

## **Combined Management Report About Us**

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## GROUP STRUCTURE

### Company structure and shareholdings

The listed company MVV Energie AG has its legal domicile in Mannheim and is the parent company of MVV. On the one hand, MVV Energie AG has its own operations. On the other hand, it directly or indirectly owns shares in those companies which form part of the Group. Including MVV Energie AG, a total of 172 companies are fully consolidated in the consolidated financial statements **Page 189**. For 37 companies, we apply the equity method. Our largest locations are in Mannheim, Kiel, Offenbach and Wörrstadt. Our group of companies is represented in 19 countries. As well as Germany, these include the United Kingdom and the Czech Republic.

- 🌐 **GRI 102-1** 🌐 **GRI 102-3** 🌐 **GRI 102-4**
- 🌐 **GRI 102-5** 🌐 **GRI 102-7**

### Organisational structure

We adjusted our reporting structure at the beginning of the 2018 financial year. The adjustment ensures that our consistent focus on our customers' needs is adequately accounted for – and that both in our sales activities and in our reporting. Moreover, the new structure reflects the growing importance of renewable energies and energy efficiency.

Finally, it takes account of our focus on consistently and sustainably ensuring supply reliability. We continue to manage MVV in five segments and also base our external reporting on these. Various business fields are allocated to the reporting segments:

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

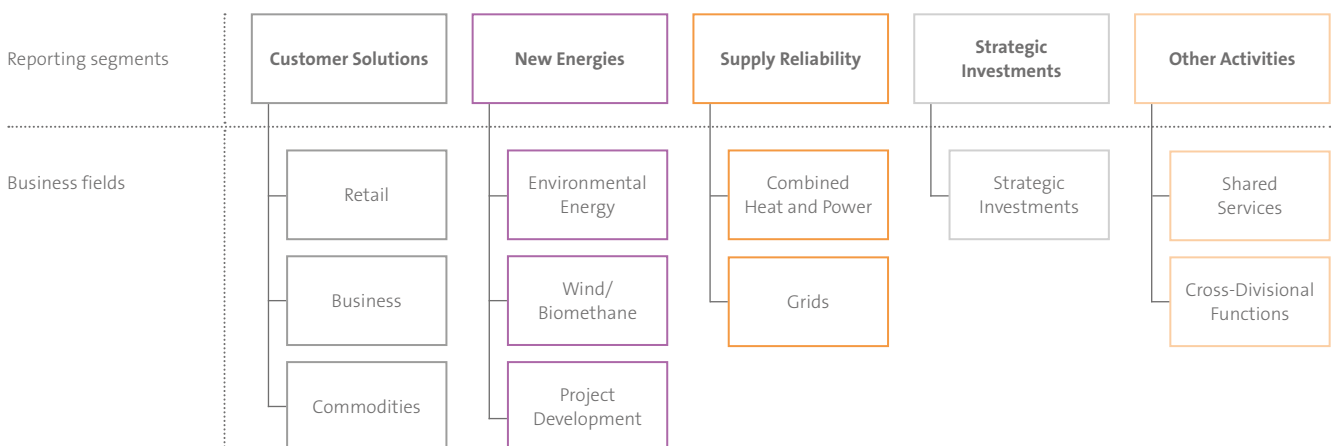
The **New Energies** reporting segment comprises the Environmental Energy, Wind/Biomethane and Project Development business fields.

As well as Combined Heat and Power, the **Supply Reliability** reporting segment also includes the Grids business field.


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

The **Other Activities** reporting segment includes our shared service companies and cross-divisional functions. Our shared service companies perform metering, billing and IT services for the Group, thus generating the necessary benefits of scale and ensuring high process quality. 🌐 **GRI 102-2**

### REPORTING SEGMENTS AND BUSINESS FIELDS



## BUSINESS MODEL

With around 6,000 employees, MVV is one of Germany's leading energy companies. We focus our activities on providing a reliable, economical and environmentally-friendly supply of energy to our industrial, commercial and private household customers. Their individual needs and expectations motivate us in developing innovative products and business models. Here, we cover all stages of the energy value chain: from generating electricity, heating energy, biomethane and biogas and producing water to energy trading to distributing energy and water via proprietary distribution grids through to our sales activities and environmental energy and energy-related service businesses. We are also active in developing renewable energies projects and managing operations at windfarms, solar parks and biomass plants.  **GRI 102-6**

### Customer Solutions segment

The Customer Solutions reporting segment on the one hand includes the retail business for electricity, gas, heating energy and water with all customer groups. Over and above that, it also includes our range of solutions relating to self-generated solar power for our private and business customers. They can individually compile their own energy packages – from roof-based photovoltaics systems to battery storage facilities to charging points for electric vehicles. The services offered by our subsidiary Beegy range from planning, building and operating sustainable appliances – such as photovoltaics collectors, thermal storage, heat pumps, storage heating and battery storage – through to their energy-optimised use. As a competent and experienced efficiency partner, MVV Enamic develops smart energy products and innovative solutions for industrial, retail and real estate customers. Its services include transparent electricity and gas procurement, as well as sustainable energy generation, energy data management, billing services and contracting solutions. Its supplements these with smart metering, e-mobility and LED services and solutions. Drawing on the broad range of products and services offered by Beegy and MVV Enamic, we enable all our customers to participate in the energy turnaround and, together with us, to make their own active contributions. The Customer Solutions segment also includes the service and trading business at MVV Trading.

This company pools the energy procurement and energy product trading activities within our group of companies. It procures and markets all customary trading commodities, such as electricity, natural gas, emission and green electricity rights and financial coal and oil products, and that both on the exchange and in over-the-counter (OTC) trading. Moreover, it also secures MVV's generation and sales positions on a long-term basis. This hedging enables risks to be centrally managed and minimised. MVV Trading is also responsible for the direct marketing business and offers its whole range of services, also to third-party customers, on the market.

### New Energies segment

The New Energies reporting segment contains our plants fired by waste and biomass in Mannheim, Offenbach, Leuna, Königs Wusterhausen, Flörsheim-Wicker, Dundee, Plymouth and Ridham Dock. At our plants, we rely on highly efficient combined heat and power (CHP) generation. These plants are supplemented by our renewable energies plants – and here especially onshore wind turbines. Moreover, we also use a wide range of biomass to generate electricity, heating energy, biomethane and biogas. With Juwi and Windwärts, we are active in developing renewable energies projects and managing operations at windfarms and solar parks. In Germany, Juwi focuses above all on onshore wind turbines, while its international business mainly deals with photovoltaics projects. Windwärts concentrates on onshore wind turbines, especially in northern Germany, and also operates in France.

### Supply Reliability segment

The Supply Reliability reporting segment comprises our conventional energies generation portfolio based on combined heat and power (CHP) generation. These include our CHP plants in Mannheim, Kiel and Offenbach. To provide a reliable supply of electricity, heating energy, gas and water, high-performing grids are crucial. For this reason, this segment also includes the grid businesses at our distribution grid operators MVV Netze, Energienetze Offenbach and SWKiel Netz. We are continually investing in modernising and expanding our grid infrastructure in those regions in which we operate. Overall, at MVV we have electricity, district heating, gas and water grids with a total length of around 19,000 kilometres.

## CORPORATE STRATEGY

### We are creating the energy system of the future

The energy industry is undergoing a process of fundamental transformation. The energy of the future will be environmentally and climate-friendly, reliable and economical. We acted early to align MVV towards this future and are continually working to develop our company further. We are consistently investing in renewable energies, energy efficiency and supply reliability. We are actively shaping this transformation. We are enabling our customers to implement their own energy turnarounds – with renewable energies, energy efficiency and innovative products and services. To this end, we draw on our competence, our experience and our power of innovation. In all our activities, we accord great value to high service quality and customer satisfaction.

Three key developments will shape the new energy world: the decarbonisation of the energy supply, with further growth in renewable energies, the ongoing associated process of decentralisation and the digitalisation of the energy industry – a technological transformation that will affect all stages of the value chain and make new solutions possible.

We are continually developing our strategy further and adapting it to current and future changes in the market, the competitive climate and the energy policy framework. This way, we are creating a basis to secure and extend our head start within the sector in future as well.

# Energy of the future

By successfully implementing our strategy, we are creating the energy system of the future. Based on a clear and permanently enhanced strategy, a strong brand and a vibrant corporate culture. And always focusing on our customers.

We inspire with energy.

Renewable energies

Energy efficiency

Innovative products and services

We will be making large-scale investments once again in the years ahead and will be focusing here on further expanding renewable energies, boosting energy efficiency and developing innovative services and products for smart, decentralised energy management. In consistently implementing our strategic alignment, we aim to achieve a balanced structure of opportunities and risks. Continuous optimisation and value focus enable us initially to create a basis on which to generate further growth. We maintain a balance between regulated and unregulated business, between business fields and between business in Germany and abroad. We carefully weigh up each investment project. Alongside sustainability, future viability and customer focus, the criteria we consider also include economic viability and conformity with our strategy.

### **We are expanding renewable energies**

When it comes to renewable energies, we cover the entire value chain from project development to plant operations through to marketing the electricity. Our activities here include onshore wind power, where we intend to further expand our portfolio, as well as using biomass and biogas. In generating energy from waste timber, non-recyclable timber and fresh timber, we are already one of the German market leaders. We also draw on market potential for biogas-based electricity and heating energy generation. To supplement our existing biomethane cluster in the Magdeburger Börde region, in the 2018 financial year we included an organic waste fermentation plant in our portfolio for the first time. A second plant also using organic waste to generate biogas has already been planned. In its international project development business, Juwi mainly focuses on photovoltaics projects. Over and above this, we are reviewing the economic potential which photovoltaics-based electricity generation harbours for our group of companies. Overall, the consistent implementation of our investment targets will further transform our generation portfolio, which is set to become far greener and more broadly diversified.

### **Our “Heating Vision” forms the basis for a forward-looking supply**

Another firm component of our corporate strategy involves using combined heat and power generation in conjunction with environmentally-friendly district heating, which we will be expanding further. With our highly efficient CHP plants, we are already making a major contribution towards reducing

CO<sub>2</sub> emissions. Our heating energy concept is structured in such a way as to remain modern, innovative and reliable in future and, over and above that, to make significant progress towards climate-neutrality. In the 2018 financial year, we produced 27 % of our electricity and 85 % of our heating energy using combined heat and power generation.

On Kiel Fjord, the new gas-powered CHP plant “Küstenkraftwerk K.I.E.L.” will replace the coal-fired joint power plant. By drawing on CHP technology, this plant will simultaneously generate electricity and heating energy, leading to a high level of efficiency. In combination with a heating energy storage facility and a power-to-heat system, this plant will be able to react with the utmost flexibility to the changing needs of the energy market. The plant will thus not only secure the supply of district heating in Kiel, but will also emit more than 70 % less CO<sub>2</sub> than its predecessor.

Producing electricity and heating energy from waste is a key pillar of a modern, resource-efficient, recycling-based economy. We are one of Germany’s leading operators of energy from waste and biomass plants. Not only that, we have been active in the UK market for several years with our waste-fired CHP plant in Plymouth and our biomass plant at Ridham Dock. In the 2018 financial year, we further expanded our involvement in the UK and took over an energy from waste plant in Dundee in Scotland. We will initially continue to operate this plant while we build a highly efficient heat and power plant in the direct vicinity. This is due to be completed in 2020.

We are developing our Friesenheimer Insel location in Mannheim into an even more valuable component of the energy turnaround and a sustainable recycling-based economy for Mannheim and the Rhine-Main metropolitan region. On the one hand, we are connecting our CHP plant to Mannheim’s existing district heating grid. This will enable us in future to use the heating energy produced from waste incineration not only to supply steam to neighbouring industry, but also in our supply of district heating in Mannheim and the metropolitan region. On the other hand, we intend to extend the CHP plant and will use municipal sewage to generate environmentally-friendly electricity while facilitating the recovery of phosphorous – a valuable raw material in the production of manure.


### **We are investing in expanding and optimising our grids**

The ability to smartly combine highly efficient conventional generation with generation from renewable energies will be absolutely crucial for the energy system of the future. The reliability, intelligence and performance capacity of our grids will play a key role in this respect. We are therefore continually investing in maintaining, expanding and optimising our grids and plants.

### **Innovative products and services for our customers**

We are developing innovative products and services for smart and decentralised energy management and tailoring these to the needs of our industrial, retail, commercial and private customers. In this, we are drawing on our proven competencies and decades of experience. Over and above this, we are supplementing our range of products and services by forging strategic partnerships with companies that have new ideas, or acquiring shareholdings in such companies. Our customers also benefit from this combination of energy industry know how, software intelligence, great experience and expertise. Together with our subsidiary Econ Solutions, for example, we already offer one-stop energy monitoring and efficiency solutions for medium-sized industrial businesses, large commercial businesses and chain operators. For our customers in the housing industry, we work with our joint venture Qivalo to offer new, all-round solutions meeting the requirements they have in a modern metering services provider. By acquiring a stake in Data Center Group in the 2018 financial year, we also boosted our range of services, particularly in the field of digitalisation. Additional focuses include further expanding electro-mobility – in terms both of the charging infrastructure for industrial and business customers and of suitable combined solutions comprising electric vehicles, PV systems and charging points for private customers – and further developing the forward-looking “Smart Cities” concept in our capacity as a partner to local authorities and innovative municipal utility companies.

### **The future has already begun. With us.**

Consistently implementing our corporate strategy will enable us to secure and expand our position as a pioneer of the energy turnaround in future as well. After all, we assume our economic, ecological and social responsibility not just from one financial year to the next, but also on a long-term basis with a clear view to the future. That is why sustainability forms the basis for our entrepreneurial responsibility. We underlined this at the beginning of the 2017 financial year with our strategic sustainability targets  **Page 18** which we intend to meet by the end of the 2026 financial year:

- » **We assume responsibility for climate protection.**
  - We will triple annual CO<sub>2</sub> savings at our fully consolidated companies and the companies we recognise at equity to 1 million tonnes a year.
- » **We make the energy turnaround happen.**
  - We will double our proprietary electricity generation from renewable energies at our fully consolidated companies and the companies we recognise at equity.
  - We will connect 10,000 MW of renewable energies to the grid.
  - The energy system of the future will remain our key investment focus. We will invest a further total of Euro 3 billion. The main focuses of our growth investments will be on wind power, biomass and biomethane, our environmental energy business and our business customers. We are therefore investing in plants that fit in with our company and will advance the energy system of the future.
- » **We make the energy turnaround possible for all our customers.**
  - As a competent partner, we will offer all customers – from private households to industrial players – the products and services they need to implement their own energy turnarounds.

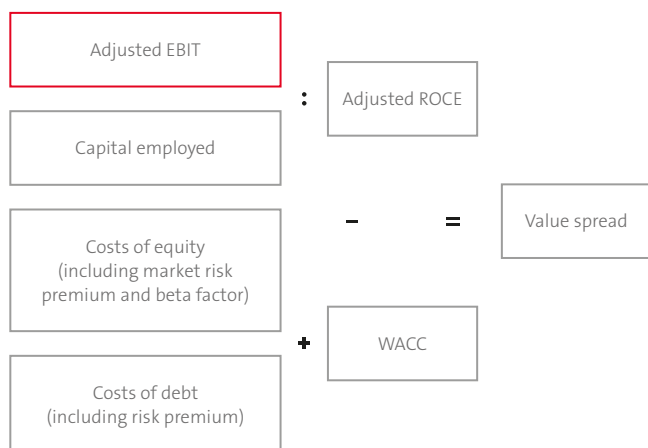
As we advance towards the new energy world, we have combined our strategy, brand and culture to form a powerful unity – open, energetic, reliable and self-confident. **We inspire with energy.**

## VALUE-BASED CORPORATE MANAGEMENT

The aim of our corporate management is to sustainably increase MVV’s value and to offer an attractive dividend to our shareholders. We achieve this by generating a positive value spread, i.e. when the return on average capital employed (adjusted ROCE) is higher than the costs of capital (WACC).

The most important key figure we refer to in our value-based corporate management is adjusted operating earnings before interest and taxes (adjusted EBIT). We use this to assess the medium and long-term success of our business activities. To calculate this key figure, we eliminate the earnings items resulting from measurement of financial derivatives pursuant to IAS 39 as of the reporting date, items resulting from the structural adjustment for part-time early retirement and – where applicable – restructuring expenses. We add interest income from finance leases reported below EBIT in the income statement to our adjusted EBIT. This income results from our contracting projects and therefore forms part of our operating business.

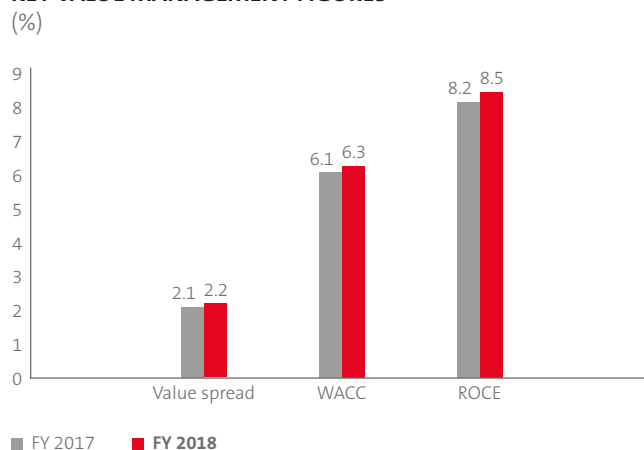
### CALCULATION OF VALUE SPREAD (simplified presentation)



We have reviewed the individual parameters used to calculate MVV’s WACC figure for the year under report and updated these in line with changes in the market.

On this basis, we calculated equity costs of 6.5% (previous year: 6.7%) after taxes and debt costs of 2.0% (previous year: 1.9%) after taxes. The capital structure of MVV’s peer group amounts to 54.1% for equity (previous year: 50.0%) and to 45.9% for debt (previous year: 50.0%). The Group tax rate is 30% (previous year: 30%). The WACC after taxes for the 2018 financial year calculated on the basis of this data amounted to 4.4% (previous year: 4.3%) and 6.3% before taxes (previous year: 6.1%).

### KEY VALUE MANAGEMENT FIGURES (%)



The ROCE for the 2018 financial year amounted to 8.5%, as against 8.2% in the previous year. The higher ROCE was due to the increase in adjusted EBIT and lower average volume of capital employed compared with the previous year.

By subtracting the WACC before taxes of 6.3% (previous year: 6.1%) from the ROCE of 8.5% (previous year: 8.2%), it can be seen that value spread for the year under report amounted to 2.2% (previous year: 2.1%).

## TECHNOLOGY AND INNOVATION

Germany's energy system is undergoing rapid transformation. It is becoming ever more decentralised and digitalisation is progressing apace. These developments harbour both challenges and opportunities for our industry. Rapid advances in technology are impacting on virtually all processes in the energy industry. Structuring the new system is a task that is both complex and highly promising. In view of this, we are closely monitoring and tracking the latest trends and promising technological advances. After all, we have set ourselves the goal of developing innovative products and services that are aligned to customers' needs – and then bringing these quickly and efficiently to market. We pressed ahead with the following projects, among others, in the 2018 financial year:

### **RealValue EU project: successfully networking decentralised generation and consumers**

The energy system of the future will live off communication. Large numbers of electricity consumers are facing ever higher numbers of decentralised electricity generation plants, such as wind turbines and photovoltaics systems. This situation places ever new requirements in the electricity grid, as the energy supply has to be secure around the clock, also at night and when there is no wind. This requires electricity generation and electricity consumption to be smartly linked. One ever more important factor is how to deal with electricity that is not actually needed at the time of its generation. To address this, the "RealValue" project focused on solutions enabling energy from decentralised and renewable generation to be put to efficient use close to source. This power-to-heat project, which ended in June 2018, was promoted with funds from the EU's "Horizon 2020" subsidy programme. Together with our Beegy subsidiary and Glen Dimplex Deutschland, we played a key role in the German part of the project.

Within the project, a total of 750 households and commercial businesses in Germany, Ireland and Latvia were equipped with smart, networked energy systems comprising electric storage heating and heat pumps. This way, it was possible to adjust energy consumption to the respective solar and wind power generation volumes. More than 100 households in Mannheim took part in the field trials and had state-of-the-art storage heating systems, smart control systems for existing heating systems and smart meters installed.

The field trials demonstrated that it is technically possible to use the storage heaters as networked, decentralised electricity storage facilities. Depending on the level of supply available on the Electricity Exchange, the participants' heating systems stored electricity in the form of heating energy and emitted this in line with customers' requirements. By using an app, participants were able to set the room temperatures in line with the time of day and precisely monitor their electricity consumption via smart meters. The participants in customer surveys and focus groups expressed great interest in benefiting from increased convenience and lower electricity costs. For many participants, modern technology, such as the ability to manage heating in line with their needs on a remote basis via app, is important. This project offers one example of how the energy and heating energy sectors can be smartly interlinked in the energy system of the future.

### **C/sells cellular energy system**

The energy turnaround project C/sells is intended to show the way towards a digital energy system. The Federal Ministry for Economic Affairs and Energy (BMWi) included the project in its nationwide "Smart Energy Showcase – Digital Agenda for the Energy Turnaround" initiative. A total of Euro 100 million is being invested in the model region in southern Germany, in which nearly 60 participants from industry, the energy sector and science are building an energy management system with a cellular structure and a new smart grid approach. A system of this kind consists of several small units – so-called cells – which may be properties, districts or towns. Each of these cells attempts to balance its proprietary electricity generation and electricity requirements directly on location. Energy is only exchanged with a connected cell when local production is insufficient to cover current demand. This way, each cell assumes responsibility for the equilibrium of the overall energy system. FRANKLIN, the conversion space in Mannheim, provides the opportunity to form just this sort of cell. In FRANKLIN District, MVV is simulating and trying out the energy system of the future by interconnecting the electricity, heating energy and mobility sectors. Digitalisation provides the necessary tools – an IoT (Internet of Things) platform is being implemented to interlink the diverse infrastructure components, such as energy plants, smart meters and applications.



One basis for optimising the district is comprehensive smart metering performed in real time with high resolution. This provides metering transparency virtually in real time and thus enables potential flexibilities to be detected while also facilitating smart monitoring. Not only that, the energy flows are also made visible for end customers. MVV is creating the basis for a modern, forward-looking district by offering added-value and other innovative services.

In order to investigate potential flexibilities, we are installing a state-of-the-art charging infrastructure for electric vehicles and creating a smart heating energy cell. This cell is intended to show how heating energy from regenerative sources can be integrated and used on location in ways that make sense. Examples here include a power-to-heat plant coupled to a photovoltaics system or situation-adjusted control of heating energy input into buffer storage systems.

In the year under report, we simulated decentralised heating energy input and charging processes for heating storage systems. These simulations showed that, by using power-to-heat solutions to feed heating energy into the local heating grid on location, we can efficiently offset heating energy losses. By aggregating the decentralised heating storage facilities in the Officers' Quarters and controlling these in a targeted manner, we can reduce heating energy losses and ensure a constant flow in the heating energy grid.

### **E-mobility solutions tailored to specific target groups**

Electro-mobility is set to become one of the core components of the future energy world. Since 2009, we have therefore worked consistently to expand our e-mobility innovation field. Having built up internal expertise and networks, we took part in the South-West Electro-Mobility Cluster, and supplemented this with R&D projects directly relevant to our core business (Future Fleet, Smart Grid Integration) and application-based development work in the C/sells showcase project. These preliminary activities were intended to provide MVV with access to a new business field.

By introducing commercial offers for private, commercial and business customers, we rapidly rolled out our capabilities to our market units in the year under report. "Charge & Motion", a unit at our MVV Enamic subsidiary, is dealing closely with our customers' growing needs in terms of e-mobility solutions with a view to developing and offering integrated solutions. To help our business customers get started with e-mobility, we offer target group-specific solutions for the hospitality and real estate sectors, as well as for companies that wish to electrify their car pools or enable their employees to charge their electric vehicles during working hours.

Furthermore, in a first stage starting in October 2018 we are expanding the public charging infrastructure in Mannheim to include a further total of around 27 locations. In implementing this, we are drawing on the subsidy programme provided by the Federal Ministry of Transport and Digital Infrastructure (BMVI). In a second stage, this expansion programme will be extended to the Rhine-Main metropolitan region. E-mobility also forms a key strategic focus in the measures taken by Stadtwerke Kiel AG to address the end customer market. The company is making rapid progress, for example, in expanding the public charging infrastructure. In the medium term, it aims to build more than 100 charging points, also with support from the BMVI. The basic technical requirements for end customer access have been provided by "StromFahre", an app which has handled the billing for electricity charging at the charging points since July 2018. Stadtwerke Kiel has included mobility solutions for private and business customers in its product range and already implemented its first business customer projects. A beacon project at a major partner in the field of car sharing is currently in the planning stage and is due to be rolled out in spring 2019.

### Cooperation with start-ups

To gain access to new technologies and solutions, we also cooperate with start-up companies and work with accelerator programmes to this end. Based on a multistage process, we first select the start-ups with which we wish to work. In the subsequent period, we coach these companies, perform joint demonstration projects and accompany them for around five months. The benefits for the start-ups are the opportunities to rapidly gain experience and access to industry expertise and networks. In the long term, this may also lead to the acquisition of shareholdings in the start-up companies. In our first accelerator programme, launched in Berlin last year, we successfully completed two demonstration projects. Together with prosumery, we developed a digital solution to implement tenant electricity, while the project with Datalyze Solutions focused on the digitalised presentation and analysis of data with a location reference. We launched a second accelerator programme in September 2018, in this case with a focus on solutions for smart cities. Within this programme as well, we opted to cooperate with two start-up companies. The object of the cooperation with Breeze Technologies is a concept that shows how environment data can be measured as effectively as possible and put to efficient use. And with S O Nah the aim is to develop a parking management system.

### Ready for Take-Off

Innovations are crucial to MVV's future operating capacity. Here, we are also drawing on the expertise, creativity and wealth of ideas available among our employees. In "Take-Off", an internal innovation process we launched in April 2018, employees at our Mannheim location have the opportunity to devise and pursue ideas for new products, technologies and business models. At "Inno-Day" in June 2018, 16 innovators presented their ideas and formed teams with interested colleagues from across different departments and hierarchical levels. All in all, 145 ideas were submitted. The teams, which were selected by a jury, had the opportunity over several stages to get to know new working methods and further develop their ideas in workshops.

Over a three-month trial period, ideas that subsequently prove to be promising are then developed further by the teams, prepared for implementation and tested. In January 2019, we will be deciding how to take these ideas further.

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# Group Business Performance

- » Slight reduction in sales from Euro 4,010 million to Euro 3,903 million
- » Adjusted EBIT improves from Euro 224 million to Euro 228 million
- » Investments in future energy system

## MAJOR DEVELOPMENTS AND EXECUTIVE BOARD SUMMARY

### Investments ensure we are fit for the future

With our corporate strategy, we have successfully aligned MVV to the energy system of the future. We have invested for many years now in expanding renewable energies, energy efficiency and innovative, forward-looking products and services. In the 2018 financial year, we consistently maintained this course and invested a total of Euro 290 million, with Euro 124 million of this sum involving investments in our growth. Our strong financing structure and solid adjusted equity ratio of 37.3% will enable us to maintain this high pace of investment in future as well.

In November 2017, we agreed a new municipal partnership in the field of environmentally-friendly waste management and took over an existing energy from waste plant in Dundee/Scotland. We are currently building a highly efficient new heat and power plant in the direct vicinity that is due to launch operations in 2020. Overall, we are investing around Euro 135 million. The new plant is dimensioned for an annual throughput of 110,000 tonnes of waste. The waste volumes will mostly come from municipal partners, with the basis being provided by a long-term disposal contract with the City of Dundee and Angus Council.

We are expanding our Friesenheimer Insel location in Mannheim and will be investing around Euro 100 million here in the years ahead. On the one hand, we are connecting our CHP plant to the existing district heating grid in Mannheim. This will enable us to make optimal use of the energy generated from waste incineration. The ground-breaking ceremony took place in March 2018. On the other hand, we are extending the CHP plant to include a sewage incineration facility enabling the phosphorous contained in the sewage to be recovered. This way, the location will become an even more important component of the energy turnaround and of a sustainable recycling-based economy for the City of Mannheim and the Rhine-Neckar metropolitan region.

In April 2018, we took over an organic waste fermentation plant in Dresden. With a capacity of 31,000 tonnes a year, the plant ferments organic waste and produces biogas. This is then used to generate electricity in two CHP plants. We are planning a second plant also using organic waste to generate biogas, in this case in Bernburg in Saxony-Anhalt.

As well as investing in new generation plants and expanding existing plants, we are also expanding our portfolio of products and services, and here in particular by acquiring targeted shareholdings in innovative companies or forging strategic partnerships with such companies. In February 2018, for example, we acquired a 25.1% stake in Bonn-based Recognizer Group. Together with Recognizer, we aim to draw on the possibilities offered by artificial intelligence in the field of energy efficiency and integrate products and services for business customers. Recognizer's applications have a key focus on energy savings at buildings and on safeguarding high levels of plant availability.

### Efficiency measures enhance our competitiveness

In view of the fundamental transformation in the energy industry framework, we are continually reviewing our processes and organisational structures. After all, sustainably enhancing competitiveness is a factor of crucial importance to MVV's successful further development. In the 2017 financial year, for example, we already launched a project to compile a forward-looking concept for shared services at MVV, Stadtwerke Kiel and Energieversorgung Offenbach. The aim here is to raise competitiveness, increase flexibility and boost IT and digitalisation competence in the specialist divisions. All of the processes involved in shared services were analysed in the previous year and this was followed in the year under report by the identification of actions needed to improve the processes. The first measures are already being implemented.

### Slight increase in adjusted EBIT with decline in sales

MVV's sales for the 2018 financial year fell by Euro 107 million to Euro 3,903 million. This development was due above all to lower electricity and gas trading volumes. Our adjusted EBIT, by contrast, improved by Euro 4 million to Euro 228 million. Positive factors contributing to our earnings performance on an operating level particularly included the environmental energy business, higher revenues from our wind turbines and improved availability levels at our UK plants. Furthermore, adjusted EBIT benefited from the sale of assets relating to multi-utility contracts at MVV ImmoSolutions and the disposal of the fibre optic network at MVV Energie AG. Operating earnings were adversely affected, on the other hand, by impairment losses recognised for Juwi and at MVV Enamic.

Thanks to the financial result, which also improved, earnings before taxes (adjusted EBT) rose year-on-year by Euro 10 million to Euro 179 million. Adjusted annual net income after minority interests rose less substantially. At Euro 94 million, this was only Euro 1 million higher than the previous year's figure. This in turn was due to higher taxes on income and the increase in minority interests. Adjusted earnings per share came to Euro 1.43, as against Euro 1.41 in the previous year.

### Executive Board summary of business performance and economic position

Our energy system is undergoing a fundamental conversion that will result in far-reaching change. By making targeted investments, introducing and maintaining programmes to sustainably enhance our efficiency and developing innovative products and services, we laid key foundations once again in the 2018 financial year to enable us to continue generating sustainable and profitable growth.

We met our adjusted EBIT target. We forecast a slight increase in earnings compared with the previous year's figure of Euro 224 million. At Euro 228 million, our adjusted EBIT improved by 2%. Sales totalled Euro 3,903 million and thus fell slightly short of the previous year's figure and our forecast.

Looking at our operating performance, it is clear that MVV has adopted the right strategy in what is a challenging climate. One aspect of the new climate is that our earnings performance has become more volatile overall – and that not only in our renewable energies project development business. That is something we have to be aware of. It makes it all the more important for us to keep developing our corporate strategy, i.e. adapting it to current and future changes in markets, the competitive climate and the energy policy framework.

## Comparison of actual and expected business performance and outlook for 2019 financial year

|                              | Forecast FY 2018  | Results FY 2018   | Outlook FY 2019   |
|------------------------------|---|---|---|
| <b>Sales performance</b>     | Forecast adjusted after end of 1 <sup>st</sup> half of 2018: at around previous year's level (Euro 4.0 billion) | Sales of Euro 3.9 billion   | At around previous year's level   |
| <b>Adjusted EBIT</b>         | Slight increase on previous year's figure (Euro 224 million)  | Adjusted EBIT of Euro 228 million   | At around previous year's level; depending on weather and wind conditions, the specific operations launch date at our new gas-powered CHP plant in Kiel, electricity and fuel prices, the development in waste and biomass prices, the CDS and CSS, interest rate and currency effects, the development in the competitive climate and the availability of our plants. High level of volatility in renewable energies project development business. |
| <b>Adjusted equity ratio</b> | Target > 30%  | Adjusted equity ratio of 37.3%  | High share of debt-financed growth programme continues to impact on equity ratio: target > 30%  |
| <b>Adjusted ROCE</b>         | At around previous year's level (8.2%)  | Adjusted ROCE reaches 8.5%  | Slightly below previous year's level  |
| <b>Investments</b>           | Total planned investments of around Euro 300 million  | Total investments of Euro 290 million   | Significant increase  |
| <b>Employees</b>             | Increase in personnel totals in growth fields; further efficiency measures in existing business                 | Reduction in personnel totals to 5,978 employees as of 30 September 2018 (previous year: 6,062) | Increase in personnel totals in growth fields; further efficiency measures in existing business   |

 GRI 102-7

## BUSINESS FRAMEWORK

### Energy policy changes

#### Key energy policy factors

Energy policy in the 2018 financial year was affected by the protracted negotiations held to form a coalition government in the wake of the Federal Election on 24 September 2017. This process lasted until 24 March 2018, when the Chancellor was elected and the Grand Coalition relaunched. The negotiations preceding the coalition agreement reached between the SPD and CDU/CSU parties were one of the main political topics in Germany, as were the first efforts to implement the agreement. For MVV's future business performance, three topics in particular are highly relevant: the further expansion in renewable energies, the further development in combined heat and power generation and district heating and the work of the newly established Commission on Growth, Structural Change and Employment.

#### Coalition agreement approved by SPD and CDU/CSU

The coalition agreement was concluded on 14 March 2018. At core, the Federal Ministry for Economic Affairs and Energy basically intends to continue with the energy policy pursued in the previous legislative period. Alongside a focus on the electricity industry, the coalition also stresses sector coupling.

In the coalition agreement, the governing parties underlined their commitment to the 2030 and 2050 climate targets. By contrast, they abandoned the target of cutting CO<sub>2</sub> emissions by 40% by 2020 compared with the 1990 reference year. The shortfall in actions needed to meet the 2020 climate target should nevertheless be further remedied in the near future.

#### Increased expansion of renewable energies

One specific target set by the coalition involves accelerating the expansion of renewable energies in Germany to 65% by 2030. That represents an increase of around 15 percentage points compared with the expansion course previously provided for in the German Renewable Energies Act (EEG). To achieve

this target, special tender rounds for capacities of 4 gigawatts each are to be held for onshore wind power and photovoltaics in 2019 and 2020. Furthermore, renewable energies are to be expanded on an even basis throughout Germany by determining a minimum capacity addition threshold for southern Germany.

The targets set by the Federal Government are consistent with our strategic alignment and positive for our project development business field. Raising the renewable energies expansion targets is the right step to enable Germany to meet its climate protection targets even if electricity demand rises due to sector coupling. We have called for the establishment of a new "South" capacity addition zone for onshore wind power for many years now. This way, it will be possible to generate renewable electricity closer to where the load is, make optimal use of grid capacities and thus reduce nationwide grid expansion requirements.

#### Onshore wind power: Excessive privileges suspended

Upon completion of the parliamentary proceedings at the beginning of June 2018, the privileges previously granted to certain types of projects were curtailed, also for future onshore wind tenders, for the period from August 2018 to June 2020. That means all participants require approval under the Federal Immissions Protection Act (BImSchG) to be permitted to participate in tenders.

We welcome this decision by lawmakers, as it will promote competition for onshore wind turbine construction by ensuring equality of opportunity for all market participants.

#### Results of tenders in Germany

Excessive privileging in the first three onshore wind power tender rounds led to a politically unintended distortion of the market in 2017, with citizens' energy projects being awarded virtually all of the tenders. Following the suspension of these privileges in February 2018, their share of project tenders has reduced compared with the previous year.

The onshore wind power tender round held with a bidding deadline on 1 February 2018 awarded tenders to 83 bids with a total volume of 709 MW. The auction was 1.4 times oversubscribed. The average acceptance value amounted to 4.73 ct/kWh. In the second auction at the beginning of May 2018, the volume of 670 MW thereby tendered was for the first time under-subscribed: The Federal Network Agency received 111 bids with a total volume of 604 MW. The average acceptance value amounted to 5.73 ct/kWh. In the tender round held as of 1 August 2018, the Federal Network Agency called for bids for onshore wind capacity totalling 670 MW. The volume of permissible bids amounted to 667 MW while the average acceptance price came to 6.16 ct/kWh.

In the 2018 financial year, a total of 13 onshore wind projects at our Juwi and Windwärts subsidiaries were awarded tenders in the various tender rounds. Not only that, with the awarding of tenders for five open-space photovoltaics systems Juwi has successfully re-entered the German solar business. These results show that, when competitive conditions are fair, we can succeed and be competitive in the new renewable energies tendering system.

### **CHP and district heating remain key components of energy policy**

Combined heat and power generation and district heating will both retain key roles in the energy turnaround. Accordingly, the coalition agreement provides for further developing and modernising the German Combined Heat and Power Generation Act (KWKG) during the current legislative period. Specifically, it is planned to expand CHP plants and the district heating infrastructure and to enhance their efficiency.

For MVV, the signal sent out by the Federal Government in this respect is positive. After all, district heating forms a major component of our core business. If the energy turnaround is to succeed, then accelerating the heating energy turnaround will be crucial. This is because more than half of end energy consumption in Germany is attributable to heating applications – such as warm water, room heating and other process heating. A fair playing field for different technologies and competition provide the best conditions for meeting climate protection targets in the heating energy sector as well, and that both reliably and cost-effectively.

### **Commission on Growth, Structural Change and Employment established**

Based on the coalition agreement, the newly established Commission on Growth, Structural Change and Employment met for the first time in June 2018. The Commission is charged with specifying details for the phasing-out of coal use, including setting a date by which this process should be completed. It is also expected to compile further structural decarbonisation measures for the energy industry by 2020 and 2030 and propose potential ways to finance structural change in the lignite-producing regions thereby affected.

The Commission is jointly managed by the Federal Ministry for Economic Affairs and Energy (BMWi), the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Federal Ministry of the Interior, Building and Community (BMI) and the Federal Ministry of Labour and Social Affairs (BMAS). Alongside politicians, the members of the Commission also include representatives of trade unions, environmental protection and business associations and scientists. As well as in the full Commission, various topics are also being addressed in the “Economic Development and Jobs in the Regions” and “Energy Industry and Climate Targets” workgroups. The Commission should present an action plan by the end of 2018, while the measures are scheduled to be enacted in law in 2019. It is not yet clear how relevant the results of the Commission’s work will be for our Supply Reliability reporting segment.

### **Cabinet approves promotion for electric cars**

In early August 2018, the Federal Government began the process of introducing tax relief for company cars with electric drive systems. To date, employees using their company cars for private purposes have been required to tax 1% of the list price a month as a benefit in kind. For electric and hybrid vehicles, this rate is to be halved in future to 0.5%. The new regulation should apply to electric and hybrid vehicles purchased or leased in the period from 1 January 2019 to 31 December 2021. This support is intended to boost sales of company cars with electric drive systems.



### Reform of European emissions trading completed

The reform of European emissions trading for the trading period from 2021 onwards was completed in early 2018. In future, the volume of available rights will be reduced more significantly each year. Furthermore, the market stability reserve has been strengthened, thus effectively reducing the excess supply of CO<sub>2</sub> rights. Should power plants be decommissioned due to national measures, member states may simultaneously reduce their number of auctioned rights. This will help prevent emissions being relocated to neighbouring states and to other sectors in connection with national CO<sub>2</sub> savings measures.

We welcome these measures to boost European emissions trading, which serves as a core European climate protection instrument. CO<sub>2</sub> prices have risen significantly as the year has progressed. We see this as a sign of growing trust in emissions trading once again thanks to the reform.

### EU Winter Package on the final straight

The European Commission presented the “Winter Package” – an extensive bundle of energy policy legislation – in November 2016 already. The tripartite negotiations between the Commission, Parliament and Council will last into winter 2018/2019. Having said this, significant results were already achieved in summer 2018 in respect of updating the Building Directive, the Energy Efficiency Directive, the Governance Regulation and the Renewable Energy Directive. It has been agreed, for example, to raise the 2030 targets for renewable energies to 32% and for energy efficiency to 32.5%. Each member state will be required to implement the directives contained in the Winter Package in its own national laws within 18 months of the package taking effect. Given the existing latitude, also in terms of national implementation, the extent to which the Winter Package will impact on our operating business is still unclear.

### Application of new regulations in German Banking Act (KWG)

The German Banking Act (KWG) was substantially amended as of 3 January 2018 to account for the revised MiFID II Directive (Markets in Financial Instruments Directive, MiFID II). The new regulations chiefly apply to companies in the financial sector

and are intended to avert future financial crises by enhancing the transparency and integrity of markets and investor protection. Energy supply companies were not the key focus of the Directive, but are nevertheless affected by the new regulations. Numerous services and products offered by energy suppliers to their customers or marketed on the wholesale energy market count as financial instruments and are thus within the scope of the amended regulations. Not only that, these products are traded both on the exchange and in bilateral agreements or via specialist energy trading platforms. Finally, emissions trading rights are also within the scope of the new capital market regulations. In particular, our trading company MVV Trading is affected by the new regulations. For its trading activities, this company has declared to the Federal Financial Supervisory Authority (BaFIN) that it will draw on the ancillary activity exemption and is thus required to meet additional follow-up obligations. These include compliance with specified limits in its corporate activities. Trading activities at MVV Trading may not exceed specified limits in relation to the market (market share test) and they have to represent the smaller share of activities on the level of the MVV Group (main activity test). Moreover, new transparency obligations have to be complied with. These involve regular reporting to the supervisory authorities on the financial instruments traded. Furthermore, position limits set by the supervisory authorities also have to be adhered to.

### Decision on equity returns still outstanding

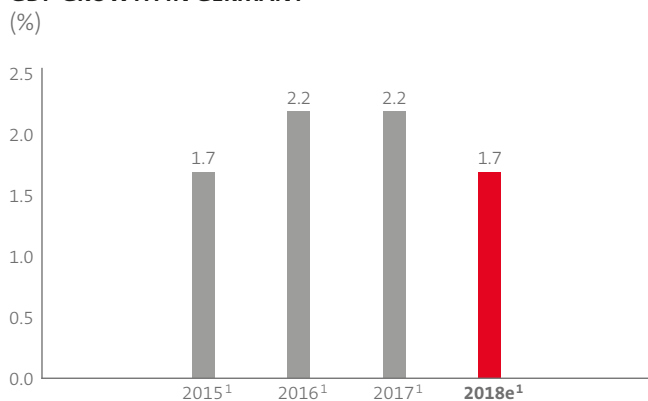
In April 2018, the Federal Network Agency (BNetzA) filed an appeal at the Federal Supreme Court (BGH) against the decision taken by the Higher Regional Court (OLG) in Dusseldorf concerning equity returns. Within the complaints procedure, the OLG previously overruled decisions taken by the BNetzA concerning the rates of equity return for electricity/gas in the 3<sup>rd</sup> regulatory period. These are the rates of return that operators of electricity and gas grids are permitted to generate on the equity they invest in grids. The OLG believed the BNetzA had failed to take adequate account of current market risks when determining the level of the market risk premium. The BNetzA had therefore been called on by the OLG to set new rates that accounted for the legal opinion of the court. MVV's grid companies were and are involved in the court proceedings.

## Market climate and competition

### German economy continues to grow

In their autumn survey, experts at Germany’s leading economic research institutes forecast GDP growth of 1.7% for the 2018 calendar year. The pace of growth has thus slowed compared with the previous year. Growth in 2018 is being driven above all by the domestic economy, which has been stimulated by the sharp rise in employment totals and low interest rates.

#### GDP GROWTH IN GERMANY



<sup>1</sup> Calendar year

Source: Forecast in autumn survey of leading German economic research institutes (September 2018)

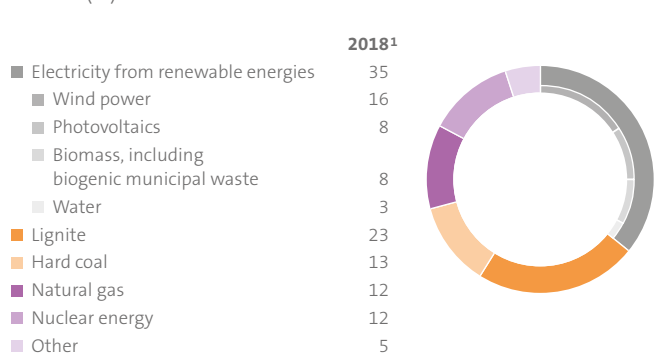
### Increase in electricity generation in Germany

In November 2018, the Association of the German Energy and Water Industries (BDEW) published its estimates of gross electricity generation in Germany. A total of 479.8 billion kWh of electricity was generated in the 1<sup>st</sup> nine months of 2018, corresponding to an increase of around 5% on the previous year’s period (455.2 billion kWh).

### Renewables share of German electricity generation rises to 35%

According to BDEW estimates, the share of gross electricity generation in Germany accounted for by renewable energies totalled 35% in the 1<sup>st</sup> nine months of 2018 calendar year – up from 34% in the previous year’s period. This growth was particularly due to onshore wind turbines, which increased their electricity generation volumes by 13%. Generation volumes at offshore wind turbines rose by 10%. Electricity generation volumes at photovoltaics systems grew year-on-year by 16%. Biomass and biogenic municipal waste were used to generate 1% more electricity than one year earlier. In total, around 169 billion kWh of electricity was generated from renewable energies.

#### GROSS ELECTRICITY GENERATION IN GERMANY



<sup>1</sup> January to September 2018

### Ongoing strong expansion in wind power

In March 2018, the German Wind Energy Association (BWE) published its “Wind Energy Fact Sheet Germany” for the 2017 calendar year. Overall, 6,584 MW of wind power capacity was newly installed in Germany, of which 5,334 MW onshore. Total installed wind power capacities therefore amounted to 56,154 MW, 13% up on the previous year’s figure.

Gross onshore wind power capacity totalling 1,626 MW was added in Germany in the 1<sup>st</sup> half of the 2018 calendar year, 29% less than in the previous year’s period. This calculation includes capacities of 297 MW added by repowering turbines.

### Positive market expectations for our growth fields

Turning the electricity turnaround into an energy turnaround will require fundamental changes to be made in the heating energy and transport sectors. In this context, the dena study “Integrated Energy Transition” published in 2018 concludes that a cross-sectoral approach to reaching climate protection targets with a broad technological mix leads to lower transformation costs than a decarbonisation course based on full electrification. The interaction between efficient, decentralised generation, smart consumption and storage of energy in ways that make sense, and that across all sectors, will play an ever more significant role. Against this backdrop, one ever more major focus is the cost-effective and customer-friendly provision of digital products and services.

In BP’s “Energy Outlook 2018”, the experts forecast that global energy needs will rise by around a third by 2040, with the limiting effect resulting from growing energy efficiency already factored into the calculation. According to the BP study, renewable energies generation will show the highest growth rates worldwide. Its share of total generation volumes is expected to quintuple by 2040. This development is benefiting in particular from the continuing improvement in the competitiveness of wind and solar power.

A study published by the International Energy Agency in November 2017 reaches similar conclusions. According to this, global energy demand will rise by 30% by 2040. Renewable energies are set to show by far the fastest growth worldwide. Here too, the rising competitiveness of renewable energies compared with conventional energy forms is referred to. In the previous year’s “World Energy Outlook 2016”, which focused on renewable energies, experts at the International Energy Agency forecast that average costs of photovoltaics would fall by a further 40% to 70% by 2040, with the costs of onshore wind turbines falling by a further 10% to 25%.

Almost 55,000 electric and plug-in hybrid vehicles were newly registered in 2017, more than twice the previous year’s figure. The total number of registered vehicles has therefore risen to nearly 100,000. According to a current forecast issued by the Center of Automotive Management, this trend will continue and the share of new car registrations with electric drive systems should rise to 5% by 2020 and to 16% by 2025. In parallel, the total number of charging points is rising across Germany. By the end of the 1<sup>st</sup> half of 2018, the Charging Point Register maintained by the Federal Network Agency included 5,100 public charging points, of which more than 600 with fast charging capability.

In the long term, these trends will benefit our growth fields: our energy generation from renewable energies, our national and international project development and operations management for renewable energies plants, our direct marketing of these plants, our decentralised heating and local heating supply systems and our innovative, smart energy efficiency solutions and service offerings for landlords and tenants, commercial businesses and industrial and private customers.

### Increase in wholesale prices for fuels and electricity

Wholesale prices for fuels and electricity rose in the course of our year under report.

Listed prices for Brent crude oil for supply in the following month (front month) ranged from US\$ 55.62 to US\$ 82.72 per barrel in the 2018 financial year. At US\$ 69.93, the average barrel price in the year under report was US\$ 17.76 up on the previous year’s figure of US\$ 52.17. Production cuts by OPEC and Russia took due effect from autumn 2017 and led to a sharp rise in oil prices. Additional upward price momentum resulted from a breakdown in the Forties pipeline system at the end of 2017. In spring and summer 2018, the oil price was exposed to at times intense fluctuations. These began with the announcement of US sanctions against Iran and production bottlenecks in Venezuela, which led prices to surge to the US\$ 80 per barrel mark. As the year progressed, the planned increase in production by OPEC and Russia led prices to fall, as did the US tariff and trade disputes, particularly with China. Since then, the oil price has fluctuated around the US\$ 80 per barrel mark, most recently with an upward trend.

Natural gas prices for the front-year product in the NetConnect Germany (NCG) market region were listed at an average of Euro 19.42/MWh in the year under report, Euro 2.40/MWh higher than in the previous year. Gas prices already tracked the rise in oil prices in the 4<sup>th</sup> quarter of 2017 and were also supported by slightly colder weather conditions and breakdowns in Norway's Upstream system. January, which was notably too mild, eased the situation at the beginning of 2018. As the year progressed, however, the gas price received strong new upward momentum from factors such as rising oil prices, lower production volumes at the Dutch gas field in Groningen and a late cold spell at the end of February and in early March. This resulted in very low storage levels and correspondingly high refilling rates, a factor which has kept prices high overall since spring 2018. In the late summer, a marked rise in CO<sub>2</sub> prices in particular and further maintenance work and breakdowns in Norway's Upstream system led prices to rise sharply, a development that only slowed with the mild temperature forecasts issued at the beginning of autumn.

Coal prices maintained their upward trend in the 2018 financial year. Compared with the previous year, average front-year prices per tonne for hard coal in the ARA region (Amsterdam, Rotterdam, Antwerp) rose by US\$ 16.43 to US\$ 84.24. The key drivers of this rise were firmer oil prices and robust demand in Asia. Additional reasons for the worldwide increase in coal prices included the positive performance of the global economy, which involved strong demand for coal, and restrictions and delivery difficulties on the supply side.

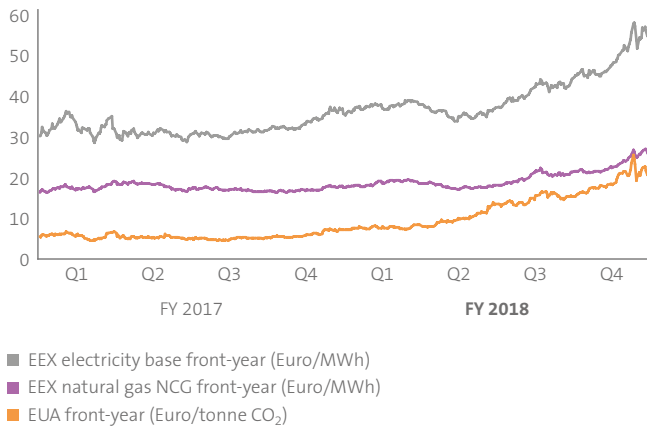
In the year under report, prices for base load electricity for supply in the following year were driven both by fuel market trends and by political developments. With an average price of Euro 39.55/MWh, the front-year price rose by Euro 9.20/MWh in the year under report. Due to the talks held to explore the possibility of a coalition being formed between conservative, liberal and green parties, one of whose topics was the exit from coal in Germany, the contract was volatile at the beginning of the year under report. The front-year contract then tended slightly downwards in the 2<sup>nd</sup> quarter of our 2018 financial year. The dip in prices in mid-February 2018 was due to weak coal prices. As the year progressed, the cold spell in Europe and sharp rise in fuel and emissions prices led the front-year contract to rise further.

The contract reached a temporary high in July and then briefly moved sideways before rising significantly. It reached a new high at Euro 56.65/MWh on 11 September 2018. The electricity market was driven by hot and dry weather conditions in the summer, as well as by strong fuel markets, and here in particular the emissions and coal markets.

Emission right prices per tonne of CO<sub>2</sub> for supply in the following year averaged Euro 12.85 in the 2018 financial year, Euro 7.46 higher than in the previous year. In November 2017, the EU Commission, the European Council and the European Parliament reached agreement on the post-2020 reform of emissions trading. This provided positive momentum in the market and drove prices upwards. Prices on the emissions market more than tripled since the beginning of the 2018 financial year, reaching a ten-year high of Euro 25.57 per tonne on 9 September 2018. This was then followed by a sharp correction, with the price per tonne settling at between Euro 20 and Euro 23. Emissions prices continue to be supported by increased buying interest, some of which speculative, as well as by positive market sentiment.

The clean dark spread (CDS), i.e. the margin achieved from generating electricity from hard coal, initially showed positive developments in the 1<sup>st</sup> quarter of our year under report. After this, the spread lost ground and slid further into negative territory, reaching its lowest price at Euro -3.67/MWh on 1 June 2018. These losses in the CDS were due to coal and emissions prices increasing more rapidly than electricity prices. From early June 2018, the CDS began to rise once more and regained positive territory in September. This in turn was due to what in relative terms was a sharper increase in electricity prices than in coal and emissions prices.

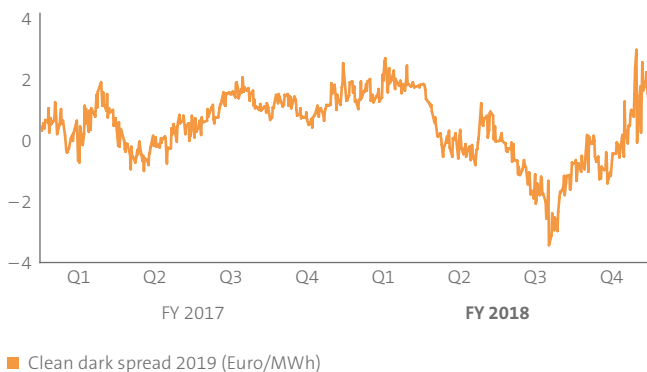
**DEVELOPMENT IN WHOLESALE MARKET PRICES FOR ELECTRICITY, GAS AND CO<sub>2</sub> RIGHTS**



**DEVELOPMENT IN WHOLESALE PRICES FOR OIL AND COAL**



**DEVELOPMENT IN CLEAN DARK SPREAD FOR 2019**



**MVV's market position**

- 67% of all the electricity we generated in Germany in the 2018 financial year was based on renewable energies. For Germany as a whole, renewable energies accounted for 35% of gross electricity generation in the 1<sup>st</sup> nine months of the 2018 calendar year.
- With our subsidiaries Juwi and Windwärts, 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 renewable energies plants with total capacities of 4,266 MW under contract in Germany. This makes us one of the country's largest direct marketers.
- We are also one of the German market leaders when it comes to generating energy from biomass: In the 2018 financial year, we operated 18 biomass and biogas plants in Germany. By acquiring the organic waste fermentation plant in Dresden we extended our portfolio and expanded our market position. Overall, these plants generated 315 million kWh of electricity and 163 million kWh of heating energy. Furthermore, we generated 254 million kWh of biomethane at four biomethane plants.
- Our grid companies in Germany have district heating grids with a total length of 1,154 kilometres. In the year under report, we generated district heating turnover of 5.9 billion kWh in Germany, making us the country's second-largest district heating provider.
- We are one of Germany's top three operators of energy from waste and biomass plants. Our German locations accepted a total of 1.7 million tonnes of waste and refuse-derived fuels for incineration in the 2018 financial year.
- In the Czech heating energy market, our subsidiary MVV Energie CZ a.s. operates at 15 locations, making us one of the market leaders there.

## Impact of weather conditions

### Unusually mild weather in 2<sup>nd</sup> half of year

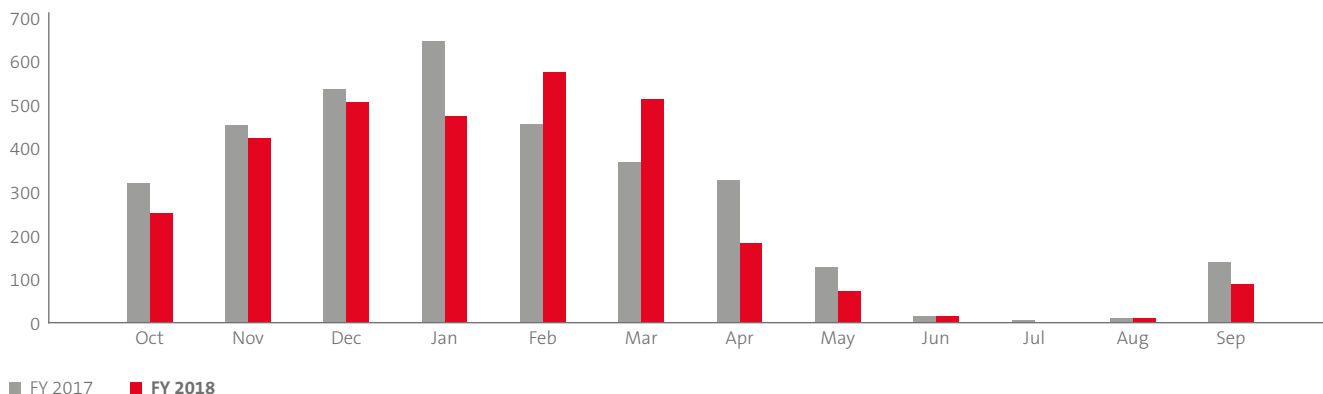
Lower outdoor temperatures lead to rising heating energy requirements at our customers. This is also reflected in higher degree day figures, which are referred to as an indicator of temperature-based heating energy use. Temperatures in the 2<sup>nd</sup> half of our 2018 financial year were higher, at times significantly so, than in the previous year. This led degree day figures at MVV to fall around 9% short of the previous year.

### Higher wind volumes than in previous year

Just like our customers' heating energy needs, electricity generation volumes at our renewable energies plants are also influenced by weather conditions. Wind volumes, which play a significant role in determining the volume of electricity generated by our turbines, are particularly important in this respect.

Compared with the long-term average, the volume of usable wind power was higher in the 2018 financial year in Germany, and especially in regions relevant to our business. At 104%, the usable wind yield was ahead of the previous year's figure of 91%. For this comparison, we draw on the "EMD-ConWx Mesoscale Wind Index" with a reference period (20-year average). The 2018 series comprises the months from October 2017 to August 2018. As the data for September was not yet available upon preparation of this report, we have assumed a variance to the reference period of 0% for September.

## DEGREE DAY FIGURES



## NON-FINANCIAL PERFORMANCE INDICATORS

MVV's success as an energy supplier is measured not only in terms of its financial key figures. Non-financial performance indicators also play an important role in the sustainable development of our company.

The comments in this section refer to all fully consolidated companies. At the same time, however, we also assume responsibility for the companies we recognise at equity and intend to report transparently on their non-financial performance statistics as well. The corresponding information can be found in the Sustainability chapter.

### Reduction in workforce

MVV had a total of 5,978 employees as of 30 September 2018 and thus 84 fewer than at the previous year's balance sheet date. This development was chiefly due to a reduction in staff totals at Juwi.

#### Personnel figures (headcount) at balance sheet date

|                     | 30 Sep 2018 | 30 Sep 2017 | % change |
|---------------------|-------------|-------------|----------|
| MVV <sup>1</sup>    | 5,978       | 6,062       | -1       |
| of which in Germany | 5,137       | 5,227       | -2       |
| of which abroad     | 841         | 835         | +1       |

1 Including 312 trainees (previous year: 324)

A total of 5,137 individuals worked for us in Germany, while our foreign subsidiaries had 841 employees. Of these, 502 worked at our Czech subgroup, 199 at Juwi's international shareholdings and 126 at the British subsidiaries of our environmental energy subsidiary MVV Umwelt.

Adjusted employee benefit expenses rose year-on-year by 1% to Euro 422 million. This increase principally resulted from UK staff expansion at the beginning of the year under report due to the takeover of an energy from waste plant, as well from the first-time full consolidation of subsidiaries. By contrast, the reduction in staff totals mostly took place in the 2<sup>nd</sup> half of the past financial year.

### Expansion in renewable energies generation portfolio progresses apace

We further expanded our electricity generation capacity from renewable energies including the biogenic share of waste/refuse-derived fuels (RDF) in the year under report and now have installed capacities of 467 MW<sub>e</sub>. The new capacities added were due to the takeover of an energy from waste plant in Dundee/Scotland and the acquisition of an organic waste fermentation plant in Dresden. Moreover, Energieversorgung Offenbach launched operations with smaller-scale photovoltaics systems.

#### Installed capacity for renewable energies and biogenic share of waste/RDF

| MW <sub>e</sub>                        | FY 2018    | FY 2017    | % change  |
|--|------------|------------|-----------|
| Biomass and biogas plants <sup>1</sup> | 104        | 103        | +1        |
| Biogenic share of waste/RDF            | 161        | 151        | +7        |
| Wind power                             | 196        | 196        | 0         |
| Hydroelectricity                       | 2          | 2          | 0         |
| Photovoltaics <sup>2</sup>             | 4          | 3          | +33       |
| <b>Total</b>                           | <b>467</b> | <b>455</b> | <b>+3</b> |

1 Including biomethane plants (previous year's figure adjusted)

2 Previous year's figure adjusted

Our electricity generation volumes from renewable energies including the biogenic share of waste/RDF grew year-on-year by 80 million kWh to 1,148 million kWh. As well as the additions to our generation capacities listed above, this increase was also due to high availability levels at our biomass power plant at Ridham Dock.

#### Electricity generation volumes from renewable energies and biogenic share of waste/RDF

| kWh million                              | FY 2018      | FY 2017      | % change  |
|--|--------------|--------------|-----------|
| Biomass and biogas plants                | 498          | 432          | +15       |
| Biogenic share of waste/RDF <sup>1</sup> | 274          | 307          | -11       |
| Wind power <sup>1</sup>                  | 367          | 322          | +14       |
| Hydroelectricity                         | 6            | 4            | +50       |
| Photovoltaics                            | 3            | 3            | 0         |
| <b>Total</b>                             | <b>1,148</b> | <b>1,068</b> | <b>+7</b> |

1 Previous year's figure adjusted

Our wind turbines benefited from favourable wind conditions in the year under report and produced 45 million kWh more electricity than in the 2017 financial year.

Due to inspections and scheduled maintenance measures, electricity generation volumes at our plants powered by waste and refuse-derived fuels (biogenic share) fell by 33 million kWh compared with the previous year.

### Increase in renewables share of our electricity generation

Overall, our total electricity generation volumes of 1,836 million kWh in the year under report fell 66 million kWh short of the previous year's figure.

#### Electricity generation volumes

| kWh million  | FY 2018      | FY 2017      | % change  |
|--|--------------|--------------|-----------|
| Electricity from renewable energies and biogenic share of waste/RDF <sup>1</sup> | 1,148        | 1,068        | +7        |
| Electricity from CHP <sup>1</sup>  | 501          | 548          | -9        |
| Other electricity generation <sup>1</sup>  | 187          | 286          | -35       |
| <b>Total</b>   | <b>1,836</b> | <b>1,902</b> | <b>-3</b> |

<sup>1</sup> Previous year's figures adjusted

We witnessed a significant reduction in other electricity generation, which fell by 99 million kWh in the year under report, a development mainly resulting from inspections and scheduled maintenance measures. Due above all to weather conditions, the volumes of electricity generated using combined heat and power (CHP) decreased by 47 million kWh. Overall, 63% of our electricity generation volumes in the year under report were already attributable to renewable energies and the biogenic share of waste/RDF. In the previous year, this share amounted to 56%.

### Heating energy generation down on previous year

Due to minor portfolio adjustments, our heating energy generation capacity fell year-on-year by 101 MW<sub>t</sub> to 2,607 MW<sub>t</sub>.

#### Heating energy generation capacity

| MW <sub>t</sub>   | FY 2018      | FY 2017      | % change  |
|---|--------------|--------------|-----------|
| Biomass and biogas plants   | 119          | 135          | -12       |
| Biogenic share of waste/RDF                                       | 682          | 682          | 0         |
| <b>Heating energy generation capacity from renewable energies</b> | <b>801</b>   | <b>817</b>   | <b>-2</b> |
| Other plants  | 1,806        | 1,891        | -4        |
| <b>Total</b>  | <b>2,607</b> | <b>2,708</b> | <b>-4</b> |

Our heating energy volumes generated from the incineration of waste and refuse-derived fuels (biogenic share) were 97 million kWh higher than in the previous year. This was because the lower volume of electricity coupled out at our non-recyclable waste incineration and energy generation plant in Leuna led to a higher volume of process steam being coupled out.

Minor portfolio adjustments and mild weather conditions in particular nevertheless led the volume of heating energy generated to decrease by 214 million kWh to 3,890 million kWh.

#### Heating energy generation volumes

| kWh million  | FY 2018      | FY 2017      | % change  |
|--|--------------|--------------|-----------|
| Biomass and biogas plants                                | 202          | 267          | -24       |
| Biogenic share of waste/RDF                              | 1,851        | 1,754        | +6        |
| <b>Heating energy generation from renewable energies</b> | <b>2,053</b> | <b>2,021</b> | <b>+2</b> |
| Other plants   | 1,837        | 2,083        | -12       |
| <b>Total</b>   | <b>3,890</b> | <b>4,104</b> | <b>-5</b> |

### Biomethane generation at around previous year's level

At 30 MW<sub>h<sub>s</sub></sub>, our biomethane generation capacity remained unchanged on the previous year. The volume of biomethane generated came to 254 million kWh in the year under report.

#### Biomethane generation volumes

| kWh million       | FY 2018 | FY 2017 | % change |
|-------------------|---------|---------|----------|
| Biomethane plants | 254     | 261     | -3       |



### Lower input of fossil fuels

Protecting fossil resources is an important aspect of our corporate responsibility. To provide modern energy generation, we therefore work not only with fossil fuels, but also with waste and biomass.

#### Fuels used at power plants

|   | FY 2018 | FY 2017 | % change |
|---|---------|---------|----------|
| Biomass (tonnes 000s)                     | 602     | 514     | +17      |
| Biogenic share of waste/RDF (tonnes 000s) | 1,889   | 1,810   | +4       |
| Natural gas (kWh million)                 | 1,931   | 2,315   | -17      |
| Hard coal (tonnes 000s)                   | 78      | 88      | -11      |
| Other fossil fuels (kWh million)          | 359     | 399     | -10      |

Due to the higher volumes of electricity and heating energy generated at our biomass power plants and our energy from waste plants respectively, the volume of fuels used at these plants also increased. By contrast, the year-on-year reduction in gas, hard coal and other fossil fuels reflects the lower volume of generation at our conventional power plants compared with the previous year.

### CO<sub>2</sub> emissions down on previous year

The CO<sub>2</sub> emissions at our fully consolidated generation plants totalled 1,547,000 tonnes in the year under report, as against 1,646,000 tonnes in the previous year. This fall in CO<sub>2</sub> emissions was due to the reduction in our conventional electricity and heating energy generation.

Compared with the 2017 financial year, expenses for emission rights fell to Euro 203 thousand (previous year: Euro 6 million). Income from emission rights rose to Euro 3 million in the year under report (previous year: Euro 58 thousand).

## PRESENTATION OF EARNINGS PERFORMANCE

The period under report is the 2018 financial year – starting on 1 October 2017 and ending on 30 September 2018. Unless otherwise indicated, the comments below refer to the MVV Energie Group (“MVV”), i.e. to all fully consolidated companies.

### MVV

#### MVV

| Euro million                              | FY 2018 | FY 2017 | +/- change | % change |
|---|---------|---------|------------|----------|
| Development in turnover                   |         |         |            |          |
| Electricity (kWh million)                 | 23,556  | 26,293  | -2,737     | -10      |
| Heating energy (kWh million)              | 6,598   | 6,917   | -319       | -5       |
| Gas (kWh million)                         | 21,209  | 25,190  | -3,981     | -16      |
| Water (m <sup>3</sup> million)            | 41.3    | 40.2    | +1.1       | +3       |
| Combustible waste delivered (tonnes 000s) | 2,328   | 2,291   | +37        | +2       |
| Sales excluding energy taxes              | 3,903   | 4,010   | -107       | -3       |
| of which electricity sales                | 2,095   | 2,147   | -52        | -2       |
| of which heating energy sales             | 359     | 371     | -12        | -3       |
| of which gas sales                        | 548     | 648     | -100       | -15      |
| of which water sales                      | 87      | 87      | 0          | 0        |
| Adjusted EBIT                             | 228     | 224     | +4         | +2       |

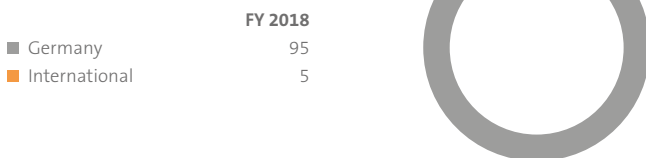
The reduction in sales was primarily attributable to lower electricity and gas trading volumes. As a result, we were not quite able to meet our forecast of generating sales at around the same level as in the previous year.

Our adjusted EBIT performance in the past financial year was shaped by opposing extraordinary one-off items. On the one hand, the sales of the fibre optic networks at MVV Energie AG, which were not required for the energy supply, and of assets relating to multi-utility contracts at MVV ImmoSolutions generated positive earnings contributions. On the other hand, earnings were adversely affected by impairment losses recognised on goodwill for Juwi and at MVV Enamic. These four one-off items virtually cancelled each other out.

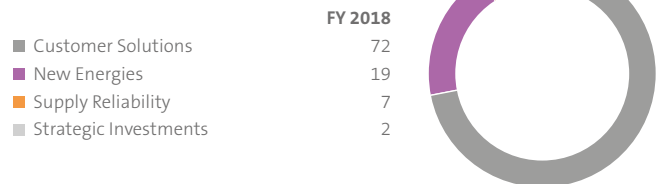
Furthermore, the subsequent measurement of a company recognised at equity and resultant year-on-year reduction in income from companies recognised at equity impacted negatively on earnings. That we nevertheless managed to meet our earnings target and slightly increase our adjusted EBIT to Euro 228 million was chiefly due to the positive performance of the environmental energy business, improved availability levels at our UK plants, higher revenues from wind turbines and the success of our measures to enhance cost efficiency.

In the 2018 financial year, MVV generated 95 % of its consolidated sales in Germany (previous year: 94%), while 5 % of sales were generated abroad (previous year: 6%).

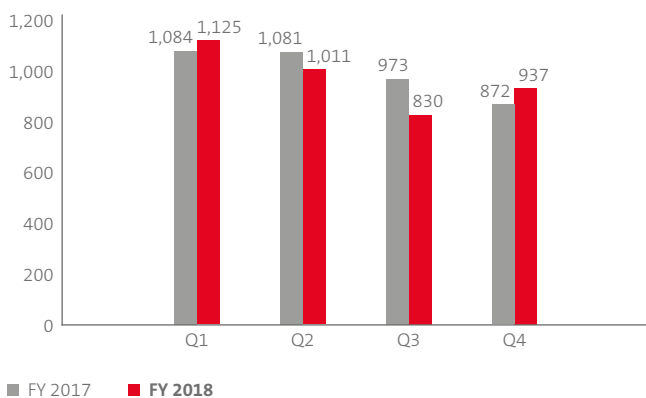
**SALES EXCLUDING ENERGY TAXES BY REGION**  
Shares (%)



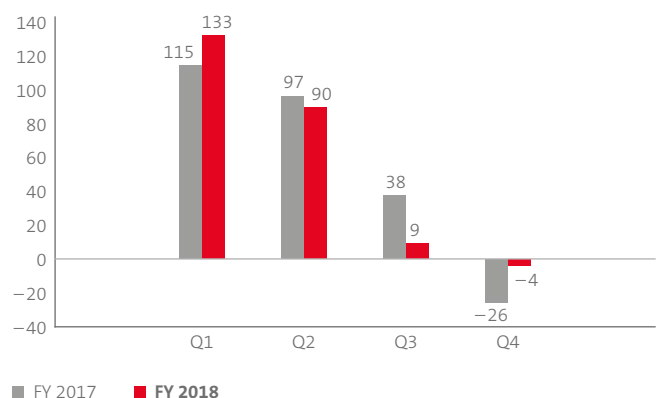
**SALES EXCLUDING ENERGY TAXES BY REPORTING SEGMENT**  
Shares (%)



**SALES EXCLUDING ENERGY TAXES BY QUARTER**  
Euro million



**ADJUSTED EBIT BY QUARTER**  
Euro million



## Customer Solutions reporting segment

| Customer Solutions                        |         |                      |            |          |
|---|---------|----------------------|------------|----------|
| Euro million                              | FY 2018 | FY 2017 <sup>1</sup> | +/- change | % change |
| Development in turnover                   |         |                      |            |          |
| Electricity (kWh million)                 | 22,958  | 25,564               | -2,606     | -10      |
| Heating energy (kWh million)              | 4,742   | 5,106                | -364       | -7       |
| Gas (kWh million)                         | 20,838  | 24,731               | -3,893     | -16      |
| Water (m <sup>3</sup> million)            | 40.4    | 39.3                 | +1.1       | +3       |
| Combustible waste delivered (tonnes 000s) | 160     | 212                  | -52        | -25      |
| Sales excluding energy taxes              | 2,819   | 2,965                | -146       | -5       |
| Adjusted EBIT                             | 47      | 43                   | +4         | +9       |

1 Pro forma statement; unaudited

Mainly as result of lower trading volumes, electricity and gas turnover fell short of the previous year. The reduction in the electricity commodity was due to lower portfolio volumes, a decline in direct marketing volumes and lower balancing energy volumes. The downturn in gas trading volumes was largely due to more liquid markets and the associated lower level of portfolio turnover. The reduction in heating energy turnover was due on the one hand to weather conditions. On the other hand, it resulted from the sale of assets relating to multi-utility contracts at MVV ImmoSolutions and the termination of customer contracts.

The reduction in sales volumes is also reflected in lower sales.

The earnings performance of the Customer Solutions reporting segment was chiefly shaped by the positive one-off item resulting from the sale of assets relating to multi-utility contracts. By contrast, adjusted EBIT was held back by mild weather, whereas the previous year's earnings had benefited from cold weather conditions. Earnings were also adversely affected by an impairment loss recognised on goodwill at MVV Enamic in the 4<sup>th</sup> quarter of the year under report.

## New Energies reporting segment

| New Energies                              |         |                      |            |          |
|---|---------|----------------------|------------|----------|
| Euro million                              | FY 2018 | FY 2017 <sup>1</sup> | +/- change | % change |
| Development in turnover                   |         |                      |            |          |
| Electricity (kWh million)                 | 416     | 454                  | -38        | -8       |
| Heating energy (kWh million)              | 1,151   | 1,037                | +114       | +11      |
| Gas (kWh million)                         | 254     | 260                  | -6         | -2       |
| Combustible waste delivered (tonnes 000s) | 2,064   | 1,963                | +101       | +5       |
| Sales excluding energy taxes              | 738     | 671                  | +67        | +10      |
| Adjusted EBIT                             | 90      | 87                   | +3         | +3       |

1 Pro forma statement; unaudited

Our wind turbines benefited from favourable wind conditions and generated more electricity than in the 2017 financial year. This growth was nevertheless insufficient to compensate for the downturn in volumes in our environmental energy business in Germany, where electricity generation fell due to inspections and scheduled maintenance measures. Moreover, our non-recyclable waste incineration and energy generation plant in Leuna generated less electricity to enable a higher volume of process steam to be coupled out. That is also the main reason for the increase in heating energy turnover. The higher volume of combustible waste delivered was due above all to the take-over of the energy from waste plant in Dundee/Scotland in the 1<sup>st</sup> quarter of the 2018 financial year.

The increase in sales was primarily due to the renewable energies project development business and to our environmental energy business.

Segment earnings benefited from the positive performance of the environmental energy business, better availability levels at our UK plants and higher revenues from our wind turbines. Earnings were held back by the impairment loss recognised on goodwill for Juwi AG in the 2<sup>nd</sup> quarter of the year under report.

## Supply Reliability reporting segment

| Supply Reliability           |         |                      |            |          |
|------------------------------|---------|----------------------|------------|----------|
| Euro million                 | FY 2018 | FY 2017 <sup>1</sup> | +/- change | % change |
| Sales excluding energy taxes | 256     | 267                  | -11        | -4       |
| Adjusted EBIT                | 62      | 68                   | -6         | -9       |

<sup>1</sup> Pro forma statement; unaudited

The reduction in sales was primarily due to the settlement of volume surpluses and shortfalls, which are balanced at the grids. The income is offset by reimbursements of the same amount to grid operators. These are recognised under cost of materials.

The sale at the beginning of the 2018 financial year of fibre optic networks not required for the energy supply at MVV Energie AG impacted positively on segment earnings. On the other hand, the subsequent measurement of a joint venture recognised at equity and resultant year-on-year reduction in income from companies recognised at equity led to an overall reduction in adjusted EBIT in the Supply Reliability reporting segment.

## Strategic Investments reporting segment

| Strategic Investments                     |         |         |            |          |
|---|---------|---------|------------|----------|
| Euro million                              | FY 2018 | FY 2017 | +/- change | % change |
| Development in turnover                   |         |         |            |          |
| Electricity (kWh million)                 | 181     | 275     | -94        | -34      |
| Heating energy (kWh million)              | 705     | 774     | -69        | -9       |
| Gas (kWh million)                         | 117     | 199     | -82        | -41      |
| Water (m <sup>3</sup> million)            | 0.9     | 0.9     | 0          | 0        |
| Combustible waste delivered (tonnes 000s) | 104     | 116     | -12        | -10      |
| Sales excluding energy taxes              | 87      | 104     | -17        | -16      |
| Adjusted EBIT                             | 25      | 24      | +1         | +4       |

Notwithstanding a reduction in sales, adjusted EBIT at Strategic Investments remained almost unchanged on the previous year. This was due to the fact that weather-related charges on earnings were more than offset by reversals of provisions.

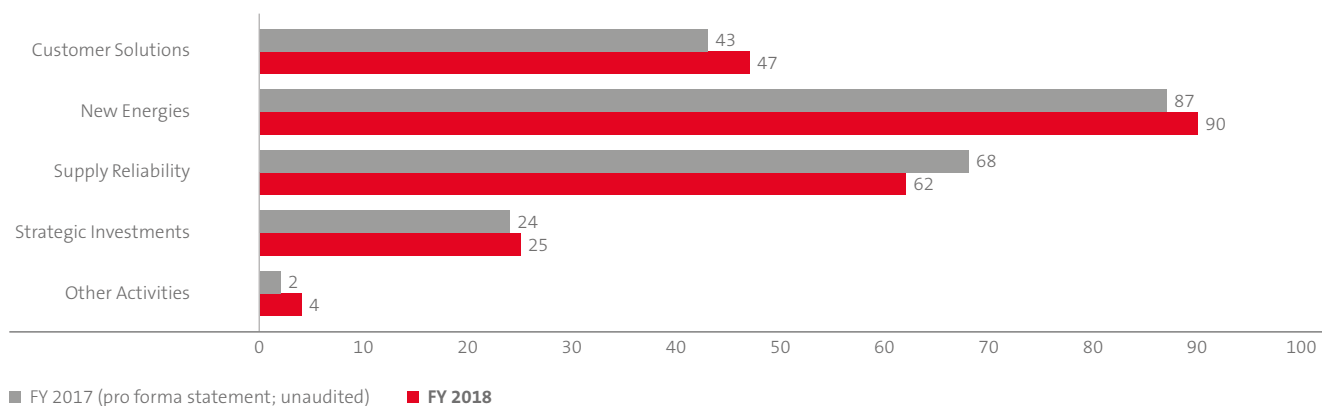
## Other Activities reporting segment

| Other Activities             |         |         |            |          |
|------------------------------|---------|---------|------------|----------|
| Euro million                 | FY 2018 | FY 2017 | +/- change | % change |
| Sales excluding energy taxes | 2       | 3       | -1         | -33      |
| Adjusted EBIT                | 4       | 2       | +2         | +100     |

Adjusted EBIT amounted to Euro 4 million in the year under report.

**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 2018 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 2018    | FY 2017    | +/- change |
|--|------------|------------|------------|
| EBIT as reported in income statement                 | 257        | 259        | -2         |
| Financial derivatives measurement item               | -31        | -39        | +8         |
| Structural adjustment for part-time early retirement | 0          | +1         | -1         |
| Restructuring result                                 | -1         | -          | -1         |
| Interest income from finance leases                  | +3         | +3         | 0          |
| <b>Adjusted EBIT</b>                                 | <b>228</b> | <b>224</b> | <b>+4</b>  |

**Development in key income statement items**

The **cost of materials** [▢ Notes to Income Statement \(Note 5\), Page 142](#) fell virtually in line with sales, decreasing by Euro 121 million to Euro 2,958 million.

**Adjusted employee benefit expenses** rose by Euro 4 million to Euro 422 million. This was due above all to an expansion in UK staff totals upon the takeover of an energy from waste plant at the beginning of the year under report, as well as to the first-time full consolidation of subsidiaries. By contrast, the reduction in staff totals mainly took place in the 2<sup>nd</sup> half of the past financial year.

Excluding IAS 39 measurement items, **adjusted other operating income** [▢ Notes to Income Statement \(Note 4\), Page 141](#) increased by Euro 39 million to Euro 154 million, with this being due above all to the sales of fibre optic networks at MVV Energie AG and of assets relating to multi-utility contracts at MVV ImmoSolutions.

Also excluding IAS 39 measurement items, **adjusted other operating expenses** [Notes to Income Statement \(Note 7\), Page 142](#) fell by Euro 15 million to Euro 227 million. As well as lower additions to write-downs and receivables defaults, this development was due lower expenses for emission rights.

In the **Income Statement** [Page 125](#), IAS 39 measurement items are included under other operating income and other operating expenses. Their net balance resulted in a positive item of around Euro 31 million in the 2018 financial year. At Euro 39 million, this measurement item was also positive in the previous year. IAS 39 items reflect developments in market prices on the commodities and energy markets. IAS 39 measurement has no impact on payments, neither does it affect our operating business or dividend.

At Euro 181 million, depreciation was approximately at the previous year's level.

The goodwill writedowns [Notes to Income Statement \(Note 14\), Page 145](#) of Euro 34 million mainly relate to impairment losses recognised on goodwill for Juwi and at MVV Enamic in the 2<sup>nd</sup> and 4<sup>th</sup> quarters of the year under report respectively.

The **adjusted financial result**, which benefited in particular from lower loan interest expenses, improved by Euro 7 million to Euro – 49 million.

Net of the adjusted financial result, the **adjusted EBT** of Euro 179 million for the 2018 financial year was higher than in the previous year (Euro 169 million).

**Adjusted annual net income** only reflects the improvement in adjusted EBT to a limited extent. This key figure showed a proportionately lower increase of Euro 4 million and came to Euro 111 million in the year under report. This resulted from an increase in adjusted taxes on income to Euro 68 million (previous year: Euro 62 million), a development due to a discrepancy between tax-effective earnings growth and one-off items with no tax effect. Overall, this produced a higher tax rate. The one-off items related in particular to impairment losses recognised on goodwill.

Adjusted minority interests rose year-on-year by Euro 2 million to Euro 16 million. **Adjusted annual net income after minority interests** showed a slight increase to Euro 94 million (previous year: Euro 93 million). On this basis, adjusted earnings per share amounted to Euro 1.43 (previous year: Euro 1.41). The number of shares was unchanged at 65.9 million.

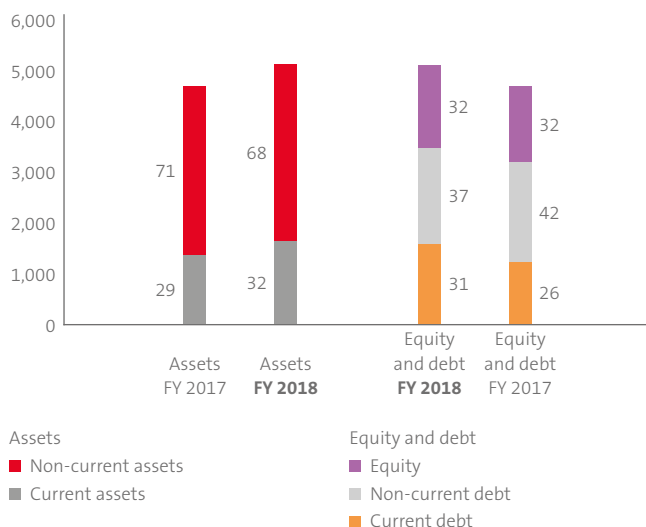
## PRESENTATION OF NET ASSET POSITION

### Balance sheet structure

| Euro 000s              | 30 Sep 2018      | 30 Sep 2017      | % change  |
|------------------------|------------------|------------------|-----------|
| <b>Assets</b>          |                  |                  |           |
| Non-current assets     | 3,493,137        | 3,326,098        | +5        |
| Current assets         | 1,646,844        | 1,386,790        | +19       |
| <b>Total assets</b>    | <b>5,139,981</b> | <b>4,712,888</b> | <b>+9</b> |
| <b>Equity and debt</b> |                  |                  |           |
| Equity                 | 1,625,214        | 1,521,102        | +7        |
| Non-current debt       | 1,922,200        | 1,976,154        | -3        |
| Current debt           | 1,592,567        | 1,215,632        | +31       |
| <b>Total assets</b>    | <b>5,139,981</b> | <b>4,712,888</b> | <b>+9</b> |

### BALANCE SHEET STRUCTURE

Euro million, shares (%)



### Balance sheet development

Total assets came to Euro 5,140 million at the balance sheet date and were thus Euro 427 million higher than the figure reported as of 30 September 2017 [Balance Sheet, Page 126](#).

On the asset side, **non-current assets** rose by Euro 167 million to Euro 3,493 million. Significant changes chiefly arose in non-current other receivables and assets [Notes to Balance Sheet \(Note 21\), Page 155](#). Mainly as a result of measurement items for energy trading transactions, this line item rose by Euro 120 million to Euro 309 million. Furthermore, property, plant and equipment increased by Euro 69 million to Euro 2,588 million, with this mainly being due to advance payments and construction in progress. Alongside the construction of the gas-powered CHP plant in Kiel and a new energy from waste plant in Dundee/Scotland, these also included the linking up of our waste-powered CHP plant in Mannheim to the city's district heating grid. This increase was countered by intangible assets which, at Euro 316 million, fell Euro 29 million short of the previous year's figure. This reduction was mainly due to impairment losses recognised on goodwill for Juwi and at MVV Enamic.

**Current assets** grew by Euro 260 million to Euro 1,647 million. The increase in current other receivables and assets [Notes to Balance Sheet \(Note 21\), Page 155](#) by Euro 423 million (previous year: Euro 343 million) was chiefly due to measurement items for energy trading transactions. Inventories decreased by Euro 121 million to Euro 161 million, a development due above all to lower advance payments and a reduction in finished and unfinished products and services (project rights). Cash and cash equivalents [Notes to Balance Sheet \(Note 25\), Page 157](#) also decreased, in this case to Euro 311 million as of the balance sheet date (previous year: Euro 370 million). This was due above all to the outflow of funds for major projects and loan repayments.

We further strengthened our **equity** in the year under report [Notes to Balance Sheet \(Note 27\), Page 158](#). This increased by Euro 104 million and, including non-controlling interests, amounted to Euro 1,625 million at the balance sheet date.

For Group management purposes, we adjust our consolidated balance sheet as of 30 September 2018 to eliminate cumulative IAS 39 measurement items. On the asset side, we eliminate positive fair values of derivatives and allocable deferred taxes, which amounted to Euro 988 million (30 September 2017: Euro 465 million). On the equity and debt side, we eliminate negative fair values and allocable deferred taxes, here Euro 912 million, from debt (30 September 2017: Euro 434 million). In equity, we eliminate the net balance of Euro 76 million (30 September 2017: Euro 31 million). This led to adjusted equity of Euro 1,550 million as of 30 September 2018 (30 September 2017: Euro 1,490 million). As a percentage of the adjusted total assets of Euro 4,153 million (30 September 2017: Euro 4,248 million), the adjusted equity ratio came to 37.3% as of 30 September 2018 as against 35.1% as of 30 September 2017.

**Non-current debt** decreased to Euro 1,922 million, down Euro 54 million compared with the previous year's balance sheet date. Due above all to loan repayments, **non-current financial debt** [Notes to Balance Sheet \(Note 30\), Page 164](#) fell by Euro 136 million to Euro 1,163 million. By contrast, **non-current other liabilities** [Notes to Balance Sheet \(Note 31\), Page 165](#) rose by Euro 94 million to Euro 404 million. This development chiefly resulted from the year-on-year increase in the value of derivative financial instruments. This value rose due to realisation and the higher level of market prices, which increased the fair values of energy trading transactions recognised under IAS 39.

**Current debt** rose by Euro 377 million to Euro 1,593 million. This development was significantly influenced by **current other liabilities** [Notes to Balance Sheet \(Note 31\), Page 165](#) which, due above all to IAS 39 measurement items, grew by Euro 287 million to Euro 835 million. There was a reduction, by contrast, in advance payments received. Primarily as a result of higher liabilities to banks, **current financial debt** [Notes to Balance Sheet \(Note 30\), Page 164](#) rose by Euro 74 million to Euro 223 million.

## Investments

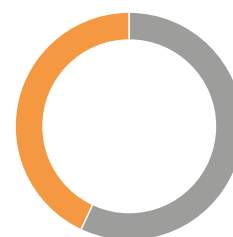
We invested a total of Euro 290 million in the 2018 financial year (previous year: Euro 194 million). We invested Euro 166 million (57%) in our existing plants and grids and channelled Euro 124 million (43%) into growth investments.

| Investments                               |            |            |            |            |
|---|------------|------------|------------|------------|
| Euro million                              | FY 2018    | FY 2017    | +/- change | % change   |
| Customer Solutions                        | 30         | 25         | +5         | +20        |
| New Energies                              | 81         | 21         | +60        | >+100      |
| Supply Reliability                        | 157        | 129        | +28        | +22        |
| Strategic Investments                     | 11         | 7          | +4         | +57        |
| Other Activities                          | 11         | 12         | -1         | -8         |
| <b>Total</b>                              | <b>290</b> | <b>194</b> | <b>+96</b> | <b>+50</b> |
| of which growth investments               | 124        | 64         | +60        | +94        |
| of which investments in existing business | 166        | 130        | +36        | +28        |

## INVESTMENTS

Shares (%)

|                                  | FY 2018 |
|----------------------------------|---------|
| Investments in existing business | 57      |
| Growth investments               | 43      |



Our largest investment projects in the 2018 financial year included:

- Takeover of an energy from waste plant and construction of a new CHP plant in Dundee/Scotland
- Construction of the gas-powered CHP plant in Kiel
- Takeover of an organic waste fermentation plant in Dresden
- Connection of the CHP plant in Mannheim to the city's district heating grid
- Measures to maintain and renew our distribution grids
- Measures to expand and increase the density of our district heating grids.



## PRESENTATION OF FINANCIAL POSITION

By repaying liabilities to banks and other lenders, we reduced our **current and non-current financial debt** by Euro 62 million in the year under report. As of 30 September 2018, these items totalled Euro 1,386 million as against Euro 1,448 million at the previous year's balance sheet date. **Net financial debt** (current and non-current financial debt less cash and cash equivalents) fell by Euro 2 million to Euro 1,075 million.

After the elimination of non-cash income and expenses, as well as of the non-operating result, the slight increase in earnings before taxes on income (EBT) led to a **cash flow before working capital and taxes** of Euro 450 million.

The year-on-year reduction in the **cash flow from operating activities** by Euro 142 million was due to lower inflows of funds from changes in other asset and liability items. The largest items related to a more marked increase in receivables, the

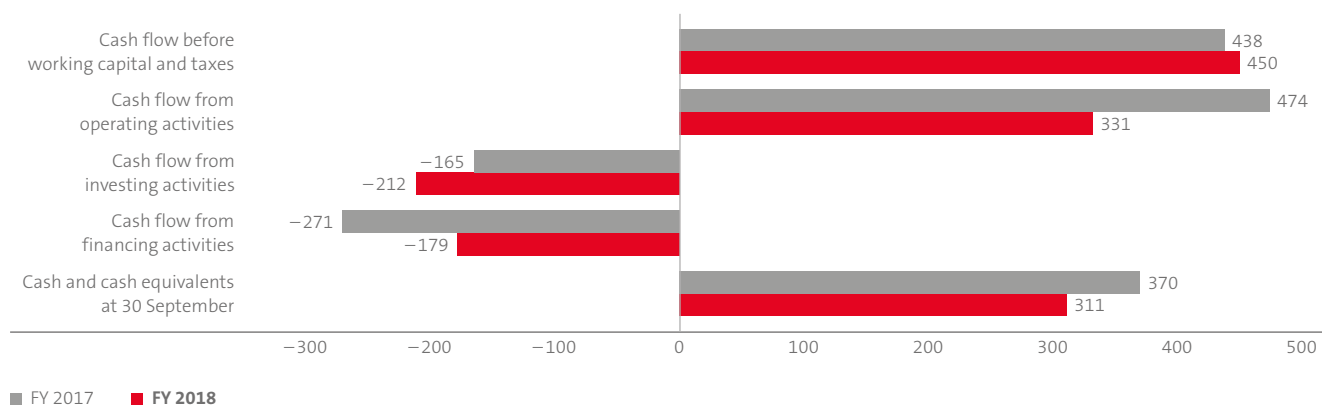
change in prepayments received on orders for projects to be implemented and the sharp reduction in inventories.

The development in the **cash flow from investing activities** was shaped by the higher outflow of funds for investments – and in particular for the construction of the new heat and power plant in Dundee/Scotland in conjunction with the takeover of an existing energy from waste plant and for the new Küstenkraftwerk K.I.E.L. power plant. The high inflow of funds from sales of other financial assets in the previous year, which was not matched by any equivalent items in the current financial year, also reduced the cash flow from investing activities when compared with the previous year's figure. This factor was mainly countered by the inflow of funds from sales of non-current assets. Overall, the cash flow from investing activities fell year-on-year by Euro 47 million.

The **cash flow from financing activities** increased by Euro 92 million compared with the 2017 financial year, a development chiefly due to higher net borrowing.

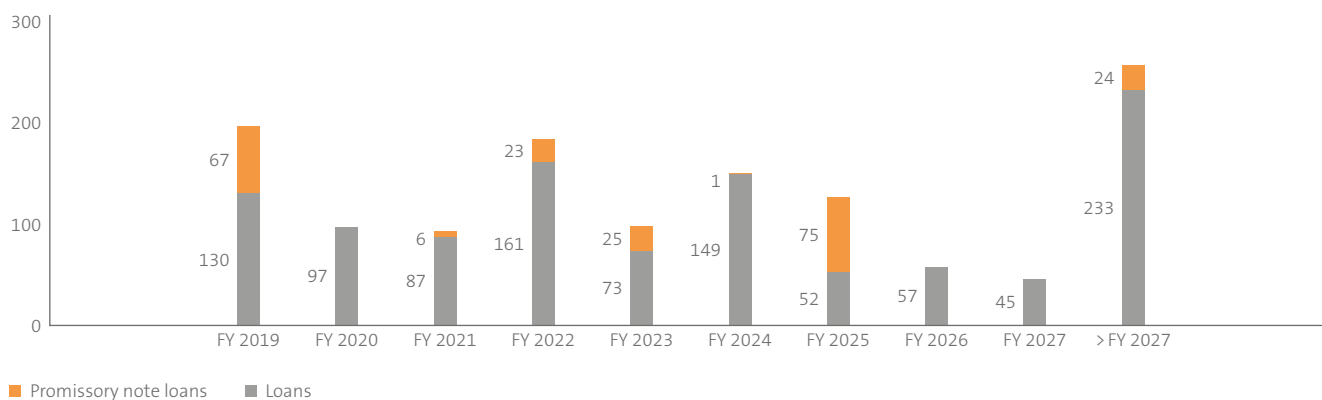
## CASH FLOW STATEMENT

Euro million



## REPAYMENT PROFILE

Euro million



### Professional financial management

Our good access to the capital markets means that we have no difficulty in covering MVV's liquidity requirements. We benefit in this respect from our strong creditworthiness, our diversified business portfolio and our corporate strategy, which focuses on generating sustainable and profitable growth. MVV has very strong liquidity resources in the form of cash and cash equivalents and credit lines at banks, the volumes and terms of which we further expanded in the past financial year.

Our repayment profile still does not show any significant spikes in the years ahead.

MVV Energie AG manages a cash pool for itself and 33 other companies within our Group. In this capacity, it manages, procures and secures both its own short-term liquidity and that of the subsidiaries connected to the pool. Long-term financing required for investments is provided to the subsidiaries in the form of shareholder loans.

### Rating

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

# 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 in accordance with 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 accordance with International Financial Reporting Standards (IFRS) in the form requiring application in the EU. Unlike in the HGB separate financial statements, in the consolidated financial statements income and expenses 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, MVV's consolidated financial statements and the combined management report for the 2018 financial year are published in the Federal Gazette (Bundesanzeiger). The complete 2018 annual financial statements of MVV Energie AG can be downloaded from our website [www.mvv.de/investors](http://www.mvv.de/investors), as can the consolidated financial statements and the combined management report.

## Presentation of earnings performance of MVV Energie AG

| Income statement of MVV Energie AG                        |                  |                  |
|---|------------------|------------------|
| Euro 000s   | FY 2018          | FY 2017          |
| Sales   | 2,246,218        | 2,315,791        |
| less electricity and natural gas taxes                    | - 124,598        | - 123,786        |
| <b>Sales less electricity and natural gas taxes</b>       | <b>2,121,620</b> | <b>2,192,005</b> |
| Increase or reduction in finished and unfinished products | 0                | - 2,582          |
| Other own work capitalised                                | 1,730            | 1,990            |
| Other operating income                                    | 44,105           | 35,777           |
| Cost of materials   | 1,880,426        | 1,953,231        |
| Employee benefit expenses                                 | 75,398           | 78,823           |
| Depreciation and amortisation                             | 19,901           | 21,313           |
| Other operating expenses                                  | 98,108           | 108,687          |
| Financial result  | 66,901           | 57,627           |
| Taxes on income   | 46,082           | 30,701           |
| <b>Earnings after taxes</b>                               | <b>114,441</b>   | <b>92,062</b>    |
| Other taxes   | 456              | 446              |
| <b>Annual net income</b>                                  | <b>113,985</b>   | <b>91,616</b>    |
| Allocation to other revenue reserves                      | 54,669           | 32,300           |
| <b>Unappropriated net profit</b>                          | <b>59,316</b>    | <b>59,316</b>    |

Due above all to lower electricity and gas turnover in the Commodities Solutions business field, sales excluding energy taxes at MVV Energie AG fell by Euro 70 million to Euro 2,122 million in the 2018 financial year. These sales were generated exclusively in Germany. As a result, MVV Energie AG was thus not quite able to meet its forecast of generating sales at the previous year's level. As in the previous year, the electricity business accounted for 75 % of total sales and thus remained the strongest division in terms of sales at MVV Energie AG.

At Euro 1,880 million, cost of materials was Euro 73 million lower than in the previous year. The change in this item largely reflected the development in sales. Furthermore, due to reinstatement requirements a write-up was recognised on raw materials and supplies.

Other operating income rose by Euro 8 million. This increase was chiefly due to the sale in the year under report of the fibre optic networks not required for the energy supply. This item was opposed by a lower volume of reversals of provisions compared with the previous year.

As of 30 September 2018, MVV Energie AG had 881 employees, 28 fewer than at the previous year's balance sheet date. Due to this reduction, as well as to lower allocation requirements for actuarial provisions, employee benefit expenses fell year-on-year by Euro 3 million to Euro 75 million.

At Euro 20 million, depreciation and amortisation was slightly lower than in the previous year. No impairment losses were recognised on non-current assets in the year under report or the previous year.

Other operating expenses decreased by Euro 11 million to Euro 98 million in the 2018 financial year. Material items here related to lower write-downs of receivables and a reduction in public relations expenses.

The financial result improved year-on-year by Euro 9 million to Euro 67 million. Items positively affecting this figure related above all to higher income from profit and loss transfer agreements and from shareholdings and lower expenses for the assumption of losses. By contrast, the financial result was reduced in particular by higher write-downs of financial assets.

Earnings after taxes improved by Euro 22 million to Euro 114 million. Net of other taxes, MVV Energie AG generated annual net income of Euro 114 million in the 2018 financial year (previous year: Euro 92 million). The development in annual net income was mainly influenced by one-off items: the sale of fibre optic networks, the write-up of raw materials and supplies due to reinstatement requirements and the write-down of goodwill at MVV Enamic. As a result, we exceeded our forecast of generating a significant increase in annual net income. Based on the profit utilisation resolution adopted by the Annual General Meeting on 9 March 2018, the unappropriated net profit of Euro 59.3 million was fully distributed to the shareholders of MVV Energie AG. The dividend amounted to Euro 0.90 per share.

Revenue reserves of Euro 54,669 thousand were formed from the annual net income for the year under report. As of 30 September 2018, MVV Energie AG reported unappropriated net profit of Euro 59 million. The Annual General Meeting will be held on 8 March 2019 and will decide on the dividend proposal adopted by the Executive and Supervisory Boards on 7 December 2018.

## Presentation of net asset and financial position of MVV Energie AG

### Balance sheet of MVV Energie AG

| Euro 000s                            | 30 Sep 2018      | 30 Sep 2017      |
|--------------------------------------|------------------|------------------|
| <b>Assets</b>                        |                  |                  |
| <b>Non-current assets</b>            |                  |                  |
| Intangible assets                    | 612              | 634              |
| Property, plant and equipment        | 387,552          | 368,073          |
| Financial assets                     | 1,461,449        | 1,439,688        |
|                                      | <b>1,849,613</b> | <b>1,808,395</b> |
| <b>Current assets</b>                |                  |                  |
| Inventories                          | 30,252           | 14,191           |
| Receivables and other assets         | 316,834          | 284,482          |
| Cash and cash equivalents            | 79,048           | 193,379          |
|                                      | <b>426,134</b>   | <b>492,052</b>   |
| Deferred expenses and accrued income | 595              | 569              |
|                                      | <b>2,276,342</b> | <b>2,301,016</b> |
| <b>Equity and debt</b>               |                  |                  |
| <b>Equity</b>                        |                  |                  |
| Share capital                        | 168,721          | 168,721          |
| Capital reserve                      | 458,946          | 458,946          |
| Revenue reserves                     | 434,591          | 379,922          |
| Unappropriated net profit            | 59,316           | 59,316           |
|                                      | <b>1,121,574</b> | <b>1,066,905</b> |
| Income grants received               | 45,067           | 44,516           |
| Provisions                           | 109,803          | 97,250           |
| Liabilities                          | 999,898          | 1,092,345        |
|                                      | <b>2,276,342</b> | <b>2,301,016</b> |

Total assets decreased year-on-year by Euro 25 million to Euro 2,276 million.

The asset side of the balance sheet is largely shaped by financial assets. As of September 2018, these totalled Euro 1,461 million, equivalent to a 64% share of total assets. The equivalent figures for the previous year were Euro 1,440 million and 63% respectively. The increase in financial assets by Euro 22 million was due above all to additions to the capital reserve at associates. This factor was countered by write-downs recognised at MVV Enamic and on loans. Property, plant and equipment rose year-on-year by Euro 19 million to Euro 388 million. This was chiefly due to investments made in connection with linking the CHP plant on Friesenheimer Insel to Mannheim's district heating grid.

Current assets decreased to Euro 426 million, down Euro 66 million compared with 30 September 2017, with this being primarily due to a Euro 114 million reduction in cash and cash equivalents. The decrease in cash and cash equivalents was in turn mainly due to the reduction in financial debt and to the fact that MVV Energie AG expanded its financing function for group companies in the year under report. By contrast, chiefly as a result of higher receivables due from associates trade receivables and other assets rose by Euro 32 million.

The company increased its equity by Euro 55 million in the year under report. Equity thus amounted to Euro 1,122 million at the balance sheet date. At 49.3%, the equity ratio as of 30 September 2018 was slightly higher than the previous year's figure of 46.4% and reflected the solid equity resources available at MVV Energie AG.

Mainly as a result of higher tax provisions, the provisions line item rose by Euro 13 million to Euro 110 million, while liabilities fell by Euro 92 million to Euro 1,000 million. This reduction was attributable in particular to lower liabilities to banks, lower advance payments received for orders and lower trade payables.

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

### 2018 activity statements

With its 2018 activity statements, MVV Energie AG has met its reporting obligations pursuant to § 6b of the German Electricity and Gas Supply Act (German Energy Industry Act – EnWG). Consistent with § 6b of this act, in our internal financial reporting we maintain separate accounts for the activities of electricity and gas distribution, 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 activities.

### Electricity distribution

The electricity distribution activity field reported sales of Euro 46 million in the year under report (previous year: Euro 47 million). At Euro 48 million, gross performance for the 2018 financial year was at the previous year's level. Measured in terms of total electricity sector sales of Euro 1.6 billion (previous year: Euro 1.7 billion), sales in the electricity distribution activity field are of subordinate significance. Alongside income from the leasing of its electricity grids to MVV Netze GmbH, earnings in the electricity distribution activity field also include income from concession duties. MVV Netze GmbH manages and operates the 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 through to 30 September 2018 was opposed by corresponding other operating expenses. Electricity distribution generated annual net income of Euro –1 million in the 2018 financial year (previous year: annual net income of Euro –2 million).

As of 30 September 2018, total assets in the electricity distribution activity field came to Euro 126 million (previous year: Euro 130 million). This corresponds to a 37% share of total assets in the electricity sector at MVV Energie AG (previous year: 41%). Property, plant and equipment relating to electricity distribution hardly changed compared with the previous year's balance sheet date. At Euro 113 million (previous year: Euro 112 million), this item accounted for a 90% share of total electricity distribution assets (previous year: 86%). Receivables from associates mainly involve receivables due from MVV Netze GmbH. On the equity and liabilities side, electricity distribution liabilities fell from Euro 62 million to Euro 42 million.

### Gas distribution

The gas distribution activity field reported sales of Euro 28 million in the year under report (previous year: Euro 31 million). Gross performance fell by Euro 3 million in the 2018 financial year. When compared with total gas sector sales of Euro 217 million (previous year: Euro 226 million), the gas distribution activity field is of subordinate significance. By analogy with electricity distribution, as well as income from the leasing of its grids to MVV Netze GmbH earnings in the gas distribution activity field also include income from concession duties. As of 30 September 2018, other operating income from charging on the concession duty to MVV Netze GmbH was opposed by corresponding other operating expenses. The gas distribution activity field generated annual net income of Euro 8 million in the year under report (previous year: Euro 12 million).

At the balance sheet date on 30 September 2018, total assets in the gas distribution activity field came to Euro 97 million (previous year: Euro 94 million) and accounted for some 74% of total assets in the gas sector at MVV Energie AG (previous year: 73%). At Euro 88 million, property, plant and equipment in gas distribution was Euro 4 million higher than in the previous year and corresponded to a 91% share of total assets in this activity field (previous year: 90%). Receivables from associates mainly involve receivables due from MVV Netze GmbH. On the equity and liabilities side, gas distribution liabilities increased from Euro 14 million to Euro 31 million.

### Corporate Governance Declaration (§ 289f 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 Conformity 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.

We published the Corporate Governance Declaration together with the Declaration of Conformity as one component of our Corporate Governance Report, which was published on our website [www.mvv.de/corporate-governance](http://www.mvv.de/corporate-governance) on 5 November 2018 and is also presented on **Page 101**.

### Declaration pursuant to § 312 AktG

The Executive Board has compiled a report on relationships with associates for the 2018 financial year (“dependent company report”) pursuant to § 312 AktG. In this report, it states: “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 Report (§ 315b and § 315c in conjunction with § 289c to e HGB)

MVV Energie AG is obliged for the first time to publish a non-financial declaration on company and Group level for the 2018 financial year. The non-financial declaration has been compiled jointly for MVV Energie AG and the MVV Energie Group (“MVV”) as a Combined Separate Non-Financial Report. This can be found in the Sustainability chapter of the 2018 Annual Report and has been disclosed together with the Combined Management Report.

# Corporate Governance

For MVV, high-quality corporate governance, i.e. managing and supervising the company's activities in accordance with the principles of responsible and sustainable value creation, is an objective we pursue in all of its facets and across all areas of our company. Basic features of our corporate governance include trust-based cooperation between the Executive and Supervisory Boards and among the company's employees, consideration of the interests of all stakeholders, transparent reporting and corporate communications and compliance with all applicable laws. We view high-quality corporate governance as an indispensable basis for ensuring a relationship of trust with our shareholders, customers, business partners, employees and the general public.

In what follows, the Executive and Supervisory Boards report on corporate governance at MVV Energie AG in accordance with Point 3.10 of the German Corporate Governance Code. We combine this with our Corporate Governance Declaration pursuant to § 289f of the German Commercial Code (HGB); this contains disclosures on our corporate governance practices and the Declaration of Conformity with the German Corporate Governance Code required by § 161 of the German Stock Corporation Act (AktG).

## REPORT OF EXECUTIVE AND SUPERVISORY BOARDS

The Executive and Supervisory Boards dealt extensively with corporate governance at our company once again in the 2018 financial year. Like in previous years, in the period under report MVV Energie AG complied with all of the Code's recommendations. The same applies with just one exception to the suggestions made in the Code. Point 2.3.3 of the Code suggests that shareholders should have the possibility of watching the entire Annual General Meeting via communication channels such as the internet. We merely broadcast the introductory words by the meeting chairman and the presentation by the CEO live on our website at [www.mvv.de/investors](http://www.mvv.de/investors), where we also publish a corresponding video subsequent to the Annual General Meeting.

### Shareholders and Annual General Meeting

Shareholders in MVV Energie AG exercise their voting and control rights at the Annual General Meeting. Each shareholder is entitled to participate in the Annual General Meeting if he or she registers within the relevant deadline and satisfies the conditions for participating in the meeting and exercising voting rights. Shareholders may make statements on all agenda items at the meeting and submit relevant questions and motions. For voting purposes, each share entitles its holder to one vote. Shareholders may participate in the adoption of all resolutions by casting their votes before or during the meeting. In this respect, shareholders can draw on a range of options – they can vote in person or have their votes cast by a proxy of their choice. Alternatively, they may be represented by a voting proxy appointed by MVV Energie AG to act in line with their instructions, a bank or a shareholders' association. Furthermore, shareholders may also submit their votes by post in advance of the Annual General Meeting. To do so, they are required to register within a specified deadline.

In line with the requirements of stock corporation law, we publish all documents relating to the Annual General Meeting on our website at [www.mvv.de/investors](http://www.mvv.de/investors). These particularly include the invitation to the meeting and all reports and information necessary for the respective resolutions.

### Transparent communications

We attach great priority to informing all stakeholders of MVV Energie AG about significant matters of current relevance and about the company's situation. This information, which is provided promptly, comprehensively and in a way which ensures equal treatment of all stakeholders, is published in our PR activities and on our websites – and here in particular [www.mvv.de](http://www.mvv.de) and [www.mvv.de/investors](http://www.mvv.de/investors). We always meet our reporting obligations under the German Stock Corporation Act (AktG), the German Commercial Code (HGB) and the German Securities Trading Act (WpHG).

### Disclosures on auditor

The Annual General Meeting of MVV Energie AG on 9 March 2018 elected PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) as auditor for the 2018 financial year. Prior to this, the Supervisory Board convinced itself of the auditor's independence. PwC has acted as auditor to MVV Energie AG and as group auditor for the consolidated financial statements since the 2009 financial year. We comply with the statutory requirements resulting from the Audit Regulation (Regulation (EU) No. 537/2014) and from § 316 et seq. HGB. These concern the selection, appointment and rotation of the auditor and of the individuals responsible for the actions of such, as well as the commissioning of non-audit services.

### Reporting and audit of financial statements

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

The auditor audits the annual financial statements of MVV Energie AG as prepared by the Executive Board. Once they have been discussed by the Audit Committee, these financial statements are examined, approved and adopted by the Supervisory Board. The consolidated financial statements are also prepared by the Executive Board, audited by the auditor and discussed in detail by the Audit Committee before being submitted to the Supervisory Board for its own review and approval. In its audit of the financial statements, PwC also audits the combined management report and the early-warning risk identification system.

The quarterly statements for the 1<sup>st</sup> quarter and the 1<sup>st</sup> 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 publications are not subject to any audit review requirement.

## CORPORATE GOVERNANCE DECLARATION WITH DECLARATION OF CONFORMITY

We published the following Corporate Governance Declaration on our website at [www.mvv.de/investors](http://www.mvv.de/investors) on 5 November 2018 and thus satisfied the requirements of § 289f HGB.

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

The Executive and Supervisory Boards adopted the following Declaration of Conformity with the German Corporate Governance Code in September 2018:

The Executive and Supervisory Boards of MVV Energie AG hereby declare that the company has complied and continues to comply with the recommendations of the German Corporate Governance Code Government Commission in the version of the Code dated 7 February 2017, which was published in the Federal Gazette on 24 April 2017 and republished in corrected form in the Federal Gazette on 19 May 2017.

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### Compliance and risk management

We accord great priority to ensuring that our interactions with each individual stakeholder are characterised by transparency, trust, fairness and integrity. Our compliance management system (CMS) helps us to safeguard 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 and on the other hand to monitor all relevant business activities and processes within our Group.



In our Compliance Management Handbook, we have summarised the most important requirements and all necessary organisational structures and processes, listed the relevant personnel responsibilities and presented the details of our reporting system. This handbook is binding for all of the limited liability companies at the Mannheim subgroup of MVV Energie AG and is permanently available for downloading to all of the employees at this subgroup.

The other subgroups have introduced equivalent compliance management systems. Our Compliance Management Handbook is also available in English, for example for our British and Czech subgroups.

We have structured our CMS in such a way as to ensure that breaches of compliance are basically avoided in advance – above all by working with preventative measures in the respective business processes (so-called systemic compliance). We already check relevant processes in sensitive areas during the respective operating process, 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 are made exclusively in the form of dividends.

The head of our group legal, compliance and materials division acts as MVV's Compliance Officer. Together with the various organisational units involved, the Compliance Officer compiles the relevant compliance regulations, documents them and sees to their implementation within business processes. He is responsible for ensuring that employee training measures are implemented and that due account is taken of all CMS processes. Furthermore, he also acts in an advisory and supportive capacity to accompany measures intended to prevent and, where necessary, investigate any violations of the law, corruption or deliberate acts harmful to the company. He reports to the Executive Board and the Audit Committee.

By actively implementing prevention measures within the relevant business processes themselves, we make every effort to avert all criminal or grossly incorrect actions or violations of the law. MVV has a zero-tolerance policy towards bribery and all other forms of corruption. To help prevent corruption, we therefore provide extensive training particularly to employees working in sales, related areas and procurement. Employees also receive precise instructions on how to deal with gratuities and invitations. We record and check any gratuities offered or invitations received. These measures enable us to minimise the risk of "soft bribery". We also continually monitor adherence to compliance requirements – and that in all business fields, specialist divisions, group departments and subsidiaries. Employees and third parties can contact the Compliance Officer or an external confidence lawyer directly. Via "Whistleblower Hotlines", they can provide anonymous tip-offs on potential misconduct. The telephone number of the confidence lawyer is also published on our website at [www.mvv.de](http://www.mvv.de).

In the period under report, we received individual tip-offs about suspected compliance infringements both via our internal whistleblower hotline and directly by our Compliance Officer. Only one notification was provided on an anonymous basis. None of these involved cases of material significance.

To make sure that all of MVV's managers and all of its employees with contact to customers or suppliers are well informed of general compliance requirements and familiar with the legal requirements relevant to their respective business units, we also provide regular training. The topics covered by this training include the requirements of capital market, securities and stock market law, competition and cartel law and energy industry law. We provide extensive training to new management staff. For this, all newly appointed managing directors and all upcoming management staff take part in a seminar held over several days, with attendance obligatory for all management staff from section manager upwards.

In the 2018 financial year, 169 employees at the Mannheim subgroup and 65 employees at the other subgroups took part in this training. During this period, a further 418 individuals completed an online training programme provided by our Stadtwerke Kiel subsidiary. At the end of each financial year, all senior managers are required to submit a Compliance Management Declaration (CMD) in which they must state whether the relevant compliance regulations and legal requirements have been complied with. The matters covered by the CMD include an enquiry as to whether, as required, the employees of the respective manager have received instruction and suitable training for the CMS. Moreover, in the context of the CMD the managers also respond in detail to questions specifically tailored to circumstances at their respective business unit.

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 relate to other suppliers who provide us with goods or perform highly qualified services for us. We also attach great value to compliance in our cooperation with them. We work with supplier management systems and request information from our new suppliers, particularly with regard to anti-corruption measures, environmental protection and social responsibility. The basis for our cooperation with suppliers and service providers in Germany and the EU is provided by the applicable laws and regulations, as well as by those compliance regulations, forms of conduct and work practices relevant to us. These include, for example, 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.

Our risk management system and the internal control system in respect of the financial reporting process (IKS) are further major components of our corporate management.

### Dual management system

As a listed stock corporation with its legal domicile in Mannheim, MVV Energie AG is governed by the requirements of German corporate law. One basic principle of this legislation involves the dual management system comprising the Executive and Supervisory Boards. These two boards are strictly separate 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 and with the aim of generating sustainable and profitable growth. It determines the company's strategic alignment and lays down its financial, investment and personnel planning. It assesses whether the strategy is being implemented in a targeted manner and whether the risk management system is fit for purpose. It also monitors risk controlling, the internal control system in respect of the financial reporting process (IKS) and the compliance management system. In its decisions, it takes due account of the interests of the company's stakeholders.

The Supervisory Board has imposed a Code of Procedure governing the activities of the Executive Board, in which it has laid down the divisional responsibilities as well as those duties and decisions incumbent on the overall Executive Board. Furthermore, it defines the responsibilities of the Chief Executive Officer (CEO), the ways in which Executive Board resolutions are adopted and those transactions which require Supervisory Board approval. The Executive Board must comprise at least two members and currently has three positions/divisions: CEO/Commercial Affairs, Sales and Technology. The CEO also performs the function of Labour Director.

The CEO coordinates the work within the Executive Board and also represents the Executive Board externally. Other than this, Executive Board members enjoy equal rights and are jointly responsible for managing the company. They manage their divisions under their own responsibility, but are nevertheless required to subordinate the specific interests of their divisions to the overriding interests of the company.

### Diversity concept for composition of Executive Board

In 2018, the Supervisory Board compiled and adopted a diversity concept which formulates the targets and criteria underlying the composition of the Executive Board.

The composition of the Executive Board is consistent with MVV's entrepreneurial approach. The Executive Board of MVV Energie AG should be composed in such a way that qualified leadership, control and business management is guaranteed at all times for MVV Energie AG and the MVV Group. Candidates for the Executive Board of MVV Energie AG have to be able to correctly assess the economic situation and technical framework of a listed energy supplier with municipal roots and to successfully shape its sustainable development. Individual members of the Executive Board are not expected to have the full range of specific specialist skills, competencies and experience required. However, their individual skills, competencies and experience should complement each other and, where appropriate, overlap in such a way that the Executive Board as a whole has the necessary specialist skills and variety of experience. The members of the Executive Board bear joint responsibility for managing the company and the Group. They should therefore have sufficient expertise to be able to supervise each other's activities and represent each other.

To provide information about the experience, expertise and skills of our Executive Board members, we have published their CVs on our website at [www.mvv.de/investors](http://www.mvv.de/investors).

Furthermore, the diversity concept for the composition of the Executive Board also accounts for the following aspects:

Due account should be taken of the upper age limit of 65 years when concluding employment contracts. As a general rule, members should not be appointed for the maximum five-year term upon their first appointment. Furthermore, the Supervisory Board should work together with the Executive Board to find long-term succession solutions. The Supervisory Board aims to increase the share of women on the Executive Board. In 2017, it set a target of 25% for the period ending on 30 September 2021.

### Composition and mode of operation of Supervisory Board and its committees

The Supervisory Board has the task of advising the Executive Board in its management of the company and of supervising its activities. Its responsibilities also include appointing and dismissing members of the Executive Board. The Supervisory Board is involved in decisions of fundamental significance for the company. In view of this, the Executive Board informs the Supervisory Board regularly, promptly and comprehensively of its intended strategy and other fundamental matters of corporate planning. Furthermore, the Executive Board reports to the Supervisory Board on the company's business performance and situation, as well as on its risk situation and risk management.

The Supervisory Board of MVV Energie AG consists of 20 members – of which ten shareholder representatives and ten employee representatives, with identical terms of office in each case. Eight of the shareholder representatives are elected by the Annual General Meeting, while two are directly delegated by the City of Mannheim, namely the Lord High Mayor and the relevant specialist head of department. This provision applies to the extent that the City of Mannheim is a shareholder and – directly or indirectly – holds shares corresponding to more than half of the company's share capital.

In accordance with the German Codetermination Act (MitbestG), ten Supervisory Board members are elected by employees to act as employee representatives. The Supervisory Board Chairman, i.e. the Lord High Mayor of the City of Mannheim, coordinates the work of the Supervisory Board, whose activities are governed by a Code of Procedure.

To structure its activities efficiently, the Supervisory Board of MVV Energie AG has formed five specially qualified permanent committees which prepare and supplement its activities. The Audit Committee meets several times a year, while the Personnel, Nomination, Mediation and New Authorised Capital Creation Committees are convened when necessary.

The **Audit Committee** is tasked with dealing with fundamental financial reporting issues. It is also responsible for preparing the selection of the auditor, performing an advance review of and discussing the annual and consolidated financial statements and the interim consolidated financial statements for the 1<sup>st</sup> half and the interim financial statements for the 1<sup>st</sup> quarter and 1<sup>st</sup> nine months. It is also required to deal with corporate planning, strategy and the performance of individual business fields, as well as with the development and structure of individual controlling systems. Furthermore, the committee monitors the effectiveness of the internal control system (IKS), internal audit and the risk management system and checks whether the organisational precautions taken to comply with legal requirements and internal company guidelines (compliance) are sufficiently effective. The Audit Committee also determines the key focuses of the audit and takes any decisions about commissioning non-audit services. The committee comprises three shareholder representatives and three employee representatives. Professor Heinz-Werner Ufer is the Chairman of this committee. As an independent and expert member, he meets the requirements of § 100 (5) and § 107 (4) of the German Stock Corporation Act (AktG) and of Point 5.3.2 Sentences 2 and 3 of the German Corporate Governance Code (DCGK). The Supervisory Board Chairman is a permanent guest in the committee. In the 2018 financial year, the Audit Committee implemented the selection procedure for assigning the audit of the annual and consolidated financial statements of MVV Energie AG from the 2019 financial year and prepared the corresponding election proposal to the 2019 Annual General Meeting. The selection procedure was necessary due to the Audit Regulation (Regulation (EU) No. 537/2014). This came into effect on 17 June 2016 and lays down specific requirements in auditing at companies of public interest as well as rescinding Decision 2005/909/EC of the Commission). Specifically, the selection procedure was necessary because, with its audit of the financial statements for the 2018 financial year, the current auditor has reached the maximum ten-year term for audit engagements.

Supervisory Board resolutions concerning the conclusion, amendment and rescission of employment contracts with Executive Board members are prepared by the **Personnel Committee**. Its tasks also include ensuring that the objectives

pursued in the diversity concept for the composition of the Executive Board are met. The committee proposes suitable candidates to the Supervisory Board for appointment to the Executive Board. In this, it also takes due account of legal requirements and of the recommendations and suggestions contained in the German Corporate Governance Code. Based on these preparatory measures performed by the Personnel Committee, the Supervisory Board is responsible for appointing new members to the Executive Board and extending existing employment contracts. When selecting new Executive Board members, the Supervisory Board develops and works with current requirements profiles based on the diversity concept for the composition of the Executive Board. The committee comprises the Supervisory Board Chairman, who is also Personnel Committee Chairman, his deputy and four Supervisory Board members, of which two shareholder and two employee members.

The **Nomination Committee** is charged with proposing suitable candidates to the Supervisory Board for its own proposals to the Annual General Meeting. In this, it takes particular account of legal requirements, the diversity concept and the recommendations and suggestions made by the German Corporate Governance Code. Moreover, it determines the targets for the composition of the Supervisory Board. The members of the committee include the Supervisory Board Chairman, who also chairs the committee, and further shareholder representative members.

Consistent with § 27 (3) of the German Codetermination Act (MitbestG), the **Mediation Committee** submits further personnel proposals to the Supervisory Board in cases where the two-third majority required to appoint and dismiss Executive Board members is not achieved in the first ballot.

The **New Authorised Capital Creation Committee** is responsible for preparing the Supervisory Board resolutions required to create new authorised capital. This committee comprises eight members: the Supervisory Board Chairman, who also chairs the committee, his deputy and six further Supervisory Board members, of which one employee representative and five shareholder representatives.

### Diversity concept for composition of Supervisory Board

Based on the existing requirements profile for its members, in 2018 the Supervisory Board devised and adopted a diversity concept setting out the targets for and the criteria governing its composition.

The specialist and personal requirements set out in the profile – which the Supervisory Board of MVV Energie AG meets in its current composition – are intended to ensure a transparent and systematic selection process for new Supervisory Board members and a suitable and well-balanced composition for the Board as a whole. The aim is to ensure that the Supervisory Board of MVV Energie AG is composed in such a way that it can at all times provide qualified supervision and advice to the Executive Board in its activities on behalf of MVV. Candidates for the Supervisory Board of MVV Energie AG have to be able to correctly assess the economic situation and technical framework 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 individual skills, competencies and experience should complement each other and, where appropriate, overlap in such a way that the full Board has the specialist skills and variety of experience necessary for it to perform the duties incumbent on the Supervisory Board and its committees.

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

To provide information about the experience, expertise and skills of our Supervisory Board members, we have published their CVs on our website at [www.mvv.de/investors](http://www.mvv.de/investors).

Furthermore, the diversity concept for the composition of the Supervisory Board also accounts for the following aspects:

When proposing candidates, due account must be taken of the upper age limit of 70 years, which as a general rule should not be exceeded during the term in office. With regard to the length of membership, elected Supervisory Board members should, where possible, remain on the Board for no less than one and no more than three full terms in office.

Pursuant to § 96 (2) Sentence 1 AktG, the Supervisory Board of a listed company should comprise at least 30% women and at least 30% men. Under § 96 (2) Sentence 2 AktG, this requirement basically applies for the Supervisory Board as a whole. For the Supervisory Board of MVV Energie AG, however, both employee and shareholder representatives have drawn on the possibility provided for in § 96 (2) Sentence 3 AktG, namely of stipulating that these minimum shares should be met not only for the Supervisory Board as a whole, but also for employee and shareholder representatives respectively. Accordingly, of the positions allocable to shareholder and employee representatives at least three for each group must be held by women and at least three by men.

One task incumbent on the Nomination Committee involves implementing the diversity concept for the composition of the Supervisory Board. It proposes suitable candidates to the Supervisory Board for its election proposals to the Annual General Meeting. In this, it takes due account of legal requirements and of the recommendations and suggestions in the German Corporate Governance Code. Before nominating a proposed candidate, the Supervisory Board ascertains whether

the potential candidate has sufficient time to perform the duties associated with the position and whether he or she has any business and/or personal links to the group of companies or its competitors. The selection of employee representatives for the Supervisory Board is governed by the provisions of codetermination law.

The Supervisory Board witnessed one change in its composition in the 2018 financial year. Steffen Ratzel was appointed as a Supervisory Board member as of 1 January 2018 by order of Mannheim District Court dated 21 December 2017. He was subsequently elected to the Supervisory Board by the Annual General Meeting on 9 March 2018. He succeeded Carsten Südmersen, who retired from the Supervisory Board as of 31 December 2017. The election proposal was based on a recommendation made to the Supervisory Board by the Nomination Committee and accounted for the targets set by the Supervisory Board for its composition.

### **Conflicts of interest and independence of Supervisory Board members**

In respect of Point 5.4.2 of the German Corporate Governance Code, we are of the opinion that all members of the Supervisory Board are independent in the spirit of the Code. There are no personal or business, i.e. commercial, links between the company and its management bodies. Any conflicts of interest arising on the part of Executive or Supervisory Board members are disclosed to the Supervisory Board immediately. We also view the Supervisory Board members delegated by the City of Mannheim as being independent in the sense of this recommendation. 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. It is therefore consistent that the City of Mannheim, as principal shareholder in MVV Energie AG, should be represented on the company's Supervisory Board by members of the City Council. The decisive factor in determining independence is whether there are any material conflicts of interest. This is not the case for the members thereby delegated.

### **Report on equal participation of women and men**

The Supervisory and Executive Boards of MVV Energie AG are convinced that the company can only generate sustainable business success when responsibility is assigned to both women and men on a basis of equality. Furthermore, due to both social and economic considerations it makes sense to promote all talents regardless of their gender. Among other benefits, this approach also actively counters the effects of any shortage of specialist and management staff due to demographic changes. To date, female employees have only made up a comparatively low share of the overall workforce at companies operating in the energy industry. The Supervisory and Executive Boards of MVV Energie AG therefore aim to increase the share of women working at the group of companies on a long-term basis, as this represents a major key to the company's successful further development. We aim to gradually raise the female share of our Group's workforce to 35% by 30 September 2021, up from the equivalent figure of 27% as of 30 June 2015. With a 28% share of female employees as of 30 September 2018, we came slightly closer to reaching this target. We also aim to raise the share of female managers, in this case to 25% compared with 14% as of 30 June 2015. By the end of the 2017 financial year, women already accounted for 16% of management staff. However, reorganisation measures at the Group led this figure to fall to 14% at the balance sheet date on 30 September 2018, thus returning to the level as of 30 June 2015. To enable us to meet our targets by 30 September 2021, we will consistently implement our range of promotional measures and programmes, and in particular our targeted personnel development for women with suitable potential, and will expand these measures and programmes in the years ahead.

For MVV Energie AG, we report on the share of women in both the first and second management tiers. In August 2017, the Executive Board set new targets, namely of achieving a 25% share in the first management tier and a 30% share in the second management tier. Both targets are to be achieved by 30 September 2021. At 11%, the share of female managers in the first management tier was unchanged as of 30 September 2018 (30 September 2017: 11%). In the second management tier, the share of female managers came to 22% as of 30 September 2018 (30 September 2017: 25%). By introducing suitable measures – over and above the measures already in place to promote female employees – we aim to attract more applications from promising external and internal candidates.

# Compensation Report

In what follows, we explain the principles of our compensation system for the Executive Board of MVV Energie AG. We also provide information about the structure and level of compensation paid to members of our Executive Board and our Supervisory Board.

## Executive Board Compensation

### Compensation system

Our compensation system is structured in such a way as to incentivise the sustainable long-term development in the company's value and its economic success. We take due account of the requirements of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG), as well as of the recommendations of the German Corporate Governance Code. The Supervisory Board regularly reviews the system and the level of compensation paid to members of our Executive Board and also determines both of these aspects. The necessary resolutions are prepared by the Supervisory Board's Personnel Committee.

Executive Board compensation comprises non-performance-related and performance-related components. Should an Executive Board member prematurely leave the company, the following requirements apply to any compensation agreement: Payments to a retiring Executive Board member may not exceed the value of two annual compensation packages and may also not exceed the compensation due for the remaining term of the employment contract. No transitional allowances are granted upon the premature termination or non-extension of the employment contract. No payments were either committed or made by third parties to Executive Board members in connection with their activities as such.

### Non-performance-related compensation

The non-performance-related compensation components comprise fixed compensation, fringe benefits and pension commitments.

The fixed compensation is paid in prorated instalments in the form of a monthly salary. Furthermore, Executive Board members receive fringe benefits mainly consisting of contributions to insurance policies customary to the market and the non-cash benefit in kind resulting from company car use. Fringe benefits have to be taxed individually by the Executive Board members.

All Executive Board members of MVV Energie AG have been granted defined contribution pension commitments whose volume is based on the balances on virtual pension accounts at the time at which the benefits are claimed. The accounts are credited with annual pension contributions that bear annual interest. These commitments also include benefits to cover any permanent inability to work and provision for surviving dependants.

### Performance-related compensation

The variable compensation paid to our Executive Board members is determined by two components, each of which is furnished with appropriate minimum thresholds and caps. These relate on the one hand to the annual bonus, which is based on the adjusted EBIT generated by MVV in the past financial year and on the other hand to the sustainability bonus, which is linked to the sustainable increase in the company's value.

The latter bonus is based on MVV's average ROCE (return on capital employed) before IAS 39 items, with the calculation including the figures both for the past financial year and for the two preceding financial years. The ROCE figure measures how effectively the company has used its capital employed. As the capital required for operations is determined above all by long-term strategic decisions, this figure is well suited to appraise the company's sustainability. The sustainability bonus is only paid when the ROCE calculated for a three-year period exceeds a specified minimum threshold.

Compared with the annual bonus, the sustainability bonus accounted for the predominant share of variable compensation paid to the members of MVV's Executive Board in the 2018 financial year. No further multiyear compensation is provided for, neither does the company have any stock option programmes or any comparable instruments.

### Total compensation of Executive Board

Compensation totalling Euro 2,209 thousand was paid to the Executive Board of MVV Energie AG in the year under report (previous year: Euro 2,318 thousand).

In the tables opposite, we provide information about the benefits granted and the actual incomes paid in the year under report in accordance with the recommendations of the German Corporate Governance Code and total compensation pursuant to German Accounting Standard 17 (DRS 17). Given the structure of our compensation system, the benefits granted and actual incomes paid are identical.

Benefits of Euro 513 thousand were paid to former members of the Executive Board in the year under report. We stated provisions totalling Euro 16,532 thousand for pension obligations towards former Executive Board members and their surviving dependants (previous year: Euro 16,784 thousand). Of this total, an amount of Euro 336 thousand was added in the year under report (previous year: Euro 275 thousand).

### Compensation of related parties

Management staff performing key functions count as related parties pursuant to IAS 24. Alongside the Executive Board members, at MVV we see this group of persons as also including the active division heads and authorised representatives of MVV Energie AG. Our division heads and authorised representatives receive their compensation exclusively from MVV Energie AG. In the year under report, the corresponding compensation came to Euro 2,439 thousand, with Euro 2,332 thousand of this total involving payments with current maturities. Unless they are insured via municipal supplementary pension companies (ZVKs), division heads and authorised representatives receive a defined contribution company pension of up to 8.6% of their fixed compensation. They themselves can select which biometric risks they would like to cover. The expenses incurred for this compensation totalled Euro 107 thousand in the 2018 financial year.

#### Benefits granted and incomes paid

| Dr. Georg Müller<br>CEO         |              |                |                |              |
|---------------------------------|--------------|----------------|----------------|--------------|
| Euro 000s                       | FY 2018      | Min<br>FY 2018 | Max<br>FY 2018 | FY 2017      |
| Fixed compensation <sup>1</sup> | 507          | 507            | 507            | 507          |
| Fringe benefits <sup>2</sup>    | 30           | 30             | 30             | 30           |
| Other compensation <sup>3</sup> | 17           | 17             | 17             | 17           |
| <b>Total</b>                    | <b>554</b>   | <b>554</b>     | <b>554</b>     | <b>554</b>   |
| Variable compensation           | 391          | 0              | 1,014          | 440          |
| <b>Total pay</b>                | <b>945</b>   | <b>554</b>     | <b>1,568</b>   | <b>994</b>   |
| Pension expenses <sup>4</sup>   | 247          | 247            | 247            | 279          |
| <b>Total compensation</b>       | <b>1,192</b> | <b>801</b>     | <b>1,815</b>   | <b>1,273</b> |

| Ralf Klöpfer<br>Sales Director  |            |                |                |            |
|---------------------------------|------------|----------------|----------------|------------|
| Euro 000s                       | FY 2018    | Min<br>FY 2018 | Max<br>FY 2018 | FY 2017    |
| Fixed compensation <sup>1</sup> | 303        | 303            | 303            | 303        |
| Fringe benefits <sup>2</sup>    | 73         | 73             | 73             | 72         |
| Other activities <sup>3</sup>   | 10         | 10             | 10             | 10         |
| <b>Total</b>                    | <b>386</b> | <b>386</b>     | <b>386</b>     | <b>385</b> |
| Variable compensation           | 261        | 0              | 606            | 293        |
| <b>Total pay</b>                | <b>647</b> | <b>386</b>     | <b>992</b>     | <b>678</b> |
| Pension expenses <sup>4</sup>   | 192        | 192            | 192            | 197        |
| <b>Total compensation</b>       | <b>839</b> | <b>578</b>     | <b>1,184</b>   | <b>875</b> |

| Dr. Hansjörg Roll<br>Technology Director |            |                |                |            |
|--|------------|----------------|----------------|------------|
| Euro 000s                                | FY 2018    | Min<br>FY 2018 | Max<br>FY 2018 | FY 2017    |
| Fixed compensation <sup>1</sup>          | 303        | 303            | 303            | 303        |
| Fringe benefits <sup>2</sup>             | 39         | 39             | 39             | 38         |
| Other activities <sup>3</sup>            | 14         | 14             | 14             | 12         |
| <b>Total</b>                             | <b>356</b> | <b>356</b>     | <b>356</b>     | <b>353</b> |
| Variable compensation                    | 261        | 0              | 606            | 293        |
| <b>Total pay</b>                         | <b>617</b> | <b>356</b>     | <b>962</b>     | <b>646</b> |
| Pension expenses <sup>4</sup>            | 227        | 227            | 227            | 261        |
| <b>Total compensation</b>                | <b>844</b> | <b>583</b>     | <b>1,189</b>   | <b>907</b> |

1 Annual fixed compensation including CEO allowance of Euro 204 thousand for Dr. Georg Müller

2 Contributions to voluntary pension insurance, health insurance, nursing care insurance, voluntary contributions to employers' mutual insurance association, non-cash benefits/benefits in kind

3 Compensation for board activity at subsidiaries and shareholdings (entitlement in respective financial year)

4 Service cost from commitments of pensions and other benefits pursuant to IAS 19



**Pension obligations**

|                   | Development in virtual pension accounts |                      | Pension provision                   |                                     | Allocation to pension provision |                   |
|-------------------|---|----------------------|-------------------------------------|-------------------------------------|---------------------------------|-------------------|
|                   | Balance at 1 Oct 2017                   | Pension contribution | Balance at 30 Sep 2018 <sup>1</sup> | Balance at 30 Sep 2018 <sup>2</sup> | Service cost                    | Interest expenses |
| Euro 000s         |   |                      |                                     |                                     |                                 |                   |
| Dr. Georg Müller  | 2,301                                   | 159                  | 2,565                               | 3,924                               | 247                             | 73                |
| Ralf Klöpfer      | 489                                     | 121                  | 630                                 | 973                                 | 192                             | 16                |
| Dr. Hansjörg Roll | 380                                     | 138                  | 534                                 | 857                                 | 227                             | 12                |
| <b>Total</b>      | <b>3,170</b>                            | <b>418</b>           | <b>3,729</b>                        | <b>5,754</b>                        | <b>666</b>                      | <b>101</b>        |

1 Including interest

2 Equivalent to present value of vested claims

## Supervisory Board Compensation

### Compensation system

The compensation of Supervisory Board members as adopted by the Annual General Meeting is laid down in the Articles of Incorporation of MVV Energie AG. The compensation paid to our Supervisory Board members is commensurate to the responsibility they bear and to the scope of their activities. Each Supervisory Board member received annual compensation of Euro 10 thousand in the 2018 financial year. The Supervisory Board Chairman received annual compensation of Euro 20 thousand and his deputy was paid Euro 15 thousand. Members joining or leaving the Supervisory Board during the financial year received prorated compensation. The Audit Committee Chairman received additional annual compensation of Euro 5 thousand, while the other members of the committee each received Euro 2.5 thousand. Furthermore, each Supervisory Board member received Euro 1 thousand for each meeting of the full Supervisory Board or committee meeting attended. The Supervisory Board Chairman receives twice this amount for each meeting of the Supervisory Board, as does the Audit Committee Chairman for each meeting of the Audit Committee.

### Total compensation of Supervisory Board

Compensation totalling Euro 412 thousand was paid to Supervisory Board members in the year under report (previous year: Euro 410 thousand).

#### Supervisory Board compensation FY 2018

|                          | Supervisory Board compensation | Meeting allowances |
|--------------------------|--------------------------------|--------------------|
| Euro                     |                                |                    |
| Dr. Peter Kurz, Chairman | 20,000                         | 16,000             |
| Johannes Böttcher        | 10,000                         | 5,000              |
| Timo Carstensen          | 10,000                         | 5,000              |
| Ralf Eisenhauer          | 10,000                         | 8,000              |
| Peter Erni               | 12,500                         | 16,000             |
| Detlef Falk              | 12,500                         | 13,000             |
| Dieter Hassel            | 10,000                         | 5,000              |
| Barbara Hoffmann         | 10,000                         | 6,000              |
| Prof. Dr. Heidrun Kämper | 10,000                         | 5,000              |
| Heike Kamradt            | 17,500                         | 17,000             |
| Brigitte Kemmer          | 10,000                         | 5,000              |
| Dr. Antje Mohr           | 10,000                         | 5,000              |
| Dr. Lorenz Näger         | 12,500                         | 11,000             |
| Steffen Ratzel           | 9,375                          | 9,000              |
| Peter Sattler            | 10,000                         | 5,000              |
| Bernhard Schumacher      | 10,000                         | 5,000              |
| Christian Specht         | 10,000                         | 4,000              |
| Carsten Südmersen        | 3,125                          | 5,000              |
| Katja Udluft             | 10,000                         | 4,000              |
| Prof. Heinz-Werner Ufer  | 15,000                         | 24,000             |
| Jürgen Wiesner           | 10,000                         | 6,000              |
| <b>Total</b>             | <b>232,500</b>                 | <b>179,000</b>     |

# Takeover-Related Disclosures

The Combined Management Report includes takeover-related disclosures as per § 289a (1) and § 315a (1) of the German Commercial Code (HGB). The Executive Board examined these disclosures and offers the following explanatory comments:

## Composition of share capital

At the balance sheet date on 30 September 2018, 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, a consortium agreement including provisions for the exercising of voting rights and the transfer of shares is in place between the City of Mannheim, MKB Mannheimer Kommunalbeteiligungen GmbH (previously: MVV GmbH), MV Mannheimer Verkehr GmbH (previously: MVV Verkehr GmbH) and RheinEnergie AG. 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 shares in MVV Energie AG at the balance sheet date, while EnBW Energie Baden-Württemberg AG, Karlsruhe, held a direct stake of 28.8% and RheinEnergie AG, Cologne, directly held 16.3% of the shares.

## Control of voting rights

There is no control of voting rights as defined in § 289 (4) No. 5 and § 315 (4) 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 f 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 possible.

Amendments to the Articles of Incorporation must be undertaken in accordance with § 133 and § 179 AktG in conjunction with § 19 of the company's 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 respective wording.

## Powers of Executive Board to issue and buy back shares

By resolution on 13 March 2015, the Annual General Meeting authorised the Executive Board until 12 March 2020 to acquire treasury stock up to an amount of 10% of existing share capital upon adoption of the resolution.

By resolution on 14 March 2014, the Annual General Meeting authorised the Executive Board until 13 March 2019, 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 these authorisations.

## Compensation agreements and change of control clauses

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

# Outlook, Opportunity and Risk Report

- » Energy policy and economic climate remain challenging
- » Sales and earnings expected at around previous year's levels
- » Investments set to remain high

## OUTLOOK

### Macroeconomic framework

According to the autumn survey of Germany's leading economic research institutes, the upturn in Germany continued in the 2018 calendar year, albeit at a slower pace than in previous years. For 2018 as a whole, the experts have predicted gross domestic product growth of 1.7%. Stimulated by fiscal policy, the German economy should then grow by 1.9% in the 2019 calendar year.

### Energy policy framework

For MVV's future business performance, the following factors are particularly relevant: energy policy decisions concerning the expansion in renewable energies (both in Germany and abroad), the further development of the German Combined Heat and Power Generation Act (KWKG) and the recommendations made by the "Commission on Growth, Structural Change and Employment". Furthermore, the EU "Clean Energy Package" is expected to be agreed in the 2019 financial year and will then have to be implemented in member states. All these initiatives will create long-term momentum, but may also influence our business in the short term.

### Energy industry developments

The spreads from conventional electricity generation have persisted at low levels for years now. We currently see no indications of any reversal in this trend. The sales business is still characterised by great competitive pressure, while grid divisions are adversely affected by the impact of regulation. The renewable energies project development business is becoming increasingly complex. This may lead to postponements in the realisation of projects and the respective earnings.

### Executive Board summary of expected business performance

Given the energy policy and industry framework, we expect the market climate to remain highly challenging in the 2019 financial year as well. We will consistently continue to pursue our corporate strategy, which focuses on generating sustainable growth. We are continuing to counter charges on earnings potentially resulting from the ongoing conversion in the German energy system by making targeted investments in our growth and implementing measures to enhance efficiency and reduce costs.

### Expected sales performance

We expect **MVV's** sales (excluding energy taxes) in the 2019 financial year to approximately match the previous year's level (Euro 3.9 billion). Our sales performance will depend above all on trading activities and commodity prices, project realisation in the renewable energies project development business and sales activities, as well as on weather conditions.

We expect sales in the **Customer Solutions** reporting segment to fall moderately short of the previous year's figure, with one key reason for this reduction being the first-time application of IFRS 15. In the **New Energies** reporting segment, we expect to see sharp sales growth driven in particular by the project development business. For the **Supply Reliability** reporting segment, we expect sales to show moderate growth.

## Expected earnings performance

After four years of earnings growth, we expect our adjusted EBIT to move sideways in the 2019 financial year. From an operating perspective, we therefore expect **MVV's** adjusted EBIT to approximately match the previous year's figure (Euro 228 million). Due to our business model, our earnings performance will – as in previous years – chiefly depend on weather and wind conditions, electricity and fuel prices, the spreads from conventional generation, interest rate and currency items, developments in the competitive climate and targeted cost management. From a technical perspective, our earnings performance will also be affected by the availability of our plants and by fuel transport costs which may, for example, be influenced by water levels. By its very nature, the wind turbine and photovoltaics plant project development business is subject to greater volatility, and this has increased in recent years. The specific time at which operations are launched at our new gas-powered CHP plant in Kiel is also of particular significance for our earnings performance in the 2019 financial year.

In the **Customer Solutions** reporting segment, we expect to report a significant reduction in adjusted EBIT, mainly because earnings here for the 2018 financial year benefited from sales of non-current assets, i.e. one-off items. Apart from this, the earnings performance of the Customer Solutions segment is dependent on weather conditions, the development in taxes and duties and in the market and competitive climate.

Operating earnings in the **New Energies** reporting segment are influenced by the development in waste and biomass prices, the availability of our plants, and weather conditions and wind volumes. We expect to see rising electricity prices in the 2019 financial year, a development that will impact positively on segment earnings. Not only that, the 2018 financial year was characterised by the impairment losses recognised for Juwi. In general, the earnings performance is subject to greater volatility due to the activities in the renewable energies project development business. Overall, we expect the New Energies reporting segment to report a significant increase in its adjusted EBIT.

Earnings in the **Supply Reliability** reporting segment are influenced by, among other factors, developments in the clean dark spread (CDS) and the clean spark spread (CSS) – which are in turn affected by procurement costs for coal and for gas and CO<sub>2</sub> emission rights – as well as by the availability of our plants. Transport costs for fuel, for example, may increase when water levels on the Rhine are low. Segment earnings for the 2018 financial year were shaped by income generated from the sale of the fibre optic network at MVV Energie AG. Depending on the specific date on which operations are launched, we expect our new gas-powered CHP plant in Kiel to generate its first positive earnings contributions in the 2019 financial year. On this basis, we expect to see a slight increase in adjusted EBIT in the Supply Reliability reporting segment.

## Expected performance of MVV Energie AG in separate financial statements

MVV Energie AG chiefly generates its operating earnings from its grid business, sales activities and income from interests held in group shareholdings. Overall, we expect annual net income after taxes for the 2019 financial year to fall significantly short of the previous year's figure (Euro 116 million), which was affected by one-off items.

In future, our customers in large industry, renewable energies generation and municipal utilities will be centrally managed by MVV Trading. For this reason, sales (excluding energy taxes) at MVV Energie AG will decline sharply. For the 2019 financial year, we expect to generate sales of between Euro 1.3 billion and Euro 1.5 billion. Particularly during the heating period, sales and sales volumes in the heating energy business are significantly influenced by weather conditions.

## Stable dividend

With our continuity-based dividend policy, we aim to ensure a solid return for our shareholders. In view of this, the Executive Board has planned the distribution of a dividend of Euro 0.90 per share for the 2018 financial year, and thus at the same level as in the previous year. The dividend proposal to be submitted to the 2019 Annual General Meeting will be decided by the Executive and Supervisory Boards in December 2018.

## Planned investments

Based on information currently available, we will be investing significantly higher sums in our growth and in modernising and maintaining our plants and grids in the 2019 financial year than in the previous year (Euro 290 million).

## Capital resources and financing structure

We have excellent access to the financial market and therefore encounter no difficulties in covering MVV's liquidity requirements. Our adjusted equity ratio of 37% enables us to continue making a high volume of investments in the energy system of the future. We finance investments in our existing business primarily from depreciation. For our growth projects, we draw on retained earnings and on optimised project-based financing facilities, for which we pool projects with structural similarities and comparable terms. To this end, we work with the bank and promissory note loan market. By defining and complying with key figures as guidelines for debt-financed growth, we ensure an implicit rating on investment grade level for MVV.

## 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 due to the high current levels of uncertainty and numerous internal and external factors.

## OPPORTUNITY AND RISK REPORT

Opportunities and risks are an integral part of any business activity. One key task for our corporate management 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. With our internal control system (IKS) in respect of the financial reporting process, we ensure correct, reliable and uniform company-wide financial reporting. In our risk management system (RMS), we particularly record competitive, regulatory and technological developments relevant to our company at an early stage. This enables us to systematically address the resultant opportunities and risks.

### Explanation of internal control system (IKS)

MVV's financial reporting should be correct, complete, prompt and easily understandable. We achieve this by working with our internal control system (IKS) in respect of the financial reporting process, which comprises all principles, procedures, regulations and measures necessary for all business transactions to be promptly, completely and accurately recorded. Moreover, we also use the IKS system to monitor whether legal requirements and our internal regulations have been complied with. These include the principles of proper accounting, the requirements of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG), international accounting requirements and the supplementary requirements of our Articles of Incorporation. Furthermore, the IKS system is intended to avoid any material misstatements that could arise as a result of errors or fraud.

Our IKS system covers the relevant accounting and financial reporting processes at all major locations. We regularly analyse all processes and interfaces involved in preparing MVV's consolidated financial statements and combined management report in order to identify any risks that would contravene our objective of ensuring correct, complete, prompt and easily understandable financial reporting. We have introduced suitable organisational safeguards and internal checks to minimise any such risks.

These measures also include providing training to employees involved. Furthermore, we work with detailed schedules governing the preparation of the quarterly statements, interim consolidated financial statements, half-year financial report, consolidated financial statements and combined management report.

A further key measure involves the members of the Executive Boards and managing directors of our subsidiaries and select division and group division heads being required to submit internal balance sheet oaths on a quarterly basis.

### Basic principles and organisation of IKS system

Our consolidated financial statements are centrally prepared by the commercial division at MVV Energie AG in such a way as to comply with International Financial Reporting Standards (IFRS) as adopted by the EU as well as the supplementary requirements of commercial law set out in § 315a (1) HGB. Key accounting matters are dealt with by employees at the accounting and tax department, who are also available as contact partners to our subsidiaries.

The consolidated financial statements are prepared using a multistage process. In the first stage, individual subsidiaries prepare their financial statements, which are then audited by their respective auditors. Working with a special consolidation software, these financial statements are then aggregated into the consolidated financial statements at MVV Energie AG. Our consolidation process is based on written guidelines, compliance with which is checked upon preparation of the financial statements. The consolidated financial statements are reviewed by the Audit Committee and the full Supervisory Board. In the final stage, they are approved and adopted by the Supervisory Board and subsequently published in line with the relevant requirements.

Our IKS system requires consistent application of the dual control principle and the separation of critical functions for all processes involved in preparing the financial statements. Our guidelines, process instructions and approval processes are supported by an internal information and communications system. All companies included in our consolidated financial statements are subject to uniform accounting and reporting guidelines applicable to annual and interim financial statements. These guidelines include both accounting policies applicable in accordance with IFRS and the requirements as to how we have to meet other reporting obligations, such as

industry-specific or regulatory obligations. Further qualitative and quantitative information relevant to the preparation of the financial statements is aggregated within the respective processes and regularly discussed with representatives of the various specialist departments. We record this information within the framework of our quality assurance and thus ensure that all relevant data is fully documented. We have subdivided our day-to-day accounting and the preparation of the annual financial statements on the basis of functional perspectives and structured this in individual process steps performed on all hierarchical levels. All process steps involving risks are safeguarded by automatic or manual checks.

In our accounting, we also work with an integrated enterprise resource planning (ERP) system which enables numerous sources of error to be avoided. Only complete business transactions with valid data are processed. Not only that, a strict authorisation concept is in place for all users to prevent any unauthorised access to accounting data.

### **Uniform standards across all locations**

The commercial division at MVV Energie AG is responsible for preparing the financial statements and for the Group's internal control system (IKS) in respect of the financial reporting process. This way, the IKS system is subject to uniform standards applicable throughout the Group. We ensure that our IKS system is documented and effective in terms of its structure and functionality.

IKS managers at all major group companies work together with the Group's IKS manager to ensure that local internal control systems are consistent with Group requirements. Based on the annual status reports received from the local IKS managers, the internal audit reports and proprietary information, the IKS manager at the Group compiles the Group IKS status report, which forms the basis for these comments.

The processes relevant to financial reporting are documented together with embedded internal checks in a special software and are available to all employees on MVV's intranet. Where need be, this process documentation has been supplemented to include regulations applicable to individual cases.

### **Regular reporting**

Within its control process, the group controlling department monitors whether the targets set out in the business plan and approved by the Supervisory Board are actually met. Variances to planned developments and developments in the previous financial year are documented. This information is included in the quarterly financial reports provided to the Executive Board. These present the business performance in detail and include comments on all reporting segments and business fields. Based on the insights thereby gained, the reports propose measures on the basis of which the Executive Board manages MVV's business.

### **Explanation of risk management system (RMS)**

We have structured our risk management system (RMS) in such a way as to enable us to identify opportunities and risks at an early stage. We define a situation in which a significant positive budget variance in company earnings is possible as an opportunity. Conversely, we refer to significant potential negative variances as risks. We assess opportunities at the Group based on in-depth market and competitive analyses. Where possible, we aim to reduce risks or pass them on to third parties. To achieve this, we develop suitable measures and monitor their implementation. Deliberately assuming risks may also form part of a successful strategy – provided that these risks are manageable and are offset by suitable opportunities.

### **Basic principles and organisation of RMS system**

The Executive Board determines the company's risk policy and lays down all processes and responsibilities. Responsibility for operative risk management lies with the legal business units and business fields and, more specifically, with so-called risk bearers. These are the employees responsible for operating earnings at the respective business units. They regularly review the current business situation, identify material opportunities and risks and assess the potential implications of these for the budgeted level of adjusted EBIT. They report their assessments in standardised form to our central risk controlling function on a regular basis. Furthermore, the tasks incumbent on risk bearers include implementing measures enabling risks to be managed or reduced and opportunities to be exploited.

The risk situation at the Group is monitored by our central risk controlling function, which continually monitors those opportunities and risks which are basically relevant to our business and aggregates these into an opportunity/risk profile. This profile represents a net analysis, as it already accounts for all countermeasures taken to reduce risks. The opportunities and risks are aggregated using probability methods.

The Executive and Supervisory Boards are provided with a quarterly risk report presenting the Group’s opportunity/risk profile. Any cases of risk arising urgently are reported to the Executive Board immediately. This subsequently informs the Supervisory Board and Audit Committee as appropriate.

**RISK MANAGEMENT SYSTEM**



The largest single risks are listed separately. We combine the implications of risks materialising with their probability of occurrence and evaluate the risk situation. In our short and medium-term planning, we carefully weigh up opportunities and risks and account for these in our earnings forecast. If unexpected developments and events occur, it is nevertheless possible that our actual adjusted EBIT will exceed or fall short of the value budgeted.

**Supervision of IKS and RMS systems**

Both systems, the IKS and the RMS, are implemented, maintained and supervised by the Executive Boards and managing directors of consolidated subsidiaries. As part of a risk-based audit plan, our group internal audit department audits both systems regularly, detects any weaknesses and monitors whether any improvements introduced have produced the desired results.

The appropriateness of the structure and functionality of the two systems is checked each year by the Supervisory Board and/or Audit Committee of MVV Energie AG.

**Presentation of expected risk situation**

In what follows, we present the risk situation and material company risks for MVV. We allocate these risks into one of our total of six risk categories. We subsequently quantify the risk situation for each risk category and present the potential impact on earnings for each risk category in terms of the Group’s adjusted EBIT. We categorise the risk situation in three different risk classes: “low”, “medium” and “high”. This classification shows how high (in percent) the expected impact of the risk group is for the Group’s budgeted adjusted EBIT. We provide a detail explanation of material risks within the various risk categories. We present the potential implications for our reporting segments in line with the reporting structure used to manage and report on the business.



### Price opportunities and risks

The price opportunities and risks category comprises price fluctuations in commodities on both procurement and sales markets, exchange rate movements and interest rate changes. We deploy financial instruments [Notes to Balance Sheet \(Note 35\), Page 169](#) to limit interest rate, exchange rate and commodity risks.

### Fluctuations from marketing our generation positions

The clean dark spread (CDS) and the clean spark spread (CSS) are both calculated as the difference between electricity revenues on wholesale markets and the costs incurred to generate the electricity. For the CDS, the costs of electricity generation include coal costs, while the CSS includes gas costs. Both spreads include transport costs, currency translation differences and the costs of CO<sub>2</sub> emission rights. We monitor and record fluctuations in the spreads with a uniform systematic approach across the Group and take suitable measures to limit potentially negative implications for our generation portfolio management.

In the year under report, both the CDS and the CSS remained persistently low. Low electricity spreads impact negatively on adjusted EBIT in Supply Reliability, the reporting segment to which the marketing of our power plant capacities in the Combined Power and Heat business field is allocated.

Opportunities may arise when market prices recover.

### Fluctuations in market procurement prices

We procure most of the energy volumes required by our sales departments for customer supplies at our various locations on the energy trading market. To this end, our energy trading subsidiary MVV Trading concludes futures transactions up to several calendar years in advance, taking due account of our applicable hedging regulations. This enables us to improve the consistency of our earnings and to act early to improve our planning reliability for subsequent financial years.

### Fluctuations in waste and biomass prices

We monitor and evaluate the potential opportunities and risks resulting from fluctuations in waste prices, and that in both the German and the UK markets. We also observe the development in biomass prices across Europe. This enables us to identify any potential risks in our New Energies reporting segment at an early stage and to mitigate these with suitable measures.

### Changes in exchange rates

In connection with fuel procurement, our involvement in the UK and the Czech Republic and our international project development business, exchange rate movements may create opportunities or risks should the respective rate fall. We limit these risks with natural hedges and futures transactions.

### Changes in interest rates

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

**EXPECTED RISK SITUATION IN FY 2019**

| Risk category            |   | Risk class |
|--------------------------|---|------------|
| <b>PRICE RISKS</b>       | <ul style="list-style-type: none"> <li>» Market prices:                             <ul style="list-style-type: none"> <li>• Clean dark spread</li> <li>• Clean spark spread</li> </ul> </li> <li>» Fluctuations in procurement prices                             <ul style="list-style-type: none"> <li>• Waste and biomass prices</li> </ul> </li> <li>» Exchange rates</li> <li>» Interest rates</li> </ul> | MEDIUM     |
| <b>VOLUME RISKS</b>      | <ul style="list-style-type: none"> <li>» Fluctuations in turnover:                             <ul style="list-style-type: none"> <li>• Weather conditions and wind volumes</li> <li>• Economic climate</li> </ul> </li> <li>» Competition and efficiency</li> <li>» Procurement uncertainties for waste volumes and biomass</li> </ul>   | MEDIUM     |
| <b>OPERATING RISKS</b>   | <ul style="list-style-type: none"> <li>» Renewable energies project development</li> <li>» Construction projects</li> <li>» Plant operation</li> <li>» Personnel</li> <li>» IT risks</li> </ul>   | MEDIUM     |
| <b>LEGISLATIVE RISKS</b> | <ul style="list-style-type: none"> <li>» Regulation</li> <li>» Legal risks</li> </ul>   | MEDIUM     |
| <b>FINANCING RISKS</b>   | <ul style="list-style-type: none"> <li>» Receivables default</li> <li>» Refinancing</li> <li>» Liquidity</li> <li>» Countries</li> </ul>  | LOW        |
| <b>STRATEGIC RISKS</b>   | <ul style="list-style-type: none"> <li>» Strategic decisions (including investments)</li> </ul>   | LOW        |

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

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

**Volume opportunities and risks**

Fluctuations in volumes may impact positively or negatively on our operating earnings, and that both on the procurement front or the generation and sales front.

**Fluctuations in turnover due to weather conditions and wind volumes**

Weather conditions and wind volumes are key factors which influence our business performance. Particularly during the heating period from October to April, weather conditions have a major effect on our turnover with district heating and gas. Wind volumes determine the volume of electricity our wind turbines generate. Opportunities arise for our business performance should it be cooler than planned during the heating period and/or should wind volumes exceed our expectations.

**Fluctuations in volumes due to changes in economic conditions**

MVV is only indirectly affected by macroeconomic developments. If our major industrial and commercial customers cut back their production due to the economic situation, then this may lead them to procure lower volumes of energy from us. Conversely, there are also opportunities to generate higher sales volumes should our customers step up their production due to economic developments.

**Fluctuations in volumes due to competition or efficiency measures**

Competitive pressure remains persistently high in the energy market. When customers decide to switch provider, this reduces our sales volumes. Not only that, efficiency measures at our customers, such as heat insulation, may also lead to volume losses. The same holds true when customers switch to generating and consuming their energy themselves. We exploit the opportunities arising in the liberalised market by developing innovative and competitive products and services with substantial customer benefits. We attach great value to working together with municipalities on a basis of partnership. This way, we create a basis for extending existing concessions and increase our chances of acquiring new concessions.

### Procurement of waste volumes and biomass

With regard to incinerating commercial waste and biomass, our adjusted EBIT may be affected both by the total volumes available and by their quality. These two factors are in turn affected by the macroeconomic situation and legal requirements, 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. In individual cases, lower calorific values for the waste may be offset with higher volumes.

With regard to the UK's decision to leave the European Union (Brexit), there is currently increased uncertainty concerning the potential implications for future developments in volumes and prices for waste and waste timber within the UK and EU market regions.

### Operating opportunities and risks

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

When it comes to energy from waste and biomass, we have extensive experience in building and operating such plants. Here, we see opportunities for our group of companies, especially in the UK. In the domestic market, we see potential for expanding biomass fermentation, one of our new activities, as well as for recovering resources when incinerating sewage.

### Uncertainties in renewable energies project development business

Even though the projects in our project development business have significantly shorter planning and construction stages than large-scale generation plants, they nevertheless involve uncertainties. In general, market developments are dependent both on the further development in political regulations and on public acceptance levels. The key opportunity and risk factors we see in the onshore wind turbine project development business in Germany chiefly relate to the scope and structure of future project tenders and the development in market interest rates. Operational implementation may be adversely affected by any delay in obtaining building or operating permits, or failure to obtain such permits, and by related issues. In the international business, our financial success is increasingly

dependent on political and macroeconomic developments in our target markets. The possibility of disruptions arising in international trade relationships, with implications for market access (punitive tariffs) and competitiveness, is creating great uncertainty with regard to our success abroad, as is the possibility of further interventions in subsidy regimes. Alongside project development, in our renewable energies business we also have extensive expertise and great competence in operating renewable energies plants. We therefore see opportunities in this area.

### Risks resulting from progress with construction projects

The long planning and construction stages involved in the construction of large-scale generation plants also harbour corresponding risks. Our expected adjusted EBIT could be negatively affected, for example, by any delays in the completion and launch of operations at our major projects, or if we incur unplanned costs to procure substitute electricity and heating energy or if new developments mean that the costs of the projects turn out higher. In view of this, we attach great importance to ensuring that projects are robustly designed and budgeted in the planning stage already. We make sure that the material opportunities and risks involved in projects are detected and evaluated at an early stage.


Any further delay in the construction of the new gas-powered CHP plant in Kiel could delay receipt of the relevant grants. Not only that, any construction cost overrun would negatively affect the profitability of the project. To the extent that they lie within our control, we counter these risks with professional project organisation and by commissioning suppliers with experience in the sector. Insofar that the respective contracts permit us to do so, we transfer project risks – especially cost increases and deadline overruns – to the contractual partners responsible for such.


### Uncertainties resulting from plant operations

Plant operation involves substantial operating uncertainties for our Group. These relate to our Supply Reliability reporting segment, with its energy generation plants and grid facilities supplying our customers with energy and utilities. After all, unscheduled downtime at plants may not only lead to a loss of production or interruption of supplies, but may also result in additional financial expenses to repair the plant, procure substitute supplies for our customers or settle contractual penalties.

We therefore make every effort to minimise the resultant risks of potential downtime at our plants by performing regular maintenance and monitoring measures. We also do this to meet the standards we have set ourselves as a forward-looking supplier and to avoid any risks to our reputation. We can nevertheless not entirely exclude the possibility of downtime occurring. To counter this risk at source, we optimise scheduled inspection times within our maintenance strategy. This way, we work towards using capacity at our plants over and above the planned hours of use or to increase efficiency rates. This also serves to realise opportunities, which may arise due to higher generation volumes, and to avoid grid operation risks. We have agreed insurance policies to limit the financial implications of any potential damages. We also assess the risk and environmental protection aspects of potential clean-up projects on derelict land formerly occupied by our plants.

#### Personnel developments

Our success as a company is dependent on well-qualified and committed employees. We therefore work with numerous measures to attract the right employees for us and to retain them in the long term  **Employee Concerns Page 49**. Risks may nevertheless also arise with regard to our personnel. The companies within our Group may also be faced with capacity risks and risks resulting from ageing workforces due to forthcoming demographic changes. Depending on the attractiveness of the location, these risks may arise to a varying extent. We provide targeted training to our employees, enabling us to fill key positions with internal candidates in future as well.

The pension surveys we compile also account for the risks resulting from pension provisions. We have also factored these into our budgets  **Notes to Balance Sheet (Note 29), Page 161**.

#### IT risks

Secure data storage and interruption-free information technology form the basis for virtually all business processes. We therefore attach great value to systematically protecting our IT infrastructure and IT systems against potential attacks by third parties.

We are continually reducing our IT risks by implementing an extensive range of technical and organisational measures. As well as working with security systems, we increase security with a restrictive approach to granting access authorisations to systems and information. 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.



#### Legislative risks

This category pools those uncertainties existing in connection with regulation or with other changes in the legal basis for our business operations.

#### Regulatory risks

For companies operating in the energy industry, there is the basic risk that the authorities – such as the Federal Network Agency (BNetzA) or cartel offices – may intervene in price structures. In the past, this related for example to the grid fees set by the BNetzA. Energy policy decisions may also have implications for our business performance. Examples here include the development in the subsidies paid for electricity from renewable energies, which are set in tender processes, and the subsidies provided for CHP plants. We counter these risks by actively participating in political opinion-forming processes. We also publish up-to-date studies to contribute to the public debate.

#### Legal risks

MVV may also be exposed to legal risks in connection with court cases, product liability or onerous and unenforceable contracts. We therefore check, negotiate and draft contracts with the aim of limiting these risks. Our compliance management system  [www.mvv.de/corporate-governance](http://www.mvv.de/corporate-governance) and  **Page 100** helps us to avoid any infringements of the law.

MVV's business performance is also exposed to risks which result from legal pronouncements on energy industry-related or other topics. These could, for example, restrict or extend our ability to structure contracts.

### Financing opportunities and risks

At MVV, financing risks mainly take the form of receivables default, refinancing and liquidity risks.

#### Receivables default risks

We may be affected by receivables defaults if customers or business partners 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. In view of this, we select our business partners with due commercial prudence and check their creditworthiness in order to limit receivables default risks in all reporting segments. If necessary, we also agree deposits of securities and guarantees. By diversifying our portfolio, we avoid clusters of default risks.

#### Refinancing and liquidity risks

The possibility of being unable to obtain necessary liquid funds in future gives rise to a refinancing and liquidity risk. We have a variety of financing instruments at our disposal to cover our capital requirements. These include promissory note loans, bilateral loans and syndicated loans. We continually monitor the financing markets, regularly share information with our lenders and carefully monitor our liquidity. This way, we counter any refinancing and liquidity risks. Furthermore, our group-internal cash pool also serves to reduce this risk.


#### Country risks

MVV is exposed to country risks in the form of transfer risks and to the extent that states may become unable or unwilling to meet their payment obligations. The potential implications of country risks for our adjusted EBIT have risen in significance due to our international activities in the renewable energies project development business. We continually monitor any uncertainties relating to the terms of access to our target markets that may arise due to potential disruptions in international trade relationships. Before we enter new international markets, we perform detailed analyses of potential risks. For our existing activities, we observe the political and economic situation on location, monitor alternative courses of action


on an ongoing basis and, if circumstances deteriorate, decide to leave the given market. Our current expectations as to the impact of country risks on our earnings continue to involve uncertainties.

#### Strategic opportunities and risks

The right 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 creates new opportunities. We use our strategic planning process to identify potential new markets and technologies. 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 reach these decisions based on in-depth market and competitive analyses and painstaking viability calculations. In close liaison with the Executive Board, our group strategy department continually monitors our strategic alignment and adjusts this to any new circumstances.

One major component of our corporate strategy  **Page 65** is an extensive investment programme. To enable us to achieve our budgeted level of adjusted EBIT, however, strategically important investments have to generate the expected level of earnings contributions. Despite careful reviews and planning, any erroneous assessments may reduce the adjusted EBIT planned for future financial years.

The ongoing transformation in the German energy system will continue to produce a high level of planning uncertainty for our company. We are also monitoring very closely to assess how the UK's decision to leave the European Union (Brexit) will impact on our business in the UK. A weaker British pound, for example, would reduce our earnings in euros. Moreover, this process could also impact on interest rates, commodities, demand levels and the regulatory framework. Precise developments will nevertheless depend on the specific structure of the exit agreement reached with the EU.

The energy turnaround and the changing market in Germany offer opportunities for innovations, new jobs and profitable growth. Key catchwords are renewable energies, decentralised energy supply, energy efficiency, digitalisation, building refurbishment and sustainable mobility concepts. Consistently implementing our corporate strategy  **Page 65** will enable us to seize these opportunities. We are increasing the energy efficiency of our CHP plant on Friesenheimer Insel in Mannheim, for example, with the planned connection of the plant to the existing district heating grid. Not only that, this will enhance the environmental friendliness of district heating due to the resultant reduction in the primary energy factor.

With regard to renewable energies, we still see sustainably attractive market potential. In the windfarm project development business, the competitive situation in Germany has nevertheless changed. Since 2017, the addition of onshore wind turbines has been determined by new market-based mechanisms involving tenders. Not only that, market volumes have been limited with maximum capacity caps. Furthermore, there is uncertainty as to whether the additional wind power tenders resolved by politicians will actually be implemented. In the German biomass market, we see expansion potential in the field of biomass fermentation. In the international business, we see growth potential – and thus opportunities for earnings growth – in areas such as photovoltaics. Having said that, there are also dependencies on local subsidy regimes, local clients and noticeable competition, especially in high-growth markets in Asia.

We are extending our decentralised energy management business model with new ranges of innovative solutions and products. By further expanding district heating based in conjunction with combined heat and power generation, we are seizing growth opportunities, particularly at our locations in Mannheim, Kiel and Offenbach. The new gas-powered CHP plant will help to ensure supply reliability in Kiel.

## Executive Board summary

MVV's opportunity/risk profile has not changed materially since last year. On the one hand, competitive pressure is unrelentingly high. On the other hand, energy policy decisions still have the potential to impact substantially on our business performance, as is the case at all other companies in the energy industry. This remains a key source of uncertainty. There is great planning uncertainty, particularly for long-term investments in electricity generation plants, but also for the renewable energies project development business, which in Germany will depend on the structure of future tender rounds. Key risk factors in our international target markets for renewable energies also include local subsidy regimes and macroeconomic developments – as well as the development in political frameworks, including market access terms, and public acceptance levels. We expect our industry to be exposed to further far-reaching changes and an unstable underlying framework. Energy markets remain highly volatile. Moreover, depending on the specific structure of the exit from the EU the Brexit decision may also impact on our business.

We are monitoring these developments closely. Despite our well-balanced opportunity/risk profile, our business activities therefore remain subject to risks.

From the perspective of MVV's Executive Board, however, 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 which could do so in future.