112
Financial results	101,220	108,714
Taxes on income	31,296	29,292
Earnings after taxes	**117,650**	**110,884**
Other taxes	421	368
Annual net income	**117,229**	**110,516**
Allocation to other revenue reserves	48,027	41,314
Unappropriated net profit	**69,202**	**69,202**

Due to higher wholesale prices on the energy markets, sales less energy taxes at MVV Energie AG grew year-on-year by Euro 1,181 million to Euro 2,687 million. MVV Energie AG thus met its forecast of generating significantly higher sales than in the previous year. The company generated its sales exclusively in Germany. The electricity business accounted for 68.0 % of total sales (previous year: 61.3 %) and thus remains the largest division in terms of sales at MVV Energie AG.

At Euro 2,466 million, cost of materials was Euro 1,164 million higher than in the previous year. The change in this line item largely reflects the development in sales.

Other operating income rose by Euro 32 million to Euro 61 million. This increase was primarily due to write-backs of impaired loans and debtor warrants in connection with associates due to company restructuring measures. These factors were countered by lower reversals of provisions.

MVV Energie AG had 900 employees at 30 September 2022, 10 more than at the previous year's balance sheet date. Due to adjustments in personnel provisions, the employee benefit expenses of Euro 82 million were Euro 2 million lower than in the previous year.

At Euro 21 million, depreciation and amortisation were at around the previous year's level. No impairment losses were recognised on intangible assets or property, plant and equipment in the year under report or the previous year.

Other operating expenses increased by Euro 35 million to Euro 131 million. This change was chiefly due to higher allowances for receivables and increased additions to provisions.

The financial result decreased year-on-year by Euro 8 million to Euro 101 million. This development was due above all to higher amounts of losses assumed and higher write-downs of financial assets.

At Euro 118 million, earnings after taxes were Euro 7 million higher than in the previous year. Following the deduction of other taxes, MVV Energie AG generated annual net income of Euro 117 million in the 2022 financial year and thus met its forecast that annual net income would be slightly higher than in the previous year. Based on the profit utilisation resolution adopted by the Annual General Meeting on 11 March 2022, the unappropriated net profit of Euro 69 million was fully distributed to the shareholders of MVV Energie AG. The dividend amounted to Euro 1.05 per share.

Revenue reserves of Euro 48 million were formed from the annual net income for the year under report. MVV Energie AG reported unappropriated net profit of Euro 69 million at 30 September 2022. The Annual General Meeting to be held on 10 March 2023 will decide on the dividend proposal adopted by the Executive and Supervisory Boards. The Executive Board will propose the distribution of a dividend of Euro 1.05 per share for approval by the Annual General Meeting (previous year: Euro 1.05 per share); the Supervisory Board will decide on its proposal in December 2022.

Presentation of asset and financial position of MVV Energie AG

Balance sheet

Euro 000s	**30 Sep 2022**	30 Sep 2021
Assets		
Non-current assets		
Intangible assets	341	389
Property, plant and equipment	543,035	507,588
Financial assets	1,733,828	1,521,040
	2,277,204	**2,029,017**
Current assets		
Inventories	865	280
Receivables and other assets	645,818	420,094
Cash and cash equivalents	939,093	744,056
	1,585,776	**1,164,430**
Deferred expenses and accrued income	510	653
	3,863,490	3,194,100
Equity and liabilities		
Equity		
Share capital	168,721	168,721
Capital reserve	458,946	458,946
Revenue reserves	599,884	551,857
Unappropriated net profit	69,202	69,202
	1,296,753	**1,248,726**
Income grants received	36,418	38,336
Provisions	104,204	89,738
Liabilities	2,423,112	1,815,942
Deferred tax liabilities	3,003	1,358
	3,863,490	**3,194,100**

Total assets increased year-on-year by Euro 669 million to Euro 3,863 million.

The asset side of the balance sheet is largely shaped by financial assets. At 30 September 2022, these totalled Euro 1,734 million, equivalent to a 45 % share of total assets. The figures for the previous year were Euro 1,521 million and 48 % respectively. The addition of Euro 213 million to financial assets was chiefly due to an increase in loans to associates. Property, plant and equipment increased year-on-year by Euro 35 million to Euro 543 million. This was mainly due to investments in transmission and supply grids for all utilities.

Current assets rose to Euro 1,586 million, up by Euro 422 million compared with 30 September 2021. This increase mainly resulted from the rise in liquid funds due to a year-on-year rise in the volume of margins received via MVV Trading for energy trading transactions. Furthermore, there were increases in trade receivables due to price rises, as well as in receivables from associates.

Equity grew by Euro 48 million in the year under report and stood at Euro 1,297 million at the balance sheet date. At 34 %, the equity ratio at 30 September 2022 was solid, but below the previous year's figure of 39 %. This was due to the sharp increase in total assets due to price movements.

Provisions rose by Euro 14 million in total to Euro 104 million, with this being due above all to higher other provisions. These related in particular to provisions stated in anticipation of highly likely pending losses in connection with the EU Regulation to tax surplus profits in the electricity sector. The increase is also due to higher provisions stated pursuant to the German Fuel Emissions Trading Act (BEHG).

Liabilities rose by Euro 607 million to Euro 2,423 million. The increase in liabilities chiefly resulted from higher liabilities to associates, which in turn particularly involved margins due to MVV Trading.

MVV Energie AG performs the financing function for its associates. In this capacity, it safeguards the operating liquidity of numerous companies and, in the form of shareholder loans, supplies these with the long-term capital they need for investments. An adequate volume of committed credit lines is available to secure liquidity.

2022 activity statements

With its 2022 activity statements, MVV Energie AG has satisfied its reporting obligations pursuant to § 6b of the German Electricity and Gas Supply Act (German Energy Industry Act – EnWG) and § 3 of the German Metering Point Operation Act (MsbG). In our internal financial reporting, we maintain separate accounts for the activities of electricity and gas distribution, for metering operations, for other activities within the electricity and gas sectors and for other activities outside the electricity and gas sectors.

Furthermore, we also prepare balance sheets and income statements for our electricity and gas distribution and our metering operations.

Electricity distribution

The electricity distribution activity field reported sales of Euro 45 million for the year under report (previous year: Euro 45 million). The gross performance for the 2022 financial year was thus at the previous year's level. In terms of total electricity sector sales of Euro 1,035 million (previous year: Euro 678 million), sales in the electricity distribution activity are of subordinate significance.

Alongside income from the leasing of its electricity grids to MVV Netze GmbH, earnings in the electricity distribution activity field at MVV Energie AG also include income from concession duties. MVV Netze GmbH manages and operates distribution facilities and grids at MVV Energie AG and is responsible for their maintenance. Other operating income resulting from the charging on of the concession duty to MVV Netze GmbH until 30 September 2022 was opposed by corresponding other operating expenses. The electricity distribution activity field generated annual net income of Euro 9 million in the 2022 financial year (previous year: Euro 9 million).

At 30 September 2022, total assets in the electricity distribution activity field came to Euro 160 million (previous year: Euro 153 million). This corresponds to a 26 % share of total assets in the electricity sector at MVV Energie AG (previous year: 50 %). Property, plant and equipment relating to electricity distribution increased compared with the previous year's balance sheet date. At Euro 149 million (previous year: Euro 142 million), this item accounted for a 93 % share of total electricity distribution assets (previous year: 93 %). On the equity and liabilities side of the balance sheet, electricity distribution liabilities rose from Euro 73 million to Euro 87 million. Liabilities to associates involve liabilities due to MVV Netze GmbH.

Metering operations (mME/iMSys)

Consistent with the unbundling requirements of § 3 (4) Sentence 2 MsbG with corresponding application of § 6b (3) EnWG, sales of Euro 0.8 million were reported for metering operations using modern measuring equipment and intelligent measuring systems in the year under report (previous year: Euro 0.6 million). Gross performance for the 2022 financial year therefore amounted to Euro 0.8 million. Measured in terms of total electricity sector sales of Euro 1,035 million (previous year: Euro 678 million), sales in the mME/iMSys metering operations activity field are of subordinate significance.

Earnings in the mME/iMSys metering operations activity field at MVV Energie AG include income from the leasing of its electricity meters (mME/iMSys).

Earnings were countered by depreciation of Euro 0.5 million on the electricity meters (mME/iMSys) recognised under non-current assets at MVV Energie AG (previous year: Euro 0.4 million). In the 2022 financial year, mME/iMSys metering operations posted an annual net deficit of Euro 414 thousand (previous year: annual net surplus of Euro 41 thousand).

At 30 September 2022, total assets in the mME/iMSys metering operations activity field stood at Euro 3.3 million (previous year: Euro 2.8 million), corresponding to a 0.5 % share of total assets in the electricity sector at MVV Energie AG (previous year: Euro 0.9 %). At the balance sheet date, property, plant and equipment relating to mME/iMSys metering operations amounted to Euro 3.3 million (previous year: Euro 2.8 million) and thus accounted for a 99 % share of total assets in the mME/iMSys metering operations (previous year: 99 %). On the equity and liabilities side, liabilities of Euro 2.2 million were reported for mME/iMSys metering operations (previous year: Euro 1.6 million). These mainly involve liabilities due to other activity fields.

Gas distribution

In the year under report, the gas distribution activity field reported sales of Euro 28 million (previous year: Euro 27 million). Gross performance was thus at the previous year's level. Compared with total gas sector sales of Euro 112 million (previous year: Euro 90 million), the gas distribution activity field is of subordinate significance. By analogy with electricity distribution, as well as income from leasing its grids to MVV Netze GmbH earnings in the gas distribution activity field also include income from concession duties. The other operating income resulting from charging on the concession duty to MVV Netze GmbH until 30 September 2022 was opposed by corresponding other operating expenses. The gas distribution activity field generated annual net income of Euro 5 million in the year under report (previous year: Euro 4 million).

Total assets in the gas distribution activity field amounted to Euro 136 million (previous year: Euro 125 million) at the balance sheet date on 30 September 2022 and accounted for some 74 % of total assets in the gas sector at MVV Energie AG (previous year: 80 %). At Euro 130 million, property, plant and equipment in gas distribution was Euro 11 million higher than in the previous year and made up 95 % of total assets in this activity field (previous year: 95 %). On the equity and liabilities side of the balance sheet, gas distribution liabilities rose from Euro 63 million to Euro 77 million. Liabilities to associates involve liabilities due to MVV Netze GmbH.

Corporate Governance Declaration (§ 289f, § 315d HGB)

Publicly listed companies are obliged under § 289f of the German Commercial Code (HGB) to submit a Corporate Governance Declaration. In this, they report on their latest Declaration of Compliance with the German Corporate Governance Code pursuant to § 161 of the German Stock Corporation Act (AktG) and on corporate governance practices applied over and above legal requirements. Furthermore, they report on the mode of operation of the Executive and Supervisory Boards, on the composition and mode of operation of the Supervisory Board committees and on the equal participation of women and men in management positions.

The Corporate Governance Declaration with the Declaration of Compliance will be published together with our Annual Report on 14 December 2022 on our website at **www.mvv.de/corporate-governance.**

Declaration pursuant to § 312 AktG

The Executive Board has compiled a report on relationships with associates for the 2022 financial year (dependent company report) pursuant to § 312 AktG: “MVV Energie AG received commensurate compensation for each of the transactions listed in its report on relationships with the City of Mannheim and associates based on the circumstances known to the Executive Board at the time at which the transactions were performed.”

Non-Financial Declaration (§ 315b, § 315c in conjunction with § 289b et seq. HGB)

The non-financial declaration for the 2022 financial year, which has been jointly compiled for MVV Energie AG and the MVV Energie Group (“MVV”), has been published as a combined non-financial declaration within the combined management report in this Annual Report.

Corporate Governance Declaration

MVV bases its actions on high-quality and transparent corporate governance, i.e. on the principles of responsible company management aimed at sustainable value creation. That is a standard we conscientiously aim to meet in all aspects and all areas of our company. That is why we promote close cooperation based on trust between the Executive and Supervisory Boards and employees, account for the interests of our shareholders and all other stakeholders in our decisions, strictly comply with applicable laws and structure our reporting and corporate communications transparently and openly. We are convinced that high-quality corporate governance strengthens the trust placed in our company by our shareholders, customers, business partners, employees and the general public.

The following Corporate Governance Declaration pursuant to § 289f and § 315d of the German Commercial Code (HGB) includes the Declaration of Compliance with the German Corporate Governance Code pursuant to § 161 of the German Stock Corporation Act (AktG), as well as those further disclosures on corporate governance at MVV Energie AG whose inclusion is either required by § 289f and § 315d HGB or recommended by the Code.

The Executive and Supervisory Boards of MVV Energie AG dealt extensively with the company's corporate governance in the 2022 financial year. The following Declaration of Compliance shows: MVV Energie AG complies with the Code's recommendations with just one exception. Our aim is to follow the recommendations and suggestions made by the Code as completely as possible in future as well.

Declaration of Compliance with the German Corporate Governance Code (§ 161 AktG)

The Executive and Supervisory Boards adopted the following Declaration of Compliance with the German Corporate Governance Code in September 2022:

The Executive and Supervisory Boards of MVV Energie AG hereby declare that the company complied and complies with the recommendations made by the German Corporate Governance Code Government Commission. For the past, this declaration refers to the version of the Code dated 16 December 2019 and published in the Federal Gazette on 20 March 2020. For the future, it refers to the version of the Code dated 28 April 2022 and published in the Federal Gazette on 27 June 2022.

No application was or is made of the following Code recommendation:

G.10: "Management Board members' variable remuneration shall be predominantly invested in company shares by the respective Management Board member or shall be granted predominantly as share-based remuneration. Granted long-term variable remuneration components shall be accessible to Management Board members only after a period of four years. Any benefits granted to Management Board members in a later year should be suitably explained in the remuneration report."

The remuneration system of MVV Energie AG **www.mvv.de/investors,** which was approved by a broad majority of shareholders at the Annual General Meeting on 12 March 2021, does not provide for any remuneration by ways of shares in the company, share ownership obligations or corresponding share-based remuneration models. Variable remuneration for the Executive Board is exclusively disbursed by way of cash payments. The remuneration system at MVV Energie AG nevertheless takes account of the interest of the company and its stakeholders in long-term, value-based and sustainable growth. The variable bonuses are based on the company's operating performance (adjusted EBIT) in the respective financial year and its average return on capital employed (ROCE) over a three-year period. Variable remuneration is disbursed when minimum thresholds specified in advance are exceeded. In particular, the link between variable remuneration and ROCE, and the development in this key figure over a three-year period, enables account to be taken of MVV's capital-intensive business and of the company's long-term performance. The ROCE measures how efficiently a company uses its capital and is, in our opinion, the most suitable key figure for assessing whether MVV has performed sustainably with its capital-intensive infrastructure and taken the right long-term strategic decisions. Furthermore, the shareholder structure of MVV Energie AG, above all its low level of free float and low share trading volumes, make it less appropriate to offer variable remuneration based on shares in the company or other share-based remuneration models.

Remuneration report and remuneration system

Although it is no longer part of the management report, the remuneration report prepared pursuant to § 162 AktG, including the audit opinion, forms a constituent component of the Annual Report. It is also published on our website at **www.mvv.de/investors** and, pursuant to the provisions of § 162 (4) will be available there for ten years. Moreover, on our website we have also published the Executive Board remuneration system pursuant to § 87a (1) and (2) Sentence 1 AktG, which was approved by the Annual General Meeting on 12 March 2021, and the most recent resolution adopted by the Annual General Meeting on 12 March 2021 in respect of the remuneration of Supervisory Board members pursuant to § 113 (3) AktG.

Shareholders and Annual General Meeting

The Annual General Meeting is where shareholders in MVV Energie AG exercise their voting and control rights. Each shareholder is entitled to participate in the Annual General Meeting if he or she registers within the relevant deadline and meets the requirements governing participation in the meeting and the exercising of voting rights. Shareholders may make statements on all agenda items at the meeting and submit relevant questions and motions. At the 2022 Annual General Meeting, which was held on an exclusively virtual basis due to the pandemic, due account had to be taken of the specific measures set out in greater detail below. For voting purposes, each share entitles its holder to one vote and voting is possible before or during the Annual General Meeting. Here, shareholders can cast their vote in a variety of ways: in person or via a proxy of their choice, by being represented by a voting proxy appointed by MVV Energie AG to act in line with their instructions, or by a bank or shareholders' association. Moreover, shareholders can submit their votes electronically in advance of the Annual General Meeting provided that they register within the relevant deadlines. Alternatively, they can communicate all declarations electronically using our password-protected shareholder portal that can be reached via our website **www.mvv.de/investors.**

As mentioned, due to the coronavirus pandemic we held the 2022 Annual General Meeting on a virtual basis. The meeting was broadcast live and in full length on our website and the web-based shareholder portal. Moreover, through to the end of voting shareholders were able to cast their votes via the shareholder portal. They were thus able to decide at very short notice as to how to cast their vote. The option of submitting questions about the agenda via the shareholder portal up to one day ahead of the Annual General Meeting was drawn on by large numbers of our shareholders. The questions thereby submitted were answered in full by members of the Executive and Supervisory Boards at the Annual General Meeting. This way, we were able to ensure a high-quality exchange of views with our shareholders in the virtual format as well.

Announced on 26 July 2022, the German Act on the Introduction of Virtual General Meetings of Stock Corporations has created a legal basis for holding virtual annual general meetings upon the expiry of the existing special regulations. We are currently reviewing the resultant options for holding our Annual General Meeting.

On our website at **www.mvv.de/investors** we publish all relevant documents for our Annual General Meeting in line with the requirements of stock corporation law. In particular, these include the invitation to the meeting and all reports and information needed for the resolutions.

Transparent and prompt communications

We aim to ensure a high degree of transparency and equal treatment of our shareholders in terms of their access to information. We have therefore set ourselves the standard of providing all stakeholders with simultaneous, equivalent and extensive information about material developments and about the company's situation. Our website, and here especially **www.mvv.de** and **www.mvv.de/investors,** serve as prompt sources of information. The information we publish on these sites includes our financial reports, our corporate governance declaration, the remuneration systems for members of the Executive and Supervisory Boards, the remuneration report, presentations from our analysts' conferences, press releases, ad-hoc announcements and our financial calendar.

Disclosures on auditor

The Annual General Meeting on 11 March 2022 elected PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, (PwC), Essen, as auditor for the 2022 financial year. Ahead of this, the Supervisory Board convinced itself of the auditor's independence. We comply with all statutory requirements resulting from the Audit Regulation and from § 316 et seq. HGB: from the selection, appointment, rotation of the auditor and of the persons responsible for managing the audit, through to commissioning the auditor to perform non-audit services.

Reporting and audit of financial statements

MVV Energie AG prepares its annual financial statements based on the requirements of the German Commercial Code (HGB). We prepare the consolidated financial statements and the interim financial statements in accordance with International Financial Reporting Standards (IFRS) in the form requiring application in the European Union. We present the situation of the MVV Group and of MVV Energie AG in a combined management report.

The auditor audits the annual financial statements of MVV Energie AG prepared by the Executive Board. Once the Audit Committee has discussed the financial statements, they are examined, approved and thus adopted by the Supervisory Board. The consolidated financial statements prepared by the Executive Board and audited by the auditor are also presented to the Supervisory Board for its own review and approval once they have previously been examined in detail by the Audit Committee. Furthermore, in its audit of the financial statements the auditor also audits the combined management report.

The quarterly statements for the first three months and first nine months are prepared by the Executive Board and discussed with the Audit Committee prior to publication, as is the half-year financial report. These documents are not subject to any review requirements by the auditor.

The combined non-financial declaration is subject to a limited assurance audit based on International Standards on Assurance Engagements ISAE 3000 (revised).

Compliance and risk management

We have set ourselves the standard of ensuring that our dealings with all our stakeholders are characterised by trust, fairness and integrity. Our compliance management system (CMS) supports us in safeguarding compliance with applicable laws, as well as with in-company guidelines and the ethical standards to which we are committed. The CMS is intended on the one hand to ensure that our managers and employees understand and adhere to these guidelines and standards and on the other hand to monitor all relevant business activities and processes within our Group.

We have summarised the most important requirements and necessary organisational structures and processes in our Compliance Management Handbook. This also lists the names of those employees who are responsible for our reporting system and describes the relevant processes in detail. The handbook is binding for all companies at the Mannheim subgroup of MVV Energie AG and is permanently available for downloading to all employees at this subgroup. The other subgroups have introduced equivalent compliance management systems.

MVV's Compliance Officer is responsible for our CMS with regard to its contents, organisation and processes. He compiles the relevant compliance regulations, updates these, and exchanges information with the various organisational units involved. He documents the regulations and ensures that they are implemented within business processes. Moreover, he is responsible for ensuring that employee training measures are implemented and that all CMS processes are adhered to. Furthermore, he acts in an advisory capacity to support measures intended to prevent and, where necessary, investigate any violations of the law, corruption or deliberate acts harmful to the company. The Compliance Officer reports to the Executive Board regularly and whenever otherwise required by specific developments, as well as to the Audit Committee in the context of the annual financial statements.

We have structured our CMS in such a way that any breaches of compliance are avoided on a preventative basis, particularly by implementing preventative measures in the respective business processes (systemic compliance). We perform advance checks on relevant processes in sensitive areas, for example, and act early to take corrective measures where necessary. Donations and payments to parties and political organisations are strictly prohibited. Payments to equity providers exclusively take the form of dividends.

We rely on active prevention measures within the actual business processes already in order to avert criminal or grossly improper violations of the law. Here, we pursue a zero-tolerance policy towards bribery and all other forms of corruption. With regard to corruption prevention, we provide extensive training to our employees, particularly those working in sales, related areas and procurement. We show them, for example, how to deal with gratuities and invitations, which we record and check. With these measures, we minimise the risk of so-called soft bribery. We likewise continually monitor all business fields, specialist divisions, group departments and subsidiaries to ascertain whether compliance requirements have been observed. Moreover, employees and third parties can contact the Compliance Officer or an external confidence lawyer directly via anonymous "whistle-blower" hotlines and thus provide tip-offs of potential misconduct. Among other places, the telephone number of the confidence lawyer is also published on our website at **www.mvv.de.**

Apart from a low number of minor incidents, no compliance-related infringements were detected in the period under report.

Regular training is provided to all of MVV's managers and employees who have contact to customers, service providers or suppliers to ensure that they are extensively informed of general compliance requirements and also familiar with the legal requirements relevant to their respective business units. Examples of the topics covered by this training are combating corruption and money laundering, capital market, stock market, competition and cartel law, handling sanction lists and the relevant requirements of energy industry law. In the 2022 financial year, 373 employees at the Mannheim subgroup and 441 employees at the other subgroups took part in this training.

Due to the coronavirus pandemic, most training sessions were still held as video conferences rather than in person. In parallel, 2,615 individuals completed an e-learning programme in the same period that was offered by our Stadtwerke Kiel and Energieversorgung Offenbach subsidiaries and the Juwi subgroup. All managers from a specific management level upwards are required to submit a Compliance Management Declaration (CMD) at the end of each financial year. The same requirement applies to the managing directors of our subsidiaries and select other shareholdings. In this, they must state whether all relevant compliance regulations and legal requirements have been complied with. Among others, the questions in the CMD include asking whether the employees of the individual manager have received the required instruction and suitable training for the CMS. Moreover, in the context of the CMD the managers also provide detailed responses to questions specifically tailored to circumstances at their respective business unit.

We take all measures necessary to prevent money laundering and terrorism financing. Given its products, customer base and geographical areas of activity, MVV is only exposed to a low potential risk in this respect. To eliminate the risk of participating in money laundering and terrorism financing entirely, cash transactions are prohibited without exception. In addition, when business relationships are established requirements have to be met in terms of identifying the contract partners and their economic beneficiaries. To ensure that we do not maintain any business relationships with individuals who are subject to sanctions, we regularly deploy an IT tool to compare our business partners with the relevant sanction lists.

The energy industry supply chain is greatly influenced by fuel trading, which is handled on energy exchanges or in bilateral agreements. A significantly lower share of our total procurement volumes relates to suppliers who provide us with goods or perform services for us. Compliance has high priority for us in our cooperation with these suppliers as well. We use supplier management systems and require all suppliers to commit to our compliance regulations, particularly those relating to anti-corruption measures, environmental protection, respect for human rights in the supply chain and social responsibility. We base our cooperation with suppliers and service providers in Germany and the European Union on applicable laws and regulations, including the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG), which will apply to us from 1 January 2023, as well as on those compliance regulations, forms of conduct and work practices relevant to us. Among others, these comprise the international conventions of the United Nations (UN), the International Labour Organization (ILO) and the Organisation for Economic Cooperation and Development (OECD), as well as the UN Global Compact. We agree with our suppliers that they will comply with our Compliance Code of Conduct and our Suppliers Code of Conduct, both of which are published on our website **www.mvv.de/zentraleinkauf.** Our suppliers undertake to comply with legal requirements and internationally recognised standards governing anti-corruption measures, the protection of human and workers' rights and environmental protection. If these obligations are breached, then contractual sanctions, including contractual penalties, termination and damages payments, are provided for. To implement the requirements of the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG), we have initiated a group-wide project in which we will be introducing an AI-based risk analysis process and establishing supplier risk management connected to this. This will enable us to avoid, terminate or minimise any violations by our suppliers of human rights and/or human rights-related environmental protection requirements. The process already accounts for the requirements contained in the draft version of the EU Corporate Sustainability Due Diligence (CSDD) Directive.

Further key components of our corporate management are our risk management system (RMS) and our internal control system in respect of the financial reporting process (IKS). Our RMS is structured to enable us to detect financial and non-financial opportunities and risks at an early stage and thus assess the potential implications for our adjusted EBIT. Opportunities may result in a positive variance in our company earnings compared with the budget values, while risks may produce a negative variance. We evaluate opportunities and risks at the Group on the basis of in-depth analyses of the market and competition. If possible, we reduce our risks or, if they are of a commercial nature, pass them on to

third parties. To this end, we develop suitable measures and monitor their implementation. Our IKS covers relevant accounting and financial reporting processes at all major locations. The aim is to minimise those risks that might contravene our objective of ensuring correct, complete, prompt and understandable financing reporting. To this end, we regularly analyse all processes and interfaces involved in preparing the consolidated financial statements, the financial statements of MVV Energie AG and the combined management report of MVV.

Dual management system

As a listed stock corporation with its legal domicile in Mannheim, MVV Energie AG is governed by the requirements of German stock corporation law. One basic principle set out therein is the dual management system, which requires strict separation between the Executive and Supervisory Boards in terms of their composition and function. The Executive Board is responsible for managing the company and conducting its business, while the Supervisory Board is entrusted with advising and monitoring the Executive Board. The Executive and Supervisory Boards of MVV Energie AG work together closely and on a basis of trust in the interests of the company.

Composition and mode of operation of Executive Board

The Executive Board manages the company under its own responsibility with the objective of generating sustainable and profitable growth. It lays down the company's strategic alignment and determines its financial, investment and personnel planning. It reviews whether the strategic alignment is being implemented effectively and whether the risk management system is appropriate. Furthermore, it monitors risk controlling, the internal control system in respect of the financial reporting process (IKS) and the compliance management system, as well as more far-reaching decentralised management and control systems. It takes due account of the interests of the company's stakeholders in its decisions.

The activities of the Executive Board are governed by a Code of Procedure issued by the Supervisory Board. This lays down divisional responsibilities, as well as those tasks and decisions incumbent on the overall Executive Board. Furthermore, it defines the responsibilities of the Chief Executive Officer (CEO), the ways in which the Executive Board adopts resolutions and the transactions requiring Supervisory Board approval. Pursuant to the Articles of Incorporation, the Executive Board must have at least two members. It currently comprises four positions: CEO/Commercial Affairs, Technology, Sales and Personnel.

The CEO coordinates the work within the Executive Board. He also represents the Executive Board externally. Apart from this, Executive Board members enjoy equal rights and bear joint responsibility for managing the company. Each member of the Executive Board manages their division under their own responsibility but nevertheless subordinates the specific interests of the division to the overriding interests of the company. Due to the sickness-related absence of the CEO, his duties were temporarily assigned to the other members of the Executive Board. The Technology Director was responsible for coordinating Executive Board business during the absence of the CEO. The head of the Tax and Accounting department was appointed as a deputy member of the Executive Board and assumed responsibility for commercial affairs.

Diversity concept for composition of Executive Board

The diversity concept adopted by the Supervisory Board in 2020 for the composition of the Executive Board is based on MVV's entrepreneurial approach. Together with the Executive Board, the Supervisory Board ensures that long-term succession planning is in place. The Executive Board of MVV Energie AG should be composed in such a way that qualified leadership, control and business management is at all times ensured for MVV Energie AG and the MVV Group. Candidates for the Executive Board of MVV Energie AG therefore have to be able to correctly assess the economic situation and technical framework of a listed energy supplier with municipal roots and successfully shape its sustainable development. On an individual level, Executive Board members are not expected to have the full range of specialist skills, competencies and experience that are specifically required. Overall, their qualities should nevertheless complement each other in such a way that the Executive Board as a whole has the necessary expertise and a suitable breadth of experience. Executive Board members bear joint responsibility for managing the company and the Group. In view of this, they must have sufficient expertise for mutual supervision and deputisation.

When concluding employment contracts, an upper age limit of 65 years should be complied with. The term of first-time appointments should not exceed three years.

In 2017, the Supervisory Board set itself the objective of raising the share of women on the Executive Board and laid down a target of 25 % to be reached by 30 September 2021. With the appointment of Verena Amann to the Executive Board, this target was met as of 1 August 2019 and thus two years earlier than planned. The share of women on the Executive Board thus already meets the quota for women on the management boards of listed companies set by § 76 (3a) AktG for appointments after 1 August 2022 in cases where the respective management board has more than three members. With the temporary appointment of

Daniela Kirchner as a deputy member of the Executive Board as of 1 January 2022, the share of women on the Executive Board increased to 40 %.

The CVs of Executive Board members have been published on our website at **www.mvv.de/investors** to provide information about their experience, expertise and skills.

Composition and mode of operation of Supervisory Board and its committees

The Supervisory Board advises the Executive Board in its management of the company and supervises its activities. Its responsibilities also include appointing and dismissing members of the Executive Board. The Executive Board must involve the Supervisory Board in all decisions that are of fundamental significance for the company. In view of this, the Executive Board provides the Supervisory Board with regular, prompt and comprehensive information about the strategy and other fundamental matters of corporate planning. Moreover, the Executive Board regularly reports to the Supervisory Board on the business performance, major transactions and situation of the company, as well as on its risk situation and risk management.

The Supervisory Board of MVV Energie AG comprises 20 members, of which ten shareholder representatives and ten employee representatives. Their terms in office are identical. Eight of the shareholder representatives are elected by the Annual General Meeting, while two, namely the Lord High Mayor and the relevant specialist head of department, are directly delegated by the City of Mannheim. This provision is applicable for as long as the City of Mannheim is a shareholder and, directly or indirectly, holds shares corresponding to more than half of the company's share capital. Employee representatives are elected by the company's employees in accordance with the German Codetermination Act (MitbestG). The Chairman of the Supervisory Board, the Lord High Mayor of the City of Mannheim Dr. Peter Kurz, coordinates the work of the Supervisory Board, whose activities are governed by a Code of Procedure. We have published the Code of Procedure for the Supervisory Board on our website at **www.mvv.de/investors.**

To structure its activities efficiently, the Supervisory Board of MVV Energie AG has formed five specialist committees. The members of these committees are each particularly qualified in terms of their specialism. The Audit Committee meets regularly, and at least five times a year, while the Personnel, Nomination, Mediation and New Authorised Capital Creation Committees are only convened when necessary.

The **Audit Committee** addresses the corporate planning, strategy and the performance of individual business fields, as well as the development and structure of individual controlling systems. It also deals with fundamental financial reporting issues. Its responsibilities include preparing the selection of the auditor, reviewing and discussing the annual and consolidated financial statements in advance and preparing corresponding resolutions for the full Supervisory Board, as well as discussing the interim consolidated financial statements for the first half and the interim financial statements for the first three and first nine months with the Executive Board. The committee further monitors the effectiveness of the internal control system (IKS) and the internal audit and risk management system. It checks whether the organisational precautions taken are sufficiently effective to ensure compliance with legal requirements and internal company guidelines (compliance). Further tasks incumbent on the Audit Committee include determining key audit focuses and setting thresholds for the commissioning of non-audit services. The Audit Committee consists of three shareholder representatives and three employee representatives. At 30 September 2022, the committee had the following members: Dr. Lorenz Näger (Chairman), Heike Kamradt-Weidner (Deputy Chairwoman), Angelo Bonelli, Detlef Falk, Martin F. Herrmann and Gregor Kurth. The Audit Committee members meet the requirements of § 100 (5) and § 107 (4) 4 AktG, which state that at least one member of the committee should have accounting expertise, at least one further member should have auditing expertise, and that the members as a whole should be familiar with the sector in which the company operates. All members of the Audit Committee have accounting expertise and, with the exception of Angelo Bonelli, auditing expertise. All committee members are independent pursuant to the definition in C.10 of the Code. The Supervisory Board Chairman, Dr. Peter Kurz, the First Mayor of the City of Mannheim, Christian Specht, and the Supervisory Board member Dr. Stefan Seipl attend Audit Committee meetings as permanent guests.

The **Personnel Committee** focuses in particular on preparing any Supervisory Board resolutions which relate to the conclusion, amendment or rescission of employment contracts with Executive Board members. It proposes suitable candidates to the Supervisory Board for appointments to the Executive Board. In this, it takes due account of legal requirements, the diversity concept adopted by the Supervisory Board for the Executive Board and the recommendations made by the German Corporate Governance Code. The Supervisory Board as a whole is responsible for appointing new members to the Executive Board subsequent to preparation of the decisions by the Personnel Committee, as well as for decisions relating to existing employment contracts. When selecting new Executive Board members, the Supervisory Board develops and deploys current requirement profiles based on the diversity concept for the composition of the Executive Board. The Personnel Committee comprises six members: the Supervisory Board Chairman, who is also Personnel Committee Chairman, his deputy and four Supervisory Board members, of which two shareholder and two employee representatives. The Personnel Committee had the following members at 30 September 2022: Dr. Peter Kurz (Chairman), Heike Kamradt-Weidner (Deputy Chairwoman), Angelo Bonelli, Barbara Hoffmann, Gregor Kurth and Andreas Schöniger.

The responsibilities of the **Nomination Committee** involve recommending suitable candidates to the Supervisory Board for its own proposals to the Annual General Meeting. When selecting candidates, the committee takes particular account of legal requirements, the diversity concept adopted by the Supervisory Board, including the competency profile, and the recommendations of the German Corporate Governance Code. Furthermore, it compiles targets for the composition of the Supervisory Board. The six committee members include the Supervisory Board Chairman, who also chairs the committee, and five further shareholder representatives. The Nomination Committee had the following members at 30 September 2022: Dr. Peter Kurz (Chairman), Barbara Hoffmann, Gregor Kurth, Dr. Lorenz Näger, Tatjana Ratzel and Thorsten Riehle. Christian Specht attends the meetings of the Nomination Committee as a permanent guest.

Pursuant to § 27 (3) of the German Codetermination Act (MitbestG), the **Mediation Committee** submits further personnel proposals to the Supervisory Board if the two-third majority required to appoint and dismiss Executive Board members is not achieved in the first ballot. The Mediation Committee had the following members at 30 September 2022: Dr. Peter Kurz (Chairman), Heike Kamradt-Weidner, Gregor Kurth and Andreas Schöniger.

The **New Authorised Capital Creation Committee** is charged with exercising the powers of the Supervisory Board in connection with any capital increase based on authorised capital. This committee comprises eight members: the Supervisory Board Chairman, who chairs the committee, his deputy and six further Supervisory Board members, of which one employee and five shareholder representatives. The New Authorised Capital Creation Committee had the following members at 30 September 2022: Dr. Peter Kurz (Chairman), Heike Kamradt-Weidner, Gregor Kurth, Dr. Lorenz Näger, Tatjana Ratzel, Thorsten Riehle, Andreas Schöniger and Christian Specht.

Diversity concept for composition of Supervisory Board

The diversity concept adopted by the Supervisory Board in 2020 and the specialist and personal requirements it sets out for the Supervisory Board are intended both to ensure a transparent and systematic selection process for new Supervisory Board members and to provide a suitable and well-balanced composition for the Board as a whole. The aim is for the Supervisory Board of MVV Energie AG, as is the case in its current composition, to be able at all times to provide qualified supervision and advice to the Executive Board in its activity on behalf of MVV. Candidates for the Supervisory Board of MVV Energie AG must be able to correctly assess the economic situation and technical context of a listed energy supplier with municipal roots and to successfully accompany its sustainable development. Individual Supervisory Board members are not expected to have the full range of specific specialist skills, competencies and experience required. However, their qualities should complement each other in such a way that the full Board has the competence and experience needed for it to perform the duties incumbent on the Supervisory Board and its committees.

Furthermore, the Board must include an adequate number of members with the qualifications called for by the German Stock Corporation Act (AktG) and the German Corporate Governance Code. The Supervisory Board should also include an adequate number of independent members.

Proposals for candidates should take due account of an upper age limit of 70 years. As a rule, this limit should also not be exceeded during the term in office.

The specialist and personal requirements stipulated in the diversity concept for the Supervisory Board are satisfied in the board as a whole and summarised in the qualification matrix provided below pursuant to C.1 of the German Corporate Governance Code.

Satisfaction of diversity and competence requirements FY 2022 (Number of Supervisory Board members)

Area of competence	Energy industry technical	Energy industry commercial	Company management	Renewable energies	International markets	Accounting and controlling	Auditing	Law	Municipal affairs	Human resources	Digital transformation	Sustainability and system transformation
Core competence	9	9	14	8	9	12	10	9	11	14	10	10
Secondary competence	7	9	6	11	5	7	7	9	8	5	9	10

The Supervisory Board of a listed company is required by § 96 (2) Sentence 1 AktG to comprise at least 30 % women and at least 30 % men. Pursuant to § 96 (2) Sentence 2 AktG, this requirement basically applies for the overall Supervisory Board. At MVV Energie AG, however, both the employee and the shareholder representatives on the Supervisory Board have exercised the option provided for in § 96 (2) Sentence 3 AktG, namely of deciding that these minimum shares should be met not only for the Supervisory Board as a whole, but also for employee and shareholder representatives respectively. This means that, of positions allocable to shareholder and employee representatives, at least three for each group must be held by women and at least three by men. This requirement was met in the period under report.

The responsibilities of the Nomination Committee include implementing the diversity concept for the composition of the Supervisory Board. It proposes suitable shareholder representative candidates to the Supervisory Board for its election proposals to the Annual General Meeting. In this, it also takes due account of legal requirements and of the recommendations made by the German Corporate Governance Code. Before nominating a proposed candidate, the Supervisory Board checks whether the potential candidate has sufficient time at his or her disposal to discharge the duties involved and whether he or she has any business and/or personal links to the group of companies or any of its competitors. The selection of employee representatives for Supervisory Board positions is governed by the provisions of codetermination law.

The composition of the Supervisory Board changed in the 2022 financial year. Jürgen Wiesner, an employee representative on the Supervisory Board, stood down from his position as of 30 April 2022. He was succeeded by Andreas Schöniger, who joined the Supervisory Board as of 1 May 2022.

Information about the experience, expertise and skills of our Supervisory Board members can be found in their CVs as published on our website at **www.mvv.de/investors.**

We conducted the self-assessment recommended by the Code with regard to the efficiency of the work performed by the Supervisory Board and its committees with support from an external consultant in the 2022 financial year. The results were presented to the Supervisory Board and discussed. Overall, members assess the work performed by the full Supervisory Board and its committees as highly efficient. We have acted on the feedback received. The next assessment is scheduled for the 2024 financial year.

Conflicts of interest and independence of Supervisory Board members

Conflicts of interest on the part of Executive or Supervisory Board members must be disclosed to the Supervisory Board immediately. In its report to the Annual General Meeting, the Supervisory Board provides information as to whether any such conflicts arose and, if so, how these were addressed.

In respect of Points C.1 and C.6 et seq. of the German Corporate Governance Code in its version dated 28 April 2022, we are of the opinion that all members of our Supervisory Board were and are independent in the spirit of the Code. A Supervisory Board member is considered independent if he or she is independent of the company and its Executive Board and independent of any controlling shareholder. This is the case for all Supervisory Board members. We also view Supervisory Board members who sit on the city council or work for the city administration and are delegated by the City of Mannheim as independent in this sense. The City of Mannheim owns a majority of the shares in MVV Energie AG. Pursuant to the Municipalities Code of the State of Baden-Württemberg, the city council is the topmost political body representing the city. In view of this, it is logical that the City of Mannheim, as the majority shareholder in MVV Energie AG, should be represented on the company's Supervisory Board by members of the city council and city administration. When determining independence, the decisive factor is whether there are any material conflicts of interest that are not only of a temporary nature. This is particularly not the case for Supervisory Board members appointed in accordance with the Articles of Incorporation, namely Dr. Peter Kurz and Christian Specht. The same is true of the other Supervisory Board members who sit on the city council or did so in the 2022 financial year.

Even if a different view is taken of the independence of those Supervisory Board members who are simultaneously members of the city administration or city council of the City of Mannheim, the Supervisory Board nevertheless certainly includes what is, according to C.9 of the German Corporate Governance Code, an appropriate number of independent members, namely Sabine U. Dietrich, Martin F. Herrmann, Barbara Hoffmann, Gregor Kurth, Dr. Lorenz Näger, Tatjana Ratzel and Dr. Stefan Seipl.

Some of our Supervisory Board members have been members for more than twelve years. These are Dr. Peter Kurz (since 2007) and Christian Specht (since 2005), who are shareholder representatives delegated to the Supervisory Board in accordance with the Articles of Incorporation, and Detlef Falk (since 2007) and Johannes Böttcher (since 2006) as employee representatives. Despite the length of their membership, based on their work to date the Supervisory Board does not have any doubts as to their independence of the company and its Executive Board.

Report on equal participation of women and men

The Supervisory and Executive Boards of MVV Energie AG firmly believe that the company can generate sustainable business success only if responsibility is assigned to women and men on a basis of equality. Not least in view of demographic change, it makes sense for both social and economic reasons to promote all talents regardless of their gender. Among others, this approach also has the benefit of proactively countering the effects of any shortage of specialist and management staff. To date, women have only made up a comparatively low share of the overall workforce at companies operating in the energy sector. The Supervisory and Executive Boards of MVV Energie AG believe that increasing the share of women working at the group of companies on a long-term basis is one key to the company's successful further development. We have therefore set ourselves the target of raising women's share of our Group's workforce to 35 % by 30 September 2026, up from 28 % at 30 September 2022. Among our management staff, we also aim to increase the share of women to 25 %; at the balance sheet date on 30 September 2022, this share stood at 16 %. To achieve our targets by 2026, we will consistently implement our promotional measures and programmes and further expand these in the years ahead. That is particularly true for our targeted personnel development activities for women who have the potential to take on management positions.

For MVV Energie AG, we report on the share of women in the first and second management tiers below the Executive Board. In September 2021, the Executive Board set targets for the share of women at 25 % for the first and 30 % for the second management tiers, with both targets to be reached by 30 September 2026. The share of women in the first management tier amounted to 18 % at 30 September 2022 and was thus ahead of the previous year (30 September 2021: 14 %). In the second management tier, the share of women amounted to 22 % (30 September 2021: 31 %) and thus fell short of the target level set. We see the share of women in the first management tier as offering an improved basis for meeting our target and will have to further step up our internal efforts to raise the share in the second management tier. In addition to those measures that are already in place to promote women, we are taking steps to increase the number of applications we receive from promising external and internal women candidates.

Takeover-Related Disclosures

The combined management report includes takeover-related disclosures pursuant to § 289a (1) and § 315a (1) of the German Commercial Code (HGB). The Executive Board has examined these disclosures and offers the following explanatory comments:

Composition of share capital

At the balance sheet date on 30 September 2022, the company's share capital totalled Euro 168,721,397.76 and was divided into 65,906,796 individual non-par registered shares with a prorated amount in the share capital of Euro 2.56 per share. Each share entitles its holder to exercise one vote at the Annual General Meeting of MVV Energie AG, as well as to the rights and obligations accruing to it by law and the Articles of Incorporation.

Restrictions on voting rights and transferability; shares with special rights

As far as we are aware, the City of Mannheim as the majority shareholder and its subsidiaries MKB Mannheimer Kommunalbeteiligungen GmbH and MV Mannheimer Verkehr GmbH on the one hand and FS DE Energy GmbH and its material shareholders, FS Energy TopCo S.à r.l. and First Sentier Investments International IM Limited on the other hand concluded a shareholders' agreement on 2 April 2020. This includes understandings concerning proposals for the composition of the Supervisory Board; apart from this, it excludes any other voting pacts and acknowledges that MVV Energie AG should continue to be a company controlled by the City of Mannheim. The shareholders' agreement also includes understandings concerning the transfer of shares. In particular, certain MVV shares may only be sold by FS DE Energy GmbH prior to 1 January 2029 with the approval of the City of Mannheim. There are no shares with special rights conferring powers of control.

Direct or indirect shareholdings exceeding 10 % of voting rights

The City of Mannheim indirectly held 50.1 % of the share capital and voting rights in MVV Energie AG at the balance sheet date; FS DE Energy GmbH, an indirect subsidiary of a fund managed by First Sentier Investors, directly held 45.08 % of the share capital and voting rights. These disclosures are based on the voting right notifications provided to us by shareholders and the entries in the Share Register.

Control of voting rights

There is no control of voting rights as defined in § 289a (1) No. 5 and § 315a (1) No. 5 HGB.

Regulations for appointing and dismissing Executive Board members and to amend Articles of Incorporation

The appointment and dismissal of Executive Board members is based on § 76 et seq. of the German Stock Corporation Act (AktG), and especially on § 84 AktG and § 30 et seq. of the German Codetermination Act (MitbestG). In line with the Articles of Incorporation, the company's Executive Board consists of at least two members. The Supervisory Board is responsible for determining the number of members and for appointing and dismissing members. Members are appointed for a maximum five-year term, with repeated appointments permitted.

Amendments to the Articles of Incorporation must be undertaken in accordance with § 133 and § 179 AktG in conjunction with § 19 of the Articles of Incorporation. Pursuant to § 19 (1) of the Articles of Incorporation, a simple majority of the share capital with voting entitlement participating in the adoption of a resolution is also sufficient to amend the Articles of Incorporation, unless mandatory legal provisions require a larger majority. Pursuant to § 11 (3) of the company's Articles of Incorporation, the Supervisory Board is authorised to adopt amendments to the Articles of Incorporation that only affect the wording.

Executive Board powers to issue and buy back shares

By resolution on 13 March 2020, the Annual General Meeting authorised the Executive Board until 12 March 2025 to acquire treasury stock up to an amount of 10 % of existing share capital upon adoption of the resolution. By resolution on 8 March 2019, the Annual General Meeting also authorised the Executive Board until 7 March 2024, subject to approval by the Supervisory Board, to raise the share capital by a total of up to Euro 51.2 million by issuing up to 20 million new individual non-par registered shares on one or several occasions in return for cash and/or non-cash contributions. The Executive Board of MVV Energie AG has not yet made use of either of these authorisations.

Compensation agreements and change of control clauses

MVV Energie AG has no material agreements that are subject to a change of control due to a takeover bid (change of control clauses). The company also has not concluded any compensation agreements with Executive Board members or employees for the event of a takeover bid.

Outlook, Opportunity and Risk Report

» Ongoing great uncertainty in overall economy and energy industry
» Increased volatility on energy and procurement markets
» From operating perspective, earnings expected to at least match previous year's figure
» Investments set to remain high

OUTLOOK

Macroeconomic developments

The consequences which the war in Ukraine will continue to have for economies and individual companies can only be assessed to a limited extent. In their "Autumn Joint Forecast" for the 2022 calendar year, Germany's leading economic institutes expect gross domestic product to rise by 1.4 %. The German economy had been severely affected by the critical escalation on gas markets. The rapid rise in gas prices had drastically raised energy costs and had resulted in a massive reduction in purchasing power within the overall economy. This was not only holding back the still incomplete recovery from the coronavirus crisis, but was also expected to force the German economy into recession. The researchers expect gross domestic product to contract by 0.4 % in the 2023 calendar year.

Business framework

Alongside macroeconomic developments, MVV's future business performance will particularly be determined by the regulatory and competitive framework in Europe and Germany. One key factor on European level will be the resolutions adopted in the second part of the "Fit for 55" package. In Germany, further reforms to the Renewable Energies Act (EEG), programmes to promote green heat options, the implementation of the Coal Exit Act (KAG) and the amendment to the Building Energy Act (GEG) will play an important role. Further information about this can also be found in the chapter Business Framework. These conditions may at times be overridden by short-term legislative measures to further manage the consequences of the war in Ukraine.

With rapid movements in prices, energy and procurement markets became significantly more volatile in the past year. This factor will also create uncertainties for MVV in the 2023 financial year. Further information about this can be found in the chapter Business Framework. Moreover, we expect competitive pressure to remain unrelentingly high in future as well.

Overall summary of expected business performance

We issue our forecast for the 2023 financial year against a backdrop of great uncertainty in the overall economy and the energy industry. Like the energy industry, MVV will also be affected by increased volatility on the energy and procurement markets, changes in energy and climate policy and regulatory interventions.

Our strategic alignment will receive tailwind from national and international climate protection efforts and legislative initiatives. To accelerate decarbonisation, we are investing consistently in further expanding renewable energies, green heat, boosting energy efficiency and developing innovative products and services. At the same time, we are taking measures to enhance our processes and reduce our costs. This way, we are providing MVV with a foundation for sustainable and profitable growth in future as well.

At the current point in time, we cannot quantify the implications for our company of further developments on the energy and procurement markets and of changes in energy policy to the customary extent. This has also led to changes in MVV's opportunity/risk profile. We comment on the Opportunity/Risk Profile in our opportunity and risk report.

In periods of volatility, the development in our adjusted sales is influenced by changes in market prices between the time at which forward sales transactions are concluded and the performance date. The greater the movement in prices, the more volatile the adjusted sales forecast becomes. Due to opposing items for forward sales transactions in the adjusted cost of materials, this volatility does not affect adjusted EBIT. As these opposing items in adjusted sales and adjusted cost of materials can only be planned to a limited extent on an individual level, in future we will no

longer issue forecasts for the adjusted sales of the MVV Group and MVV Energie AG. This key figure is not relevant to our management of the company.

Group earnings performance

Due to our business model, our earnings performance is dependent in particular on weather conditions and wind volumes, wholesale prices on energy markets, waste and biomass prices, procurement costs for fuels and CO_2 emission rights, availability levels at our plants and the development in market conditions and the competitive climate. Moreover, the development and marketing of photovoltaics and wind projects are generally characterised by high volatility. In view of the current situation, alongside the factors listed above our expectations in respect of our adjusted EBIT depend above all on the further development in conditions on the energy markets, as well as on these factors, together with the consequences of the geopolitical situation, not restricting the availability of commodities or impairing supply chain integrity. Overall, from an operating perspective we are confident that adjusted EBIT will at least match the previous year's level of adjusted EBIT excluding disposal gains (Euro 298 million). Any reduction in the scope of risks pertaining to procurement, receivables default, plant availability, price developments and the competitive situation in the course of the financial year may provide opportunities to achieve earnings growth.

If possible, we will issue more specific statements on our earnings forecast in the financial reports published during the financial year.

Earnings performance of MVV Energie AG in separate financial statements

For the 2023 financial year, we expect the annual net income after taxes of MVV Energie AG to approximately match the previous year's figure (Euro 117 million). Earnings in the separate financial statements are influenced in particular by weather conditions, grid operations, the sales business and income from group shareholdings.

Dividend

We aim to pay a dividend to our shareholders that is aligned to MVV's earnings performance in future as well. In view of this, the Executive Board has decided to propose a dividend of Euro 1.05 per share again for approval by the Annual General Meeting on 10 March 2023 (previous year: Euro 1.05 per share). The Supervisory Board will decide in December 2022 on its dividend proposal to be submitted to the Annual General Meeting.

Investments

From a current perspective and provided that developments in the overall economy and the energy industry permit, our investments in the 2023 financial year will be at around the previous year's level (Euro 335 million) and will have mainly unchanged focuses.

Capital resources and financing structure

Thanks to our ongoing very good access to the capital markets, we are able to cover our financing and liquidity needs at all times. Our adjusted equity ratio of around 27 %, or around 34 % excluding security deposits for counterparty default risks (margins), enables us to continue making high volumes of investment. We finance our investments in the existing business primarily from depreciation. For growth projects, we draw on retained earnings and on optimised project-based financing facilities. We pool projects with structural similarities and comparable terms and then finance these via the capital market. We draw here on the bank and promissory note loan markets. By adhering to key figures as guidelines for debt-financed growth, we ensure an implicit rating for MVV that is stably on investment grade level.

Forward-looking statements and forecasts

Our combined management report for MVV (IFRS) and MVV Energie AG (HGB) includes forward-looking statements that are based on current assumptions and estimates. Although the Executive Board is convinced that these assumptions and budgets are accurate, actual future developments and actual future earnings may deviate from these forecasts.

OPPORTUNITY AND RISK REPORT

The energy industry has been undergoing a process of fundamental change for years now – and this has recently intensified due to national and international climate protection targets and geopolitical crises. MVV is actively shaping this transformation: With our “Mannheim Model”, we will be one of the first energy companies in Germany to become climate positive. This process will be driven by the components of heat transition, electricity transition and our actions as partners to our customers. Further details about this can be found in the chapter Corporate Strategy.

The uncertainties accompanying a transformation on this scale have increased for our industry as a whole and also for MVV due to the war in Ukraine.

The opportunities and risks which describe these uncertainties have always formed part of our entrepreneurial activity. One key task for our corporate management, now more than ever, involves identifying both at an early stage of developments, exploiting opportunities and countering risks with suitable measures. We have installed suitable instruments and processes for this purpose. On the one hand, these include our internal control system (IKS) in respect of the financial reporting process, which serves to ensure correct, reliable and uniform companywide financial reporting. On the other hand, they also include our risk management system (RMS), with which we record developments relevant to our company at an early stage, and in particular those relating to competitive and regulatory developments, as well as to changes in technologies. Systematically factoring opportunities and risks into our entrepreneurial activities enables us to safeguard and further extend MVV’s competitiveness.

Explanation of internal control system (IKS)

General provisions

Our internal control system (IKS) comprises all principles, procedures and measures introduced by the company’s management, executives and other parties that are primarily aimed at ensuring reliable and prompt financial reporting with an adequate degree of security. In terms of its structure and processes, our IKS is based on the globally recognised and widespread COSO reference model. We have adopted a risk-based approach in which those organisational units, processes and systems with greater risk exposure are safeguarded more closely by control activities.

The financial reporting covered by our IKS comprises our quarterly statements, interim consolidated financial statements, half-year financial report, consolidated financial statements and combined management report, as well as the separate financial statements of MVV Energie AG.

IKS management

Our IKS management experts ensure that our IKS functions reliably and are continually enhancing the system. The central IKS manager ensures that MVV has an effective IKS with uniform groupwide requirements. To this end, he develops the principles for the structure, processes and documentation of our IKS, including necessary IT solutions. Furthermore, he supports and monitors implementation of these requirements at the group companies included in the IKS. On the level of group companies and cross-departmental functions, IKS officers are responsible for the functionality of the IKS on a decentralised basis. These officers are appointed by managers with legal responsibility for the respective area and, in this capacity, also report to the central IKS manager.

Control environment

The foundation for our IKS is provided by a well-functioning control environment. This provides the framework for implementing the principles, processes and measures of our IKS and has the following key features:

- "Lived Energy", the programme jointly developed by our Executive Board, managers and employees, sets out the values guiding our company and governs the way all colleagues behave both towards each other and towards third parties.
- We have regulated the allocation of competencies and responsibilities within the company (organisational structure) in the form of organisational structure charts and job descriptions.
- For all company processes relevant to the IKS (process structure), there are up-to-date process diagrams, manuals and implementation guides, as well as risk and control matrices, including documentation requirements for the performance of control activities.
- We also safeguard the required specialist and personal skills of our employees with the assistance of our job descriptions; these include the relevant requirements in holders of the respective positions.
- We permanently raise awareness of the need for and benefits of the IKS by providing presentations and training, as well as by sharing information and experience within the company.

Risk assessment

Our overriding IKS objective of ensuring reliable and prompt financial reporting is adversely affected by risks due above all to amended or incorrectly functioning internal processes, amended or malfunctioning IT systems, erroneous conduct on the part of persons (whether unintended or intended), internal and external events (such as company acquisitions or new accounting standards).

In systematically assessing risks relating to MVV's financial reporting, our IKS management each year reviews all group companies on the basis of suitable criteria to assess their materiality and thus whether they are to be included in the groupwide IKS and, if so, on the basis of which requirements. Furthermore, our IKS management holds workshops with group companies that have been newly included. At these, it identifies and evaluates operative IKS objectives and those risks which counter compliance with such for all IKS-relevant processes. Moreover, those managers who are responsible for processes directly or indirectly involved in financial reporting perform a review at least once a year to ascertain whether their operative IKS objectives and existing risks are up-to-date and complete. They are supported in this by the IKS management.

Control activities

The control activities we have introduced include all principles and processes intended to ensure that we suitably address the risks identified and thus meet our IKS objectives. These control activities affect all levels of the company and processes and can basically be subdivided into written requirements in which, among other content, the IKS objectives are formulated and measures and processes intended to ensure implementation of these requirements.

The control activities for all IKS-related processes at MVV are based on defined policies, manuals, work instructions and the like. We draw on suitable internal checks to safeguard correct implementation of the requirements stipulated, taking due account of the risks identified. Each year, we review our policies and manuals to ensure that they are up to date and our control activities to check their suitability to reduce identified risks in line with expectations.

At all group companies and cross-departmental functions relevant to the IKS, irrespective of their size, application is made of a uniform minimum level of operative IKS objectives. This has to be backed up with suitable internal checks. Among others, these include strict separation of critical functions in all IKS-related processes, as well as the regular review of access authorisations to the IT systems relevant to financial reporting.

Over and above this minimum level, group companies and cross-departmental functions have further internal checks in place depending on relevant risk factors, such as their materiality to the Group or the complexity of their business models. These checks safeguard those processes that harbour risks for financial reporting, such as the placing of orders with and payment of suppliers, hiring and payment of employees, metering and billing of services performed, management of liquidity, ongoing recording of business transactions, inventories of non-current and/or current assets, preparation of the separate and consolidated financial statements, preparation and publication of the annual report or the preparation and submission of tax returns. Internal checks may take a variety of forms, such as the dual control principle, approval limits, signing powers, review and approval by managers, data reconciliation, plausibility checks, or checks to ascertain completeness and correctness.

Alongside the checks we have located in the financial reporting and other operative processes, we have also secured our IT systems and the processes required for them to operate reliably with suitable general IT checks. Examples here include role-based authorisation management governing access to our accounting systems, the prevention

of critical combinations of authorisations, separate responsibilities for systems used for development, tests and productive use and measures to prevent the loss of data, system downtime or malware attacks.

Communication and information

The IKS in place at MVV ensures that the relevant company departments always have all the information they need at the right time and in the necessary quality. To this end, we generate relevant information internally or procure it externally and subsequently communicate it as appropriate within the company.

Our employees receive or themselves compile information about their tasks and responsibilities relating to the IKS in the form of organisational manuals, company manuals and the like. We supplement this information with policies, manuals and work instructions for all processes. We present the processes and embedded internal checks in visual form in process charts; risk and control matrices contain all details on internal checks. We use IT solutions to support and document the execution of control activities. The IKS management also performs training and offers support.

If they suspect potential misconduct, our employees can also use an anonymous whistle-blower hotline operated by an external confidence lawyer commissioned by MVV.

By regularly sharing information between IKS management and group internal audit, we ensure that these key players are at all times informed about all current developments in connection with our IKS.

The IKS manager reports on the status of Group IKS to the relevant head of department on a quarterly basis and to MVV Energie's Executive and Supervisory Boards on an annual basis. Among other aspects, the status reports submitted by the IKS manager are based on information from the IKS officers, data from the IT solution used to manage performance of checks and feedback received from the IKS audits performed by the group internal audit department.

Supervision and improvement

The IKS in place at MVV is continually supervised and improved on several levels.

With support from the IKS management, our managers perform a self-assessment of the effectiveness of the IKS in their area of responsibility at least once a year. To this end, they assess the appropriateness of the existing IKS structure and assure themselves that control activities have been performed as envisaged. The findings of these self-assessments are drawn on to further improve the IKS.

Together with managers, the central IKS management also supervises our IKS by managing and supervising the implementation of control activities with the assistance of IT tools and by initiating an escalation processes in the event of non-compliance with requirements.

As the managers with legal responsibility, the managing directors and board members of the group companies included in the IKS and the heads of cross-departmental functions included in the IKS submit an annual formal declaration of compliance in which they confirm that the IKS is effective in their area of responsibility and also meets MVV's requirements.

As an independent body, the group internal audit department at MVV Energie AG regularly audits all group companies and cross-departmental functions included in the IKS to assess the appropriateness and effectiveness of the respective measures. Any deficiencies are reported and promptly remedied by the managers responsible.

The Executive and Supervisory Boards of MVV Energie AG fulfil their duty to supervise the IKS by being informed by the IKS management each year about the status of the IKS. From the perspective of MVV's Executive Board, the IKS is appropriate and effective.

Explanation of risk management system (RMS)

Our risk management system (RMS) pursues the objective of enabling us to detect opportunities and risks at an early stage of developments. Opportunities may lead to a positive variance in company earnings compared with the value budgeted, while risks may result in a correspondingly negative divergence. We evaluate opportunities and risks at the Group on the basis of in-depth market and competitive analyses. We reduce risks wherever possible or pass them on to third parties. Here, we devise suitable measures and monitor their effectiveness and implementation. In an uncertain climate, however, a successful strategy may also involve deliberately entering to risks, provided that these are manageable and offset by suitable opportunities.

Risk management in context of MVV's strategy

Our corporate strategy therefore has direct implications for our risk management. The opportunities and risks expected at the MVV Group directly reflect the potential and challenges resulting from the transformation in our business processes towards even greater sustainability and climate-positive business activities.

Our course to the future, the Mannheim Model, has three strategic focuses, all of which involve both opportunities and risks. Alongside the heat transition, with the move towards increasingly renewable heat generation, the electricity transition, with the accelerated expansion of renewable energies, with our innovative marketing concepts and pooled project development capacities we offer solutions to our customers that support them in implementing their own energy transitions. These should contribute towards our #climatepositive target and enable MVV to exploit associated additional opportunities. At present, all this is taking place against the backdrop of a significantly changed market risk situation and ever greater requirements placed in the sustainability of our business model. Alongside our own measures, our risk management system is accompanied and supported by additional requirements which require us to report in accordance with the EU Taxonomy and in future also with the Corporate Sustainability Reporting Directive (CSRD).

Basic principles and organisation of RMS

The Executive Board determines the company's risk policy and lays down all processes and responsibilities. Responsibility for operative risk management is located with the legal business units and business fields and, more specifically, with so-called "risk bearers". These are the employees who, on account of their respective expertise, are included in the chain of responsibility for operating earnings at their respective business units. One of their core tasks involves regularly reviewing the current business situation. They identify material opportunities and risks and assess the potential implications of these for adjusted EBIT. They report their assessments regularly and in standardised form to our central risk controlling function. The tasks incumbent on risk bearers also include implementing, or monitoring implementation, of measures enabling risks to be avoided, managed or reduced and opportunities to be exploited.

RISK MANAGEMENT SYSTEM

Our central risk controlling function monitors the risk situation at the Group. It continually monitors those opportunities and risks that are relevant to our business and aggregates these into an opportunity/risk profile. This profile represents a net analysis, meaning that it already accounts for all countermeasures taken to reduce risks that are already factored into the measurement of the risks. Existing opportunities and risks are also aggregated using probability methods.

In our risk report, we comment on the largest single risks separately. We combine the implications of opportunities arising or risks materialising with their respective probability of occurrence and evaluate the opportunity/risk situation accordingly. In our short and medium-term planning, we carefully assess opportunities and risks and account for these in our earnings forecast.

The Executive and Supervisory Boards are provided with a quarterly risk report presenting the Group's opportunity/risk profile. Any significant new risks arising at short notice or material changes in existing risks are reported immediately to the Executive Board, which in turn informs the Supervisory Board as appropriate.

Supervision of IKS and RMS

Both the IKS and the RMS are implemented, maintained and supervised by the executive boards and managing directors of consolidated subsidiaries. Our group internal audit department audits both systems regularly as part of its risk-based audit plan. This department identifies any weak points and reviews whether the improvements introduced are having their intended effect.

The Supervisory Board and the Audit Committee of MVV Energie AG monitor the appropriateness of the structure and functionality of these two systems.

Presentation of opportunity/risk situation

In what follows, we present the current opportunity/risk situation of MVV. We allocate opportunities and risks in each case to one of our total of six categories. We subsequently quantify the opportunity/risk situation for each category and present the potential impact on earnings for each category in terms of the Group's budgeted adjusted EBIT. In this, we categorise the respective opportunity/risk situation in three different risk classes: "low", "medium" and "high". These classifications show how high, as a percentage, the expected impact of the category is for the Group's budgeted adjusted EBIT.

In addition to the opportunities and risks typical to its business and the risks resulting from the coronavirus pandemic, since the 2022 financial year the Group's risk situation has also been notably influenced by the effects of the war in Ukraine. Risks in our business have risen significantly compared with the 2021 financial year, with increases in particular in crisis-related market price, financing and legal risks. Furthermore, operating risks (such as cyber-IT risk and the availability of critical raw materials and supplies) have risen for companies in Germany and our sector.

From the outset, we have countered the insecurities newly arising since February 2022 with a separate task force. This monitors changing conditions in the energy industry, including stark and volatile market movements and regulatory interventions, such as any potential cap on electricity and gas prices or the possibility that certain revenues will be siphoned off. This way, MVV intends to develop proactive measures and solutions that are coordinated with the objectives of our strategy (further details can be found in the chapter Corporate Strategy) in order to limit potential negative implications either for our own business performance or for our customers to the best possible extent.

We provide detailed comments on the principal opportunities and risks in the six categories presented below. Here, we present the potential implications for our reporting segments based on the structure used to manage and report on the business.

EXPECTED RISK SITUATION IN FY 2023

Risk category		Risk class
PRICE RISKS	» Market prices: • Clean dark spread • Clean spark spread » Procurement prices: • Energy, waste and biomass • Supplies and operating resources, components and hardware » Exchange rates and interest rates	MEDIUM
VOLUME RISKS	» Sales volumes: • Weather conditions and wind volumes • Economic climate » Competition and efficiency » Procurement for waste and biomass	MEDIUM
OPERATING RISKS	» Renewable energies project development » Construction projects » Plant operation » Supply chains » Personnel » IT risks	HIGH
LEGISLATIVE RISKS	» Regulation » Legal risks » Legal interventions in operating business	MEDIUM
FINANCING RISKS	» Receivables default » Refinancing » Liquidity » Countries	MEDIUM
STRATEGIC RISKS	» Strategic decisions (including investments)	LOW

Risk[1] in % of operating earnings (adjusted EBIT) at Group:
high: > 40 % medium: 10 % to 40 % low: 0 % to 10 %

1 Budget variance in earnings: likely average maximum damages in the financial year in which the resultant charge on earnings may arise

Price opportunities and risks

In the price opportunities and risks category we summarise commodity price fluctuations on both procurement and sales markets, as well as exchange and interest rate movements. We deploy financial instruments to limit interest rate, exchange rate and commodity risks. These are described in more detail in the chapter Notes to Balance Sheet (Note 36).

Starker fluctuations from marketing our generation positions

The clean dark spread (CDS), clean spark spread (CSS) and the result of marketing electricity from the generation plants in our environmental energy business are each calculated as the difference between the electricity revenues on wholesale markets and the costs incurred to generate the electricity. The costs of electricity generation include – in each case together with the costs of CO_2 emission rights – the costs of coal for the CDS and the costs of gas for the CSS, in each case including transport costs and currency translation differences, and the costs of substrates for the generation plants in our environmental energy business. We work with suitable hedging strategies to limit potentially negative implications for our generation portfolio.

Since the beginning of the war in Ukraine, we have seen stark price rises on wholesale markets accompanied by significant fluctuations (volatility). These have impacted on the CSS and CDS. Higher electricity generation margins in the market may impact positively on adjusted EBIT in Supply Reliability, the reporting segment to which the marketing of generation positions in our combined heat and power business field is allocated. Risks countering these market opportunities arose most recently due to limited availability in our generation capacity at a company recognised at equity. Furthermore, our opportunity/risk profile has been significantly influenced by interventions by lawmakers in plant management and operating strategy – on the one hand due to potential restrictions on generation in connection with the gas supply situation in accordance with the German Substitute Power Plant Readiness Act (EKBG) and on the other due to short-term incentives to uphold fossil-based generation capacities (reactivation of coal-based generation plants due to potential gas shortage versus decommissioning to achieve climate protection targets).

Greater fluctuations in market procurement prices
The energy volumes required by our sales department for customer supplies at various locations are mostly procured on the energy trading market. To mitigate the recent sharp rises in energy procurement prices triggered by the war in Ukraine, our energy trading subsidiary MVV Trading concludes futures transactions, some of which several calendar years in advance, taking account of our applicable hedging regulations. We thus raise the consistency of our earnings and act early to improve our planning reliability for future financial years. This way, we can also reduce the impact of the recent sharp rises in market prices on our procurement costs and customer sales prices.

Furthermore, there is nevertheless increased uncertainty at present as to whether the sharp rises in procurement costs can be fully included in all cases our price calculations. Here, the industry is dependent on a legal framework that is to be specified by lawmakers (German Energy Security Act – EnSiG) in response to the new and exceptional market situation.

The scale of increases recently observed in procurement prices and the speed at which these changes have taken place could create economic difficulties for individual market players and, as a result, threaten the performance of contracts with us. Despite our active management of trading limits with our trading and contract partners, a price risk may arise in connection with the potential procurement of replacement resources. At the same time, insolvencies among competitors in the energy industry due to market volatility mean that customers previously supplied by third parties are returning to the basic supply at short notice and on an unplanned basis. For these customers, early hedging with cost mitigation is no longer possible. As the basic supplier, MVV may face a margin risk in supplying such customers.

Due to potential supply bottlenecks and delays, price risks may arise for commodities, materials or supplier products that require procurement. Particularly worthy of mention in this respect are raw materials and supplies for power plant operations, as well as components such as photovoltaics systems, wall boxes, transformers, smart meters and cables. We are also noticing an increasingly marked reduction in the availability of service providers for plant construction and installation.

Fluctuations in waste and biomass procurement prices
We observe and assess potential opportunities and risk resulting from fluctuating waste prices, and that in both the German and British markets. Moreover, we track the development in biomass prices across Europe. Our material and substrate flow management enables us to identify potential risks in the New Energies reporting segment at an early stage and to mitigate these with suitable measures. Waste volumes are significantly dependent on overall macroeconomic and commercial developments. Here too, the war in Ukraine may impact on our waste incineration business.

Increased movements in exchange rates
Exchange rate movements may create opportunities or harbour risks for us in connection with fuel procurement, our involvement in the UK and the Czech Republic and our international project development business. We limit these risks with natural hedges and futures transactions. Since the outbreak of the war in Ukraine, we have observed additional uncertainty in exchange rate movements.

Changes in interest rates monitored
Our finance department continually monitors the interest rate risks relevant to our business. Where possible, we finance our investment projects with fixed interest rates and congruent terms. We already account in our company planning for the expected impact of rising interest rates when projects are refinanced. Changes in interest rates also impact on our project development business. Demand for renewable energies may fall, for example, if interest rates rise and other forms of investment become more attractive for investors.

Volume opportunities and risks

Our operating earnings may be positively or negatively influenced by fluctuations in volumes both on the procurement front and on the generation and sales front.

Fluctuations in turnover due to weather conditions and wind volumes are key factors
Two key factors influencing our business performance are weather conditions and wind volumes. The weather has a major impact on our turnover with district heat and gas, particularly during the heating period from September to May. Electricity generation volumes at our wind turbines are dependent on wind volumes. Opportunities and risks arise for our business performance if temperatures during the heating period and/or annual wind volumes deviate from our expectations. Together with relevant price movements, the development in these factors results in opportunities or risks for our business performance.

Fluctuations in volumes due to changes in economic conditions have a corresponding impact
MVV is directly affected by macroeconomic developments particularly due to current developments in energy markets. If our major industrial and commercial customers cut back their production due to the economic situation or supply bottlenecks, this may lead them to procure lower volumes of energy from us. Conversely, our sales volumes increase if our customers step up their production due to economic developments or their strong competitive positions. Together with relevant price movements, these factors too lead to opportunities or risks for our business performance.

Given the war in Ukraine, our electricity and gas sales volumes could decrease due to lower demand, a shortage of gas, necessary saving measures or the loss of customers.

Fluctuations in turnover possible due to competition or efficiency measures
Competitive pressure in the energy market is as high as ever. Should customers decide to switch provider, then this reduces our sales volumes. Similarly, efficiency measures implemented by our customers, such as heat insulation, may also reduce our volumes. If customers switch to generating the energy they consume themselves, we accompany them as partners and support them with innovative, competitive products and develop services offering substantial customer benefits. Alongside opportunities arising in the market due to growing climate protection requirements, the current rise in energy prices also makes innovative and renewable energy generation technologies increasingly interesting for our customers. We expect this to create additional positive demand and value creation potential. We also accord great value to working with local authorities on a basis of partnership. By working together on shared sustainability targets, we also create a basis for extending existing concessions and improve our chances of acquiring new concessions.

Quantity and quality of waste and biomass are crucial factors
With regard to incinerating commercial waste and biomass, our adjusted EBIT may be affected both by the volumes available and by their quality. Both aspects are in turn influenced by the macroeconomic situation and legal requirements, as well as by plant capacities at competitors and weather-related events. We minimise volume risks for our plants by working with professional material and substrate flow management. We also pursue a substitute procurement strategy.

Further developments in the war in Ukraine and potential resultant reductions in industrial and commercial production and waste volumes may have a noticeably negative impact on waste prices and procurement volumes. The UK's exit from the European Union (Brexit) may also still have a negative impact on our activities in the UK.

Operating opportunities and risks

MVV's operating opportunities and risks chiefly arise in connection with its renewable energies project development business and with the construction and operation of energy generation plants and grids.

Uncertainties exist in renewable energies project development business
One key factor in achieving our #climatepositive target is our own project development expertise. Decentralised renewable projects in our project development business generally have shorter planning and construction stages than large-scale generation plants. Having said that, these projects also involve uncertainties: In general, the development of relevant markets depends both on the further development in political regulation and on levels of public acceptance. Based on our assessment, key opportunities and risks in the onshore wind turbine project development business in Germany involve the scope and structure of future project tenders and the development in market interest rates. During implementation, the progress made with the respective projects may be negatively influenced by factors such as any delay in obtaining building or operating permits, or failure to obtain such permits, as well as ever higher approval requirements and related issues. Further factors that cannot be excluded are the downstream impact of supply delays or bottlenecks with supplier products such as, in the case of photovoltaics systems, batteries, wall boxes, transformers, smart meters and cables, as well as price increases at upstream suppliers that we cannot fully factor into our sales prices in the short term.

Particularly in connection with potential supply bottlenecks at upstream suppliers and delays to processes, we monitor any potential delays to operation launches or projects, especially in the project development business. We have taken measures within our procurement management to counter the effects of potential supply bottlenecks.

Our financial success in the international business is also determined by political and macroeconomic developments in our target markets. Major sources of uncertainty affecting our success abroad include potential disruptions in international trade relationships, which may impact on market access (punitive tariffs) and competitiveness, and the possibility of further interventions in subsidy regimes. We also face opportunities in our renewable energies business given our extensive experience and great competence in project development and operations management for renewable energies plants.

Risks from progress with construction projects countered
By their nature, large-scale generation plants and grid infrastructure installation measures have long planning and construction stages and harbour corresponding risks. Any delays in the completion and launch of operations at our major projects could impact negatively on our expected adjusted EBIT, as could any unplanned costs to procure substitute electricity and heat or additional costs due to new developments or potential price increases arising at short notice at upstream suppliers. We therefore accord great value to ensuring that projects are robustly designed and budgeted in the planning stage already and to detecting and evaluating the material opportunities and risks involved in projects at an early stage of developments.

We are paying particular attention to the impact of the war in Ukraine on supply chains and upstream suppliers, as well as on the prices of materials and commodities for such construction projects. Any delays to supplies of materials or unbudgeted increases in the cost of materials upon the completion of modules or sections could lead to delays in construction and projects, as well as to margin risks.

We counter these risks, to the extent that they are within our control, with professional project organisation and by commissioning suppliers with experience in the sector. Where contractually possible, we pass on the implications or project risks, especially those involving higher costs and deadline overruns, to the contractual partners responsible for such.

Uncertainties resulting from plant operations monitored
In our New Energies, Supply Reliability and Strategic Investments reporting segments, the operations of energy generation plants and grid facilities to supply our customers with energy and utilities may also involve substantial operating uncertainties for our Group. Unscheduled downtime at plants may lead to a loss of production or interruption to supplies. In this context, additional financial outlays may also be incurred for example to repair the plant, for substitute supplies to our customers or for contractual penalties.

The implications of the war in Ukraine present additional challenges in terms of organising operations. Alongside additional risks relating to ongoing operations, such as the risk of shortages of relevant raw materials and supplies, account now also has to be taken of the amended approach to substitute energy generation targeted by lawmakers for the short and medium term in order to respond to the risk of a gas shortage. This includes increasing the availability of individual plants or reactivating these if needed. This may require replacement investments, sometimes substantial, for an unspecified term of operations and thus uncertain economic viability.

To safeguard supply reliability and reduce plant operation risks, for our existing generation capacities we perform regular maintenance and monitoring measures and make every economically feasible effort to minimise downtime at our plants and the potential resultant risks. This way, we also aim to do justice to our claim to act as a reliable supply partner and avoid any risks to our reputation. Due to the nature of the issues involved, we nevertheless cannot exclude the possibility of downtime entirely. The measures we take to counter this risk in general include optimising scheduled inspection times within our maintenance strategy. We thus work towards using capacity at our plants over and above the planned hours of use or to increase efficiency rates. This assists us both in realising opportunities due to higher generation volumes and in avoiding operating risks. To limit the financial implications of any potential damages, we have also agreed suitable insurance policies. Moreover, we assess the risk and environmental protection aspects of potential clean-up projects on derelict land formerly occupied by our plants.

Personnel developments noticeable
Our employees form the foundation for our company's success. We work with numerous measures to attract the right employees to us and retain them in the long term. We see our #climatepositive target as providing an opportunity to be viewed as an attractive employer by the right employees. Risks may nevertheless also arise with regard to our personnel. Our group of companies may also face capacity risks and risks resulting from ageing workforces, particularly among specialists, due to pending demographic changes accompanied by the new and growing requirements presented by the energy transition. These risks apply both to MVV's own business fields, as well as to the partners with which we cooperate to install and service new energy solutions. The extent of these risks also depends on the attractiveness of the company and the respective location. To enable us to continue filling key positions as efficiently as possible, we will keep providing our staff with targeted training. By taking targeted measures to strengthen our staff recruiting unit, we are upholding our ability to fill positions with the required specialists and experts at a high level.

To date, we have successfully managed the particular challenges presented by the coronavirus pandemic. To protect our employees while simultaneously safeguarding our operating processes, we adopted additional rules governing conduct, contact and absence and adapted the forms of cooperation and communication to work requirements, not least by drawing on digital solutions. These necessary solutions and requirements have been widely accepted and implemented by our staff. This way, we safeguard the availability of personnel required for our processes – at MVV, at our shareholdings and in our cooperation with external companies.

In the pension surveys we have compiled, we have also accounted for those factors that may involve financial risks from pension obligations. Based on the latest information available, we have included these factors as appropriate in our budgets (chapter Notes to Balance Sheet (Note 29)).

IT risks systematically limited
Two crucial factors for nearly all our business processes are secure data storage and interruption-free information technology. We therefore accord great priority to systematically protecting our IT infrastructure and systems against any potential attacks by third parties.

We reduce our IT risks as far as possible by implementing an extensive range of technical and organisational measures and by drawing on insurance solutions where these are available in the market. We make use of security systems and only grant access authorisations to systems and information on a restrictive basis. We have redundant copies for all our key hardware components and permanently reflect data between production systems and geographically separate backup systems. We also have a backup computer centre. To counter widespread and constantly rising threats IT threats due to blackmail and malware and to respond to the recent intensification in the cyber-IT risk situation due to geopolitical motives, we are continually developing additional measures to enhance our IT security. Together with external consultants, we are thus reviewing and enhancing our cyber-IT security.

Legislative risks

In this category, we aggregate those uncertainties existing in connection with regulation or with other changes in the legal foundations for our business operations.

Regulatory risks actively countered
Companies operating in the energy industry face the basic risk (and opportunity) that federal and state lawmakers and authorities – such as the Federal Network Agency (BNetzA) or cartel offices – may amend the regulatory framework. In the past, this related, for example, to the grid fees set by the BNetzA. At present, energy and climate policy decisions in particular have significant implications for our business performance. Examples here include regulations governing the expansion in renewable energies, new requirements to achieve national climate protection targets and subsidies for CHP plants.

One new addition to this category results from the regulatory changes resulting from the war in Ukraine, such as the interventions in electricity generation structures currently prepared by lawmakers.

With regard to the legislation already in place for the coal exit, the war in Ukraine has led to the amended political objective of temporarily retaining and reactivating existing generation capacities and those already in the process of being decommissioned. This development harbours both risks and opportunities for MVV. Risks result in particular from potential legislative restrictions or interventions in our planned plant operations to generate district heat and electricity. There is also uncertainty as to the economic viability of short-term replacement and renewal investments for plants that are already in the process of being decommissioned in line with government plans and climate protection targets.

There is still uncertainty as to the possibility of allocating the sharp rise in energy procurement and generation prices to our sales prices in full. In this respect, developments in the industry will depend on a legal foundation to be specified by lawmakers in the new German Energy Security Act (EnSiG) in response to the new and exceptional market and energy supply situation.

We see the legal framework for transitioning to sustainable energy generation as presenting challenges, as well as clear strategic potential. Based on our #climatepositive target, we are actively and consistently seizing this potential with innovative products, such as the extensive efforts we are making to develop green heat supply structures within the Mannheim Model.

These challenges apply not only to our activities in Germany, but also by analogy to our international business. We counter these risks actively by participating in the political opinion-forming process, adapting our processes and business models and, where possible, also developing suitable products. This way, we are also able to exploit any opportunities that arise.

Legal risks in focus
MVV may be exposed to legal risks in connection with court cases due to product liability and with unenforceable contracts or contractual terms. We therefore check, negotiate and draft contracts with the aim of limiting these risks.

Our compliance management system (CMS) helps us to avoid any infringements of laws. This system is described in further detail in the section Respect for Human Rights and Combating Corruption and Bribery Aspect in the chapter Combined Non-Financial Declaration. Where applicable, any compliance-related risks are managed in the compliance management system and simultaneously recorded in the risk management system (RMS). Alongside risks relating to potential infringements of our compliance regulations, the CMS also monitors risks relating to respect for human rights in accordance with the German Act on Corporate Due Diligence Obligations for the Prevention of Human Rights Violations in Supply Chains (LkSG). This relates both to our own activities as well as to compliance with requirements within our supply chains.

MVV's business performance is also exposed to risks and opportunities which result from legal pronouncements on energy industry-related matters or other topics. These could, for example, limit (or potentially also extend) our ability to structure contracts. In connection with the war in Ukraine, legal requirements may also restrict the company's ability to include potential additional costs in sales prices.

Financing opportunities and risks

In this category, we mainly report on receivables default risks and on refinancing and liquidity opportunities and risks.

Receivables default risks possible
There is the risk that customers or business partners may fail to settle our invoices, or settle them only in part. This risk may arise in our OTC trading activities in the Customer Solutions reporting segment, for example, or in our long-term supply relationships with business customers. Moreover, the sharp increases recently seen in energy product prices, which arose at short notice, have increased the risk that individual wholesale partners may encounter financial difficulties, threatening the fulfilment of their contractual obligations to us. To limit this kind of receivables default risk in all reporting segments, we select our business partners systematically and with due commercial prudence, check their creditworthiness and, where necessary, agree deposits of securities, and in particular guarantees. Moreover, we are also diversifying our portfolio, thus enabling us to avoid clusters of default risks.

Due to the war in Ukraine, delays and defaults may arise in the settlement of outstanding receivables, also to an increasing extent among end customers. We are proactively countering this risk with active receivables management. To deal with this exceptional crisis situation and the associated uncertainty on a basis of partnership with our retail customers, at MVV Energie for example we have additionally introduced a gas bonus programme to achieve savings.

Refinancing and liquidity risks monitored closely
The possibility of being unable to obtain liquid funds, or not to the full extent required, is referred to as refinancing and liquidity risk. To cover our capital requirements, we have a variety of financing instruments at our disposal. These include promissory note loans, bilateral loans and syndicated loans. We continually monitor the financial markets, regularly share information with our lenders and carefully monitor our liquidity. This enables us to counter any refinancing and liquidity risks and, where possible, to additionally exploit any opportunities arising in the market. Furthermore, our group-internal cash pool also serves to reduce this risk.

Given the war in Ukraine, we are monitoring our liquidity management even more closely than in the past. Together with our energy trading company MVV Trading, our finance department has proactively launched a group project in which we intend to analyse in detail any potential future development in and influences on our liquidity management at an early stage of developments. This is to be viewed in particular against the backdrop of market prices on energy trading markets, which have now become highly volatile.

This analysis will focus above all on the resultant cash-effective security deposits required for wholesale trading, i.e. margins, the daily volumes of which currently fluctuate sharply and at increasingly high levels compared with previous years. These involve requirements customary to the industry in terms of depositing cash-effective financial collateral to open trading positions (initial margins) and cover subsequent fluctuations in market prices (variation margins). The amount of collateral to be deposited for the variation margin is based on the current market price compared with the price at which we as a company entered into the respective trading transaction via the exchange. Depending on price developments, a company may be a provider or a recipient of this collateral. By contrast, the initial margin always results in an obligation to provide a deposit, the amount of which depends on current market prices and their volatility. We maintain cash lines to ensure that we always have sufficient liquid funds even in the event of larger-scale fluctuations. If need be, we can take countermeasures and conclude off-market transactions. However, these would increase our potential receivables default risk.

Country risks under continuous observation
For MVV, country risks take the form of transfer risks and the possibility that states may become unable or unwilling to meet their payment obligations. Due to our international activities in the field of renewable energies project development, country risks may impact on our adjusted EBIT. We continually monitor any uncertainties relating to the terms of access of our target markets that may arise due to potential disruptions in international trade relationships. Before entering international markets that are new to us, we perform detailed analyses of potential risks. For our existing activities, we observe the political and economic situation on location and continually monitor alternative courses of action. Should any deterioration arise in the situation and our risk position, we may decide to leave the given market. We are monitoring current developments in the UK economy very closely, for example, in respect of our current activities and those planned for the future.

Strategic opportunities and risks

Good strategic decisions form the basis for any company's success. The energy policy and industry framework have been changing dynamically for years now. This transformation harbours strategic risks, but also gives rise to new opportunities. We intend to actively shape this transformation and make use of it to promote our interests. That is why we have set ourselves the target of becoming #climatepositive from 2040. Against this backdrop, we review our investment projects in great detail and decide in which markets, technologies, companies and projects we intend to invest, as well as the timing and scope of such investments. We take these decisions on the basis of in-depth market and competitive analyses and painstaking viability calculations for investments and projects. Our group strategy department also liaises closely with the Executive Board to monitor our strategic alignment on an ongoing basis and adjust it where applicable to the new conditions.

Key components of our strategy (further details of this can be found in the chapter Corporate Strategy), and thus of our Mannheim Model, are the heat and electricity transitions, which we are promoting with an extensive programme of strategically important investments. Further information about these can be found in the chapter Presentation of Asset Position. We expect these to create competitive advantages and sustainable growth. Even though we review and plan such investments with great care, erroneous assessments or unexpected changes in the macroeconomic framework may reduce the level of adjusted EBIT generated in future financial years.

We see the heat transition, which we are promoting by converting our generation portfolio, as offering opportunities in the Group's business fields. Examples here include generating heat from sustainable energy sources, such as river heat pumps or deep geothermal energy, with which we are reducing the fossil share of our generation. This also includes measures to reinforce our district heat, gas and electricity grids. This way, we aim to secure the supply while at the same time avoiding risks both in our business and at our customers. One example is the river heat pump which the power plant Grosskraftwerk Mannheim AG (GKM) is building on behalf of MVV. With this pump, we will use water from the Rhine as a climate-neutral source of heat and thus generate district heat from 2023. With thermal energy capacity of around 20 MW and electricity capacity of 7 MW, this will be one of the largest heat pumps in Europe.

Given the transformation in the German energy system and the scope of the political framework, our company has only limited planning certainty. We are tracking the decision taken by the Federal Government to exit from coal and head for climate neutrality with our own ambitious decarbonisation strategy. Further information about this can be found in the section Environmental Concerns Aspect in the chapter Non-Financial Declaration. The framework for withdrawing from our conventional generation capacities will largely be determined by the coal exit legislation and, since the outbreak of the war against Ukraine and associated potential gas shortage, at the same time by the German Substitute Power Plant Readiness Act (EKBG). This situation, and in particular the changes arising at very short notice in the legal framework, creates great uncertainties for our company.

For renewable energies, we still expect sustainably attractive market potential. This has now been significantly extended by the current rise in energy prices as a result of the war in Ukraine. That is why, in our Mannheim Model, we are also focusing on the electricity transition, i.e. on the accelerated and continued expansion in renewable energies, innovative electricity marketing products for renewable energies on the energy trading market and participating in innovation tenders. We pooled our project development capacities in the year under report. We currently still see challenges surrounding the addition of onshore wind turbines, where difficult hurdles apply in approval processes, particularly in respect of aligning the interests of conservation, local residents and the duration of the processes needed to obtain a basis for planning.

Based on our assessment, the German biomass market and the anaerobic digestion of bio-waste still offer expansion potential and investment opportunities, with these being due in particular to ever stricter requirements governing the disposal of bio-waste. We have all-round experience in both building and operating biomass plants. We see further opportunities for our group of companies here, not least given our consistent alignment towards #climatepositive. Given our expertise and our partnership-based approach to working towards sustainability targets, we see expansion potential, for example in the anaerobic digestion of waste and in recovering resources upon the incineration of sewage sludge in the German market.

Further growth potential is available to us abroad and in photovoltaics. However, these areas are subject to dependencies on local subsidy regimes and clients. Not only that, there is tough competition, particularly in high-growth Asian markets.

Given the current energy price crisis and the political pressure to respond while retaining climate protection targets, we nevertheless expect to see an overall upturn in the expansion of renewable energies.

Together with climate targets, changing and newly emerging markets offer opportunities for innovation and profitable growth, particularly in the fields of renewable energies, decentralised energy supply, energy efficiency, digitalisation, building refurbishment and sustainable mobility. These apply to MVV, but also to our partners in the market. To master these challenges together and benefit from the resultant opportunities, partnership with our customers also forms part of our Mannheim Model (further details can be found in the chapter Corporate Strategy). We aim to offer solutions to all our customers to enable them to promote their own energy transitions. Examples here include the portfolio of solutions offered by MVV Enamic, products for decentralised solutions in our retail and business sales activities, the energy trading and portfolio management performed by MVV Trading and trade and other services that we offer on behalf of third parties. In implementing these developments, we see opportunities for synergies resulting from close cooperation with technology manufacturers and local installation companies.

Executive summary

Current developments in the energy and procurement markets, and in particular the implications of the war in Ukraine, have significantly increased the degree of uncertainty involved in entrepreneurial activity in the energy sector as a whole and thus also for MVV. The company's opportunity/risk profile has therefore changed compared with the previous year, with a significant increase in the range of implications which opportunities and risks may have on our adjusted EBIT and our liquidity.

Alongside volatility on the energy trading markets, the high ongoing level of competitive pressure, changes in energy and climate policy and regulatory interventions have substantial implications for our business performance. The resultant planning uncertainty for MVV is increasing, particularly with regard to long-term investments in electricity and heat generation plants. In the renewable energies project development business, further developments in Germany will particularly depend on sufficient space being made available and on processes being accelerated. In our international target markets for renewable energies, key risk factors alongside the development in political frameworks and market access terms include local subsidy and market regimes and relevant macroeconomic developments.

One aspect that is still uncertain is how the challenges and risks triggered or exacerbated by the war in Ukraine will develop in the medium and long term and how long these and the associated opportunities and risks will continue to apply. Key foreground issues are our supply chains, the availability of commodities and materials, the development in their prices and increasingly the cumulative impact of these individual factors on macroeconomic developments. Various government bodies on both international and national levels are attempting to counter these developments with numerous measures and thus limit the impact on societies and economies. On this basis, our overall expectation is that our industry will continue to face fundamental changes in the medium and long term as well and that this situation results in a high degree of planning uncertainty with regard to relevant underlying conditions. We are closely monitoring all relevant developments and, despite these limiting conditions, are working to ensure that our opportunity/risk profile remains as well balanced as possible.

From the perspective of MVV's Executive Board, there were and are no indications that any risks, whether individual or aggregate, could have endangered the continued existence of the overall company, or of any material subgroup, in the period under report, or could do so in future. The risk management system is structured appropriately and effective.