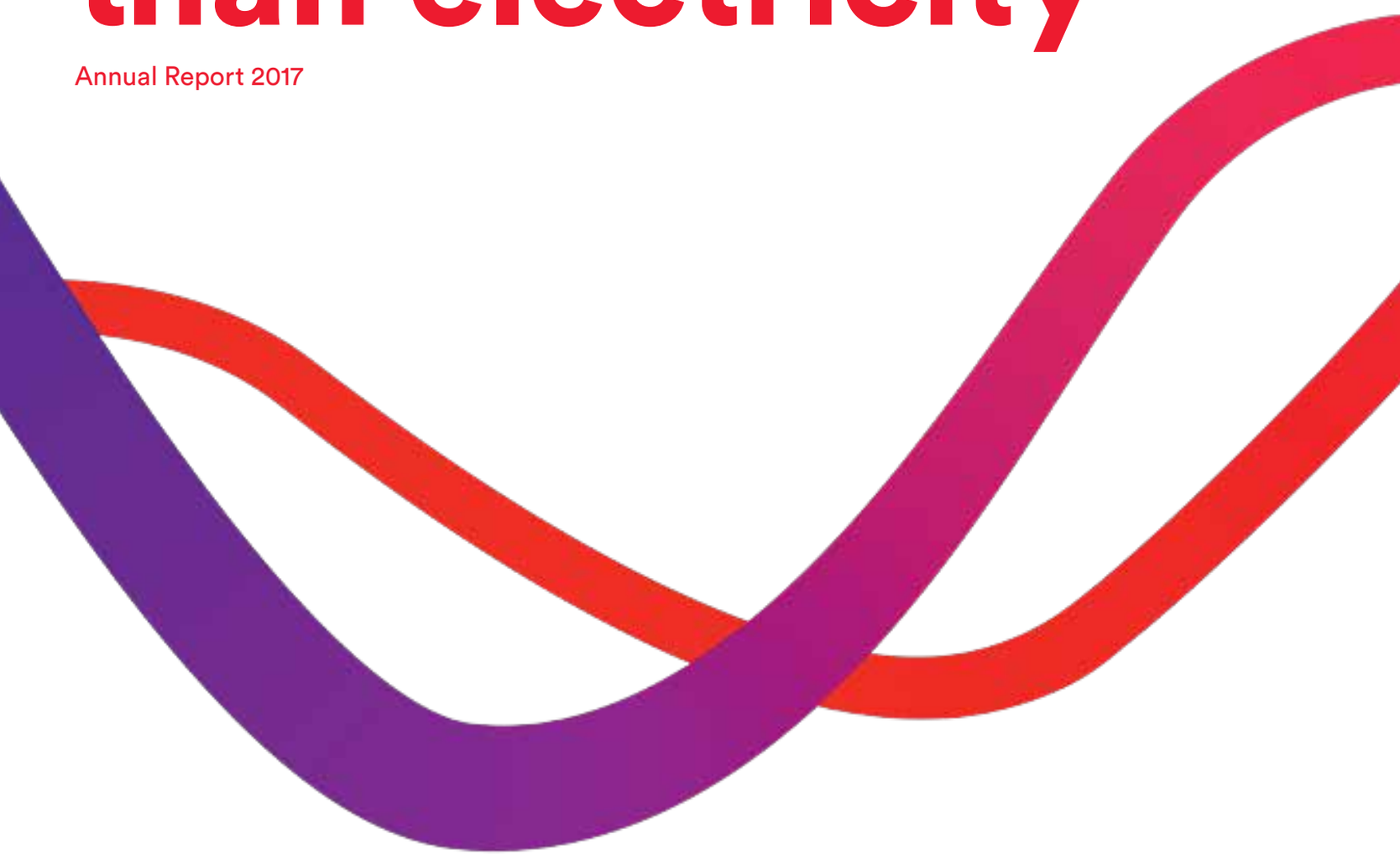
We inspire
with energy.

More than electricity

Annual Report 2017



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Reference to other information on the internet.

G4 Reference to a sentence or paragraph that contains disclosures in accordance with the Sustainability Reporting Guidelines of the Global Reporting Initiative.

G4 If underlined, the reference indicates a section.

MVV at a Glance

SALES

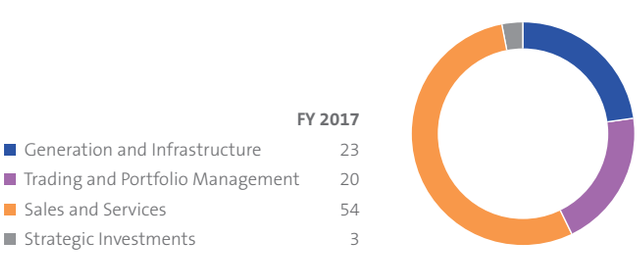
4.0 Euro billion

ADJUSTED EBIT

224 Euro million

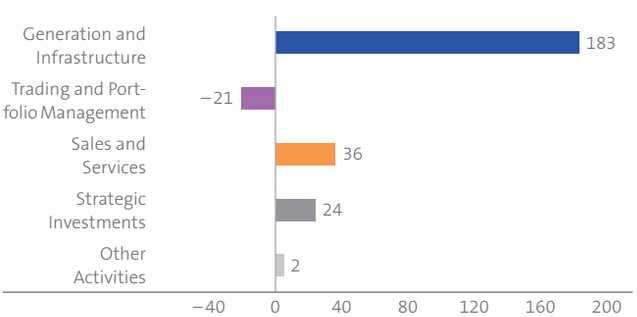
SALES BY REPORTING SEGMENT

Shares %



ADJUSTED EBIT BY REPORTING SEGMENT

Euro million



INVESTMENTS

194 Euro million

2017

MVV in Figures

Euro million	**FY 2017**	FY 2016	% change
Sales excluding energy taxes	4,010	4,066	−1
Adjusted EBITDA [1]	407	425	−4
Adjusted EBIT [1]	224	213	+5
Adjusted annual net income [1]	107	98	+9
Adjusted annual net income after minority interests [1]	93	95	−2
Adjusted earnings per share [1] (Euro)	1.41	1.45	−3
Dividend proposal/dividend per share (Euro)	0.90	0.90	0
Cash flow from operating activities	474	274	+73
Cash flow from operating activities per share (Euro)	7.19	4.16	+73
Adjusted total assets (at 30 September) [2]	4,248	4,401	−3
Adjusted equity (at 30 September) [2]	1,490	1,452	+3
Adjusted equity ratio (at 30 September) [2]	35.1%	33.0%	+6
Net financial debt (at 30 September)	1,077	1,283	−16
ROCE	8.2%	7.6%	+8
WACC	6.1%	6.4%	−5
Value spread	2.1%	1.2%	+75
Capital employed	2,734	2,806	−3
Investments	194	236	−18
of which growth investments	64	121	−47
of which investments in existing business	130	115	+13
Number of employees (headcount at 30 September)	6,062	6,174	−2

1 Excluding non-operating measurement item for financial derivatives, excluding structural adjustment for part-time early retirement, excluding restructuring result and including interest income from finance leases
2 Excluding non-operating measurement item for financial derivatives

MVV at a Glance

With around 6,100 employees and sales of Euro 4.0 billion, MVV is one of Germany's leading energy companies. Our activities focus on providing a reliable, economic and environmentally-friendly supply of energy to our industrial, commercial and 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 energy generation, energy trading and energy distribution to operating distribution grids through to our sales activities and environmental energy and energy-related service businesses.

Our corporate strategy is consistently based on making increasing use of renewable energies, boosting energy efficiency and further expanding highly efficient combined heat and power generation and environmentally-friendly district heating. We are also investing in our future grid capability and modernising our generation plants.

In all our activities, we can count on the mature competence and expertise of our employees. They stand to benefit from secure and attractive jobs in future as well.

To Our Shareholders

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Dr. Hansjörg Roll
Technology Director

Dr. Georg Müller
CEO,
Commercial Director
and Labour Director

Ralf Klöpfer
Sales Director

Executive Board

Dr. Georg Müller

Dr. Georg Müller was born in Höxter in 1963. He gained a doctorate in law and followed this up with a master's degree from the University of Cambridge. Having worked as a lawyer, he came to the energy industry in 1995. His career took him from RWE AG, where he ultimately headed the Legal and Board Affairs department, via a position on the Executive Board at VSE AG (Technology and Sales Director) to RWE Rhein-Ruhr AG, where he was CEO. He has been CEO of MVV Energie AG since 1 January 2009.

Ralf Klöpfer

Ralf Klöpfer was born in Backnang in 1966. He studied electrical technology, majoring in the energy industry, and thus laid a foundation for his subsequent career. This took him from Badenwerk AG to EnBW AG, where he built up EnBW Gesellschaft für Stromhandel mbH and the Energy Industry/Optimisation department at EnBW AG. He later worked as Director of Risk Management at EnBW Trading GmbH and as Spokesman of the Management at EnBW Vertriebs GmbH. After a stint as Managing Partner at enevio GmbH, he was appointed to the Executive Board of MVV Energie AG on 1 October 2013.

Dr. Hansjörg Roll

Dr. Hansjörg Roll was born in Offenburg in 1965. A graduate in chemical engineering, he went on to obtain a doctorate in engineering. After this, he worked at Badenwerk AG and EnBW Ingenieure GmbH as a project engineer and project director for power plant planning. In 2003, he came to MVV and took over the management of the industrial power plants at Gengenbach and Ludwigshafen. He subsequently held further management responsibilities at what is now MVV Enamic GmbH. He then worked as Managing Director at MVV Umwelt GmbH before being appointed to the Executive Board of MVV Energie AG on 1 January 2015.

Letter from the CEO

DEAR LADIES AND GENTLEMEN,

Energy is motion. That is truer now than ever before. After all, in parallel with global energy demand the expectations placed in producers, service providers and infrastructure are also rising. Decarbonisation, decentralisation and digitisation – these three megatrends mark out the lines along which the energy system of the future is developing. Energy policy decisions provide the roadmap and direction for the energy turnaround, but we all determine the speed of this process. "We all" – that on the one hand applies to energy producers, who are gradually converting their production to climate-friendly technologies and on the other hand to consumers, whose demand for renewable energies is accelerating their expansion and who are therefore playing a crucial role in promoting the transformation process.

The energy turnaround can only succeed if we work together – and that is what motivates us.

We are committed to international and national climate protection targets. We already proved this in the past with our investment programmes, sustainable technologies and forward-looking innovation and development projects. By publishing our ambitious sustainability targets, we have backed up this commitment with specific figures by which our actions can now be measured.

By acting as a competent and high-performing partner to our customers, we are supporting people and companies in putting into practice their desire for an environmentally-friendly, reliable and affordable supply of electricity, heating energy and water. Put simply, we help our customers to implement their own energy turnarounds. This claim is also reflected in the new reporting structure we introduced at the beginning of the 2018 financial year. This way, we are adequately and transparently accounting for our focus on our customers' needs in our reporting as well.

We are committed to energy efficiency and renewable energies

By making targeted investments, we aim to maintain our pioneering role in successfully implementing the energy turnaround. In the years ahead, for example, we will be investing Euro 100 million in our energy location on Friesenheim Insel in Mannheim, where we will connect our combined heat and power (CHP) plant to Mannheim's existing district heating grid. This will enable us to use the heating energy generated from incinerating waste both to supply process steam to neighbouring industry and in the overall district heating supply. This will further significantly improve the climate balance sheet of our district heating, which already counts as environmentally-friendly. For our customers, this means that drawing on our district heating is an easy way to satisfy legal climate protection requirements without any need to implement costly insulation measures.

We are pressing ahead with the energy turnaround by promoting decentralisation

When it comes to providing people with a reliable supply of energy, highly efficient conventional power plants have been indispensable to date. At the same time, the technological advances continually shown by renewable energies are making energy generation increasingly decentralised.

Decentralisation is a core aspect of the energy turnaround and one to which we are committed in our capacity as project developer and operator. In the year under report, we officially launched operations at two new windfarms in Freudenberg and Hain-Ost. Our Juwi and Windwärts subsidiaries also reached new milestones. In January 2017, Juwi exceeded the 2,000 megawatt mark for installed capacities in its onshore wind business. And Windwärts now manages 259 wind turbines and 21 solar parks and systems with total capacities of more than 500 megawatts.

We are promoting supply reliability with digitisation

In the energy industry, decentralisation and digitisation are two sides of the same coin. Smart management of the fluctuating electricity feed-in volumes from wind turbines and photovoltaic systems will ensure that the supply remains secure and stable in the long term. With our strategic partnerships and shareholdings in the field of energy management, we are further expanding our digital competencies and our leading role in successfully implementing the energy turnaround. In recent months, we have taken numerous steps to extend our portfolio and boost our market position.

Together with partners to the real estate industry, we have developed a new databased business model to offer metering services for automated heating and water billing. To this end, we founded the joint venture Qivalo. Taking over Econ Solutions has enabled us to provide all-round energy management solutions to the SME sector. Furthermore, the acquisition of a stake in Recogizer Group GmbH represents a worthwhile addition to our services in the field of data-assisted energy efficiency. Moreover, in the 4th quarter of 2017 we pooled our competencies and solutions for data centres by acquiring a shareholding in DC-Datacenter-Group GmbH. In September 2017, we took over all the shares in Beegy, which had previously been managed as a joint venture. Beegy offers a white label platform for decentralised energy solutions and, among other services, enables its customers to configure individual systems easily and uncomplicatedly online.

We inspire with energy

To inspire others, you yourself have to be inspired. By an idea, a vision, or quite simply a desire to improve the way things are done. The energy turnaround is not just a catchword. It is a crucial task which will take several generations and will have to be implemented with enthusiasm, courage and a wealth of innovation if it is to succeed. We see ourselves as a pioneer of the energy turnaround and aim to inspire others with our energy. One key source of inspiration comes from our values, which form the core of our company's brand: energetic, open, self-confident and reliable.

These values are expressed in our new branding, which has characterised MVV's image since this year. Dynamic forms and striking colours reflect the Group's orientation towards the future and its reliability. Internally, they offer guidance to employees in their day-to-day work and boost their sense of identification with the company. Externally, they represent a promise to our customers and increase our company's recognisability in a tough competitive climate.

Given the powerful unity of our long-term corporate strategy, the further enhancement in our corporate culture and our new forward-looking brand identity, we are convinced that we can inspire others with our enthusiasm for energy. This way, we aim to make our contribution towards turning the energy turnaround into reality.

Adjusted EBIT improves by 5 %

In what is a challenging market, we managed to improve our profitability further in the 2017 financial year. At Euro 4,010 million, our sales virtually matched the previous year's record level. What's more, we improved our adjusted EBIT by 5 % to Euro 224 million and therefore met the forecast issued in the course of the year. We demonstrated that we are on the right course and able to implement our strategy both sustainably and successfully.

On behalf of all members of the Executive Board, I would like to extend our sincere thanks to our employees and employee representatives. Their expertise and commitment, and that day-in and day-out, decisively contributed to these pleasing results.

Profitable growth expected for 2018

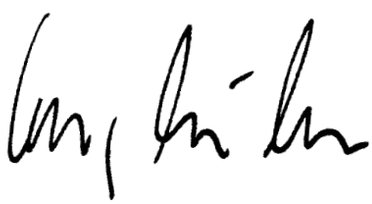
One thing is certain. Underlying conditions will continue to present companies operating in the energy industry with a challenging range of tasks. With our corporate strategy and its focus on sustainable and profitable growth, we are convinced that we have laid the right foundations enabling us to benefit from this dynamic transformation process.

For the 2018 financial year, we expect our sales to increase slightly and our adjusted EBIT to show slight overall growth compared with 2017. We will be maintaining a high level of investments, and will be channelling these both into growth and into our existing business.

We would like to ensure that our shareholders continue to benefit appropriately from MVV's positive performance. We are therefore upholding our continuity-based dividend policy and will once again propose a dividend of Euro 0.90 for approval by the Annual General Meeting on 9 March 2018. Based on the XETRA closing price on 29 September 2017, this represents a dividend yield of around 4 %.

MVV's success is driven not least by the trust which you, our shareholders, place in us. We would like to thank you warmly for this and hope you will continue to accompany us on our course towards the energy system of the future.

Yours faithfully,



Dr. Georg Müller
CEO

Supervisory Board Report

Dr. Peter Kurz
Supervisory Board Chairman
of MVV Energie AG

DEAR LADIES AND GENTLEMEN,

In the 2017 financial year, MVV Energie AG once again proved that it had taken the right strategic decisions in the past. The company has a forward-looking, competitive position and, notwithstanding the major challenges presented by the dynamic energy market, managed to exceed the previous year's level of adjusted EBIT.

Key focuses of Supervisory Board activities

We fulfilled all aspects of our duty to advise the Executive Board in its management of the company and supervise it business activities once again in the year under report. We maintained a productive dialogue with the Executive Board throughout the period under report and were provided with ongoing, in-depth information about developments in the energy industry and energy policy. We were promptly and extensively informed both about the Group's strategic development and business performance and about its situation. The same applies for its risk situation and risk management, which were regularly reported to us. In its reports, the Executive Board dealt explicitly with any variances between the business performance and the original planning and substantiated these in detail. Our body held in-depth discussions concerning investment projects. As Supervisory Board Chairman, I was in close contact with the CEO outside of meetings as well to discuss current topics and developments.

In the meetings of the full Supervisory Board and its committees, we critically reviewed and openly discussed all reports and other information received from the Executive Board. We convinced ourselves of the legality, expediency and correctness of the business management. Our body always had sufficient time to deal with the reports and draft resolutions submitted by the Executive Board. Key focuses of our training and development measures included the legal framework for the energy industry, developments in the field of electro-mobility and the increasing pace and scope of digitisation, along with its implications for the energy system of the future.

Supervisory Board meetings and attendance

The Supervisory Board held five regular meetings in the 2017 financial year which were attended by an average of around 92 % of its members. All Supervisory Board members each attended more than half of the Supervisory Board meetings; the same is true for the meetings of the committees on which they sat.

Main topics of discussion at Supervisory Board meetings

At the meeting held on **7 December 2016,** we on the one hand prepared the agenda for the Annual General Meeting on 10 March 2017 and agreed the necessary draft resolutions. On the other hand, we dealt with the audit and approval of the consolidated financial statements (IFRS) and the annual financial statements for the 2016 financial year. Furthermore, we dealt extensively with the innovation process at the group of companies.

At our meeting on **9 March 2017,** the Executive Board informed us about the latest status of the corporate culture project and outlined the planned measures to us. Furthermore, we addressed the adjustments to the German Corporate Governance Code made by the Government Commission in February 2017.

Our body met once again in the same month, on this occasion on **30 March 2017:** At this meeting, we examined the energy industry climate in which MVV operates in great detail. Against this backdrop, we held in-depth discussions concerning the corporate strategy – from the perspective both of the Group and of its individual business fields. The new brand identity was presented to us in this context. We exhaustively discussed those aspects of sustainability that are of material relevance to the company.

Following extensive discussion, at the meeting on **29 June 2017** we approved the sale of the glass fibre and duct network in Mannheim. Furthermore, we dealt with our efficiency review. With the aim of continually improving the activities of our body, we analysed and evaluated our structures and the quality and effectiveness of our work. By way of conclusion to our meeting, we visited Living Lab Walldorf. We took this visit and the discussions held on site as an opportunity to deepen our insights into the energy system of the future.

The key focus of the meeting on **22 September 2017** involved the business plan for the 2018 financial year and our three-year plan, which we discussed in detail and approved. A further topic was the corporate governance report which we adopted for the 2017 financial year. Moreover, we also dealt with an investment project intended to boost district heating.

Directors and Officers
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Committee work

The five → **Supervisory Board committees** efficiently prepare the topics to be addressed and resolutions to be adopted at Supervisory Board meetings and themselves adopt resolutions. The committee chairmen keep our full body regularly and promptly informed about the activities of the committees. Any decisions due to be taken at the next Supervisory Board meeting are also discussed.

The **Audit Committee** held a total of six meetings in the year under report. Consistent with its remit, particular focuses of this committee included the annual financial statements of MVV Energie AG, the consolidated financial statements and combined management report for the 2016 financial year and the company's situation at the end of each quarter in the 2017 financial year. In addition, the committee dealt on a quarterly basis with the company's risk situation and risk management.

Furthermore, it addressed the execution of the audit of the financial statements of MVV Energie AG and of the Group in the 2017 financial year. The full Supervisory Board was provided by the committee with proposals about the selection of the auditor and the fee agreement. Together with the Executive Board, the committee also discussed the 2018 business plan and medium-term planning. Following its exhaustive review, it recommended that the Supervisory Board should approve the budget for the 2018 financial year. The committee accepted supplementary reports from the company and ascertained that the group internal audit, the internal control system (IKS) in respect of the financial

reporting process and the compliance management system were functional and effective. The committee also determined the key audit focuses for the 2017 financial year. Further topics discussed by the committee included the restructuring of sales activities, the company's strategy and forthcoming refinancing measures. Moreover, the Audit Committee dealt with the new Audit Regulation (Regulation (EU) No. 537/2014) and the amended version of § 316 et seq. of the German Commercial Code (HGB). This relates in particular to the selection, appointment and rotation of the auditor, as well as to the commissioning of the auditor to perform non-audit services.

The **Personnel Committee** met on two occasions in the 2017 financial year. It held in-depth discussions concerning the reappointment of Technology Director Dr. Hansjörg Roll and recommended to the Supervisory Board that his contract should be extended. Furthermore, matters relating to the compensation of Executive Board members also formed part of the committee's discussions.

The **Nomination Committee** met on one occasion. Based on the Supervisory Board's requirements profile, it compiled a proposal for the election of one Supervisory Board member by the Annual General Meeting.

The **New Authorised Capital Creation Committee** and the **Mediation Committee** did not hold any meetings in the year under report.

Composition of Supervisory and Executive Boards

In the year under report, Dieter Hassel was appointed by court to be a member of the Supervisory Board of MVV Energie AG as of 7 October 2016. He succeeded Dr. Dieter Steinkamp, who stood down from his position as of 30 September 2016. The Annual General Meeting held on 10 March 2017 elected Dieter Hassel as a Supervisory Board member through to the conclusion of the Annual General Meeting in 2021. Furthermore, among the employee representatives Peter Dinges, Deputy Supervisory Board Chairman, retired from the Supervisory Board. We would like to thank the former members of the board for their commitment and for the work they performed to the benefit of the company. Peter Sattler succeeded Peter Dinges as an employee representative on the Supervisory Board as of 1 April 2017. The position of Deputy Supervisory Board Chairman was assumed by Heike Kamradt, who was elected as Group Works Council Chairman in April 2017 and was already an employee representative on our Supervisory Board.

At our meeting on 9 March 2017, we extended the appointment of our Technology Director Dr. Hansjörg Roll, a member of the Executive Board since January 2015, through to 31 December 2022.

Corporate governance

As in previous years, in the year under report we discussed the recommendations and provisions of the German Corporate Governance Code (DCGK) in the Supervisory Board. We endorse the Declaration of Conformity with the German Corporate Governance Code submitted by the Executive Board. MVV Energie AG complies with all of the Code recommendations. We approved the → **corporate governance report,** also including the Declaration of Conformity and the Corporate Governance Declaration, at our meeting on 22 September 2017. This was published on the internet on 3 November 2017.

www.mvv.de/corporate-governance-engl

Handling conflicts of interest

All members of our Supervisory Board are obliged to disclose any conflicts of interest that arise without delay. As in previous years, no conflicts of interest arose in the 2017 financial year. We accounted for one potential topic-related conflict of interest by modifying the nature of our discussions accordingly. We conducted a review and ascertained that all members of our body are independent in the sense defined in the German Corporate Governance Code.

Audit of annual and consolidated financial statements

The Annual General Meeting held on 10 March 2017 elected PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) as auditor of the financial statements for the 2017 financial year. The Supervisory Board has received the declaration of independence from the auditor.

The annual financial statements of MVV Energie AG for the 2017 financial year have been prepared pursuant to the provisions of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG). MVV's consolidated financial statements and combined management report have been prepared in accordance with International Financial Reporting Standards (IFRS) as applicable in the EU. The auditor audited the consolidated financial statements and combined management report of MVV and the annual financial statements of MVV Energie AG and granted unqualified audit opinions. Both the annual financial statements and the consolidated financial statements and combined management report for the 2017 financial year are published in the Federal Gazette (Bundesanzeiger).

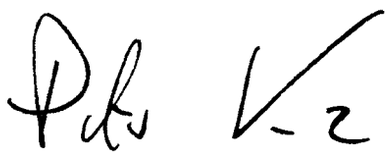
Our body was provided in good time with the following documents: the consolidated financial statements, combined management report, annual financial statements of MVV Energie AG, the Executive Board's proposal concerning the appropriation of profits and the auditor's audit reports. These documents were examined carefully and in great detail – both by the Audit Committee and the full Supervisory Board. In both formations, we held in-depth discussions of the documents in the presence of the auditor. No objections were raised. At our meeting on 7 December 2017, we approved the consolidated financial statements and combined management report of MVV and the annual financial statements of MVV Energie AG. The annual financial statements are thus adopted. We endorse the proposal submitted by the Executive Board concerning the appropriation of profits. The auditor also audited the monitoring system established by the Executive Board pursuant to § 91 (2) AktG. The auditor determined that the system was suited to detect at an early stage any developments that could threaten the company's continued existence.

The report compiled by the Executive Board on the company's relationships with affiliated companies (dependent company report) for the 2017 financial year showed that MVV Energie AG was not disadvantaged by the legal transactions performed with affiliated companies outlined therein. The auditor audited the dependent company report and granted the following audit opinion: "Following our audit and assessment performed in accordance with professional standards, we confirm 1. That the factual disclosures made in the report are accurate and 2. That the company's compensation in the transactions listed in the report was not incommensurately high." Both the dependent company report and the associated audit report compiled by the auditor we submitted to us in good time. Based on our own review, we concur with the auditor's assessment and approve its report.

Thanks

MVV can report a further successful financial year – and that despite ongoing difficult conditions in the energy market. This success, of which all our employees can be proud, was made possible by the efforts of all involved: from the Executive Board of MVV Energie AG to the executive boards and managements teams at subsidiaries through to employees and works council members. On behalf of the entire Supervisory Board, I would like to thank each and every one of them for this!

Mannheim, December 2017



Dr. Peter Kurz
Chairman

MVV Energie AG Share

After strong growth, stock markets now slightly weaker

Despite numerous political and economic risks, global stock markets posted a positive overall performance in the period under report. The DAX also gained momentum in the wake of the US elections in early November 2016, which led to rising prices on US stock markets. In February 2017, the DAX passed the 12,000 point mark once again for the first time since April 2015 and subsequently reached its annual high at 12,951 points in June 2017. Investors were in a positive mood. Alongside hopes of a boost to economic growth in the USA due to the promise of tax cuts and infrastructure programmes, this confidence was also driven by strong corporate earnings. Not only that, economic indicators pointed to stronger growth in 2017, an expectation underpinned by inflation picking up once again in Europe, the USA and China. Existing risks, such as firmer oil prices, forthcoming elections in France and Germany and concerns about the USA potentially imposing restrictions on trade, increasingly receded into the background.

Share prices weakened slightly as the year progressed. Comments by the President of the European Central Bank were taken to indicate greater willingness on the part of central banks to tighten up monetary policy. Not only that, the strong Euro, which persisted at a several-month high, impacted negatively on the German economy with its strong export sector. Moreover, the missile tests performed by North Korea and risk of the conflict escalating led to a noticeable slowdown on stock markets, with the DAX temporarily falling below the 12,000 mark. By the end of September, however, it had recovered back to above 12,800 points. This was due to the Euro weakening once more and to Wall Street, where both the Dow Jones and the Standard & Poor's 500 posted new highs. Investors here were motivated by the US government's tax reform plans and by growing confidence in the success of the Federal Reserve's turnaround in interest rate policy.

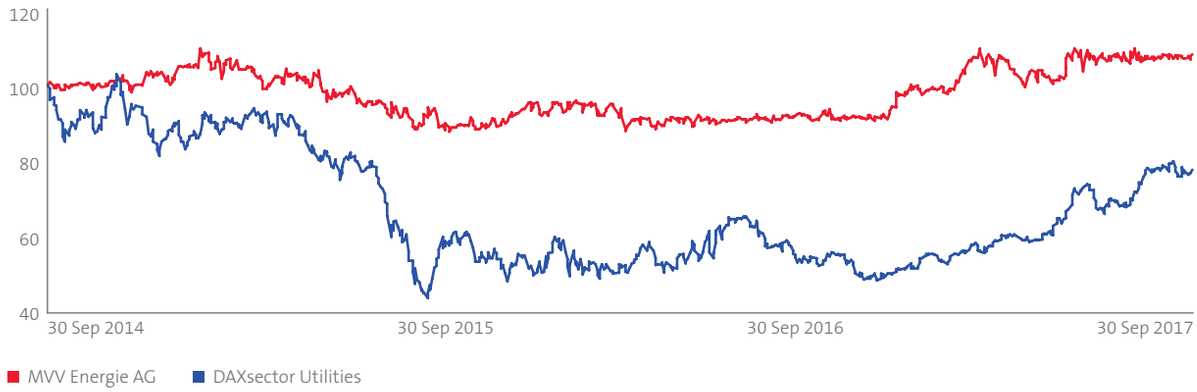
Key figures on share and dividend of MVV Energie AG

		FY 2017	FY 2016
Closing price[1] on 30 September	Euro	22.85	19.90
Annual high[1]	Euro	24.15	22.00
Annual low[1]	Euro	19.90	19.30
Market capitalisation at 30 September	Euro million	1,506	1,312
Average daily turnover	No. of shares	8,313	5,630
Number of shares at 30 September[2]	000s	65,907	65,907
Dividend per share[3]	Euro	0.90	0.90
Dividend total[3]	Euro million	59.3	59.3
Adjusted earnings per share[4, 5]	Euro	1.41	1.45
Cash flow from operating activities per share[5]	Euro	7.19	4.16
Adjusted carrying amount per share[5, 6, 7]	Euro	18.88	18.36
Price/earnings ratio[8]		16.2	13.7
Price/cash flow ratio[8]		3.2	4.8
Dividend yield[8]	%	3.9[3]	4.5

1 XETRA trading
2 Number of shares at 30 September corresponds to weighted annual average
3 Subject to approval by Annual General Meeting on 9 March 2018
4 Excluding non-operating measurement items for financial derivatives, excluding structural adjustment for part-time early retirement, excluding restructuring result and including interest income from finance leases
5 Number of shares (weighted annual average)
6 Excluding non-operating measurement items for financial derivatives
7 Excluding minority interests
8 Base: closing price in XETRA trading on 30 September

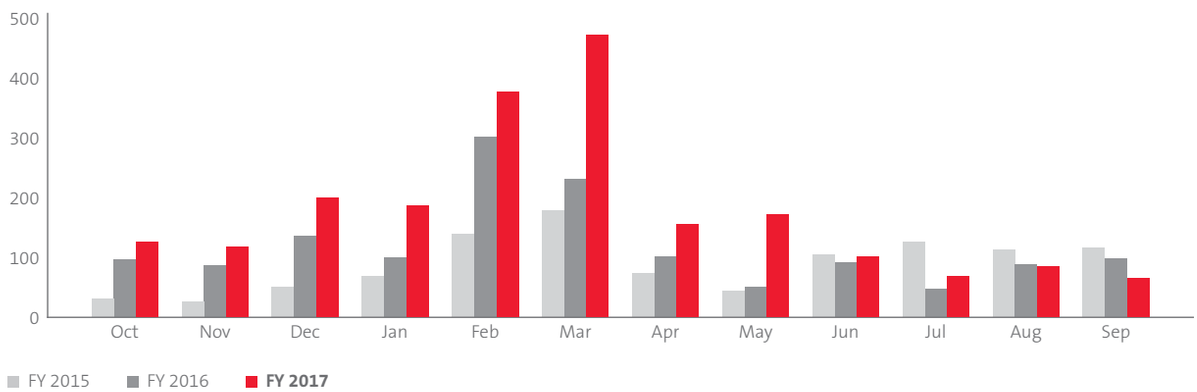
MVV ENERGIE AG SHARE PRICE PERFORMANCE COMPARISON

(%)



MONTHLY SHARE TURNOVER

(no. of shares in 000s)



Data on MVV Energie AG share	
Stock exchanges	XETRA Frankfurt, Official Trading in Frankfurt and Stuttgart, Free Trading in Berlin, Dusseldorf and Hamburg
Transparency level	Prime Standard
Market segment	Regulated Market
Index membership	Prime All Share, CDAX, DAXsector Utilities
ISIN International Security Identification Number	DE000A0H52F5
WKN Security Identification Number	A0H52F
Symbol	MVV1
Reuters Instrument Code	MVVG
Bloomberg Symbol	MVV1:GR
Share category	Individual registered shares (ordinary shares), prorated amount of share capital per individual share: Euro 2.56
Share capital	Euro 168,721,397.76
Share capital (number of shares)	65,906,796
Date of initial listing	2 March 1999

Increase in share price

The MVV Energie AG share was listed at Euro 22.85 on 30 September 2017, corresponding to an increase of 14.8 % compared with the price of Euro 19.90 on 30 September 2016. Including the distribution of a dividend of Euro 0.90 in March 2017, our share price rose year-on-year by 19.7 %. In the share price performance chart, we have included the dividend payments made in 2015, 2016 and 2017. While DAXsector Utilities, the sector index for the energy industry, reflected the difficult conditions in the energy market and fell by 22.2 %, our share rose by 8.1 % over the three-year period.

Increase in market capitalisation and higher trading volumes

The positive share price performance boosted our market capitalisation, which rose from Euro 1,312 million at the previous year's balance sheet date to Euro 1,506 million as of 30 September 2017. The 4.8 % free float share was valued at around Euro 73 million (previous year: Euro 63 million). A total of around 2.1 million MVV Energie AG shares were traded on all German marketplaces in the 2017 financial year – 48.8 % more than in the previous year. Due above all to this factor, the equivalent value of trading volumes increased to Euro 47 million (previous year: Euro 30 million).

Stable dividend

The Annual General Meeting of MVV Energie AG held on 10 March 2017 followed the proposal submitted by the Executive and Supervisory Boards and approved the distribution of a dividend of Euro 0.90 per share for the 2016 financial year. Based on 65.9 million shares, the distribution sum totalled Euro 59.3 million.

We intend to pay an appropriate dividend to our shareholders in future as well. The Supervisory Board meeting held on 7 December 2017 adopted the dividend proposal for the year under report. The Executive and Supervisory Boards intend to propose a dividend of Euro 0.90 per share once again for approval by the Annual General Meeting on 9 March 2018. Based on the share's closing price in XETRA trading on the balance sheet date on 30 September 2017, this would correspond to a dividend yield of 3.9 %.

Our investor relations activities

We outlined the core features of our company and its strategic alignment to institutional and retail investors again in the year under report. We are always available to accept questions and suggestions from our shareholders. At analysts' conferences, the Executive Board presented our company's latest business performance. We make → **recordings of analysts' conferences** and the accompanying → **analysts' presentations** available on our website.

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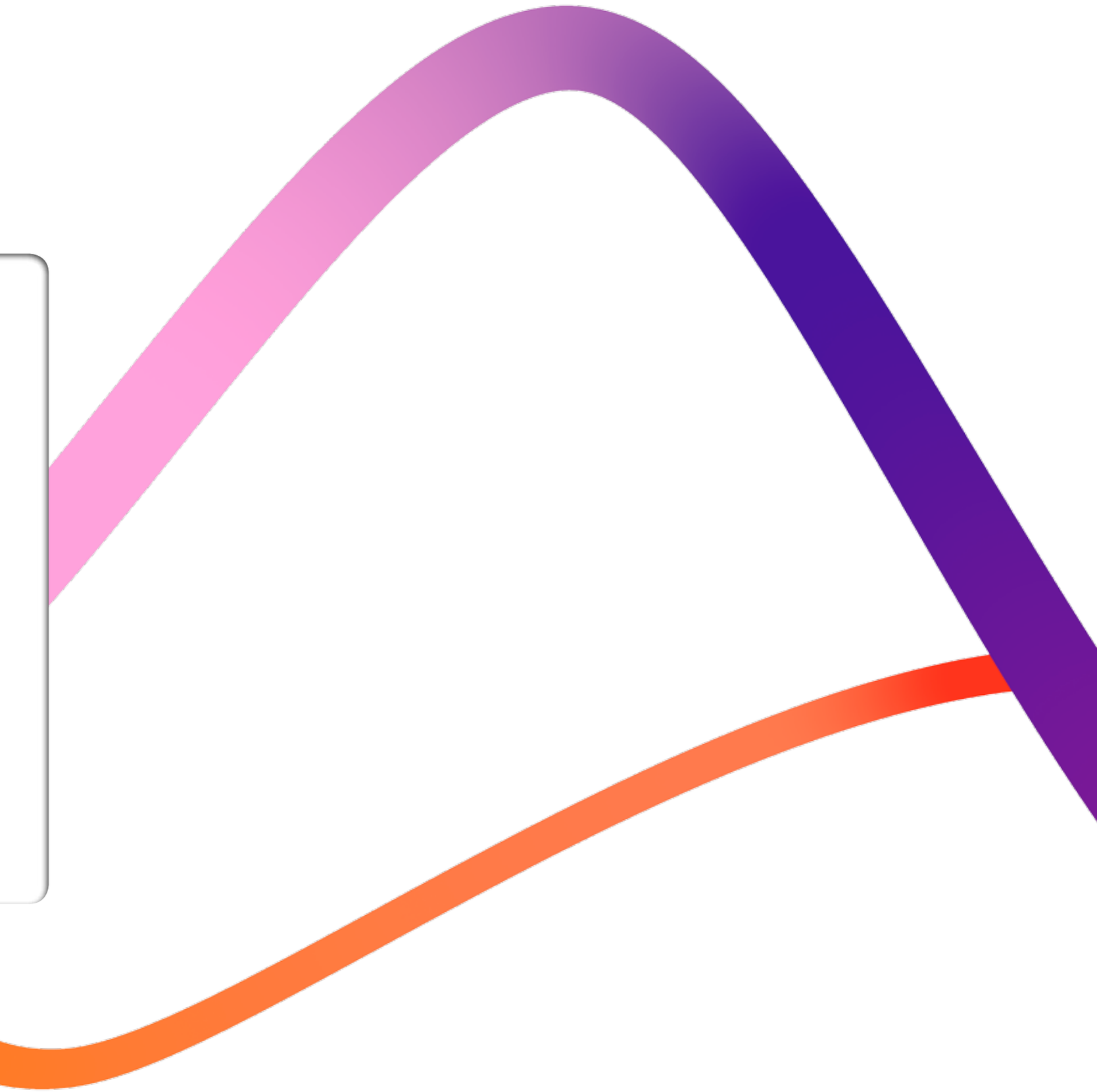
MVV Energie AG is currently analysed by four financial institutions, namely Deutsche Bank, Kepler Cheuvreux, Landesbank Baden-Württemberg and M.M. Warburg & CO. As of 30 September 2017, all of these institutions recommended holding our share. The share price targets issued by analysts for our share ranged between Euro 21 and Euro 24.



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Sustainability at MVV

» Strategic targets published
» Good external rating and scorings received for sustainability
» 482,000 tonnes of CO_2 saved

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SUSTAINABILITY STRATEGY

Our → **corporate strategy** has long been aligned to the energy system of the future. We are smartly linking renewable and conventional energies and are thus providing a more environmentally-friendly and flexible energy supply with great customer proximity. At the same time, we are ensuring that this energy remains secure and affordable. We see our entrepreneurial responsibility as forming part of sustainability. We take responsibility for all decisions we reached in the past and which we are currently taking. This also includes the impact our business activities have on the environment and our relationships with stakeholders. We are actively contributing towards addressing ecological and social challenges. In this, we are focusing on topics relating to our core business and our products and services.

Long-term sustainability targets

We have adopted the following specific targets to anchor sustainability within our corporate strategy:

» Within ten years, we will triple our annual CO_2 savings to 1 million tonnes.
» Over the same period, we will connect 10,000 MW of renewable energies to the grid.
» We will double our proprietary electricity generation volumes from renewable energies, also within ten years.
» The energy system of the future will remain our key investment focus. We will invest a further total of Euro 3 billion in the energy turnaround.
» 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.

Requirements in sustainability reporting

We acted early to address the reporting obligations resulting from enactment of the legislation intended to enhance corporate reporting on non-financial matters in management and group management reports (CSR Directive Implementation Act). This legislation applies to financial years which began after 31 December 2016. At MVV, it will therefore only apply from the 2018 financial year onwards. We have reviewed our existing reporting and extended the contents included in our Annual Report and our → **corporate governance report.** We are convinced that this reporting now already complies with the contents required under CSR reporting obligations.

Our → **risk management system** also records and accounts for ecological and social risks. To comply with the CSR Directive Implementation Act, we have also reviewed and further developed the process used to identify non-financial risks. In the year under report, we did not identify any risks associated with our business activities, our business relationships or our products and services that are very likely to have severe negative implications for environmental concerns, employee concerns, social concerns, compliance with human rights and measures intended to combat corruption and bribery.

Our underlying codes of conduct and ethical standards

The foundation for our actions is provided by our → **corporate culture,** which sets out clear values and principles governing our cooperation within the company, our everyday business dealings with customers, partners and competitors and our contacts with stakeholders, the authorities and politicians.

We accord great priority to transparency, working together on a basis of trust and integrity. Responsible corporate management forms the basis for our actions. In our → **corporate governance report,** we have provided information about our codes of conduct and ethical standards. We work with a compliance management system which covers all of MVV's material business activities and business processes. This way, we ensure compliance with applicable laws and regulations, as well as with our in-house codes of conduct, and make sure that we act appropriately towards public sector decision makers. We pay particular attention to preventing and dealing with corruption and bribery. We have anchored the relevant principles and requirements in internal regulations, guidelines and codes of conduct. Once again in the 2017 financial year, we did not detect any noteworthy breaches of legal requirements or our internal codes of conduct.

In our → **human rights policy,** we underline our commitment to human rights and describe the ways in which these are anchored at the company. We are continually working to develop our approach further. In the year under report, for example, we joined the UN Global Compact and thus committed ourselves to the ten principles of corporate responsibility.

We also have detailed regulations in place to deal with any emergencies. Alongside organisational responsibilities, these specifically also set out the approach to be taken and communications processes required in various emergency scenarios. **G4-56**

SUSTAINABILITY MANAGEMENT

Our sustainability management is anchored across all levels of our Group. The Executive Board manages sustainability-related topics in strategic terms. Sustainability management is dealt with by our group strategy department, which on the one hand identifies the basic questions to be addressed and coordinates the development of the Group's sustainability strategy and on the other hand plans and agrees further strategic projects and measures and implements these via the group-wide sustainability programme. Furthermore, we continually review, evaluate and manage the Group's performance on the basis of sustainability indicators and medium-term targets. **G4-34**

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We review our sustainability performance on an ongoing basis – and also assess our investment projects by reference to sustainability criteria.

Our sustainability programme accounts for our most important business fields and locations. We are continually working to further develop our project portfolio. Each financial year, we initiate around 10 to 15 new sustainability projects. In the year under report, for example, we implemented energy efficiency projects at several locations. We also developed our internal sustainability targets further; on this basis, we then published our strategic targets. Based on an annual analysis, we review the materiality of sustainability topics and lay down the future focuses. Sustainability-related measures and projects only affecting one location directly or relating exclusively to business operations are the responsibility of the relevant specialist organisational units on location and are implemented by these units.

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Our sustainability programme focuses on topics, processes and measures that we view as forming part of our core business, particularly in respect of climate protection and the energy turnaround. **G4-27**

How we identify and involve our stakeholders

We operate at large numbers of locations and in many business fields and legal units. MVV therefore comes into contact with the interests of numerous, often heterogeneous groups of stakeholders. Our shareholders, our employees and customers are among our most important stakeholders, as are political representatives. Further major stakeholders include analysts, non-government organisations (NGOs), the media, associations, local residents at our locations and suppliers. These are joined by cooperation partners, business partners and research institutes. **G4-24**

When updating our sustainability strategy, we review the relevance of these various groups for our Group each year. **G4-25** **G4-27**

We aim to find out about our stakeholders' expectations and opinions and also to inform them transparently and openly. To this end, we maintain personal contacts as well as providing information via our websites and social networks. We take part in public discussions, public events and specialist energy industry conferences and evaluate suggestions received at public information events, as well as open days and focus groups. We document the matters raised and work together with MVV's specialist departments and companies to determine the extent and form in which these matters should be accounted for. The results of this process are then discussed in the sustainability programme. **G4-26**

We take our stakeholders' concerns seriously and factor these into our decisions. We report on the most important suggestions received from our stakeholders in our management declarations (Disclosures on Management Approaches – DMAs) which we issue on our → **material sustainability topics.** **G4-27**

www.klima-ma.de

www.cdp.net

Materiality Analysis
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www.oekom-research.com

Our involvement in associations and initiatives

We play an active role in the relevant bodies, associations and research organisations and take part in public debates, particularly when it comes to corporate responsibility and the energy system transformation. Via our membership in industry associations, we also participate in energy policy and energy industry discussions. We are members, for example, in the following associations relevant to the sectors in which we operate: Bundesverband der Energie- und Wasserwirtschaft e.V. (BDEW), Verband kommunaler Unternehmen e.V. (VKU), Energieeffizienzverband für Wärme, Kälte und KWK e.V. (AGFW) and Bundesverband WindEnergie e.V. (BWE). Not only that, the companies within our Group are involved in local initiatives and networks. Apart from our membership fees and occasional financing for studies and surveys on energy industry matters, which are then published, we do not make any payments to associations.

Furthermore, at the locations and in the regions in which we operate we are also involved on municipal, regional and social levels by helping to develop or work on energy concepts and climate protection programmes. We are, for example, a shareholder in the climate protection agency → **Klimaschutzagentur Mannheim.** Moreover, in the year under report we took part in the ambitious municipal "100 % Climate Protection Masterplan" at our Kiel location. **G4-15** **G4-16**

Results of external sustainability ratings

The results of our rating by the → **Carbon Disclosure Project (CDP)** were published on 24 October 2017. In acknowledgement of our commitment to climate protection, we were awarded the very good score of A– and thus attained score level leadership.

In the company rating published by the rating agency → **oekom research** in August 2017, MVV's strong rating of B–/good meant that it achieved prime status for the first time. In this detailed and strict rating, we are among the best 15 % utilities companies (Utilities Sector) in terms of our ecological and social sustainability.

MATERIALITY ANALYSIS

We have identified our Group's → **material sustainability topics** on the basis of GRI-G4 and report in detail on these and the relevant indicators. To this end, we publish a list of the topics at regular intervals and explain any changes compared with the previous year. We attach great value to informing our stakeholders extensively. We therefore additionally provide information on aspects classified as less relevant within the GRI materiality analysis. This supplementary information helps to ensure the transparent overall presentation of our corporate responsibility. This way, we satisfy the expectations our stakeholders place in our reporting.

When determining the reporting contents, we adhered to the multistage approach recommended by the GRI-G4 Guidelines. The in-house multistage process involved workshops, internal analyses and surveys of those specialist departments with interfaces to external stakeholders. We defined the company-specific topics based on an overview of the most important global sustainability challenges and of energy industry and social aspects and trends. We supplemented the perspectives from MVV's specialist departments and companies with the findings of our stakeholder analyses. Here, we analysed the information received from our stakeholders directly or indirectly in the course of the year under report. In a materiality process, we then validated and prioritised the contents thereby identified and compiled the list of material topics and further supplementary information for MVV. In this, we took due account both of the various perspectives, expectations and topics of our stakeholders and of the implications for our business activities. We subsequently listed the material topics. We classify a sustainability topic as material when its relevance to stakeholders and/or its implications for MVV's business activities is or are high or very high.

The results of this process were discussed on Executive Board level and their relevance confirmed. **G4-18**

Materiality Analysis
Page 20

Overall, our material topics have not changed significantly compared with the previous year. We have renamed the cluster of topics previously referred to as Customer, as Market and customers. We are finding that increasing digitisation is also changing our customer relationships and that we are becoming ever more networked and automated. To account for this, we have supplemented this topic with additional information. Furthermore, we have amended the topic previously known as Resource use to Resource use and environmental protection, where we now report on the company environmental protection measures previously allocated to climate protection. **G4-22**

Apart from Employees (only inside) and Social responsibility (only outside), all of the topics listed below are material both inside and outside MVV.
G4-20 **G4-21** **G4-27**

We allocate the material sustainability topics identified pursuant to GRI-G4 to the aspects stated in the CSR Directive Implementation Act as follows: We cover the environmental concerns aspect with our topics of energy efficiency, climate protection and resource use and environmental protection. Employee concerns are addressed in our employees topic. We allocate our topics of market and customer, supply reliability and social responsibility to the social concerns aspect. We provide information about the aspects of compliance with human rights and combating corruption and bribery in our → **corporate governance report** and in our → **human rights policy.** Our material topic of renewable energies is a key aspect on which we report additionally.

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www.mvv.de/responsibility

MATERIAL SUSTAINABILITY TOPICS

Material topic	Report content[1]	What we aim to achieve	What we achieved in the year under report
Renewable energies	Installed renewable energies capacity (MVV)	In the next ten years, we will connect 10,000 MW of renewable energies to the grid. (basis: 2016 financial year)	We installed 411 MW.
	Electricity generation volumes from renewable energies (MVV)	We will double our proprietary electricity generation volumes from renewable energies. (basis: 2016 financial year: 418 MW)	Our installed capacities for renewable energies and the biogenic share of waste/RDF amounted to 426 MW.
Supply reliability	Diversified generation portfolio (MVV)	We link renewable and highly efficient conventional energies in a way that makes sense and thus help maintain supply reliability.	We further expanded our broad-based renewable energies generation portfolio.
	Indirect economic implications (GRI)	In the years ahead, we will invest a further total of Euro 3 billion in the energy turnaround.	We invested Euro 194 million in the year under report, of which 33 % in growth and 67 % in our existing plants and grids.
Market and customers	Customer solutions (MVV)	As a competent partner, we offer all customers – from private households to industrial players – the products and services they need to implement their own energy turnarounds.	We significantly expanded our range of digitally-based solutions and extended our product portfolio by acquiring shareholdings in DC-Datacenter-Group, Econ Solutions, Qivalo and Recogizer.
	Product labeling (GRI)	We raise our customers' satisfaction with MVV.	The results of customer surveys show that we managed to improve our customers' satisfaction.
	Data protection and information security (MVV)	We ensure data protection and information security with an extensive range of technical and organisational security measures.	We are continually improving the processes we use to protect information, currently in light of the European General Data Protection Regulation, which took effect in May 2016.
Energy efficiency	Energy (GRI)	We raise plant efficiency levels and reduce emissions from proprietary generation and at our customers.	We increased our fuel efficiency rate from 59 % to 62 %.
	System efficiency (EU)	We reduce grid losses in our heating energy and electricity grids.	Grid losses in our electricity and heating energy grids rose slightly compared with the previous year.
Climate protection	Emissions (GRI)	Within ten years, we will triple our annual CO_2 savings to one million tonnes. (basis: 2016 financial year: around 339,000 tonnes)	Our annual CO_2 savings amounted to 482,000 tonnes.
Resource use and environmental protection	Materials (GRI)	We reduce our ecological footprint by expanding highly efficient CHP and district heating and thus reduce the use of non-renewable fuels.	We further expanded and increased the density of our district heating. One example, the project to connect the company Roche to our industrial district steam network was launched in the period under report.
Employees	Occupational health and safety (GRI)	We continually support our employees in maintaining their health.	In the 2016 calendar year, the accident incidence rate amounted to 7.4 %, as against 7.6 % in the previous year.
	Promoting women (MVV)	By 2021, we aim to increase the share of female employees at our Group to 35 % and the share of management positions held by women to 25 %. (basis at 30 June 2015: 27 % and 14 %)	As of 30 September 2017, women accounted for 29 % of our Group's total workforce and 16 % of its managers.
	Training and development (GRI)	We attach great value to offering ongoing training and development to our employees.	We have supplemented our wide range of training programmes by launching a new support programme for high-potential candidates from the management review process at MVV Energie AG.
Social responsibility	Economic output (GRI)	As a successful economic player, we contribute to regional value creation.	We raised our net value creation by 3 %.
	Local communities (GRI)	We are committed to gaining acceptance for our new generation plants and grids.	We further developed our communications instruments and increased public transparency.
	Commitment to society (MVV)	We show our commitment by supporting local and regional cultural, sports and education projects.	We continued our sponsoring and support measures.

1 (GRI): Aspect pursuant to GRI-G4; (EU): sector-specific aspect Electric Utilities Sector Disclosure; (MVV): defined contents

G4-19

VALUE CHAIN

In their value creation, companies directly influence sustainability-related topics along their upstream supply chains. After all, they can decide who they wish to do business with and which minimum requirements they place in their suppliers' business activities. From a sustainability perspective, the topics of anticorruption measures, human rights, employee rights and environmental protection customarily play a major role in our selection of suppliers. Our stakeholders also expect us to exert influence on our suppliers by means of our procurement policy.

The most important components of our value chain include:

- Purchasing and marketing electricity and natural gas in the international wholesale business
- Procuring waste, biomass and – to a minor extent – coal
- Generating electricity, heating energy and biomethane
- Developing new generation plants, especially onshore wind and photovoltaics plants, for proprietary and third-party operation
- Operating electricity, natural gas and district heating grids and energy storage facilities
- Supplying electricity, gas and heating energy to end consumers and secondary distributors
- Providing energy-related services.

G4-12

The energy industry supply chain is characterised to a significant extent by fuel trading, while other suppliers account for a considerably smaller share of total procurement volumes. We have published our → **human rights policy** on our website. We joined the → **UN Global Compact** in the year under report.

Our dealings with fuel suppliers

Fuels are offered as standardised products on wholesale markets where numerous players influence trading activities. Once a producer has offered a fuel, this is traded between market participants and often changes hands several times. It is therefore often impossible to determine either the producer or the origin of the fuel when we procure electricity and natural gas on the wholesale markets. For these commodities, we are not aware of any material sustainability-related topics that are within our sphere of influence.

In the past, we have received individual enquiries from stakeholders concerning the origin of the hard coal we use at our power plants, and in particular concerning conditions at the coal mines. In these enquiries, the expectation was voiced that we should exert influence on coal mine operators or turn to alternative procurement sources for hard coal should conditions not be acceptable. Our business activities primarily involve three hard coal plants. We hold shareholdings in the joint power plant in Kiel (Gemeinschaftskraftwerk Kiel – GKK), the large power plant in Mannheim (Grosskraftwerk Mannheim – GKM) and the combined heat and power (CHP) plant in Offenbach. Based on our level of shareholding in these power plants, we used an arithmetic total of 1.1 million tonnes of hard coal as fuel in the 2017 financial year. However, the CHP plant in Offenbach is the only plant at which we also act as operator and for which we procure the fuel directly. The procurement volume amounts to around 0.1 million tonnes a year. This comes from international coal traders and we do not have any direct contractual relationships to mine operators. Based on the information available to us, we nevertheless review our procurement sources with regard to sustainability factors. However, our market position, which is characterised by a very low volume of demand, leaves us with hardly any opportunities to exert influence on location. We nevertheless raise the issue of corporate responsibility for ecological and social topics with traders, competitors and our shareholdings. We continually assess the information available to us and evaluate responses received from our enquiries to traders. On this basis, we discuss potential sustainability approaches with those responsible.

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At our biomass-fired power plants, we chiefly use waste timber, residual forest timber and green cuttings. We obtain these fuels from disposal companies and incinerate them in accordance with strict legal requirements. Most of the waste timber incinerated comes from the regions surrounding the respective plants.

Our dealings with other suppliers

Most of the contracts we enter into with other suppliers involve the procurement of goods and highly qualified services from contractual partners in Germany who have in many cases been known to us for many years. We expect our suppliers to comply with ecological, welfare and social standards. Alongside the requirements of German law, these contractual relationships are additionally governed by our contractually agreed procurement terms. Within our supplier management system, new suppliers to MVV Energie AG are required to provide disclosures on their efforts to combat corruption, on environmental protection factors and on how they meet their welfare and social responsibilities. We deposit this information and any accompanying certifications in the supplier data base. Furthermore, we have set ourselves the goal of raising awareness among our suppliers for matters of welfare and labour law. Compliance with social welfare standards also forms part of our supplier evaluations and contract awarding discussions. **G4-56**

Large numbers of subcontractors, most of which are based in countries within the European Union, work on behalf of MVV. These companies mostly operate in countries in which human and employee rights are respected and legally protected. We therefore assume that employment conditions there are humane. We accord particular importance to safety standards and requirements; these include legal requirements and the corresponding regulations at MVV, such as the issuing of health and safety instructions for employees at third-party companies. We do not perform systematic full supplier audits on suppliers to MVV and in particular do not keep comprehensive records of data concerning working conditions at the production locations operated by our suppliers.

For our suppliers, we have published the → **documents concerning procurement terms, compliance and occupational health and safety** on our website.

www.mvv.de/centralprocurement

Material Topics

In reporting on our material topics, we refer to MVV and thus to all → **fully consolidated companies.** We nevertheless aim to ensure a high degree of transparency and therefore additionally present data that includes companies recognised at equity in many of the tables that follow. We are co-shareholders in the large power plant in Mannheim (Grosskraftwerk Mannheim – GKM) and in the joint power plant in Kiel (Gemeinschaftskraftwerk Kiel – GKK). These plants account for most of the conventionally generated energy which we procure. For select topics, we focus the reporting on our three main locations of Mannheim, Offenbach and Kiel.

RENEWABLE ENERGIES

In Germany, the share of electricity generation due to renewable energies is set to rise from around 30 % now to more than 80 % by 2050. Renewable energies will thus make a substantial contribution to protecting the climate. The expansion in renewable energies is an important matter for our stakeholders. It also opens up new growth potential for us and is a core component of our strategic alignment. By pressing ahead with expanding renewable energies, we are making a tangible contribution to the success of the energy turnaround and meeting climate protection targets. We have set ourselves the following sustainability targets:

We will double our proprietary electricity generation from renewable energies over the next ten years.

By 2026 at the latest, we will double our proprietary generation from renewable energies compared with the 2016 financial year. Capacities will then rise to around 800 MW, roughly equivalent to one large power plant. To this end, we are consistently investing in expanding renewable energies and currently above all in onshore wind power.

Over the same period, we will connect 10,000 MW of renewable energies to the grid.

Alongside our own expertise, our subsidiaries Juwi AG and Windwärts Energie GmbH also have comprehensive know-how when it comes to projecting renewable energies plants. By 2026, we will be developing and implementing new plants, and here in particular onshore wind turbines and photovoltaics systems both in Germany and abroad. 10,000 MW are roughly equivalent to the installed capacity of ten large power plants.

These projects are managed within the strategic planning process at the group strategy department, which reports to the Executive Board. **G4 DMA**

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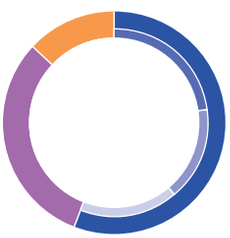
Our renewable energies generation portfolio

We have increased our renewable energies generation capacities by more than 100 % since the 2010 financial year – from around 200 MW to 426 MW.

In the 2017 financial year, electricity generation at renewable energies plants (including biomass CHP and the biogenic share of waste/refuse-derived fuels) accounted for a 56 % share of our total electricity generation volumes (previous year: 58 %).

ELECTRICITY GENERATION
Shares (%)



	FY 2017
Electricity from renewable energies[1]	56
Electricity from biomass and biogas plants	23
Electricity from wind power	17
Electricity from biogenic share of waste/RDF	16
Electricity from CHP	31
Other electricity generation	13

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

MVV-1

Information about our electricity generation volumes in the past financial year can be found in the → **supply reliability** and → **non-financial performance indicators** chapters.

Supply Reliability Page 26

Non-Financial Performance Indicators Page 73

At the end of the year under report, our plants which generate electricity from renewable energies, waste and refuse-derived fuels (RDF) had total electricity generation capacity (installed capacity) of 426 MW.

Alongside the data for fully consolidated companies, in the following table we also present the data calculated to include companies recognised at equity.

Installed capacity for renewable energies and biogenic share of waste/refuse-derived fuels (RDF)

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
MW_e	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Biomass and biogas plants	73	73	0	78	78	0
Biogenic share of waste/RDF	151	146	+3	151	146	+3
Wind power	196	196	0	203	203	0
Hydroelectricity	2	2	0	2	2	0
Photovoltaics	4	1	>+100	4	1	>+100
Total	**426**	**418**	**+2**	**438**	**430**	**+2**

MVV-2

Focus on onshore wind power

As of 30 September 2017, MVV's wind power portfolio comprised a total of 95 wind turbines with total installed capacity of 196 MW_e. The most recent addition involves seven new wind turbines linked up to the grid at the windfarm in Freudenberg at the end of the 2016 financial year.

As well as the possibility of building new wind turbines, we are also reviewing the option of repowering existing wind turbines at all of our locations. Repowering wind turbines involves replacing older models. Drawing on the latest wind power technologies, new turbines post far higher performance rates than their older counterparts, enabling even better use to be made of the wind at proven locations. This way, the output at a given windfarm can be increased several times over – while at the same time reducing the number of turbines.

Since 1 May 2017, the compensation paid for onshore wind turbines has been determined in tenders organised by the Federal Network Agency. Both tender rounds implemented to date were significantly oversubscribed and characterised by a high degree of acceptance for citizens' energy companies. More information about this can be found in the → **business framework** chapter.

Biomass plants – in Germany and abroad

In Germany, our MVV Umwelt GmbH subsidiary operates two biomass power plants, namely in Mannheim (20 MW_e) and Königs Wusterhausen (20 MW_e). We also co-own and operate a biomass power plant in Flörsheim-Wicker (14 MW_e). Alongside these, we have one biomass plant abroad: Our biomass power plant at Ridham Dock in the UK has a net electricity capacity of around 23 MW_e. These plants, which mostly incinerate waste timber, residual forest timber and green cuttings, are supplemented by large numbers of smaller biomass and biomass CHP plants, as well as four biogas plants, all of which are operated via subsidiaries.

Biomethane plant cluster creates synergies

In recent years, we have built up a biomethane cluster in the Magdeburger Börde region in Saxony-Anhalt, where we now have four biomethane plants. Each plant is able to generate around 63 million kWh of biomethane a year and to feed this into the public natural gas grid. Our biomethane generation volumes in the 2017 financial year can be found in the → **non-financial performance indicators** chapter.

Non-Financial Performance Indicators Page 73

Business Framework Page 65

More photovoltaics plants

Several roof photovoltaics roof systems are installed at MVV. In the year under report, Energieversorgung Offenbach AG launched operations at one of its first two open-space photovoltaics plants. The second plant will be connected to the grid towards the end of 2017. The two plants have capacity of 1.5 MW_p. Although the volume of electricity generated from photovoltaics systems is negligible in the context of our overall electricity generation mix, photovoltaics systems are nevertheless gaining in significance for our company – as products and services for private and business customers and above all in the field of renewable energies project development. In its international business, Juwi focuses on large-scale open-space photovoltaics plants.

Large energy from waste plants and refuse-derived fuel (RDF) plants

Waste contains a high share of materials of biogenic origin that are valuable in energy terms. As a source of energy, waste is therefore an important pillar of any modern, resource-efficient closed-loop economy. Waste incineration nevertheless does not impact on waste avoidance or recycling – only non-avoidable waste is disposed of this way. By efficiently coupling out electricity, process heat and district heating, this approach also reduces the volume of fossil fuels needed.

Our Group's three energy from waste plants in Mannheim, Offenbach and Leuna incinerate around 1.8 million tonnes of waste and refuse-derived fuels a year and this way produce 447 million kWh of electricity and 1,200 million kWh of heating energy in combined heat and power (CHP) generation.

Our energy from waste plant with CHP in Plymouth, UK, uses around 245,000 tonnes of household, commercial and industrial waste a year to generate electricity and heating energy. In CHP operations, the net electricity capacity amounts to 23 MW_e and the heating energy generation capacity comes to 23 MW_t. Furthermore, MVV Energie CZ operates an energy from waste plant with CHP via its TERMIZO a.s. subsidiary. Located in Liberec, Czech Republic, this plant incinerates around 95,000 tonnes of municipal waste a year.

Our MVV Enamic GmbH subsidiary operates two industrial power plants based on refuse-derived fuels (RDF) at the industrial parks in Gersthofen and Korbach. Both power plants exploit the energy potential contained in commercial and domestic waste to generate electricity and steam in CHP. The RDF power plant in Gersthofen is able to incinerate around 90,000 tonnes a year, while the Korbach plant can incinerate up to 75,500 tonnes a year.

Renewable heating energy supply

The Federal Government's 2050 Climate Protection Plan also stipulates a climate protection target for the building sector. By 2030, this should only emit between 70 million and 72 million tonnes of CO_2 a year, equivalent to a 40 % reduction compared with 2014. For buildings, the heating energy turnaround is based on three pillars: energy efficiency, low CO_2 heating energy grids and renewable energy generation located close to the properties. The key challenge for MVV here is to work out how we can reduce the CO_2 emissions in our CHP-based district heating supply, which is already highly efficient. To this end, in the years ahead we will be developing concepts showing how we can further reduce the CO_2 intensity and increase the share of renewable energies in the heating energy grid.

Decarbonising our heating energy supply in the long term is both a target and an incentive.

At the end of the 2017 financial year, the heating energy generation capacity of our plants producing energy from renewable energies, waste and refuse-derived fuels (RDF) amounted to 817 MW. Alongside the data for fully consolidated companies, in the following table we also present the capacities determined when companies recognised at equity are added.

Supply Reliability
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Information about our heating energy generation volumes in the 2017 financial year can be found in the → **supply reliability** and → **non-financial performance indicators** chapters.

Non-Financial Performance Indicators
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Heating energy generation capacity

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
MW_t	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Biomass and biogas plants	135	134	+1	135	134	+1
Biogenic share of waste/RDF	682	682	0	682	682	0
Heating energy generation capacity from renewable energies	**817**	**816**	**0**	**817**	**816**	**0**
Other plants	1,891	1,879	+1	3,719	3,707	0
Total	**2,708**	**2,695**	**0**	**4,536**	**4,523**	**0**

G4-EU1

Renewable energies project development

With Juwi and Windwärts, we are committed to providing a sustainable supply of energy from renewable energies and thereby cover all aspects of project development. Juwi offers one-stop project development and other services relating to the construction and operation of renewable energies plants. In Germany, its main focus is on onshore wind turbines, while its international business deals above all with photovoltaics projects. Windwärts mainly operates in northern Germany, where it concentrates on project development and operations management for onshore wind plants. Windwärts also has activities in France.

Newly installed capacity at renewable energies plants

MW_e	**FY 2017**	FY 2016
Wind power	190	270
Photovoltaics [1]	221	360
Total	**411**	**630**

1 Previous year's figure adjusted

Operations management for renewable energies plants

MW_e	**FY 2017**	FY 2016
Wind power [1]	1,428	1,466
Photovoltaics [1]	1,690	1,604
Total	**3,118**	**3,070**

1 Previous year's figure adjusted

Due to volatility in the project development business, the volume of newly launched capacities at renewable energies plants fell short of the previous year's figure.

SUPPLY RELIABILITY

One of the most important tasks facing energy suppliers is to guarantee a reliable and stable supply of electricity and heating energy in Germany – and that during the energy turnaround as well. That is in the interests of all stakeholders. Maintaining supply reliability, however, is becoming an ever more complex challenge. The volume of electricity fed in from renewable energies plants, such as wind turbines or photovoltaics systems, for example, fluctuates in line with weather conditions and the time of day. We need highly efficient and flexible conventional power plants and high-performance grids to offset these fluctuations.

Our objective as an energy supplier and distribution grid operator is to provide our customers with a secure and reliable supply of energy at all times, and that throughout the transformation in the German energy system. We also guarantee electricity supply reliability with the structure of our electricity generation. Here, it is necessary to link renewable and conventional energies, to make both the electricity supply and electricity demand more flexible and to ensure the availability of sufficiently secure generation capacity.

Our → **corporate strategy** is aligned to meet this challenge. Our generation portfolio comprises proprietary combined heat and power (CHP) plants, as well as energy from waste and biomass plants. We are also co-shareholders in the conventional power plants Grosskraftwerk Mannheim (GKM) and Gemeinschaftskraftwerk Kiel (GKK).

We make → **investments** to minimise grid losses to the greatest possible extent. On the one hand, we invest in our existing plants and in expanding and maintaining our grid infrastructure, as well as in developing smart grids and in energy storage systems. On the other hand, we have a constantly growing number of renewable energies plants, mainly onshore wind turbines and biomass plants, to generate electricity, heating energy and biomethane. **G4 DMA**

We have set the following sustainability target:

The energy system of the future will remain our main investment focus. Over the next ten years, we will be investing a further total of Euro 3 billion in the energy turnaround.

In the "MVV 2020" strategy adopted in 2010, we already communicated an investment target of Euro 3 billion within ten years. These investments have now mostly been made. In the next ten years as well, we will be investing a further total of Euro 3 billion in Germany and abroad. These investments will focus above all on renewable energies and energy efficiency, as well as on maintaining and modernising our existing plants and grids – and thus also on supply reliability.

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Broadly diversfied generation portfolio

Our highly diverse generation portfolio enables us to contribute towards maintaining supply reliability. To successfully manage our course towards the future energy system in social and ecological terms, as well as in economic terms, we are working with both renewable and highly efficient conventional energies. In this, we are drawing on a variety of fuels and technologies. We are further expanding our → **renewable energies** portfolio.

Renewable Energies
Page 23

Alongside the generation volumes for fully consolidated companies, in the following tables we also present the volumes determined when companies recognised at equity are added. Companies recognised at equity particularly include the large jointly owned power plants in Mannheim and Kiel. Information about our electricity and heating energy generation volumes in the 2017 financial year can also be found in the → **non-financial performance indicators** chapter.

Non-Financial Performance Indicators
Page 73

Electricity generation volumes

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
kWh million	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Biomass and biogas plants	432	410	+5	468	446	+5
Biogenic share of waste/RDF	308	281	+10	308	281	+10
Wind power	323	337	–4	336	337	0
Hydroelectricity	4	6	–33	4	6	–33
Photovoltaics	3	1	>+100	3	1	>+100
Electricity generation from renewable energies	**1,070**	**1,035**	**+3**	**1,119**	**1,071**	**+4**
Electricity from CHP	588	470	+25	1,391	1,214	+15
Other electricity generation	245	292	–16	1,687	2,279	–26
Total	**1,903**	**1,797**	**+6**	**4,197**	**4,564**	**–8**

G4-EU2 **MVV-3**

Heating energy generation volumes

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
kWh million	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Biomass and biogas plants	267	267	0	267	267	0
Biogenic share of waste/RDF	1,754	1,836	−4	1,754	1,836	−4
Heating energy generated from renewable energies	**2,021**	**2,103**	**−4**	**2,021**	**2,103**	**−4**
Other plants	2,083	2,033	+2	5,276	4,980	+6
Total	**4,104**	**4,136**	**−1**	**7,29**	**7,083**	**+3**

G4-EU2

Limiting grid downtime

Our three large fully consolidated grid companies, namely MVV Netze GmbH, Energienetze Offenbach GmbH, and SWKiel Netz GmbH, aim to avoid grid downtime or remedy any downtime as quickly as possible. Given ongoing grid operations, replacement and modernisation measures are performed gradually and only take effect on a long-term basis. This means that yearly key figures are in some cases distorted by one-off events. The key performance figure referred to when measuring grid downtime in our industry is the system average interruption duration index (SAIDI). This presents the average interruption to the supply in minutes per year and customer. This index only accounts for unplanned downtimes lasting longer than three minutes and not attributable to force majeure.

In the 2016 calendar year, we succeeded in providing our customers with an electricity supply that was almost free of interruptions. In the electricity grid operated by Energienetze Offenbach, a fire at the substation in Seligenstadt led to an interruption that caused the SAIDI figure to increase by almost 22 minutes a year. The relatively high figure reported for the MVV Netze grid region in Mannheim in the previous year was due to damages arising during construction work which led to a temporary overload of the electricity grid.

Supply interruptions (SAIDI)

Minutes/year	2016[1]	2015[1]
Grid regions		
MVV Netze Mannheim	12.0	27.8
Energienetze Offenbach	32.4	4.8
SWKiel Netz	11.1	15.3
Germany[2]	12.8	12.7

1 Calendar year
2 Source: Federal Network Agency (BNetzA)

G4-EU29

In the 2017 financial year, we invested a group-wide total of Euro 75 million in our grids. **G4-EC7**

At the end of the year under report, we had electricity, district heating, gas and water grids with a total length of around 18,800 kilometres. **G4-EU4**

MARKET AND CUSTOMERS

To succeed in the market, it is no longer enough for energy suppliers simply to offer good prices and ensure high quality. The energy system of the future will be characterised by smartly linking renewable energies, highly efficient conventional energies and energy storage facilities, as well as by integrating customers with flexible demand. In the past, energy generation was determined by demand. In future, supply and demand will mutually interact and will increasingly be managed by digital means. We offer individually customised products and solutions that lead to more renewable energies being linked up to the grid, to lower energy consumption and to an increase in decentralised generation. We aim to enable all of our customers to actively participate in the energy turnaround.

The energy turnaround requires many hands – and we help our customers to play their part in it.

Satisfied customers are the most important factor in our success. Only if our industrial, commercial and private household customers are convinced by our products, services and support, and also feel able to trust us, is our success as a company secure. To identify our customers' needs, we seek dialogue with them and listen to them very closely. We review our service quality with regular surveys. Our aim is to ensure that our customers are enthusiastic and satisfied with us on a long-term basis, and thus to achieve high customer retention, loyalty and recommendation rates.

MVV accords high priority to information security and data protection. If data or information of any kind is lost, becomes unavailable or is accessed by third parties, this can have economic implications for a company and can also harm its reputation.

In the year under report, we met our objective of protecting information and data with an extensive range of technical and organisational security measures. That also applies to the data we collect at our customers in connection with our solutions and service products. **G4 DMA**

Offering precisely tailored customer solutions

The degree of digitisation and networking is set to increase further. When, for example, the aim is to optimise energy generation and consumption, enhance energy efficiency or identify flexibilities, the relevant data is now increasingly often collected in real time and the applications are networked. As an energy-related services provider, we play a key role in this respect. We are the interface between the energy system and local energy applications. Future support measures will be ever more customised and automated. We already see the first signs of this development with our business customers and expect this to shape our relationships with private customers as well. Automation here involves crosslinking interfaces between the customer and the energy system. We are therefore building long-term efficiency partnerships and drawing on comprehensive efficiency solutions to do justice to the complex energy challenges our customers face. We have significantly extended our range of digitally-based solutions. With our shareholdings in DC-Datacenter-Group, Econ, Luminatis, Qivalo and Recogizer, we can offer a diverse, innovative and attractive range of energy services and mature modular energy and efficiency solutions.

We have set the following sustainability target:

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.

We aim to enable all customers to actively participate in the energy turnaround. As a long-term partner, we offer customised energy products, services and solutions to all customer groups. **MVV-4**

Increasing customer satisfaction

We stand for innovative products and services which facilitate a sustainable energy supply and offer great benefits to our customers. In our Customer Experience and Innovation department, we therefore deal closely with customers' needs and expectations, and that across all product groups and divisions. We actively involve our customers in this process, for example in our "Customer Atelier", a platform in which we regularly share views with customers.

Our private customers can draw on various online services enabling them, for example, to compile cost and consumption forecasts themselves. We offer apps in order to create digital customer proximity. One of these, for example, enables customers to enter meter readings by scan. We also offer one-to-one advice and support to our customers both at our advisory centres on location and via free helplines.

We aim to improve our relationships to our customers even further. To this end, we regularly perform customer surveys with various market research institutes in order to objectively assess our performance. In the year under report, for example, we took part in the BDEW Service Monitor. This customer service study, which focuses in particular on determining how our customers perceive their service contacts in day-to-day business dealings, is intended to survey customer satisfaction, identify potential improvements and enable comparison with other participants in the study. The survey in the year under report showed that we managed to improve the quality of our direct contacts with customers and thus also our customers' satisfaction levels. Our e-mail communications in particular were assessed significantly better. According to our customers, the information we provide to them is courteous, comprehensive and easy to understand. Our customers' willingness to stay with us and recommend us also developed positively. We also use the survey for internal target/actual analyses. Based on the findings, we work together with the relevant specialist departments to set the target values for what we aim to achieve in the subsequent year. We introduce measures intended to improve the situation when actual values fall short of the standards we have set ourselves. **G4-PR5**

Protecting data and information

Information security and data protection are prerequisites for sustainable business success. We comply in this respect with applicable legal provisions and train our employees to raise their awareness for the requirements of data protection, information security and the careful treatment of information. Working with a management system based on the international standard DIN ISO 27001, MVV's data protection officers manage and monitor the information security of business processes on a decentralised basis and ensure that information is protected against unauthorised access, loss or manipulation. The data protection officers have taken measures to improve the protection of personal data at MVV and effectively monitor compliance with legal provisions. We review and enhance the processes we use to protect information on an ongoing basis and are currently focusing on the requirements of the European General Data Protection Regulation (EU-GDPR) which took effect in May 2016. This lays down standardised Europe-wide requirements and is intended to protect personal data. Following a transition period, it will take full effect on 25 May 2018 together with the supplementary German Data Protection Amendment and Implementation Act (DSAnpUG-EU) adopted in May 2017. **MVV-5**

ENERGY EFFICIENCY

The German energy turnaround can only succeed if significantly less primary energy is needed in future. That applies for electricity generation, but also for the transport sector and the heating energy supply. The term energy efficiency involves both reducing the volume of end energy consumed – i.e. at consumers – and lowering the input of primary energy, for example, by increasing efficiency levels at producers. Measures to minimise grid losses can also enhance energy efficiency, such as in the operation of electricity and heating energy grids. Energy efficiency is also an important topic of European energy and climate policy. In summer 2017, the European Council agreed that the target for reducing primary energy consumption in the EU by 2030 should be increased to 30 % based on the volume forecast for 2030. Enhancing energy efficiency is therefore a very important topic both for us and for our stakeholders.

We go beyond the requirements imposed on us by law and the relevant approvals, as we believe that our company bears a particular responsibility as an energy supplier with proprietary electricity and heating energy generation activities. Energy efficiency measures take effect on several levels: Fewer resources are required, CO_2 emissions are reduced and the negative impact on the environment lessens. Furthermore, and that is a key factor for our customers too, the plants become more viable in economic terms as well.

One part of our ambitious → **investment programme** involves increasing generation efficiency at our own power plants, for example by working with combined heat and power (CHP) generation. The simultaneous generation of electricity and heating energy using CHP reduces primary energy requirements. We are continually investing in modernising our plants and grids. With our products and our services, we are also supporting our customers in reducing the energy input at their plants and optimising their energy management.
G4 DMA

In the 2017 "Energiewende Award", EuPD Research, a leading provider of analytical, auditing and modelling services for sustainable operations management systems, analysed nearly 1,300 German energy suppliers in its "Energy Suppliers in the Energy Turnaround" study. The country's best energy suppliers were singled out for their outstanding products, services and information. In the "Energy Efficiency" category, MVV was identified as one of Germany's best three energy suppliers.

Enhancing proprietary generation efficiency

Fuel use

At our plants, we achieve a high average → **fuel efficiency rate** of 62 %. This key figure reflects the energy yield of our generation portfolios.

Energy efficiency projects

We assess the reduction in energy requirements we achieve by increasing energy efficiency at our generation plants in the context of modernisation measures on a project-by-project basis. These projects also reveal the link between energy efficiency and → **climate protection,** another of our material topics. As is apparent from the projects outlined below, increasing energy efficiency at the plants also leads to lower CO_2 emissions.

Climate Protection
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We are increasing the energy efficiency and climate-friendliness of our district heating by connecting Mannheim's CHP plant to the district heating grid.

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At our Mannheim location, we plan to connect our waste-fired CHP plant to the district heating grid operated by MVV Energie AG. Once the necessary work has been completed in 2021, this plant will be able to feed in district heating all year round and will on average then supply one quarter of the required district heating. This networking measure will increase the utilisation factor for our heating energy generation portfolio. We expect this to result in a net saving of 61,000 tonnes of CO_2 equivalents a year.

The pellet work at Energieversorgung Offenbach AG was optimised and its efficiency increased in the year under report. Heating energy and electricity consumption volumes were reduced by 10 % and 25 % respectively. This will save CO_2 emissions of around 1,200 tonnes a year.

At SWKiel Netz GmbH, work began on renewing the water infrastructure. Using four water tanks with three pumps each will enable around 300 MWh of electricity to be saved a year. That equates to around 130 tonnes of CO_2. Two of the tanks were already exchanged in the year under report. A further multiyear project was completed in the year under report. The heating steam grid in Kiel was converted to heating water. As well as reducing grid losses, this will save 93,000 MWh of gas a year, equivalent to around 18,600 tonnes of CO_2.

Resource Use and Environmental Protection
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At our non-recyclable waste incineration and energy generation plant in Leuna, we began work in the year under report on a project aimed at optimising turbine operations. Based on extensive data evaluation in the context of a big data solution, reference to the heating energy yield enables us to calculate how operations at the two turbines can be better coordinated. We expect the project to increase our energy yield by around 3 %. That will save resources and avoid CO_2 emissions of around 1,500 tonnes a year. **G4-EN7**

Securing the efficiency of our infrastructure

Primary energy

We calculate the primary energy factor (PEF) for our major district heating supply systems in Mannheim, Offenbach and Kiel. The PEF presents the ratio of → **primary energy** used to the volume of end energy yielded. It plays an important role in meeting legal requirements in terms of heating insulation and with regard to building facility technology. In general, it holds true that the lower the PEF, the more environmentally-friendly and efficient the energy use is. Pursuant to the German Energy Saving Ordinance (EnEV), decentralised natural gas or oil-fired heating systems are currently assessed with a PEF of 1.1, while district heating from combined heat and power has a PEF of 0.7.

Resource Use and Environmental Protection Page 36

Primary energy factors for our district heating supply systems are ahead of the German averages.

Following the decision to link up our CHP plant to the district heating grid, for our district heating supply system in Mannheim we have certification valid until 2024 that attests a PEF of 0.42. For the district heating supply system in Offenbach, the certification valid until 2021 attests a PEF of 0.47. For Kiel, the certification valid until 2024 already refers to the new power plant Küstenkraftwerk K.I.E.L., which is currently under construction. Based on the planning data for the 2019 calendar year, the PEF will amount to 0.0. Primary energy use there is set to exceed 90 %.

The primary energy factor for other fuels such as natural gas or electricity is set irrespective of the individual company by the German Energy Saving Ordinance (EnEV).

Our absolute primary energy consumption is determined by demand levels on wholesale markets, i.e. wholesale electricity prices and the generation margin (clean dark spread). That is because the volume of fuel used at our conventional power plants is based on economic criteria. Moreover, weather-dependent electricity and heating energy demand has a major influence on capacity utilisation rates at our CHP plants. We therefore only have limited ability to control this demand.

Grid losses

Grid losses are also relevant from an energy efficiency perspective. These arise when electrical energy is transported in electricity grids and are mainly due to electrical resistance in the transmission cables and transmission losses between various voltage levels. Grid losses in heating energy grids are due to technical factors and depend in particular on the transport route between the source of the heating energy and the heat sink, the level of temperature, weather conditions and the insulation of the transport pipelines. At best, they can only be substantially influenced by infrastructure measures taking long-term effect.

Grid losses at MVV

kWh million	**2016[1]**	2015[1]
Electricity	153	150
Heating energy	479	461

1 Calendar year

G4-EU12

Increasing energy efficiency at customers

By offering smart energy products and innovative solutions to industrial, retail and commercial customers, as well as to the housing sector, we are supporting our customers in reducing energy input in their systems and optimising their energy management. Our range of services includes transparent electricity and gas procurement, as well as sustainable energy generation, digital energy data management, billing services, contracting, smart metering, e-mobility and LED lighting solutions.

Our objective is to build efficiency partnerships with our customers. By offering a combination of modern measurement technology, software and services, we aim to make all their energy and process costs and all their consumption visible for them, automate their monitoring and reporting and compile and implement optimisation proposals. The projects described below are some of the latest examples from the year under report.

Our efficiency partnership with iglo GmbH, Reken, has been in place since the 2016 financial year and is due to continue for a five-year period. This generated its first savings in the year under report. By installing a new base load compressor, we have achieved an annual electricity saving of 333 MWh for iglo, one which will also result in CO_2 savings of 183 tonnes. Based on a new measurement concept and associated energy data controlling, we have proposed additional measures to the company which can be implemented gradually. They will potentially result in six-digit cost savings.

We agreed a ten-year energy partnership with Roche Diagnostics GmbH, Mannheim, in the year under report. In future, Roche will be drawing on heating energy from our energy from waste plant for its production, building heating and cooling energy generation at its Mannheim location. The company will discontinue its proprietary generation activities, which were based on fossil fuels. At the same time, it will in future only procure electricity that is 100 % from regenerative sources. These measures will result in CO_2 savings of around 65,000 tonnes a year. The agreement will also enhance MVV's energy efficiency. This is because the heating energy volumes coupled out at our CHP plant will rise by around 27 %, while the energy yield will improve by 10 %.

At the packaging manufacturer Linhardt & Co. GmbH, Hambrücken, we have developed an all-round solution for the company's supply of electricity, heating and cooling energy and have also converted its lighting to efficient LED technology. These energy efficiency measures have reduced Linhardt's resource use and consumption. Not only that, they will generate additional CO_2 savings of around 900 tonnes a year.

CLIMATE PROTECTION

At the UN Climate Summit held in Paris at the end of 2015, it was decided to limit global warming to significantly less than 2 degrees Celsius, and if possible 1.5 degrees Celsius, compared with pre-industrial levels. This created a binding international framework for climate protection. The "2050 Climate Protection Plan" adopted by the Federal Cabinet in November 2016 is the first government document showing the way to turn Germany into a largely greenhouse gas-neutral country by 2050. The plan for the first time includes climate targets and CO_2 budgets for individual branches of the economy. Electricity generation, for example, should be almost entirely CO_2-neutral by 2050 at the latest. The expansion in renewable energies and deployment of highly efficient technologies will significantly reduce the use of fossil fuels in the coming decades. Together with the closely related topics of → **renewable energies** and → **energy efficiency,** climate protection is a core topic for us and our stakeholders.

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Energy Efficiency
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The 2 degree Celsius target sets the standard for our own climate targets.

MVV's climate balance sheet is dominated by the greenhouse gases produced upon the generation of electricity and heating energy. Most of these direct CO_2 emissions (Scope 1) come from existing plants, at some of which we launched operations in a different energy industry framework several decades ago. In view of this, we will only be able to reduce our Scope 1 emissions gradually in the years ahead. In our climate protection activities, we are focusing on avoiding or reducing CO_2 emissions in the energy system as a whole. We achieve this by increasing generation capacities at renewable energies plants and at plants with highly efficient combined heat and power (CHP) generation, as well as by enhancing energy efficiency at our customers.

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Energy Efficiency
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One major component of our → **corporate strategy** is our investment programme. We are investing in particular in climate-friendly technologies. Our focus here is on → **renewable energies,** → **efficiency technologies** and decentralised energy supply. **G4 DMA**

We published our sustainability targets in the year under report. One of these has direct implications in terms of climate protection:

Over the next ten years, we will triple our CO_2 savings to 1 million tonnes a year.

The measures we took in the 2016 financial year led to annual net CO_2 savings of 419,000 tonnes in the energy system, i.e. genuine, climate-effective savings. By 2026, we will increase this net savings figure to at least 1 million tonnes a year. In monitoring this ambitious target, we will only account for climate-effective CO_2 savings in which we ourselves have invested or for which we bear the economic risk. In the year under report, our strategic measures led to net savings of around 482,000 tonnes of CO_2 equivalents in the energy system.

Reducing greenhouse gas emissions

The Federal Government's climate targets equate to a virtual decarbonisation of electricity generation. This target will nevertheless not be achieved in a linear trajectory. This is because in the short term direct CO_2 emissions (Scope 1) at our power plants will chiefly be determined by weather conditions and energy demand. As long as our existing power plants have not reached their decommissioning dates, structural reasons mean that our Scope 1 emissions will remain at a certain level even in the medium term. By making strategic decisions to replace energy generation plants, however, we will ensure that our direct greenhouse gas emissions fall in the long term. This development will take several decades and will be implemented step by step. Once the joint power plant in Kiel (Gemeinschaftskraftwerk Kiel – GKK) has been decommissioned, direct CO_2 emissions at all of our fully consolidated companies and our companies recognised at equity will decrease slightly, but will then most likely remain at comparable levels for a longer period.

Compared with direct CO_2 emissions at our generation plants, our other business activities, such as logistics/transport and the energy used at other plants, account for a very low share of CO_2 emissions. At present, our indirect energy-related CO_2 emissions (Scope 2 emissions) make up less than 1 % of our total emissions.

We can only influence Scope 3 CO_2 emissions to a limited extent or not at all. These emissions are dominated by sales volumes for commodities, i.e. the resale of electricity and natural gas we do not ourselves produce. Here, we act exclusively as a sales operation and cannot directly influence the CO_2 balance sheets of these commodities. As the rising share of renewable energies is reducing specific CO_2 emissions for electricity and natural gas in Germany, our Scope 3 emissions will fall in the long term. This factor is nevertheless opposed by potential future sales successes. Our Scope 3 emissions rise in line with any increase in our sales volumes with electricity and natural gas we do not ourselves produce.

Alongside the figures for fully consolidated companies, in the following overview of CO_2 emissions we also present emissions calculated when companies recognised at equity are included. Companies recognised at equity mainly include the large jointly owned power plants in Mannheim and Kiel in which are co-shareholders.

To determine the net CO_2 savings resulting from strategic measures at MVV, we calculate the genuine savings actually taking effect in the climate system. We developed the methodology used to calculate measure-specific emissions in 2013 together with the Institute of Applied Ecology (Öko-Institut). We evaluate the impact of all new strategic activities, projects and investments at our group of companies in terms of their direct and indirect greenhouse gas emissions. In this, additional emissions (charge) and CO_2 reductions (credit) are netted. This means that, alongside electricity, account is also taken of heating energy, services and efficiency measures.

The net CO_2 avoidance key figure includes emissions and savings along the entire value chain. It therefore refers to the provision or saving of end energy. We record all CO_2 savings for a maximum of ten years from the beginning of the respective measure. No account is taken of historic reduction projects and financial transactions. The gross CO_2 avoidance we achieved from the climate-neutral generation of electricity at our renewable energies plants in the year under report amounted to 742,000 tonnes of CO_2 emissions (previous year: 719,000 tonnes of CO_2 emissions).

Specific CO_2 emissions for our electricity and heating energy products vary in line with the generation source and energy product involved. In view of this, we make them available to our customers on a product-specific basis. As we operate large numbers of power plants that produce both electricity and heating energy using combined heat and power (CHP) generation, we do not calculate the specific CO_2 emissions for our electricity and heating energy generation. Comparable disclosures on specific CO_2 emissions would require a uniform methodology for the allocation of the fuels used and resultant emissions to the volumes of heating energy and electricity thereby generated. Given the different types of plant used within the energy industry, however, no uniform calculation methodology is available.

G4-EN15+EU **G4-EN16+EU**

CO_2 emissions

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
1,000 tonnes $CO_{2\,eq}$	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Direct CO_2 emissions (Scope 1)[1] **G4-EN15**	1,646	1,455	+13	4,189	4,449	−6
Indirect CO_2 emissions (Scope 2)[2,3] **G4-EN16**	8	8	0	8	8	0
Indirect CO_2 emissions (Scope 3)[4,5] **G4-EN17**	8,429	8,899	−5	6,881	7,021	−2

1 Correction in previous year's figure
2 Data for respective calendar year
3 Scope 2 emissions (location-based) include GHG emissions from building-related utility energy for the central business locations of MVV Energie AG (Mannheim), Stadtwerke Kiel (Kiel) and Energieversorgung Offenbach (Offenbach). Due to materiality considerations, we have not broken down the data in greater detail by further location and energy source.
4 Previous year's figure adjusted
5 Scope 3 emissions include indirect GHG emissions for the following categories in the GHG Protocol: purchased goods and assets, fuel and energy-related activities, downstream transport and distribution in proprietary grids and use of fuel-related products sold. For fuel-related emissions factors we refer to industry-typical factors from GEMIS/Öko-Institut, for the electricity mix to the Federal Environment Agency (UBA) and for district heating to proprietary certification.

Reduction in greenhouse gas emissions

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
1,000 tonnes $CO_{2\,eq}$	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
Net CO_2 avoidance due to strategic measures	482	419	+15	429	339	+27

G4-EN19

RESOURCE USE AND ENVIRONMENTAL PROTECTION

We use natural resources to generate energy and thus influence the ecosystem. At our thermal power plants, we also use fossil resources that are not available in unlimited supply, such as natural gas and hard coal, as fuels. Our focus here is on responsible procurement, especially for hard coal, and reducing primary energy consumption, i.e. ensuring that valuable resources are used as efficiently as possible. High fuel utilisation rates and environmentally-friendly procurement, such as regional procurement, are also significant factors for our renewable energies generation plants.

One particularly important topic for us and our stakeholders is to reduce our use of finite resources in the long term and ensure the environmentally-compatible use of such resources. We aim to minimise the volume of resources used for energy generation, increase the share of renewable resources used and procure fuels in a responsible manner. We are continually optimising the → **use of fuel for energy generation** at our plants. Furthermore, we are consistently investing in → **enhancing energy efficiency** at our generation plants and expanding district heating in conjunction with highly efficient combined heat and power (CHP) generation.

Energy Efficiency
Page 30

Energy efficiency, resource efficiency and environmental protection are core aspects of our management systems.

Value Chain
Page 21

We also aim to avoid other negative environmental implications resulting from the generation and provision of our products and services or to reduce these implications to an absolute minimum. In our energy generation, for example, we also ensure that pollutants and unavoidable waste such as ash and slag, so-called by-products, are carefully handled at all times.

Other air pollutant emissions from large combustion plants, such as nitrogen oxide, sulphur oxide and dust, are also relevant to our stakeholders, albeit to a lesser extent than CO_2 emissions.

Our subsidiaries and shareholdings are responsible for the operative management of all environmental concerns on a decentralised basis, as they work with different technologies and the environmental topics and requirements of local stakeholders also vary widely in some cases. Stadtwerke Kiel AG, for example, is actively taking part in the "Climate-Neutral Kiel 2050" project organised by the City of Kiel, which has set itself the target of reducing emissions of greenhouse gases harmful to the climate by at least 95 % compared with 1990 and halving its end energy consumption by 2050.

We work with suitable management systems to handle the operative implementation and control of environmental protection measures. In some cases, these also include nationally and internationally certified environmental, energy, quality and compliance management systems. Further guidance is provided in the sustainability guidelines, environmental protection guidelines and other guidelines issued by MVV Energie AG. We continually promote and support our employees' awareness of their responsibility towards the environment with a range of in-house measures. **G4 DMA**

Reducing fuel use and enhancing efficiency

To generate electricity and heating energy, our power plants work with both fossil fuels, especially → **natural gas and hard coal,** and renewable fuels, mainly → **biomass and the biogenic share of waste/refuse-derived fuels (RDF).**

One way to reduce primary energy use is to increase fuel efficiency rates. This key figure is suitable to present the generation efficiency or energy yield of a generation portfolio, as it states the volume of energy generated (electricity and heating energy) as a proportion of the energy input (primary energy). We are making targeted investments in highly efficient combined heat and power (CHP) technology. The fuel efficiency rate for CHP

is significantly higher than when electricity and heating energy are generated separately. This way, we are making an important contribution towards protecting resources, as well as to reducing emissions. With our average fuel efficiency rate of 62 %, we are ahead of the German average for generation activities. For 2014, the Federal Environment Agency assumed that the national average fuel efficiency rate (based on gross electricity generation) amounted to 45 % across all fuel types.

With a fuel efficiency rate of more than 90 %, the gas-fired CHP plant currently under construction in Kiel will significantly reduce the → **primary energy input.** Furthermore, we plan to connect our waste-fired CHP plant in Mannheim to our district heating grid, a step which will increase the efficiency rate of our heating energy generation portfolio.

Fuel volumes and corresponding volumes of by-products such as ash and slag are chiefly determined by weather conditions and market prices, as well as by fuel properties. The volumes of by-products incurred from waste incineration and at CHP plants are due to technological factors and can therefore hardly be influenced by us. In the 2016 calendar year, our fully consolidated companies and our companies recognised at equity incurred around 159,000 tonnes of fly ash and around 519,000 tonnes of ash and slag from their incineration processes. Where technologically possible and economically viable, we put the by-products to cascade use, i.e. we prepare them so that they can be returned to the economic cycle, for example as products for the construction industry. Consistent with legal requirements, non-recyclable residual volumes have to be sent for landfilling. Other by-products and toxic and hazardous substances, such as polychlorinated biphenyls (PBC), do not play any role, or only a subordinate role, in our business activities. Our safety management system for occupational health and safety sets out rules for handling such substances and the relevant control mechanisms.

Energy Efficiency
Page 30

Average fuel efficiency rate

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
%	**FY 2017**	FY 2016	% change	**FY 2017**	FY 2016	% change
	62	59	+5	64	61	+5

G4-EU11

Fuels used at power plants

	Fully consolidated companies			Fully consolidated companies and companies recognised at equity		
	FY 2017	FY 2016	% change	**FY 2017**	FY 2016	% change
Biomass (tonnes 000s)	514	518	−1	555	560	−1
Biogenic share of waste/refuse-derived fuels (tonnes 000s)	1,810	1,820	−1	1,810	1,820	−1
Natural gas (kWh million)	2,315	2,167	+7	2,342	2,180	+7
Heating oil extra light (HEL) (kWh million)	94	99	−5	94	100	−6
Hard coal (tonnes 000s)	88	85	+4	1,147	1,347	−15

G4-EN1

Focus on environmental protection

We implement a large share of our environmental protection measures on the basis of approval requirements and strict threshold values which we are required to meet for the construction and operation of our plants. Moreover, plant-specific emissions at large combustion plants are subject to reporting requirements, with compliance with the prescribed threshold values monitored by the relevant authorities. In the 2016 calendar year, the plants at our fully consolidated companies and our companies recognised at equity emitted around 3,780 tonnes of nitrogen oxide (NOx), around 1,585 tonnes of sulphur dioxide (SO_2) and around 114 tonnes of dust. Due to our generation plants, we also emit around 1.6 million tonnes of climate-neutral biogenic CO_2. This mainly relates to direct emissions from the use of timber, other biomass and biogenic waste.
G4-EN21 **G4-EN21+EU**

Energy Efficiency
Page 30

We are continually investing in modernising our plants so as to protect resources with greater → **efficiency** and thus protect the environment. At our group of companies, the use of resources outside the field of energy generation is of relatively low significance. The impact of the improvements we achieve in our own direct electricity and water consumption, the use of cooling water or the reduction in waste at our plants and buildings is low when compared with the impact of improvements to energy generation. Although we do not deal with these environmental protection topics in any greater detail in our reporting, they nevertheless form part of our decentralised environmental management systems. The same applies for our use of materials, such as office materials in our administration activities, where recycled paper makes up nearly 100 % of the paper used. As a general rule, we ensure that materials are put to careful and efficient use.

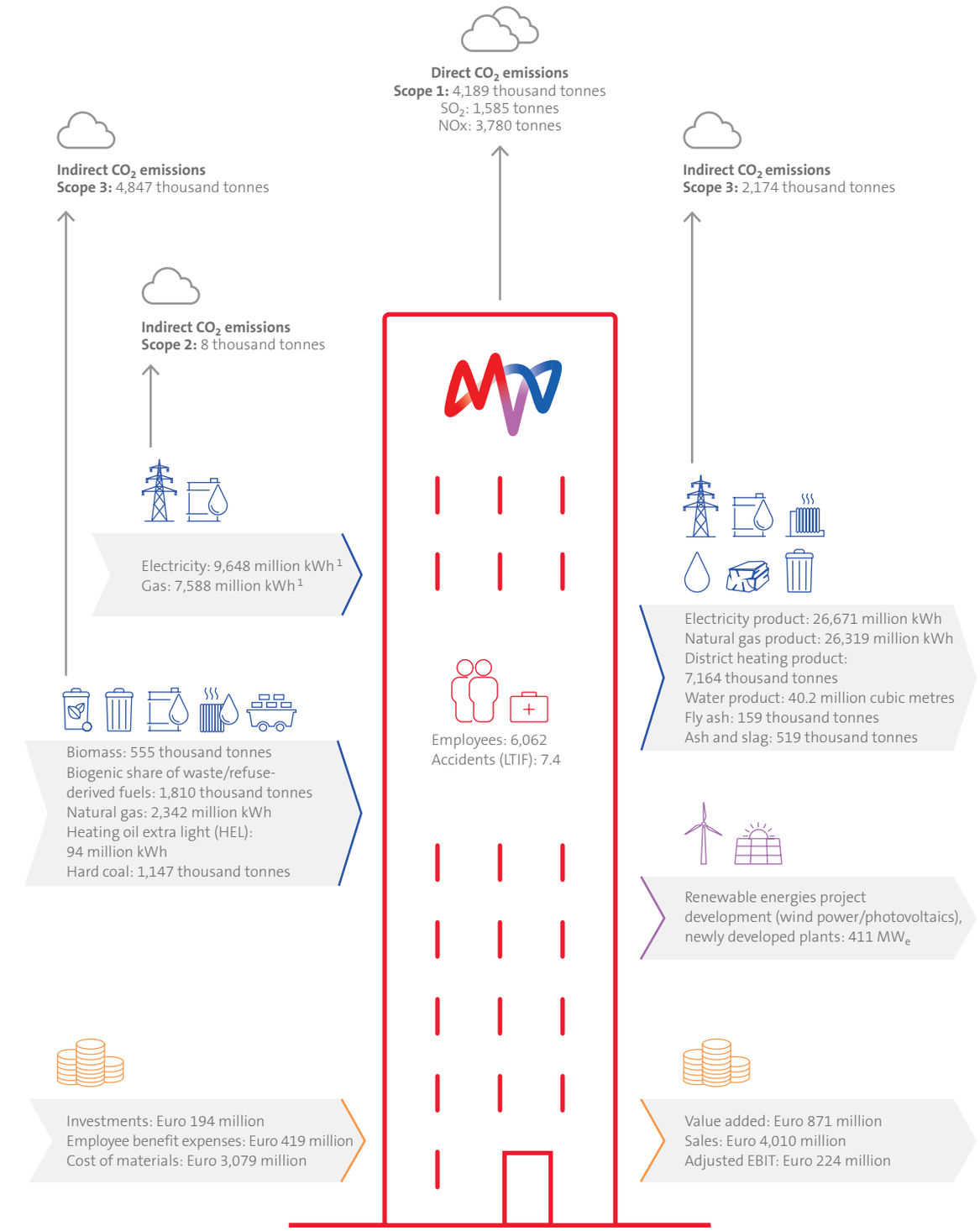
MVV Energie AG and Stadtwerke Kiel AG are responsible for the supply of drinking water in their regions. Ground water is the most important source for our production of drinking water. We therefore protect our drinking water resources with a full range of measures to protect ground and surface waters. We analyse and check our water supply systems regularly and thus ensure consistently high quality for our drinking water.

Our input/output balance sheet

In our input/output balance sheet, we present the resources input in the form of natural resources, capital and employees alongside our output in the form of energy products, by-products, emissions and value added. To generate electricity, heating energy and gas, we largely use natural resources such as fuels and renewable energy sources. Our largest energy quantities are hard coal, natural gas and waste. The largest entry in the ecosphere results from CO_2 emissions, air pollutant emissions, and ash and slag. For us, a large share of the resource input for gas and electricity only involves a transit item. As an intermediary, we purchase this energy on the wholesale market and then sell this on to our customers in a structured manner in our capacity as an energy sales operation. That is also the reason for the high volume of indirect emissions on the upstream and downstream stages of the value chain.

MVV'S INPUT/OUTPUT BALANCE SHEET

Fully consolidated and at-equity companies



1 Excluding sales volumes in the Trading and Portfolio Management reporting segment

EMPLOYEES

Non-Financial Performance Indicators Page 73; Notes to Income Statement Page 127

As of the balance sheet date on 30 September 2017, a total of 6,062 individuals worked at → **MVV,** 112 fewer than one year earlier. This reduction in the total number of employees was due in particular to the realignment of sales units.

Our personnel strategy

Qualified employees form the basis for our company's success. We need very well-trained, flexible and innovative specialists interested in contributing with us to the new energy system in Germany. Due to demographic change, it will become a challenge in the longer term to find and retain suitable employees. We are meeting this challenge with our personnel strategy. We are continually enhancing our organisational structures and corporate culture and promoting diversity. We aim to be an attractive employer. We are working to preserve and enhance competencies, identify and support talented employees and improve management quality. We also attach great value to protecting the physical health and mental wellbeing of our employees and of those working on behalf of our company. **G4 DMA**

Motivational impact of a shared corporate culture

We are convinced that, to contribute substantially to our company's success, employees have to be highly motivated and committed. We therefore accord great significance to our corporate culture. After all, a corporate culture that is shared by all employees is crucial when it comes to building a team spirit and motivating employees. To promote this culture, we have implemented various measures at our major German locations including, among others, a variety of dialogue formats with executive boards, managers and works council members. Not only that, we have set up teams to plan activities, instruments and standards aimed at promoting our corporate culture. These activities have been supplemented with cross-departmental workshops.

One aspect of our corporate culture involves appreciating community and diversity. We learn from one another and work together to achieve our shared goals. People with a total of 54 nationalities work together at our group of companies. Regardless of their gender or origins, new employees at our company are mostly granted permanent contracts.

Numerous training and entry programmes

We act early to promote the next generation of talent. This is because we aim to cover our need for specialist and management staff with internal candidates wherever possible. To achieve this, we draw on the one hand on our university graduate programmes. This way, we attract high-potential candidates to our company and provide targeted support measures to accompany their careers. By offering work placements and support for degree theses, we cultivate our contacts to university graduates. On the other hand, we work with an extensive range of training programmes. We address future trainees with numerous actions, such as internships for school pupils, events at schools and project weeks undertaken in cooperation with schools. At the "Ready to Go, Mannheim" event, we open up our training facilities and provide interested parties with insights into the various training vocations. By offering a high number of training positions, we meet our responsibility towards society. After all, we train more young people than we ourselves need. Including students at the DHBW Baden-Württemberg Cooperative State University, a total of 324 young people were in training at our group of companies as of 30 September 2017. In Mannheim alone, we offer the next generation of employees training in 16 different commercial and technical vocations, as well as combined training and study programmes. We promote especially highly motivated trainees with additional offerings. In Mannheim, Offenbach and Kiel, we are among the largest training companies in the regions. Within the "Refugees in Training" initiative, which we joined in 2015, we have five young people in training at MVV Energie AG.

Employee key figures

	FY 2017	FY 2016
Number of employees	**6,062**	**6,174**
of which		
Women	1,740	1,845
Men	4,322	4,329
of which trainees[1]		
Women	93	104
Men	231	239
Total	**324**	**343**
of which part-time employees (%)		
Women	10	10
Men	3	3
Total	**13**	**13**
of which in permanent employment		
Women	1,525	1,599
Men	3,824	3,836
Total	**5,349**	**5,435**
Average age (years)		
Women	41.7	41.1
Men	44.1	43.8
Total	**43.4**	**43.0**
Average length of service (years)		
Women	11.9	11.6
Men	13.7	13.9
Total	**13.2**	**13.2**
Number of parents on childcare leave[2]		
Women	146	150
Men	128	97
Total	**274**	**247**
Staff turnover rate[2] (%)	10.8	10.2
Employees with severe disabilities[2] (%)	5.4	5.2

1 Including students at Baden-Württemberg Cooperative State University (DHBW)
2 In Germany

G4-10

Expansion in further training and personnel development measures

Given the rapid changes in the energy industry framework and equally rapid technological advances, the expectations placed in employees in their daily work are increasing. We want our employees to retain their performance capacity and encourage them to attend internal and external further training facilities. We hold personnel development meetings to identify individual requirements and discuss our employees' career paths with them. In the year under report, we once again offered a variety of successful programmes to enable our employees to share their experiences and expertise with each other.

At our Mannheim location, we work with our management review system to record the skills and further training requirements of our managers and plan their careers. Drawing on a competency model, we hold personnel development meetings and identify further development needs. On this basis, we then compile individual development programmes. We use this system to manage our long-term succession and development planning. To work towards permanently improving the quality of our management staff, at our main locations in Germany we repeatedly hold bottom-up appraisals and surveys, thus enabling employees to offer honest feedback. **G4-LA10**

Family-oriented personnel policies

We would like our employees to be able to successfully combine their family and work commitments, and that on an ongoing basis. We therefore offer a variety of working hour models across the company, such as teleworking, flexible working hours and locations and job sharing. We make it easier for parents in Mannheim, Offenbach and Wörrstadt to return to work after maternity or paternity leave by offering care facilities for their children at or close to company locations. In Mannheim, Kiel and Offenbach, we provide parent and child rooms enabling parents to deal with any childcare difficulties arising at short notice. In Wörrstadt, parents can take their children to work with them in such situations.

We also support employees who are caring for relatives, for example, by granting them leave. We hold information events for these employees and work together with cooperation partners who help ease the strain on them.

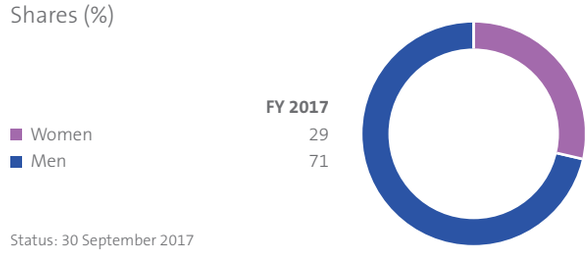
We aim to implement our family-oriented personnel policies in a targeted manner and continually enhance these by taking up new suggestions. In this, we have drawn on the Hertie Foundation's berufundfamilie® audits for many years now. These support companies in their efforts to improve the compatibility of employees' work and family commitments. The audits involve agreeing a catalogue of measures for each location and then checking at a later date to ascertain whether and how these have been implemented. We have had our activities audited and certified since 2008 already at our Mannheim location, since 2009 in Offenbach and since 2012 in Kiel. The audit was launched at Wörrstadt in 2017.

Increasing the share of female employees

We are convinced that companies can only generate sustainable business success when responsibility is assigned to both women and men on a basis of equality. After all, different management styles impact positively on the company's performance. Moreover, it makes sense both from a social and from an economic perspective to promote all talents regardless of their gender. This way, the company can actively counter the effects of any shortage of specialist and management staff. In the past, female employees made up a comparatively low share of the overall workforce at companies operating in the energy industry – and this was also the case at MVV's companies. We nevertheless believe that raising the share of female employees at our group of companies on a long-term basis provides a major key to MVV's successful further development. For this reason, we aim to gradually increase 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, and the female share of management staff to 25 %, as against 14 % as of 30 June 2015. One key package of measures here involves providing targeted personnel development for women with suitable potential. As of 30 September 2017, women accounted for 29 % and 16 % of our Group's workforce and management staff respectively.

WOMEN AND MEN

Shares (%)

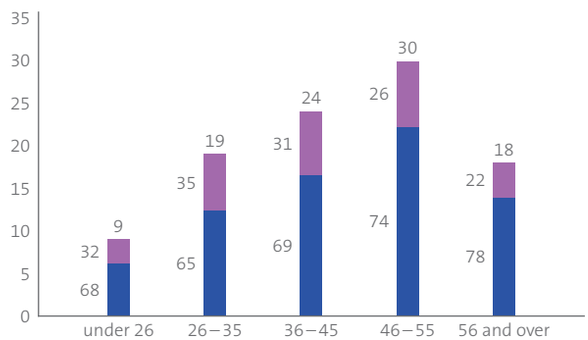


Status: 30 September 2017

To meet our targets for 2021, we will continually be expanding our range of promotional measures and programmes in the years ahead. The share of applications we receive from women, especially in technical vocations, falls significantly short of the share received from men. We are therefore committed to promoting women in the so-called MINT vocations, i.e. in lines of work involving mathematics, information technology, natural sciences and engineering and technology. Promising female employees at our group of companies, for example, take part in cross-company mentoring programmes.

AGE STRUCTURE OF EMPLOYEES

(%)



Status: 30 September 2017

The workforce age structure chart shows that the share of women in age groups up to the age of 45 is now higher than in age groups from 46 upwards. Not least because of this, we expect our personnel structure to change continually in the years ahead, enabling us to increase the overall share of female employees.

MVV-6

Focus on health protection

We make company-wide efforts to boost the health of our employees and promote this with a variety of company health management measures. Alongside the extensive range of services available at our occupational health services, we also offer employees at our major locations in Germany further possibilities that go far beyond legal requirements. We make therapeutic appliances available, for example, and provide experienced coaches to guide participants in health-related courses. We offer sports activities, cooperations with fitness centres, nutritional advice and extensive prevention measures, such as flu vaccinations and laboratory diagnostics to detect common metabolic illnesses at an early stage. Furthermore, our employees also have the option of taking part in training courses.

We are consistently working to improve work safety at the Group. Our key focus in this respect is on protecting the physical health and mental wellbeing of our employees and of those working on our behalf. With our integrated safety management system, we document the organisational and technical requirements and conditions. This way, we can systematically account for all internal and external requirements in terms of occupational health and safety, fire prevention and plant and environmental safety. We agree our occupational health and safety measures and our prevention measures with professional associations and employee representatives, with whom we cooperate closely. To reintegrate employees returning to work, we draw on a clearly structured company integration management process, one which always involves employee representatives and occupational health professionals.

Actively involving the workforce makes it possible to improve occupational health and safety.

By raising awareness among managers and employees for the risks and dangers of accidents, we attempt to effectively influence the frequency of accidents and prevent any health risks. In our instructions, we explain the interrelationships involved and ensure that specialist work safety expertise is kept up to date. In the year under report, we began offering training modules tailored to individual workplaces on the intranet. This way, our employees can also address a variety of topics relating to occupational health and safety without having to arrange fixed appointments.

One important factor for us is to actively involve our workforce and support them in practice. The safety officers who act as well-informed contact partners for occupational health and safety topics in their respective units perform an important function in this respect. We regularly train our safety officers. They attend external training events or are trained by our safety specialists, who communicate our company-specific safety requirements and prevention focuses. The work safety committees required pursuant to § 11 of the German Occupational Safety Act (ArbSichG) are formed by the individual companies on location. These comprise both employer and employee representatives and meet at least once a quarter. Around 100 individuals across the Group are active as members of the committees in place at the various companies. **G4-LA 5**

We regularly inspect our plants and operating divisions to identify weak points. Alongside scheduled inspection tours, we also work with internal and external audits to improve our work safety and health protection. External specialists inspect our utilities business regularly and on a cross-utility basis in accordance with the requirements of the DVGW, AGFW and VDN specialist associations in the context of TSM certification measures. Furthermore, individual subsidiaries and company departments also have systems and certificates consistent with international norms in the fields of quality, environmental protection, energy management and occupational health and safety management.

Although we make every conceivable effort to prevent them, accidents cannot always be avoided. We systematically evaluate accidents occurring at MVV. The assessment and evaluation are performed on a gender-neutral basis and in line with data protection requirements. We give all-round consideration to all accidents at or on the way to work, including more minor injuries. Based on the insights thereby gained, we then introduce further accident prevention measures.

Company Management
Page 56

Accident statistics

	2016[1]	2015[1]
Work-related accidents per 1,000 employees[2]	12.5	13.0
Lost time injury frequency rate (LTIF)[3]	7.4	7.6
Fatal accidents	0	0

1 Calendar year
2 Calculated from first day of absence
3 Calculation based on work-related accidents per 1,000,000 working hours

G4-LA6

Occupational health and safety is also an important topic for us with regard to our suppliers and the subcontractors we commission. As is customary in our industry, a large portion of the upstream services we procure involves fuels and commodities. A correspondingly smaller share relates to services performed by companies which we commission directly. Most of these companies are governed by German or European occupational health and safety standards. We have laid down codes of conduct as the basis for our business relationships, as well as ethical standards and basic employee rights included in our procurement terms and work safety requirements. Employees at companies that we commission directly are subject to safety and work protection requirements which we define. These also include the obligation to maintain safety passes and work-related accident notification duties.

SOCIAL RESPONSIBILITY

We bear a special responsibility as part of society, above all in those towns and regions in which we operate. This responsibility goes beyond merely supplying energy. Given our expertise, our skills and our products and services, we are convinced that we can make an important contribution to society.

We are a major economic factor – as is clear from our value added statement – and aim to sustainably increase MVV's value with our targeted → **company management.** This way, we also strengthen the towns, municipalities and regions at our locations, as we make investments, award contracts to local businesses and secure jobs. Not only that, we pay taxes and duties. Here, fairness is key – we do not use questionable strategies to avoid taxes or park profits offshore.

We are promoting the conversion in the energy system towards a more sustainable and efficient energy supply and also making every effort to enable our customers to implement their own energy turnarounds. Most of the challenges presented by the energy turnaround can only be solved by society as a whole. Many of the projects involved in expanding renewable energies and the necessary infrastructure have to be planned and decided on location with the local population and their representatives. Our job is to enter into dialogue to promote acceptance for these projects and reach decisions that convince everyone involved.

One aspect of the way we see ourselves as a business is our commitment to society in those regions in which we operate – especially in the fields of social welfare, education, culture and sports. The MVV companies support numerous local projects, often in partnerships that in some cases have been in place for many years. This way, we aim to build a relationship of trust between our company and local populations. **G4 DMA**

Creating value

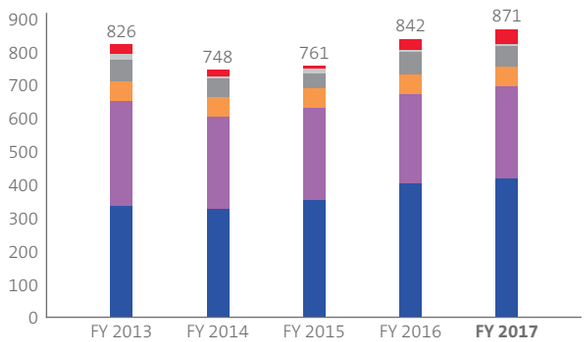
Net value added is one way of measuring a company's economic output. This key figure corresponds to the value of production less input costs and depreciation. This contribution by MVV to gross domestic product represents the economic output resulting from the efficient deployment of capital, employees and natural resources. Measuring net value added on the basis of market prices nevertheless provides only an approximate view of the value actually created by MVV, as it does not account for non-monetary output or other external costs.

The figures presented in the value added statement reflect underlying trends. As was partly the case in previous years, our 2017 financial year was characterised by ongoing low prices for commodities such as electricity, natural gas and oil. This tended to hold back our revenues and thus our value added. Like in previous years, we nevertheless managed to increase our value added as a result of our diversified business portfolio.

The overview of the allocation of our value added shows that we managed to maintain the level of utilisation for our shareholders at a stable level, and that even though returns on capital elsewhere have fallen in recent years. The disproportionate but relatively consistent share of value added allocated to employees also reflects the rising significance of our service and sales-oriented business fields.

ALLOCATION OF VALUE ADDED

Euro million



	FY 2017 Shares (%)
MVV (retention of earnings)	5
Minority interests (share of group earnings attributable to non-controlling interests)	1
Lenders (interest expenses)	7
Shareholders (dividend), of which 50% municipalties	7
State authorities (current taxes on income, other taxes, concession duties and levies)	32
Employees (wages, salaries and social security payments)	48

G4-EC1

Generation of value added

Euro million	FY 2017	FY 2016	% change
Company performance[1]	4,320	4,428	−2
Input costs[2]	−3,266	−3,374	−3
Depreciation	−183	−212	−14
Value added	**871**	**842**	**+3**

1 Mainly sales
2 Cost of materials/energy and fuel procurement, other expenses, other taxes

Utilisation of value added

Euro million		FY 2017	FY 2016	% change
Recipient	**Utilisation**			
Employees	Wages, salaries and social security payments	418	404	+3
State authorities	Taxes on income, other taxes, concession duties and levies	277	271	+2
Shareholders	Dividend	59	59	0
Lenders [1]	Interest expenses	55	64	−14
Other shareholders	Share of group earnings attributable to non-controlling interests	14	3	>+100
MVV [1]	Retention of earnings	48	41	+17
		871	**842**	**+3**

1 Previous year's figure adjusted

G4-EC1

Promoting acceptance

Whenever new generation plants are built or existing plants subject to far-reaching modernisation measures, there is potential for conflict on location. This factor is also relevant for the conversion and expansion in the electricity grid that has become necessary as the energy turnaround progresses. When selecting suitable locations, our companies already weigh up conservation, economic and social aspects on a decentralised basis on location. This way, they try to do justice to the circumstances in each individual case. In the project planning stage, our companies perform environmental compatibility audits in accordance with approval requirements. These relate, for example, to emission loads and immission protection. Furthermore, they also look into the potential implications of the projects for the surrounding countryside or for architectural and natural monuments. They subsequently publish the findings of our investigations.

As well as public representatives and the participants involved in the approval process, our companies also actively involve residents, local clubs and associations and citizens' initiatives in their communications. Alongside their general press work, they work above all with citizens' information events and websites to inform the public about the planned projects and thus to raise acceptance. We do not collect any quantitative data on these measures or on the evaluation of implications or the subsidy programmes we have implemented. The technical functionality of our existing generation plants is monitored continuously. Should any interruption to operations arise, then we proactively and promptly inform everyone thereby affected. **G4-SO1**

Getting involved in society

In our commitment to society, we mainly concentrate on the regions surrounding our locations, with a key focus on supporting young people. We promote select projects in the fields of science, culture and sport and support welfare and humanitarian projects. The individual MVV companies are best placed to assess the actual needs of their regions. In view of this, they manage their donations and sponsoring activities under their own initiative. In most cases, the support we provide is of a financial nature. To date, we have not collected any aggregate data on these activities. In what follows, we present a selection of projects at our largest individual companies.

The Sponsoring Fund is a standalone component of the sponsoring activities at **MVV Energie AG.** This fund provides targeted support twice a year to clubs, organisations and institutions in Mannheim and the Rhine-Neckar metropolitan region. This special form of sponsorship reflects our commitment to the people who get involved in this region in which we too have our roots and our headquarters. Our fund has had a widespread impact and enables us to position MVV as a responsible and sustainable partner with a regional and social commitment. Retail customers who through no fault of their own are in situations of need have received rapid and uncomplicated assistance from our Emergency Fund for more than ten years now. In a well-established cooperation with the largest independent welfare associations and the City of Mannheim, MVV Energie AG helps these customers to settle their energy and water bills and thus avoid a spiraling debt situation.

Furthermore, MVV Energie AG is committed to regional beacon projects, such as Nationaltheater Mannheim, as well as to numerous smaller-scale projects in the region. In the year under report, MVV Energie AG also agreed a partnership with the art gallery Kunsthalle Mannheim. Moreover, MVV Energie AG provides support on location to innovative projects with and for children and young people. For many years now, the company has also acted as sponsors to the Adler Mannheim ice hockey team and the footballers at TSG 1899 Hoffenheim.

As a company with strong regional roots, **Energieversorgung Offenbach AG (EVO)** has assumed responsibility for the city and district of Offenbach for many years – by sponsoring sports and cultural activities, supporting clubs and promoting innovative projects. To this end, EVO awards financial assistance each year, the amounts of which are decided by a jury at EVO. In its "Heart and Soul for Your Project" sponsorship competition in 2017, for example, EVO provided assistance to the Seligenstadt-Hainburg-Mainhausen Music School Association. The "Children's Choir for All Pupils at Emma School" project is intended to enable children from socially disadvantaged backgrounds to take part in music-making in their school lives. The winners of the competition also included the Athletics for Disabled People project at TSV Heusenstamm, which has set itself the goal of widening the range of sports activities available to people living with disabilities. Not least, EVO was also successfully involved as sponsor and member of the "Offenbach on the Offensive" association – an initiative organised by the Chamber of Industry and Commerce. With great involvement by the local population, this association organised a masterplan for the development of the City of Offenbach. Together with local politicians, this masterplan is now being implemented step by step.

Stadtwerke Kiel AG (SWK) has been committed to welfare, ecological and sports projects for many years now. One key focus is promoting children and young people. SWK has acted as a partner to the 24/7 Camp sailing project since 2002 already. In this, the only project of its kind in Germany, more than 7,300 children and young people are given their first taste of sailing each year. For more than 17 years, SWK has also invited people to attend the Ice Festival held directly on the fjord during the cold months of the year. The Kiel MusiX project launched in 2016 has gained momentum. At the annual concert, around 250 young people from schools in Kiel showed off their musical talents. This project, which is intended to promote young people in developing their musical abilities and self-confidence, is targeted above all at comprehensive schools which do not offer comparable musical tuition. The newly introduced SWK Environment Prize supports projects in the fields of environmental education, climate protection, conservation or energy saving with a total of Euro 10,000. The underlying concept enables all interested parties to vote online to decide which project deserves the prize. A total of 34 projects applied in 2016, of which five were selected by the public for the prize. A jury awarded three further sponsorship prizes.

In its "Donations not Presents" Christmas campaign, **Juwi AG** provided financial assistance to three projects. As has been the case for many years now, one of the projects supported was the charity "Feed the Hungry", which helps people in need around the world. At the suggestion of employees, the company also supported "Förderverein Carpe Diem e.V." This charity, in which some Juwi employees are also active as volunteers, helps people with life-threatening diseases at hospitals in Central Essen. The third project supported by Juwi was also proposed by employees. For several years now, colleagues at Juwi's offices in India have been committed to improving equipment at various schools. The donation made by Juwi has now facilitated the purchase of sports items, computers and uniforms. **MVV-7**

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GROUP STRUCTURE

Legal structure

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MVV Energie AG has its legal domicile in Mannheim and is the parent company of MVV. **G4-3** **G4-5** It directly or indirectly owns shares in those companies forming part of the Group and also has its own operations. As a stock corporation under German law, it has three governing bodies – the Annual General Meeting, Supervisory Board and Executive Board. **G4-7** The decision-making powers of the three bodies are clearly distinct. The Annual General Meeting takes decisions of fundamental significance to the company and decides whether to approve the actions of its Supervisory and Executive Boards. The Supervisory Board advises and monitors the Executive Board in its management of the business and is involved in all company decisions of fundamental significance. The Executive Board manages the company under its own responsibility and determines the strategic alignment. Information about the responsibilities and modes of operation of the Executive and Supervisory Boards of MVV Energie AG can be found in the → **corporate governance report.** **G4-34**

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www.mvv.de/corporate-governance-engl

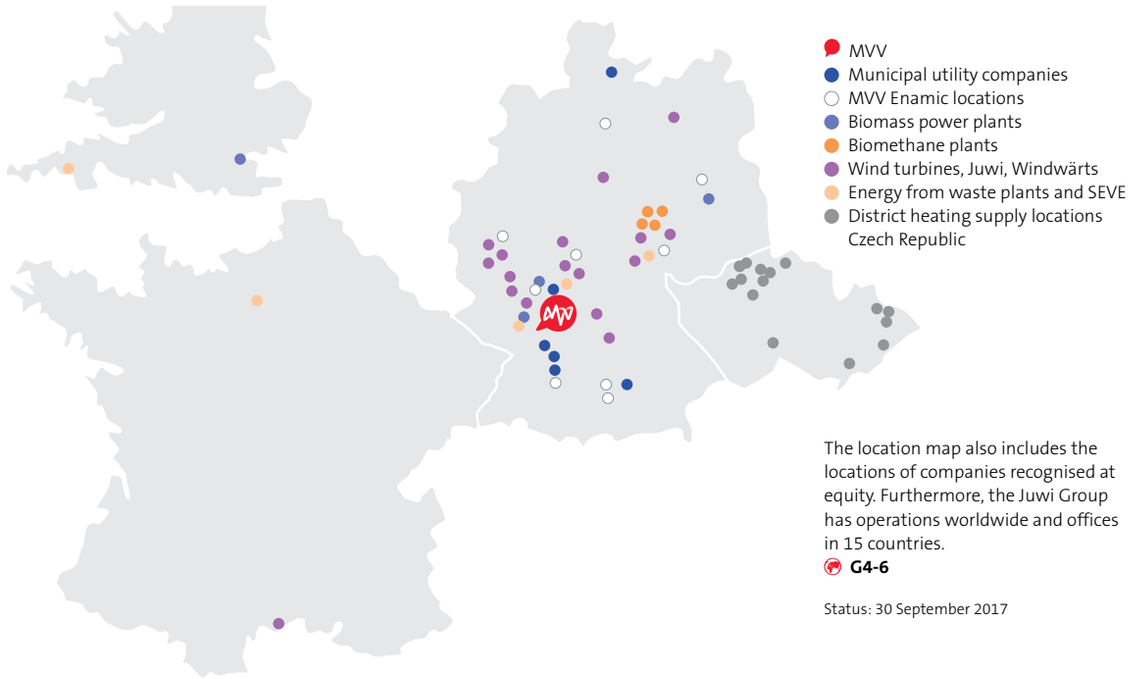
Organisational structure

We manage MVV in five segments on which we also base our external reporting. The → **reporting segments** pool suitable specialist competence under one roof and comprise business fields based on the energy industry value chain stage.

Company structure and shareholdings

Including MVV Energie AG, a total of 163 companies are fully consolidated in the → **consolidated financial statements.** We also include 34 companies using the equity method. Our largest locations are in Mannheim, Kiel, Offenbach and Wörrstadt. Our group of companies is represented in 24 countries. **G4-9**

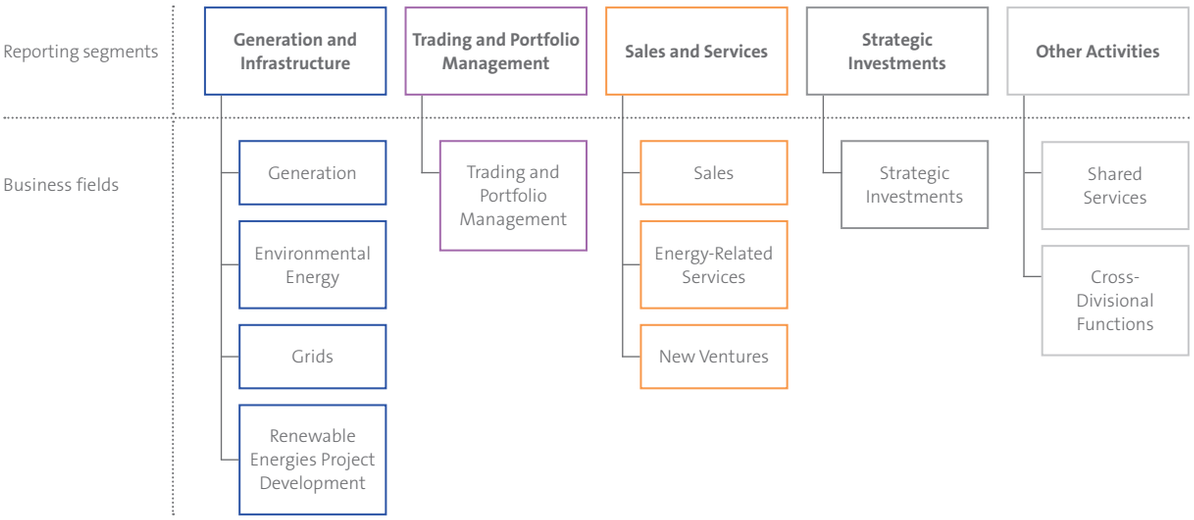
LOCATION MAP



The location map also includes the locations of companies recognised at equity. Furthermore, the Juwi Group has operations worldwide and offices in 15 countries.
G4-6

Status: 30 September 2017

REPORTING SEGMENTS AND BUSINESS FIELDS



BUSINESS MODEL

We are one of Germany's leading energy companies. Together with our subsidiaries and shareholdings, we operate on all stages of the energy industry value chain, from the generation of electricity, heating energy and biomethane via energy trading, the distribution of electricity, district heating and gas at proprietary grid companies through to the sale of all products. We also produce and distribute water. We operate energy from waste and biomass plants and have great expertise in the fields of renewable energies project development and windfarm and solar park operations management. As an energy-related services provider, we offer consulting and contracting services to industrial and commercial customers. Our range of services also includes infrastructure, utilities and disposal services for industrial parks in Germany.

Generation and Infrastructure segment

The Generation and Infrastructure reporting segment is MVV's strongest growth driver. It comprises our generation portfolio with conventional and renewable energies at the Mannheim, Stadtwerke Kiel, Energieversorgung Offenbach and MVV Umwelt subgroups. It also includes the grid businesses at our distribution grid operators MVV Netze, Energienetze Offenbach and SWKiel Netz, as well as our renewable energies project development business field.

Generation and environmental energy business fields

Our generation plants include conventional combined heat and power (CHP) plants in Mannheim, Kiel and Offenbach, as well as plants fired by waste and biomass in Mannheim, Offenbach, Leuna, Königs Wusterhausen, Flörsheim-Wicker, Plymouth and Ridham Dock. At our plants, we rely in particular 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 and biomethane.

Grids business field

We aim to provide people and companies with a reliable supply of electricity, heating energy, gas and water. High-performing grids are crucial to achieve this. We are therefore investing consistently in modernising and expanding our grid infrastructure in those regions in which we operate. This is all the more important given the increasing complexity of grid operations. Ever higher volumes of electricity from renewable energies are being fed in and these fluctuate in line with weather conditions and the time of day. Not only, the number of small, decentralised generation plants is also rising. Overall, at MVV we have electricity, district heating, gas and water grids with a total length of around 18,800 kilometres.

Renewable energies project development business field

In view of its shareholding in Juwi and its Windwärts subsidiary, MVV can draw on a great pool of competence in renewable energies project development and operations management at windfarms and solar parks. Juwi offers the whole range of project development and other services needed to build and manage operations at renewable energies plants. In its German business, Juwi focuses on onshore wind turbines, while its international business mainly deals with photovoltaics projects. Windwärts concentrates on project development and operations management for onshore wind turbines, especially in northern Germany. Alongside this, Windwärts also operates in France.

Trading and Portfolio Management segment

Activities relating to the management and optimisation of the energy procurement and generation portfolio at our group of companies are pooled at MVV Trading. This company procures and markets all customary trading commodities, such as electricity and 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. This company also secures MVV's generation and sales positions on a long-term basis. This hedging enables risks to be centrally managed and minimised. Furthermore, MVV Trading markets the electricity volumes acquired by MVV Energie AG in its direct marketing business.

Sales and Services segment

The following businesses are pooled at the Sales and Services reporting segment: the retail and secondary distribution business for electricity, heating energy, gas and water at the Mannheim subgroup, Stadtwerke Kiel and Energieversorgung Offenbach and the energy-related services business at MVV Enamic and Energieversorgung Offenbach. Furthermore, we also allocate new ventures, the business field which includes our shareholdings in innovative sales and services companies, to this segment.

Sales business field

Our customers are the main focus of our sales activities. By offering smart products and innovative solutions, we enable our customers to actively participate in the energy turnaround. Digitisation is opening up entirely new opportunities for us in this respect. For private households, for example, we offer a one-stop solution involving a combination of a photovoltaics system on the roof, a battery storage facility and an electric vehicle charging point. We connect the individual components smartly, thus enabling our customers to make optimal use of the electricity they themselves generate.

We are also consistently improving our online services in the retail customer business to make them even easier and more convenient to use and thus boost our customers' satisfaction. We work with apps, for example, which make it possible to enter meter readings by scan. Our location reporting and energy data management solutions for industrial, retail and commercial customers make all data relating to gas and electricity transparent for our customers.

Energy-related services business field

MVV Enamic offers numerous sector-specific products and services to business customers and aims to build long-term efficiency partnerships. In the year under report, MVV Enamic significantly extended its range of digitally-based solutions. With new shareholdings in DC-Datacenter Group, Econ Solutions, Qivalo and Recogizer, MVV Enamic can offer a large number of innovative energy-related services and sophisticated modular energy and efficiency solutions. MVV Energy-Solutions, an MVV Enamic subsidiary, focuses on offering energy efficiency solutions to industrial, commercial and SME customers, while the MVV ImmoSolutions subsidiary acts as a partner to the housing and real estate sectors.

These companies focus on offering comprehensive and smart efficiency solutions aimed at making complex energy-related issues easier and more manageable for customers. The service portfolio ranges from electricity and gas supplies and decentralised generation of useful energy to databased energy management services and electro-mobility services through to innovative combination products intended to enhance energy efficiency at customers' plants. MVV Enamic's range of services also includes supplying energy and operating the technical infrastructure at self-contained industrial parks.

New ventures business field

Beegy is a one-stop provider of services and products for smart, decentralised energy management. In the year under report, we took over all of the shares in this company, which was previously managed as a joint venture with BayWa and Glen Dimplex. Its services range from planning, building and operating sustainable plants – such as photovoltaics collectors, thermal storage, heat pumps, storage heating, charging stations and battery storage – through to optimising the energy use of such facilities. Via our shareholding in Luminatis, we are also active in the market for energy-efficient lighting. At the beginning of the 2018 financial year, we increased our shareholding in this company from 26 % to 70 %. Together with Luminatis, we enable our customers to modernise their lighting systems, for example by working with energy saving contracting solutions.

Strategic Investments segment

Our Strategic Investments segment mainly includes Köthen Energie and MVV Energie CZ, as well as the at-equity result of Stadtwerke Ingolstadt.

Other Activities segment

Our Other Activities segment comprises our shared service companies and all cross-divisional functions. Our shared service companies perform services in the areas of billing and customer support, information processing and metering for the Mannheim, Kiel and Offenbach subgroups. By pooling these companies and their services, we can ensure uniform management, generate necessary economies of scale and guarantee high process quality. **G4-4**

CORPORATE STRATEGY

Strategic alignment towards the energy system of the future

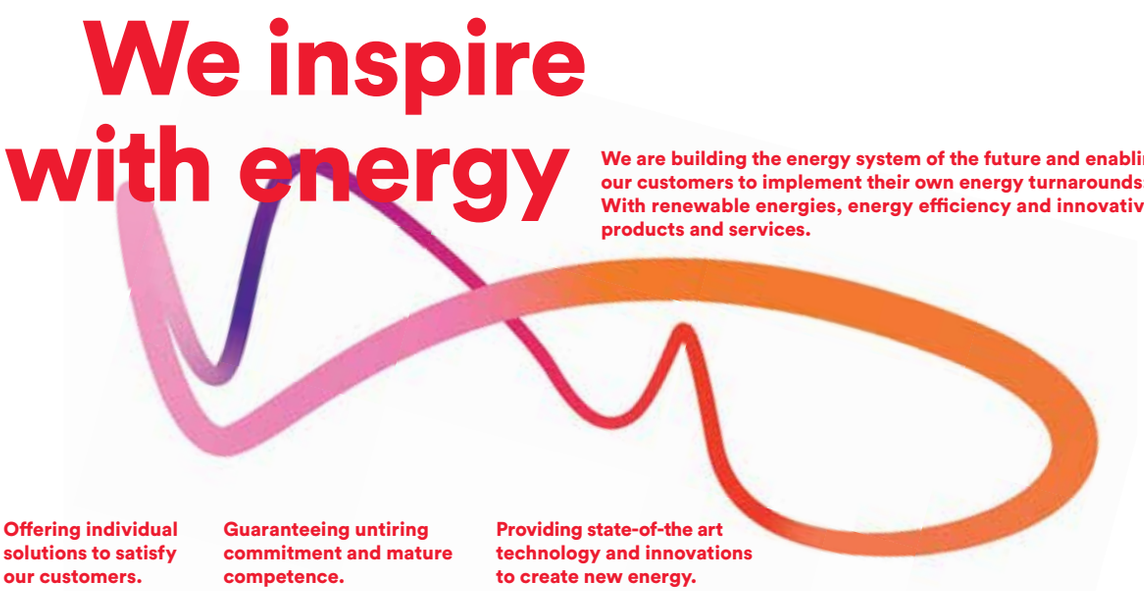
We have pioneered and are already successfully implementing the energy turnaround. We have been aligning our company towards the energy system of the future for many years now. To this end, we have invested substantially in renewable energies, energy efficiency and supply reliability. With our strategy, we are actively tackling the changes arising in what is a dynamic environment. We see the conversion in the energy supply as an opportunity to develop environmentally-friendly, innovative and customer-oriented solutions.

We are working to enable all our customers to take part in the energy turnaround – by producing their own energy, saving energy or benefiting from greater transparency about their own consumption. In this, we are drawing on our own competence, our experience and our power of innovation. We are developing new products and services and accord great value to consistently high service quality.

We review our strategy each year and adjust it in line with current and future changes in the competitive climate, the market and the political framework. Furthermore, we ensure that our strategy is being implemented in a targeted manner. This way, we create the basis to safeguard and extend our leading position in future as well.

Customers are the motivation for all aspects of our strategy.

We will invest a further Euro 3 billion in the years ahead and maintain our role in shaping the energy turnaround. Our investment focuses are renewable energies, our waste incineration activities, our services and digitisation. All investments are carefully weighed up and each measure has to satisfy an extremely sophisticated mix of various criteria including sustainability, future capability, customer focus, economic viability and strategic conformity.



Expanding renewable energies

One of our key strategic focuses involves generating electricity from renewable energies. We cover the entire value chain in this field: from project development to plant operations through to marketing the electricity.

We currently have total installed electricity capacities of around 200 MW for onshore wind turbines alone.

A further focus of our renewables energies activities is using biomass. We are already one of the market leaders when it comes to generating energy from waste timber, non-recyclable timber and fresh timber. Moreover, we are drawing on the market potential for generating electricity and heating energy from biogas.

One key pillar of the future energy system will involve combining highly efficient conventional generation and renewable energies generation. As the reliability, smartness and performance capacity of our grids plays a crucial role here, we are making ongoing efforts to optimise these.

We are growing with CHP

Combined heat and power (CHP) generation in conjunction with environmentally-friendly district heating is a core component of our growth strategy. We currently generate around 31 % of our electricity and more than 90 % of our heating energy using CHP. At the same time, we are further expanding heating energy generation and the district heating grids at all of the locations at our group of companies.

The new Küstenkraftwerk K.I.E.L. power plant will replace the joint power plant on Kiel Fjord. 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.

With 20 ultra-efficient gas motors, the Küstenkraftwerk K.I.E.L. plant will produce electricity and heat and secure Kiel's district heating supply.

Producing electricity and heating energy from waste is a core component of a modern, resource-efficient and closed-cycle economy. We are one of Germany's leading companies in this area, which is making an important contribution to the energy turnaround. With our waste-fired power plant in Plymouth and biomass plant at Ridham Dock, we also operate successfully in the UK.

At the locations operated by our strategic investments, we are also investing in extending existing heating energy generation systems and environmentally-friendly district heating.

Focus on smart products and services

We are developing innovative services and products for smart and decentralised energy management – always with a view to the wishes and needs of our industrial, retail and commercial customers. These customers benefit from the fact that, together with our partners, we can offer a combination of energy industry know-how, software intelligence, great experience and expertise. Today already, the digitisation of processes and products is a key topic which is set to gain further in significance.

Internal processes and services that function smoothly and are well coordinated are absolutely crucial, also from a strategic perspective. We benefit from our highly competent cross-divisional units and from the high-performance and efficient shared services at our Soluvia companies. These departments and their processes are continually reviewed, optimised and aligned to customer needs.

Building on the various components of our strategy, we will continue to safeguard and expand our position as a pioneer of the energy turnaround. These components form the basis which enables us to offer attractive and forward-looking products and services to our customers and secure and attractive jobs to our employees.

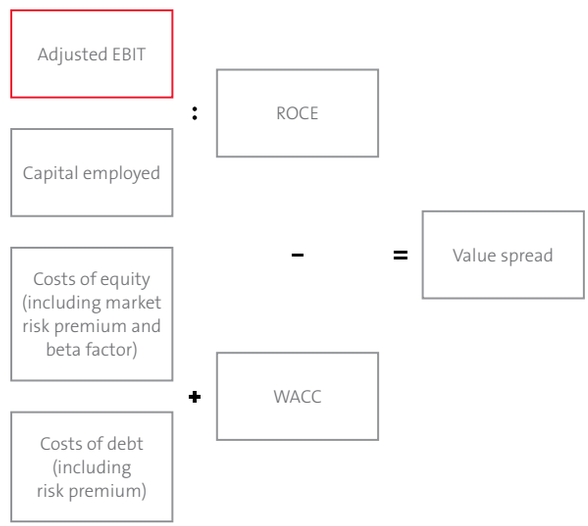
Our strategic objectives are promoted by all our business units and employees. This process is supported by our corporate culture and our strong brand. We revised our brand identity in the year under report. With our new image, we can communicate our strategic objectives and the values for which our company stands even more clearly, and that both outside and within the company.

CORPORATE MANAGEMENT

The aim of our corporate management is to generate a positive value spread and thus sustainably increase MVV's value. This objective is met when the return on average capital employed (ROCE) is higher than the costs of capital (WACC).

The most important key figure we refer to in order to assess the medium and long-term success of our value-based corporate management is adjusted operating earnings before interest and taxes (adjusted EBIT). To calculate this key figure, we eliminate the earnings items resulting from the 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 the interest income from finance leases reported below EBIT in the income statement to our adjusted EBIT. This income comes from our contracting projects and forms part of our operating business.

CALCULATION OF VALUE SPREAD
(simplified presentation)



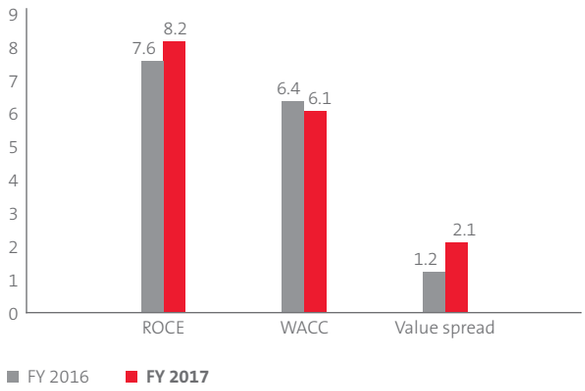
For the year under report, we reviewed the individual parameters used to calculate MVV's WACC figure and updated these in line with market developments.

WACC parameters

	FY 2017	FY 2016
Risk-free base rate	1.00 %	1.25 %
Market risk premium	6.5 %	6.0 %
Beta factor	0.88	0.96
Tax rate	30 %	30 %
Risk premium	1.78 %	1.49 %
Borrowing interest (risk-free base rate + risk premium)	2.78 %	2.74 %
Equity/debt capital share at market values	50 %	50 %
WACC before taxes	6.1 %	6.4 %

To calculate the risk-free base rate, we refer to the long-term yield curve at the German Bundesbank with a remaining term of up to 30 years. Alongside our own market studies, the market risk premium is based on the recommendations of the Specialist Committee for Company Valuation and Business Administration at the Institute of Public Auditors in Germany (IDW). We calculate the beta factor with the assistance of a peer group of comparable European energy companies.

KEY VALUE MANAGEMENT FIGURES
(%)



The ROCE for the 2017 financial year came to 8.2 % compared with 7.6 % in the previous year. The higher ROCE was due to the increase in adjusted EBIT and the lower average volume of capital employed compared with the previous year.

Subtracting the WACC before taxes of 6.1 % (previous year: 6.4 %) from the ROCE of 8.2 % (previous year: 7.6 %) leads to a value spread of 2.1 % for the year under report (previous year: 1.2 %).

TECHNOLOGY AND INNOVATION

Germany is working towards an energy supply system which will be decentralised and increasingly digitised. Structuring this new system is a complex and promising task, and one which is occupying the attention of companies in the energy industry. We too are monitoring the latest trends and promising technological advances. We have set ourselves the goal of developing new business models and bringing innovative product and services rapidly and efficiently to market maturity. We are focusing here on the current and future requirements of our customers. In the 2017 financial year, we pressed ahead with the following projects in particular:

RealValue

Decentralised electricity generation from renewable energies, especially wind and solar power, places entirely new challenges in the electricity grid. The energy supply has to be reliable around the clock, also at night and when there is no wind. This requires electricity generation and consumption to be smartly linked. One ever more critical factor is how to deal with electricity that is not actually needed at the time of its generation. MVV has joined forces with partners in RealValue, an EU consortium project. We will be working together until mid-2018 to investigate the potential of power-to-heat when used in electric storage heating systems which convert electricity generated from renewable energies into heating energy. Modern and smart electric storage heating systems have greater warmth retention. Linking these appliances via an internet platform to the energy market enables us to actively manage them in such a way as to ensure independence from fluctuations in wind and solar production cycles. Smart software makes it possible to react directly to weather and energy data and to store electricity flexibly.

We visualise the electricity consumption data for our customers using an online portal and an app. The first stages of the RealValue project are now complete. The households participating in their project had their technology converted and implemented the trial stage with fixed charging periods. In all, more than 100 households were equipped with the latest electric storage heating systems and more than 100 smart meters were fitted. We conducted an initial survey to monitor participants' experiences. We received numerous items of positive feedback and valuable suggestions helpful in further developing the app and the heating system installation process. The project will show the extent to which this power-to-heat solution can be operated in an economically viable manner.

Smart solutions for the energy system of the future.

C/sells cellular energy system

More than 60 industrial, energy sector and scientific players from across Europe are taking part in C/sells, an energy turnaround project which has been included in the nationwide "Smart Energy Showcase – Digital Agenda for the Energy Transition" initiative by the Federal Ministry for Economic Affairs and Energy (BMWi). The C/sells project aims to develop an energy management system with a cellular structure and a new smart grid approach. This kind of system comprises small units, so-called cells, such as individual properties, districts or towns. Each of these cells initially attempts to offset its own electricity generation and electricity requirements directly on location. Only when local production is insufficient to cover current needs is energy exchanged with a cross-regional cell. This way, each cell assumes responsibility for the equilibrium of the overall energy system.

The → **Benjamin Franklin Village** conversion space in Mannheim offers the opportunity to create this kind of cell. In the FRANKLIN District, MVV is simulating and testing the energy system of the future, in which the individual sectors of the energy system – electricity, heating energy and transport – will be connected with each other. Working with a smart heating energy cell, the aim is to show how heat generated on location from regenerative sources can be effectively integrated and used, for example by working with power-to-heat with photovoltaics and heat pumps. Not only the generation, but also the procurement of heat is to be adjusted in line with the situation by smartly controlling thermal buffer systems. This reduces heating energy losses in the grid while also enabling renewable energies to be better integrated into a low-temperature district heating grid.

By building up a modern charging infrastructure for electric vehicles, we aim to investigate potential flexibilities in this sector as well. Moreover, a fully networked metering concept serves to detect flexibility requirements in real time and to implement smart monitoring. This way, the energy flows are visible for end customers as well. Together with a range of added value and innovative services offered on this basis, MVV is creating a foundation to turn a new district into a forward-looking energy community.

In the year under report, we began work on planning the locations for the demonstration projects and on system dimensioning. Our aim is to test the energy and mobility world of the future together with the future residents of FRANKLIN District.

Expanding the electro-mobility charging infrastructure

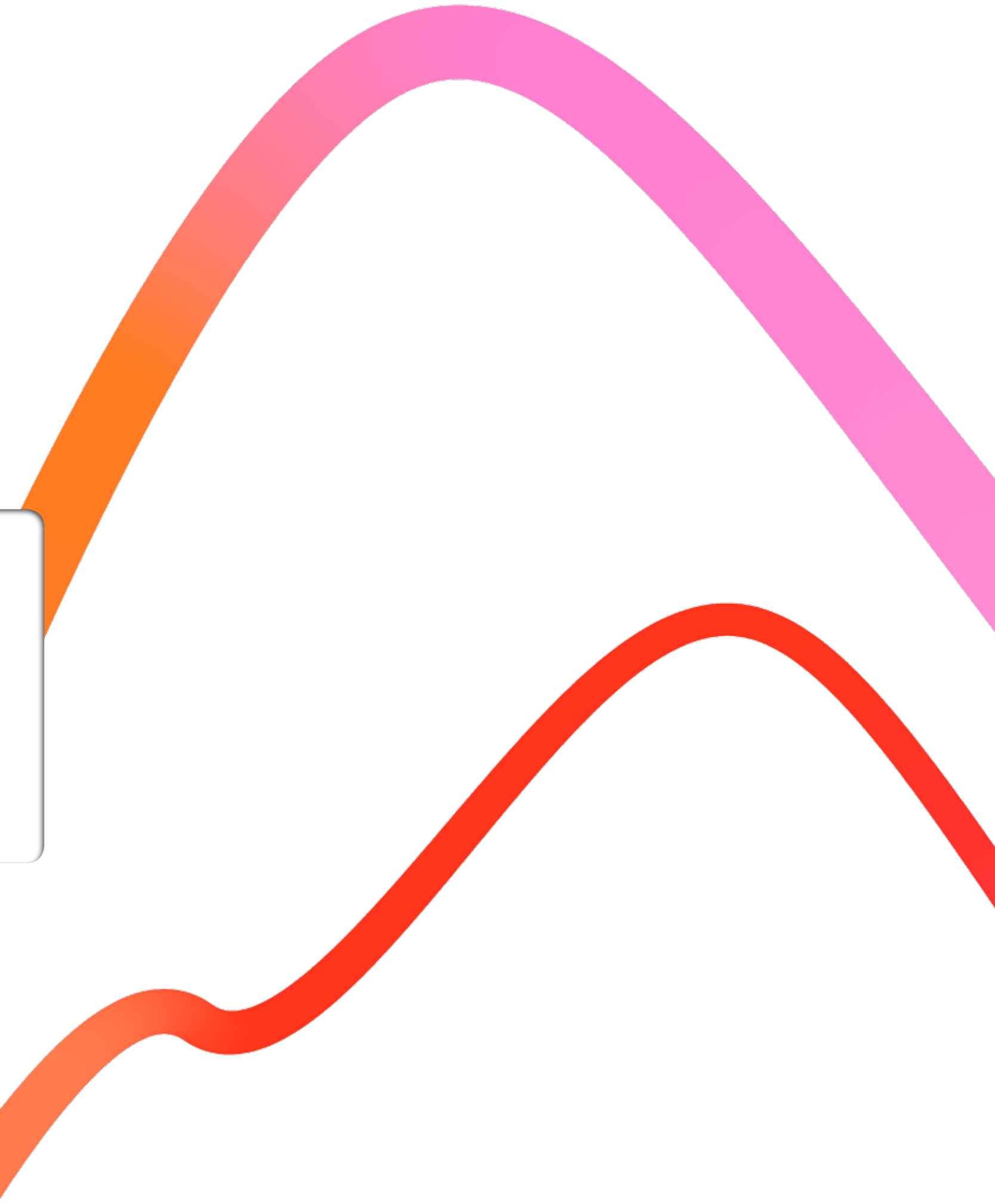
www.franklin-mannheim.de

The energy turnaround can only succeed if the transport system is also fundamentally transformed. Within the nationwide subsidy programme "Charging Infrastructure for Electric Vehicles in Germany", the Federal Ministry of Transport and Digital Infrastructure (BMVI) is supporting the expansion in charging infrastructure. A total of Euro 300 million will be provided from 2017 to 2020 to create a comprehensive network of public fast and normal charging stations across Germany.

In Phase 1 of this programme, MVV will install around 30 publicly accessible charging stations in Mannheim by mid-2018. These will be powered with electricity from renewable energies. We will draw on the experience gained from this project for, among other purposes, the further development of our e-mobility services. Private and business customers who need a forward-looking charging infrastructure can use our charging service, which covers all aspects: from planning and building the charging infrastructure to installing a suitable grid connection, ensuring reliable operations and billing through to green electricity supplies – irrespective of whether this is needed for a private parking space, a company car pool or public charging stations.

Projects promoting electro-mobility.

Energieversorgung Offenbach (EVO) is also planning additional charging stations in the city and district of Offenbach. In the year under report, Stadtwerke Kiel already installed five additional charging stations at its public car park at Uhlenkrog.



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Group Business Performance

- Sales with slight decline from Euro 4,066 million to Euro 4,010 million
- Adjusted EBIT improves from Euro 213 million to Euro 224 million
- Ongoing high level of investment
- Measures to enhance efficiency and save costs continued

MAJOR DEVELOPMENTS AND EXECUTIVE BOARD SUMMARY

Portfolio of products and services further boosted with investments and strategic partnerships

We made targeted investments and agreed strategic cooperations in the 2017 financial year and thus took further major steps aimed at bolstering MVV's ability to operate successfully in future as well.

In November 2016, the Supervisory Board of Stadtwerke Kiel AG approved the construction of the gas-powered CHP plant in Kiel. A substantial share of the investments we made in our existing business in the 2017 financial year was channelled into this project.

In May 2017 we acquired Econ Solutions, an energy data service provider. Together with Econ, we provide a sophisticated, one-stop energy management solution to medium-sized industrial companies, large commercial businesses and chain operators.

Also in May, our Juwi subgroup firmed up the partnership it has already maintained with the Danish wind turbine manufacturer Vestas for 15 years now with a master agreement. This involves new turbine types which produce optimum location-specific yields.

With regard to the direct marketing of solar electricity, we have been cooperating with SMA Solar Technology AG since mid-2017. The purpose of this partnership is to jointly develop solutions which enable electricity from photovoltaics systems with capacities greater than 100 kWp to be integrated directly and inexpensively into energy trading from the operations launch onwards.

In September 2017, we took over all the shares in Beegy, a joint venture founded in 2014 to provide all-round decentralised energy management solutions.

Adjusted EBIT improves while sales decrease slightly

MVV generated sales of Euro 4,010 million in the 2017 year under report, as against Euro 4,066 million in the previous year. Positive developments in the Trading and Portfolio Management segment were insufficient to make up for lower sales in the Generation and Infrastructure and Sales and Services segments. By contrast, our adjusted EBIT improved by 5 % to Euro 224 million. This figure benefited in particular from higher profitability in the Generation and Infrastructure segment. The earnings contribution from the Other Activities segment fell significantly short of the previous year's figure. This was because adjusted EBIT for the 2016 financial year had been boosted by positive one-off items.

Due to a marked improvement in the financial result, earnings before taxes (adjusted EBT) rose significantly. At Euro 169 million, this key figure was 22 % higher than the previous year's figure of Euro 139 million. This increase was not reflected in adjusted annual net income after minority interests, which declined by 2 % to Euro 93 million. This was due to higher taxes on income given the company's strong operating earnings, as well as to a disproportionate increase in minority interests. Adjusted earnings per share amounted to Euro 1.41, as against Euro 1.45 in the previous year.

Efficiency measures consistently upheld and high ongoing level of investment

In view of the fundamental changes in the underlying framework, we are continually reviewing our processes and organisational structures.

Sustainably boosting competitiveness is a key factor in the successful further development of our group of companies. In the past financial year, one focus here was on our sales and grid units. Our shared services also make an important contribution in this respect. These have to be based on forward-looking expertise, efficient structures and processes and market-oriented costs and services. As part of an extensive efficiency programme, we have analysed these processes in their entirety and from a customer perspective along the entire value chain. Building on our findings, in the next stage we will derive specific measures aimed at structuring service relationships at the Group more closely along market lines, as well as at simplifying our cooperation and simultaneously enhancing our efficiency.

To maintain our course of profitable growth, we made further targeted investments in the year under report. MVV invested a total of Euro 194 million, of which Euro 64 million involved growth investments. Thanks to its healthy financing structure and solid adjusted equity ratio of 35.1 %, MVV is excellently positioned to uphold this high pace of investment in future as well.

Executive Board summary of business performance and economic position

The German energy industry is in a period of upheaval which will fundamentally transform energy generation. By maintaining a high level of investment, launching programmes to sustainably enhance our efficiency and agreeing strategic cooperations, we laid strong foundations in the 2017 financial year enabling us to generate profitable growth in what is a dynamic and challenging climate.

We met our target for adjusted EBIT. We forecast slight earnings growth compared with the previous year's figure of Euro 213 million. At Euro 224 million, our adjusted EBIT improved by 5 %. Sales totalled Euro 4,010 million and thus fell only marginally short of the previous year's figure of Euro 4,066 million.

Consistent with expectations, MVV was unable to match the especially high rate of growth seen in the previous year, which benefited from the first full consolidation of the Juwi subgroup. The fact that we can nevertheless report a positive operating performance shows that we have the right strategy. Our clear commitment to further expanding renewable energies and our measures to enhance efficiency made key contributions enabling us to maintain our course of sustainably profitable growth.

Comparison of actual and expected business performance and outlook for 2018

	Forecast FY 2017	Results FY 2017	Outlook FY 2018
Sales performance	Slight growth on previous year's figure (Euro 4.1 billion)	Sales of Euro 4.0 billion	Slight growth
Adjusted EBIT	Slight growth on previous year's figure (Euro 213 million)	Adjusted EBIT of Euro 224 million	Slight growth, depending on weather conditions, the underlying framework for renewable energies, electricity and waste prices and the CDS
Adjusted equity ratio	Target > 30 %	Adjusted equity ratio of 35.1 %	High share of debt-financed growth programme continues to impact on equity ratio: target > 30 %
ROCE	Improvement on 2016 financial year (7.6 %)	ROCE reaches 8.2 %	ROCE at around previous year's level
Investments	Forecast adjusted after first half of 2017: total planned investments of around Euro 250 million	Total investments of Euro 194 million	Total planned investments of around Euro 300 million
Employees	Reduction in personnel totals due to ongoing implementation of efficiency programmes in existing business Opposing item: Rising staff totals in growth fields	Reduction in personnel totals to 6,062 employees as of 30 September 2017 (previous year: 6,174)	Increase in personnel totals in growth fields; further efficiency measures in existing business

G4-9

BUSINESS FRAMEWORK

Energy policy changes

Key energy policy factors

The regulations needed to transform the energy supply system were one of the most important political topics in Germany once again in the 2017 financial year. Three areas in particular are of great relevance to MVV's future business performance: the specific structure of tenders under the German Renewable Energies Act (EEG), the revised grid fee system contained in the German Grid Fee Modernisation Act (NEMoG) and the ordinances structuring the Amendment to the German Combined Heat and Power Generation Act (KWKG).

The energy turnaround continues to shape political developments.

Amendment to renewable energies legislation

The Federal Parliament and Federal Council adopted the Amendment to the German Renewable Energies Act (EEG) in July 2016 already. This legislation was granted state aid approval in December 2016 and was then able to take effect on schedule in January 2017.

The EEG Amendment focused on subsidies and converted the relevant system from regulated fixed feed-in compensation to competitive tenders. The following regulations were adopted for the addition of new plants:

- **Onshore wind power:** Including the repowering of older plants, new capacities of 2,800 MW a year should be added from 2017 to 2019. From 2020, this should rise to 2,900 MW a year. Due to grid bottlenecks, the addition of new capacities in Northern Germany has been limited to 58 % of average volumes added in the years from 2013 to 2015.

- **Offshore wind power:** Plants with capacities of 6,500 MW and 15,000 MW are to be built by 2020 and 2030 respectively.

- **Photovoltaics systems (electrical capacity greater than 750 kWp):** Since the end of 2015, capacities of 600 MW a year have been tendered. Plants with lower capacities continue to receive subsidiaries under the EEG 2014 legislation.

- **Biomass plants (electrical capacity greater than 150 kW):** Capacities of between 150 MW and 200 MW a year are tendered. Existing plants that do not use either waste timber or pulp production waste can also participate in tenders in order to receive a ten-year follow-up subsidy.

Renewable energies expansion also promoted abroad

In other countries, photovoltaics is often the renewable generation technology offering the lowest electricity generation costs. Numerous states, for example Japan, India and the USA, are providing targeted subsidies to expand the use of photovoltaics. The Japanese government introduced a renewable energies subsidy system in 2012. At core, the subsidy system involves a feed-in tariff for regenerative energy sources, and especially solar electricity. Since April 2017, the feed-in tariff for photovoltaics systems with capacities of more than 10 KW amounts to 28 yen (around 23 cents) per kWh. In mid-2017, the Indian government raised its 2020 expansion target for open-space solar parks from 20,000 MW to 40,000 MW. A total subsidy budget of 81 billion rupees (around Euro 1.14 billion) is being distributed by the federal states, which also tender the projects. The USA is also subsidising windfarms and solar parks on a nationwide basis, mainly by offering tax credits dependent on electricity production volumes (wind) or investment volumes (solar). Subsidy rates for wind power have been gradually reduced since 2017. For photovoltaics, this reduction in subsidies will start in 2020. Alongside this, however, numerous federal states offer additional regional subsidy instruments.

Results of tenders in Germany published

In May 2017, the Federal Network Agency (BNetzA) published the results of the first round of tenders for onshore wind turbines. Overall, 256 bids with a volume

of 2,137 MW were submitted. The available volume of 800 MW was thus significantly oversubscribed. A total of 70 bids with overall volumes of 807 MW were accepted, with an average acceptance value of 5.71 cents/kWh. The results of the second round of tenders were announced in August 2017. A total of 281 bids with volumes of 2,927 MW were submitted. Overall, 67 bids with total volumes of 1,013 MW were accepted, in this case with an average acceptance value of 4.28 cents/kWh.

Both tender rounds were characterised by a high degree of acceptance for citizens' energy companies, which accounted for 96 % of volumes accepted in the first round and 95 % in the second. These companies enjoy special privileges. They are permitted to submit their bids prior to the granting of approval. Following the public announcement, their deadline to realise the respective project amounts to 54 rather than 30 months. At the end of June 2017, the Federal Parliament decided to suspend the privileges enjoyed by citizens' energy companies initially for the first two tender rounds in 2018. These companies too will then be required to submit an approval notice.

The photovoltaics tender round in June 2017 was characterised by the extension in potential surfaces in Southern Germany. In disadvantaged areas, photovoltaics systems may now be installed on farmland and grassland as well. This increased the number of bids submitted. The average acceptance value for the volumes of 201 MW accepted came to 5.66 cents/kWh.

The first tender round for offshore wind power in April 2017 was characterised by very low bids. The volume- weighted average acceptance value came to 0.44 cents/kWh and amounted to 0 cents/kWh for three bids. For various reasons, however, these results are not comparable with the auction results for onshore wind power. The offshore plants are only due to launch operations in 2024 and 2025, grid link-up costs do not form part of the bid and successful bidders can draw on synergy effects with existing and future offshore projects directly adjacent to the new plants.

In May 2017, the Federal Government adopted an ordinance on joint tenders for onshore wind power and solar plants. In this pilot project, which will run for a limited period from 2018 to 2020, tenders on a scale of 400 MW a year will be tested in practice on a technologically neutral basis.

The tenders for onshore wind power and photovoltaics are chiefly relevant for our renewable energies project development business field. We expect the EEG legislation to be amended again in the 2018 financial year. In the political arena, we are particularly campaigning for the expansion corridor to be raised. Without this, it may not be possible to achieve the percentage targets for the expansion in renewable energies, as the sector coupling process will create additional demand for electricity. Furthermore, undesired consequences of the tender systems will have to be avoided, if necessary with targeted recalibration measures. This applies, for example, to the implications for onshore wind power projects.

Amendment to grid fee system

The German Grid Fee Modernisation Act (NEMoG) was adopted in July 2017. This legislation, which is intended to adapt grid fees to the requirements of the energy turnaround, provides for two material changes. On the one hand, grid fees on transmission grid level will gradually be standardised by 2023. On the other hand, the costs of avoided grid fees are to be reduced. To this end, the avoided grid fees for volatile feed-in volumes will gradually be abolished from 2018 onwards. This will reduce the burden on grid fees, but increase the allocation under the German Renewable Energies Act (EEG allocation). A further measure to reduce grid costs involves restructuring the calculation basis for avoided grid fees for all bodies feeding in energy generated on a decentralised basis. For these, the Federal Government has decided to freeze the calculation basis at the grid fee level applicable in 2016. Furthermore, specific cost items previously included in the calculation basis, such as grid link-up costs for offshore windfarms, will be reduced from 2018 onwards.

Within the legislative process, the Federal Ministry for Economic Affairs and Energy (BMWi) had also proposed abolishing avoided grid fees for controllable electricity generation plants feeding in electricity on a decentralised basis. In the public debate surrounding this proposal,

we adopted a contrary position. In our opinion, this measure would not have made sense from an energy industry perspective. It would, for example, have threatened the viability of CHP plants whose heating energy storage facilities and electrode boilers enable them to react with the utmost flexibility to changes in electricity demand.

We expect the grid fee system to be revised further in the current legislative period as well. Grid fees are of relevance for our grids business field, while avoided grid fees are relevant to our environmental energy and generation business fields.

Adjustment to regulations on new grid stability plants

The Federal Network Agency reviewed the requirements analysis of the transmission grid operators in May 2017 already and confirmed that there will be a need for additional grid reserve plants with a volume of 1,200 MW in winter 2021/22. Within the parliamentary process for the NEMoG legislation, the regulations on new grid stability plants were therefore also amended. In future, transmission grid operators will be permitted to maintain generation plants as special grid-specific operating resources intended to guarantee supply reliability. Within the framework of a non-discriminatory process, third parties are to be commissioned to build and operate these plants. The specific structure of this procurement process has not yet been clarified. It is not yet foreseeable whether these regulations will be relevant for our Trading and Portfolio Management and Generation and Infrastructure segments.

Amendment to KWKG legislation now complete

The German Combined Heat and Power Generation Act (KWKG) took formal effect in January 2016 already. At the beginning of our financial year in October 2016, this legislation also received state aid approval from the EU Commission. For this, however, one adjustment had to be made. In January 2017, regulations were introduced for the tendering of CHP plants with electrical capacity of 1 MW to 50 MW. For CHP plants smaller than 1 MW and larger than 50 MW, CHP premiums will be paid in accordance with the provisions of the KWKG 2016 legislation.

In June 2017, legal ordinances implementing further requirements from Brussels also came into effect. On the one hand, these related to the process to be used to present the viability of heating energy grids. On the other hand, they involved the structuring of those tenders which the Federal Ministry for Economic Affairs and Energy (BMWi) will be executing for CHP plants with electrical capacity of 1 MW to 50 MW and for innovative CHP systems.

The KWKG legislation is due to be evaluated by the BMWi in 2017/18. We therefore expect it to be amended in this legislative period. This legislation plays an important role for us in connection with the operation of CHP plants and expansion in our heating energy grids.

Legislation promoting tenant electricity adopted

The German Tenant Electricity Promotion Act adopted in July 2017 is intended to enable tenants to participate in the energy turnaround. This way, it should be possible to use further roof surfaces for photovoltaics systems. Tenant electricity comes from photovoltaics systems operated by owners or landlords. It is supplied to residents of the building and consumed by these. Subsidies are provided for photovoltaics systems of up to 100 kW, while the maximum volume of installed capacities added per year amounts to 500 MW. This promotion offers us the opportunity to further boost potential photovoltaics business volumes as part of our one-stop Smart Tenant Electricity service.

EU Winter Package not yet adopted

The European Commission presented an extensive package of energy policy legislation in November 2016 already. Among other aspects, this “Winter Package” includes proposals concerning the abolition of priority feed-in for renewable energies, market-based subsidies for renewable energies and greater cross-border cooperation between transmission and distribution grid operators. Furthermore, the share of renewable energies used in district heating is to be increased in the long term. According to the considerations submitted by the European Commission, the introduction of capacity markets is basically possible, but power plant participation should be linked to an emissions cap. National energy and climate plans should ensure that the EU targets are met by 2030.

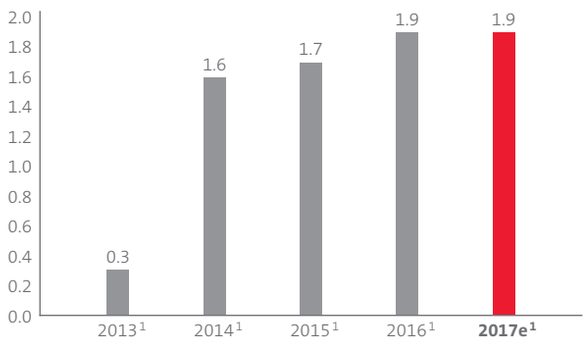
The Winter Package was addressed in the European Parliament and European Council of Ministers in summer 2017 but is only expected to be adopted in 2018. This package will not have any direct implications for our business performance in the short and medium terms.

Market climate and competition

German economy expected to show solid growth

The German economy developed positively once again in the 2016 calendar year, benefiting above all from rising consumer spending and investments in the domestic economy. German gross domestic product (GDP) grew by 1.9 %. In their autumn survey, experts at Germany's leading economic research institutes forecast GDP growth of 1.9 % for the 2017 calendar year. This should be driven by the domestic economy, exports and capital expenditure.

GDP GROWTH IN GERMANY
(%)



1 Calendar year

Sources: Federal Statistical Office and forecast in autumn survey of leading German economic research institutes (2017)

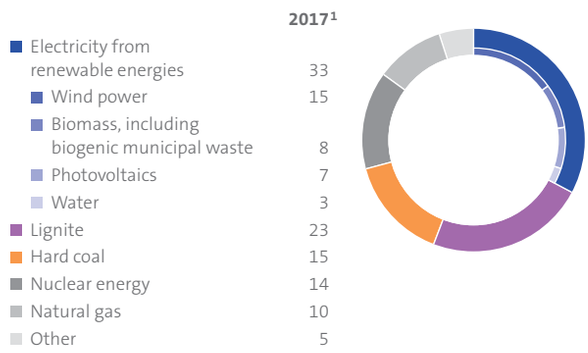
Slight increase in electricity generation in Germany

In July 2017, the Association of the German Energy and Water Industries (BDEW) published estimates of gross electricity generation in Germany. At 329.7 billion kWh in the first six months of 2017, this was 2 % higher than the previous year's figure of 323.1 billion kWh.

Renewables share of German electricity generation reaches 33 %

According to BDEW estimates, the share of electricity generation in Germany accounted for by renewable energies came to 33 % in the 1st half of 2017, compared with 30 % in the previous year's period. Overall, the volume of electricity generated by wind turbines grew by 19 %, with onshore wind turbines reporting an increase of 14 % and offshore wind turbines reporting growth of 48 %. Electricity generation volumes at photovoltaics systems were 14 % up on the previous year. Biomass and biogenic municipal waste generated 2 % more electricity than one year earlier.

GROSS ELECTRICITY GENERATION IN GERMANY
Shares (%)



1 January to June 2017

Sharp expansion in onshore wind power

In February 2017, the German Wind Energy Association (BWE) published the expansion statistics for the 2016 calendar year. In Germany, 4,625 MW of onshore wind capacity was newly installed. Total installed onshore wind power capacity thus amounted to 45,911 MW – equivalent to cumulative year-on-year capacity growth of 10 %. Gross onshore wind power capacity totalling 2,281 MW was added in Germany in the 1st half of the 2017 calendar year. This corresponds to growth of 11 % on the previous year's period. This calculation includes capacities of 450 MW added by repowering turbines.

Positive market expectations for our growth fields

To date, the energy turnaround has mostly involved an electricity turnaround. Now, however, the heating supply and transportation sectors are also making fundamental changes. As a result, the interaction between efficient, decentralised generation, smart consumption and sensible storage solutions is set to play an ever more important role. At the same time, digitisation is also advancing in the energy industry. Not only that, prices of battery storage facilities and photovoltaics systems have fallen sharply over the past decade and will decline further. The BP Energy Outlook 2017 forecasts that global energy needs will rise by around 30 % over the next 20 years – with the limiting effect resulting from greater energy efficiency already factored in. According to the BP study, renewable energies generation will continue to show the highest growth rates worldwide. The authors of the study expect renewables' share of total generation volumes to quadruple over the next 20 years – with this trend being driven in particular by the improving competitiveness of wind and solar power. A study published by the International Energy Agency in November 2016 provides similar forecasts. According to this study, global energy demand should rise by 30 % by 2040. Renewable energies – a focal topic in the World Energy Outlook 2016 – are set to show by far the fastest growth worldwide. The experts expect the average costs of photovoltaics to fall by a further 40 % to 70 % by 2040, with the costs of onshore wind turbines falling by a further 10 % to 25 %.

In its "Heating Transition 2030" study, Agora Energiewende describes the potential harboured by the German heating energy market. Accordingly, the potential for expanding (district) heating grids from around 10 % of end energy needs currently to around 23 % by 2050 would appear to be significantly improvable.

The "Fact Check Mobility 3.0" study compiled by Horváth & Partners outlines the potential for electro-mobility in Germany in the period from 2017 to 2020. Due to falling battery prices and improved battery technology, higher ranges – averaging around 450 kilometres – can be expected. From 2020, the costs of small electric cars should be similar to those for comparable models with conventional drive systems. According to the study, in 2017 the number of electric vehicles was only expected to rise from around 43,000 to 112,000. By 2022, however, this figure should rise to 1 million electric vehicles.

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

Increase in wholesale prices for fuels and electricity

Wholesale prices for fuels and electricity rose in the course of the year under report. Prices on the emissions market, by contrast, initially showed slight losses, with increases only following in the 4th quarter of our financial year.

Listed prices for **Brent crude oil** for supply in the following month (front-month) ranged between US$ 44.43 and US$ 59.02 per barrel in the 2017 financial year. At US$ 52.17, the average price per barrel in the year under report was US$ 8.61 up on the previous year's figure of US$ 43.56. Following the agreement reached by OPEC in December 2016 to implement a reduction in supply – leading to prospects of a balanced oil market in the medium term – oil prices initially rose to levels sustainably above US$ 50 per barrel.

In spring 2017, however, there were increasing doubts that the substantial supply surpluses would be speedily reduced. Furthermore, the OPEC countries Libya and Nigeria, which had been exempted from the supply cuts, significantly increased their production volumes in the second quarter of the 2017 calendar year. As a result, by mid-July 2017 prices fell significantly below US$ 50 per barrel. After this, a weaker US dollar and noticeable reduction in stocks in the USA led prices per barrel to recover to above the US$ 50 mark once more.

Natural gas prices for the front-year product in the Net-Connect Germany (NCG) market region were listed at an average of Euro 16.96/MWh in the year under report and thus Euro 1.11/MWh higher than in the previous year. In winter 2016/17, storage withdrawal volumes were high through to February 2017. Over the same period, the high level of demand on the day-ahead market and increased oil prices supported the front-year contract. The spring then witnessed an easing in the supply situation. In conjunction with the weaker trend also shown by oil prices, this led to a reduction in front-year contract prices. Prices subsequently fell through to the end of June 2017. Due to the absence of any notable market momentum in the further course of the year, the contract initially fluctuated within narrow limits around the Euro 16.00/MWh mark before rising to Euro 17.50/MWh at the end of the financial year.

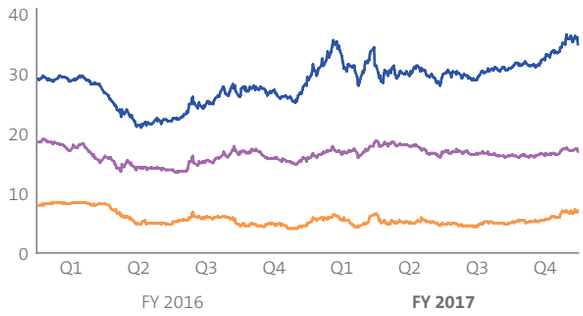
The upward trend in **coal prices** on the European coal market which began in the 1st quarter of the 2016 calendar year continued in the 2017 financial year. Compared with the previous year, front-year prices per tonne for hard coal in the ARA region (Amsterdam, Rotterdam, Antwerp) rose by US$ 21.03 to an average of US$ 69.39. This was due among other factors to lower production volumes in Columbia and Australia as a result of weather conditions, a situation which led to a global demand surplus.

Prices for **base load electricity** for supply in the following year tracked developments on fuel markets, and especially the coal market. Accordingly, the front-year price gained Euro 5.32/MWh in the year under report and averaged Euro 31.20/MWh. Following a volatile period at the beginning of the year under report, the front-year price stabilised at around Euro 30/MWh in the 2nd quarter of the 2017 financial year. In the further course of the year, the front-year contract initially established itself at a level of Euro 31/MWh due to firmer coal prices before rising to more than Euro 36/MWh at the end of the financial year.

Emission right prices per tonne of CO_2 for supply in the following year reached an average of Euro 5.35 in the 2017 financial year, Euro 0.74 lower than in the previous year's period. The structural reforms to emissions trading introduced by the EU Environment Council in February 2017 for the fourth trading period then created positive momentum. Prices on the emissions market nevertheless failed to show any sustainable recovery and prices came under further downward pressure by the end of May 2017. On the one hand, auction volumes increased upon the expiry of back-loading and on the other hand emissions volumes turned out lower due to reduced volumes of electricity generated from coal. Emission market prices only rose once again in the 4th quarter of our 2017 financial year and even temporarily passed the Euro 7 mark in September. This development was promoted by the rise in energy prices across the board. Further support came from the lack of auction volumes, as well as from the intention on the part of Germany and France to finalise EU reforms to the emissions trading system due to apply for the period after 2020 in November 2017.

The **clean dark spread,** i.e. the margin achieved from generating electricity from hard coal, initially showed very weak developments through to February 2017, and was even negative at times. Following this period, the clean dark spread returned to the low level seen at the beginning of the 2017 financial year – a development supported by firmer calendar year prices for electricity as well as by the weaker US dollar.

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



- EEX electricity base front-year (Euro/MWh)
- EEX natural gas NCG front-year (Euro/MWh)
- EUA front-year (Euro/tonne CO_2)

DEVELOPMENT IN WHOLESALE PRICES FOR OIL AND COAL

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

DEVELOPMENT IN CLEAN DARK SPREAD FOR 2018

- Clean dark spread 2018 (Euro/MWh)

MVV's market position

- MVV produced 59 % of its total **electricity generation volumes** in Germany from **renewable energies** in the 2017 financial year. By comparison, at the end of the 1st half of 2017 renewable energies accounted for 33 % of German gross electricity generation volumes.
- With our subsidiaries Juwi AG and Windwärts Energie GmbH, we are one of Germany's leading **renewable energies project developers.**
- **Directly marketing electricity from renewable energies** within the market premium model also forms part of our portfolio. At the end of the year under report, MVV had renewable energies plants in Germany with a total capacity of 7,400 MW under contract. This makes us the second-largest direct marketer in Germany.
- When it comes to **generating energy from biomass,** we are also one of the German market leaders. In the 2017 financial year, we operated 17 biomass and biogas plants in Germany. These generated 284 million kWh of electricity and 224 million kWh of heating energy in total. Furthermore, we generated 261 million kWh of biomethane at four biomethane plants.
- The district heating grid at our grid companies in Germany is 1,147 kilometres long. In the year under report, we generated district heating turnover of 6.1 billion kWh in Germany, making us the country's second-largest **district heating provider.**
- We are one of Germany's three largest operators of **energy from waste and biomass plants.** In the 2017 financial year, our German locations accepted a total of 1.8 million tonnes of waste and refuse-derived fuels for incineration.
- In the **Czech heating energy market,** our MVV Energie CZ a.s. subgroup operates at 15 locations and is one of the market leaders.

Impact of weather conditions

Cooler weather conditions in winter 2016/17

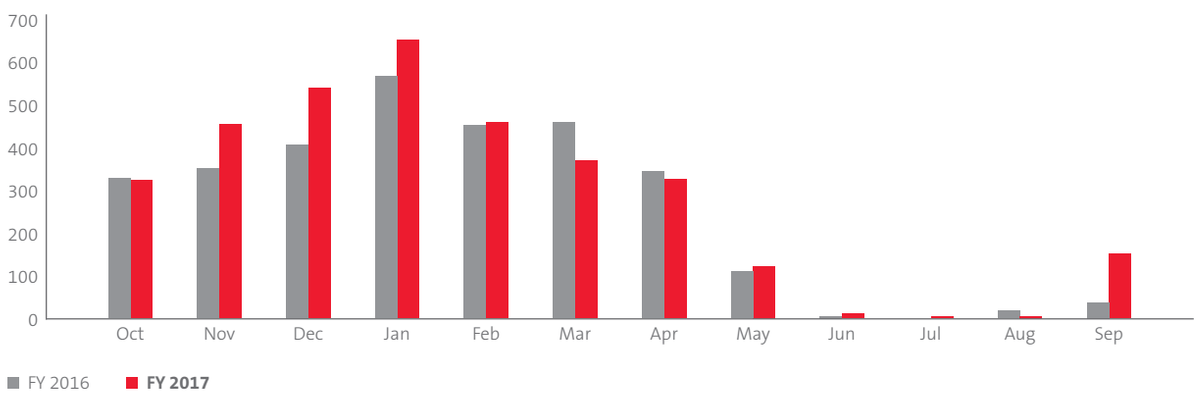
Lower outdoor temperatures lead to rising heating energy requirements on the part of our customers. This is also reflected in higher degree day figures, which are referred to as an indicator of temperature-based heating energy use. In the 2017 financial year it was cooler than in the previous year, especially in the winter months. Degree day figures at MVV were 11.0 % higher than the comparable figure for the previous year.

Lower wind volumes than in previous year

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

Compared with the long-term average, the volume of usable wind power was lower in the 2017 financial year in Germany, and especially in the regions relevant to our business. At 91 %, the usable wind yield also fell short of the previous year's figure of 96 %. For this comparison, we draw on the "EMD-ConWx Mesoscale Wind Index" with a reference period (20-year average). The 2017 series comprises the months from October 2016 to August 2017. 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 cannot be measured solely in terms of its key financials. Non-financial performance indicators also play a major role in the sustainable development of our company.

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

Reduction in workforce

MVV had a total of 6,062 employees as of 30 September 2017, 112 fewer than at the previous year's balance sheet date. The reduction in the number of employees was due in particular to the realignment of sales units.

Personnel figures (headcount) at balance sheet date

	30 Sep 2017	30 Sep 2016	% change
MVV[1]	6,062	6,174	−2
of which Germany	5,227	5,328	−2
of which abroad	835	846	−1

1 including 324 trainees (previous year: 343)

A total of 5,227 individuals worked for us in Germany, while our foreign subsidiaries had 835 employees. Of these, 513 worked at our Czech subgroup, 234 at Juwi's international shareholdings and 72 at the British subsidiaries of our environmental energy (Umwelt) subgroup. One subsidiary of Windwärts Energie GmbH in France had 16 employees.

Adjusted employee benefit expenses rose year-on-year by 4 % to Euro 418 million. This increase was primarily due to the first full-time inclusion of our Juwi subgroup, as well as to collectively agreed pay rises.

Further rise in electricity generation from renewable energies

At 426 MW_e, the electricity generation capacity (installed capacity) of our plants powered by renewable energies including the biogenic share of waste/refuse-derived fuels (RDF) was slightly ahead of the previous year's figure of 418 MW_e. This increase was principally due to the positive impact of modernisation measures at our waste-fired CHP plant in Offenbach, which are now taking effect. Furthermore, the calculation for the first time includes two smaller-scale photovoltaics systems at Juwi and an open-space photovoltaic plant at EVO.

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

MW_e	**FY 2017**	FY 2016	% change
Biomass and biogas plants	73	73	0
Biogenic share of waste/RDF	151	146	+3
Wind power	196	196	0
Hydroelectricity	2	2	0
Photovoltaics	4	1	>+100
Total	**426**	**418**	**+2**

Despite adverse wind conditions, we further improved our electricity generation volumes from renewable energies, including the biogenic share of waste/RDF, in the year under report. At 1,070 million kWh, these volumes were 35 million kWh higher than at 30 September 2016.

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

kWh million	**FY 2017**	FY 2016	% change
Biomass and biogas plants	432	410	+5
Biogenic share of waste/RDF	308	281	+10
Wind power	323	337	−4
Hydroelectricity	4	6	−33
Photovoltaics	3	1	>+100
Total	**1,070**	**1,035**	**+3**

The increase in electricity generation volumes at our biomass plants was chiefly driven by our biomass power plant in the UK, where we launched operations at the end of 2015.

Our plants powered by waste and refuse-derived fuels (biogenic share) increased their electricity generation volumes in 2017. This was due in particular to a year-on-year increase in demand at the plants in Leuna and Offenbach.

By contrast, the lower overall volume of wind meant that our wind turbines produced less electricity in the year under report than in the previous year. This reduction could only be compensated for in part by full-year operations at the turbines connected to the grid in Freudenberg at the end of the 2016 financial year. As a result, our wind power electricity generation volumes fell by 14 million kWh.

Further increase in electricity generation volumes

MVV generated 1,903 million kWh of electricity, corresponding to an increase of 106 million kWh or 6 %, in the 2017 financial year.

Electricity generation volumes

kWh million	FY 2017	FY 2016	% change
Electricity from renewable energies and biogenic share of waste/RDF	1,070	1,035	+3
Electricity from CHP	588	470	+25
Other electricity generation	245	292	−16
Total	**1,903**	**1,797**	**+6**

We can report a significant increase in the volumes of electricity generated using combined heat and power (CHP). In the year under report, these volumes grew by 118 million kWh to 588 million kWh, a development chiefly due to our CHP plant in Plymouth. Conversely, this plant witnessed a reduction in the volume of condensation electricity presented under other electricity generation. As a result, electricity generation volumes here decreased by 47 million kWh to 245 million kWh.

Heating energy generation virtually unchanged

At 2,708 MW_t, the heating energy generation capacity of our plants was at the previous year's level.

Heating energy generation capacity

MW_t	FY 2017	FY 2016	% change
Biomass and biogas plants	135	134	+1
Biogenic share of waste/RDF	682	682	0
Heating energy generation capacity from renewable energies	**817**	**816**	**0**
Other plants	1,891	1,879	+1
Total	**2,708**	**2,695**	**0**

At 4,104 million kWh, the volume of heating energy generated was stable compared with the previous year. The heating energy volumes generated from the incineration of waste and refuse-derived fuels (biogenic share) fell by 82 million kWh. This was because the higher volume of electricity coupled out at our non-recyclable waste incineration and energy generation plants in Leuna and Gersthofen reduced the volume of process steam coupled out.

The increase in volumes at other plants was due to higher demand on account of weather conditions.

Heating energy generation volumes

kWh million	FY 2017	FY 2016	% change
Biomass and biogas plants	267	267	0
Biogenic share of waste/RDF	1,754	1,836	−4
Heating energy generation from renewable energies	**2,021**	**2,103**	**−4**
Other plants	2,083	2,033	+2
Total	**4,104**	**4,136**	**−1**

Biomethane generation at previous year's level

Consistent with the relevant generation capacities, which remained unchanged, the volume of biomethane produced in the year under report almost matched the level reported for the 2016 financial year. Generation capacities came to 30 MW_{hs}, while generation volumes totalled 261 million kWh. MVV launched operations at two new plants in Saxony-Anhalt in 2015, leading volumes to rise significantly in the 2016 financial year.

Biomethane generation volumes

kWh million	**FY 2017**	FY 2016	% change
Biomethane plants	261	259	+1

Fuel input volumes largely stable

Protecting fossil resources is an important component of our sustainability strategy. Alongside fossil fuels, in our modern energy generation activities we therefore also work with waste and biomass.

Fuels used at power plants

	FY 2017	FY 2016	% change
Biomass (tonnes 000s)	514	518	–1
Biogenic share of waste/RDF (tonnes 000s)	1,810	1,820	–1
Natural gas (kWh million)	2,315	2,167	+7
Heating oil extra light (HEL) (kWh million)	94	99	–5
Hard coal (tonnes 000s)	88	85	+4

In terms of the fuel volumes used, the 2017 year under report witnessed only slight changes compared with the 2016 financial year. Biomass and the biogenic share of waste and refuse-derived fuels remained virtually constant. The increase reported for gas was due to the shifting in production from the joint power plant in Kiel (Gemeinschaftskraftwerk Kiel – GKK) to CHP plants. Furthermore, one plant at our MVV Enamic subsidiary used more gas in the year under report. The volume of coal deployed at the CHP plant in Offenbach was slightly higher than in the previous year.

CO_2 emissions

The CO_2 emissions at our fully consolidated generation plants totalled 1,646,000 tonnes in the year under report, as against 1,455,000 tonnes in the previous year. This increase in emissions was mainly due to a shift in production between the respective power plants. The lower volume of electricity and heating energy generated at the joint power plant in Kiel (Gemeinschaftskraftwerk Kiel – GKK), which is recognised at equity, was offset by several fully consolidated heating energy and CHP plants. Furthermore, higher generation volumes at our energy from waste and RDF plants led to correspondingly higher CO_2 emissions.

Expenses for emission rights rose to Euro 6 million, up by Euro 5.5 million in the 2016 financial year. By contrast, no income was generated from emission rights (previous year: Euro 18 million). **G4-EU5**

PRESENTATION OF EARNINGS PERFORMANCE

The period under report is the 2017 financial year – from 1 October 2016 to 30 September 2017. Unless otherwise indicated, the comments below refer to the MVV Energie Group ("MVV"), i.e. to all fully consolidated companies.

MVV

MVV

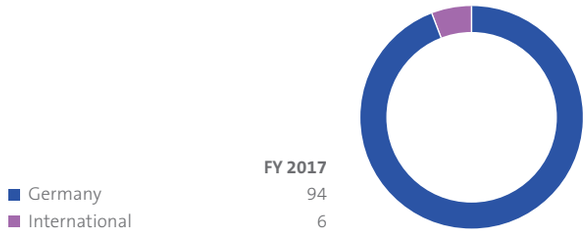
Euro million	FY 2017	FY 2016	+/– change	% change
Development in turnover				
Electricity (kWh million)	26,293	21,797	+4,496	+21
Heating energy (kWh million)	6,917	6,716	+201	+3
Gas (kWh million)	25,190	28,270	−3,080	−11
Water (m³ million)	40.2	41.1	−0.9	−2
Combustible waste delivered (tonnes 000s)	2,291	2,306	−15	−1
Sales excluding energy taxes	4,010	4,066	−56	−1
of which electricity sales	2,147	1,962	+185	+9
of which heating energy sales	371	359	+12	+3
of which gas sales	648	715	−67	−9
of which water sales	87	88	−1	−1
Adjusted EBIT	224	213	+11	+5

In contrast to the prediction made in our forecast, sales decreased slightly in the 2017 financial year. The main reason for this was the reduction in sales in the project development business. Our sales performance was also held back by lower gas sales. By contrast, sales benefited from volume-driven growth in electricity sales and from the development in waste incineration prices.

The development in the volatile project development business as described above led to changes in the regional distribution of sales. The share of sales generated in Germany increased to 94 % (previous year: 89 %), while the international business accounted for 6 % of MVV's sales (previous year: 11 %).

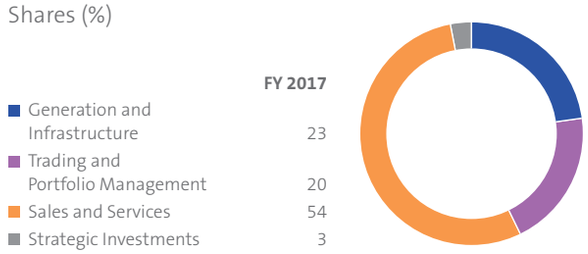
SALES EXCLUDING ENERGY TAXES BY REGION

Shares (%)

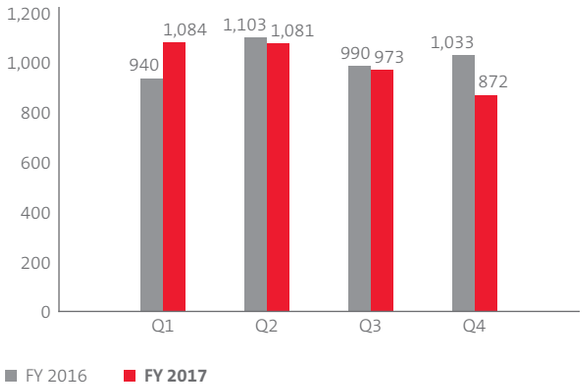


SALES EXCLUDING ENERGY TAXES BY REPORTING SEGMENT

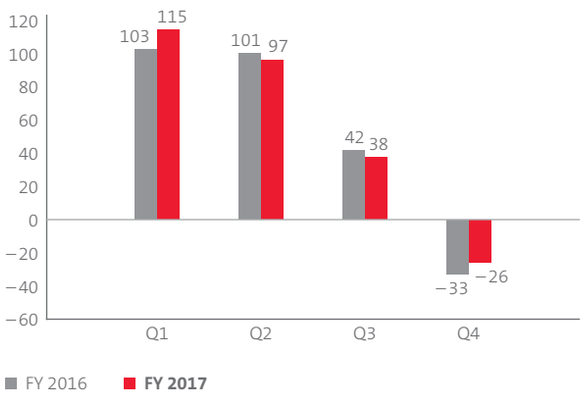
Shares (%)



SALES EXCLUDING ENERGY TAXES BY QUARTER
Euro million



ADJUSTED EBIT BY QUARTER
Euro million



Generation and Infrastructure reporting segment

Generation and Infrastructure

Euro million	**FY 2017**	FY 2016	+/– change	% change
Development in turnover				
Electricity (kWh million)	454	465	−11	−2
Heating energy (kWh million)	1,037	1,069	−32	−3
Gas (kWh million)	261	259	+2	+1
Combustible waste delivered (tonnes 000s)	1,963	1,942	+21	+1
Sales excluding energy taxes	937	1,110	−173	−16
Adjusted EBIT	183	161	+22	+14

In our Generation and Infrastructure reporting segment we present the electricity generation volumes at MVV Umwelt and the share of electricity generation volumes at our wind turbines that is marketed to third parties. The shares of sales and earnings contributed by our Juwi subgroup, which was included for the first full-year period in the year under report, are also reported in this segment. Electricity turnover declined slightly compared with the previous year. The growth reported by our UK generation plants was insufficient to fully offset for the weather-related downturn at our wind turbines.

Due to lower sales in the project development business, it was not possible to achieve the slight sales growth forecast for this segment. The increase in adjusted EBIT was primarily due to high availability levels at our generation plants in Germany and the UK. Furthermore, there was a recovery in waste and biomass prices. These factors were opposed by earnings in the renewable energies project development business where, as expected, we were unable to match the exceptionally high earnings reported for the previous year.

Trading and Portfolio Management reporting segment

Trading and Portfolio Management

Euro million	FY 2017	FY 2016	+/– change	% change
Development in turnover				
Electricity (kWh million)	15,122	9,982	+5,140	+51
Gas (kWh million)	18,428	21,467	–3,039	–14
Sales excluding energy taxes	790	645	+145	+22
Adjusted EBIT	–21	–31	+10	+32

Driven by higher trading activities in the direct marketing business, electricity turnover in the Trading and Portfolio Management segment rose significantly compared with the previous year. By contrast, gas trading volumes showed a reduction which was due to lower portfolio management activities.

This sales growth means we exceeded our forecast, which predicted sales at the same level as in the previous year. This development was driven by higher electricity trading volumes, as well as by electricity price rises.

Due to positive effects resulting from trading book management, adjusted EBIT improved compared with the previous year. However, the low level of gross margin from conventional electricity generation means that our adjusted EBIT is still too low.

Sales and Services reporting segment

Sales and Services

Euro million	FY 2017	FY 2016	+/– change	% change
Development in turnover				
Electricity (kWh million)	10,442	11,093	–651	–6
Heating energy (kWh million)	5,106	4,909	+197	+4
Gas (kWh million)	6,302	6,377	–75	–1
Water (m³ million)	39.3	40.3	–1.0	–2
Combustible waste delivered (tonnes 000s)	212	240	–28	–12
Sales excluding energy taxes	2,176	2,210	–34	–2
Adjusted EBIT	36	29	+7	+24

In the past financial year, we focused the direct marketing business on the Trading and Portfolio Management reporting segment. As a result, direct marketing volumes have moved to MVV Trading. This in turn led to a slight decline in external sales in the Sales and Services segment. Unlike our forecast, segment sales therefore fell short of the previous year's figure.

Gas turnover showed a slight decline, as the additional turnover with our customers resulting from weather conditions was insufficient to fully offset the reduction in our energy-related services business. Heating energy turnover rose on account of cooler weather conditions.

Earnings in the Sales and Services segment benefited from cool weather conditions during the heating period, as well as from the organisational realignment of sales units in the business customer and trading businesses.

Strategic Investments reporting segment

Strategic Investments

Euro million	**FY 2017**	FY 2016	+/– change	% change
Development in turnover				
Electricity (kWh million)	275	257	+18	+7
Heating energy (kWh million)	774	738	+36	+5
Gas (kWh million)	199	168	+31	+18
Water (m³ million)	0.9	0.9	0	0
Combustible waste delivered (tonnes 000s)	116	124	–8	–6
Sales excluding energy taxes	104	99	+5	+5
Adjusted EBIT	24	24	0	0

Given stable developments at our shareholdings, adjusted EBIT was at the previous year's level.

Other Activities reporting segment

Other Activities

Euro million	**FY 2017**	FY 2016	+/– change	% change
Sales excluding energy taxes	3	2	+1	+50
Adjusted EBIT	2	30	–28	–93

The earnings performance of the Other Activities reporting segment was influenced in particular by the non-recurrence of one-off items seen in the previous year. In the 2016 financial year, the sale of ZVO Energie GmbH and disposal of a piece of land at Energieversorgung Offenbach AG had led to unusually high earnings.

Reconciliation with adjusted EBIT

In the following table, we show how we reconcile the EBIT reported in the income statement for the 2017 financial year with the adjusted EBIT figure relevant for management purposes.

Reconciliation of EBIT (income statement) to adjusted EBIT from 1 October to 30 September

Euro million	**FY 2017**	FY 2016	+/– change
EBIT as reported in income statement	259	225	+34
Financial derivatives measurement item	–39	–24	–15
Structural adjustment for part-time early retirement	+1	+2	–1
Restructuring expenses	0	+7	–7
Interest income from finance leases	+3	+3	0
Adjusted EBIT	**224**	**213**	**+11**

Development in key income statement items

The → **cost of materials** showed a disproportionate decline compared with sales, falling by Euro 129 million to Euro 3,079 million. This development was mainly driven by a reduction in the renewable energies project development business and the fall in gas prices. By contrast, expenses in the direct marketing business increased due to higher volumes.

Notes to Income Statement Note 5 Page 127

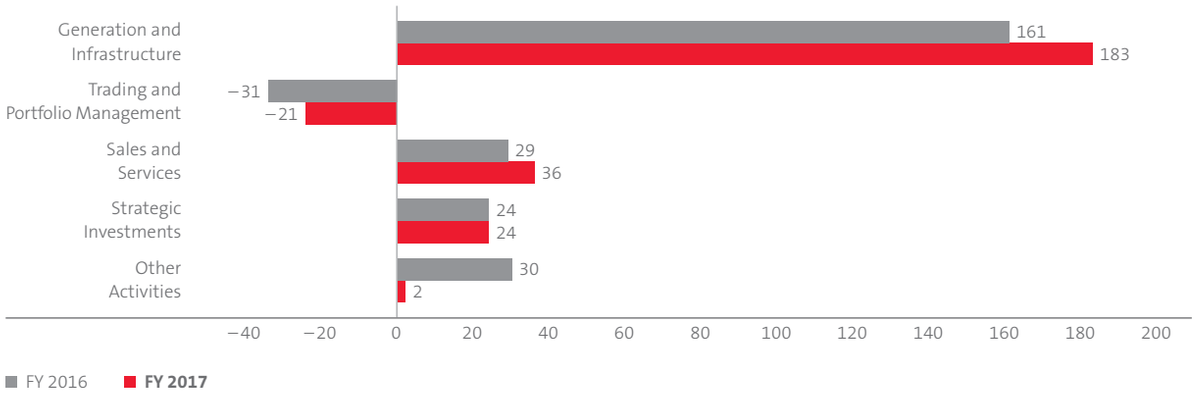
Adjusted employee benefit expenses were significantly influenced by the first full-year inclusion of the Juwi subgroup and collectively agreed pay rises. These expenses rose by Euro 14 million to Euro 418 million as of 30 September 2017.

Excluding IAS 39 measurement items, the → **other operating income** of Euro 115 million was only slightly higher than the previous year's figure of Euro 113 million.

Notes to Income Statement Note 4 Page 126

Adjusted other operating expenses excluding IAS 39 measurement items increased by Euro 25 million to Euro 242 million. Alongside higher additions to impairment losses, this development was chiefly due to increased expenses for emission rights.

ADJUSTED EBIT BY REPORTING SEGMENT
Euro million



Income Statement
Page 110

In the → **income statement,** IAS 39 measurement items are included under other operating income and other operating expenses. Their net balance resulted in a positive item of Euro 39 million in the 2017 financial year. At Euro 24 million, this measurement item was also positive in the previous year. IAS 39 items reflect the development 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.

Notes to Income Statement
Note 9
Page 128

→ **Depreciation** fell by Euro 29 million to Euro 183 million in the year under report. This reduction was chiefly due to impairment losses recognised in the previous year.

The **adjusted financial result** benefited in particular from a reduction in financial debt, which decreased by Euro 168 million compared with the previous year's balance sheet date. Furthermore, the higher discount rate led to lower interest expenses on the compounding of provisions. As a result, the adjusted financial result improved by Euro 19 million to Euro −56 million.

Net of the adjusted financial result, the **adjusted EBT** of Euro 169 million for the 2017 financial year was notably higher than in the previous year (Euro 139 million).

Adjusted annual net income only reflects the marked improvement in adjusted EBT to a limited extent. This key figure rose by Euro 9 million and amounted to Euro 107 million for the year under report (previous year: Euro 98 million). This was due to the increase in adjusted taxes on income to Euro 62 million (previous year: Euro 40 million). The increase in taxes was attributable to deferred tax expenses resulting from the reduction in temporary measurement differences, the non-recurrence of the deferred tax income reported in the previous year and higher current taxes given the improvement in earnings.

Due to a full-year effect at Juwi and earnings growth at fully consolidated shareholdings, the adjusted minority interests of Euro 14 million were significantly higher than the previous year's figure of Euro 3 million. As a result, **adjusted annual net income after minority interests** declined slightly to Euro 93 million (previous year: Euro 95 million). On this basis, adjusted earnings per share amounted to Euro 1.41 (previous year: Euro 1.45). As in the previous year, the number of shares amounted to 65.9 million.

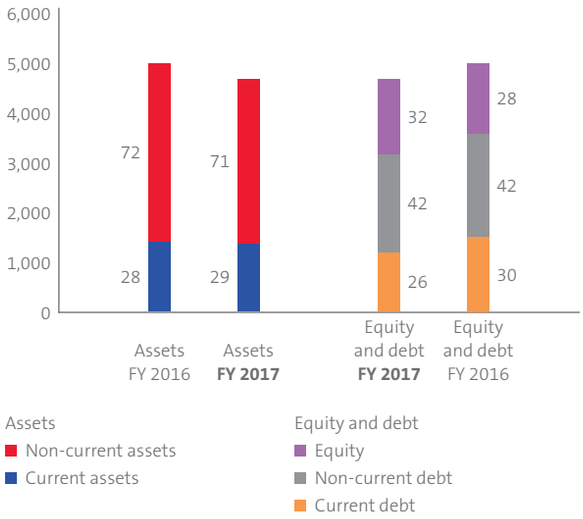
PRESENTATION OF NET ASSET POSITION

Balance sheet structure

Euro 000s	**30 Sep 2017**	30 Sep 2016	% change
Assets			
Non-current assets	3,326,098	3,586,299	–7
Current assets	1,386,790	1,417,327	–2
Total assets	**4,712,888**	**5,003,626**	**–6**
Equity and debt			
Equity	1,521,102	1,426,355	+7
Non-current debt	1,976,154	2,079,926	–5
Current debt	1,215,632	1,497,345	–19
Total assets	**4,712,888**	**5,003,626**	**–6**

BALANCE SHEET STRUCTURE

Euro million, shares (%)



Balance sheet development

As of the balance sheet date, MVV had → **total assets** of Euro 4,713 million. This key figure thus fell Euro 291 million short of the figure as of 30 September 2016.

Balance Sheet
Page 111

On the asset side of the balance sheet, → **non-current assets** fell by Euro 260 million to Euro 3,326 million.

Non-Current Assets
Page 111

Significant changes were seen above all in → **non-current other receivables and assets.** These fell to Euro 189 million, Euro 206 million lower than the previous year's figure. This development was chiefly attributable to receivables for security deposits made for energy trading transactions, as well as to measurement items.

Notes to Balance Sheet
Note 21
Page 140

Current assets decreased by Euro 31 million to Euro 1,387 million.

Notable changes were shown by → **trade receivables,** which at Euro 351 million fell significantly short of the previous year's figure of Euro 458 million. This factor was caused by a sharp decline in the volume of receivables at the Juwi subgroup. Mainly due to positive IAS 39 fair values, → **current other receivables and assets** increased to Euro 343 million (previous year: Euro 307 million). This development was countered by a reduction in margin deposits.

Notes to Balance Sheet
Note 23
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Notes to Balance Sheet
Note 21
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An increase was reported for → **cash and cash equivalents**, which totalled Euro 370 million at the balance sheet date (previous year: Euro 333 million). This increase was due above all to the proceeds resulting from the reduction in trade receivables. Furthermore, liquid resources also rose in connection with the financing for the new gas-powered CHP plant in Kiel.

Notes to Balance Sheet
Note 25
Page 142

We further strengthened our → **equity** in the year under report. Including non-controlling interests, equity came to Euro 1,521 million at the balance sheet date, equivalent to an increase of Euro 95 million.

Notes to Balance Sheet
Note 27
Page 143

For Group management purposes, we adjust our consolidated balance sheet as of 30 September 2017 to eliminate cumulative IAS 39 measurement items. On the asset side, we eliminate the positive fair values of derivatives and allocable deferred taxes, which amounted to Euro 465 million (30 September 2016: Euro 602 million). On the equity and debt side, we eliminate negative fair values and allocable deferred taxes, here Euro 434 million, from debt (30 September 2016: Euro 628 million). In equity, we eliminate the net balance of Euro 31 million (30 September 2016: Euro –26 million). This led to adjusted equity of Euro 1,490 million as of 30 September 2017 (30 September 2016: Euro 1,452 million). As a percentage of the adjusted total assets of Euro 4,248 million (30 September 2016: Euro 4,401 million), the adjusted equity ratio came to 35.1 % as of 30 September 2017 as against 33.0 % as of 30 September 2016.

Non-current debt decreased to Euro 1,976 million, down Euro 104 million compared with the 2016 balance sheet date. This reduction was mainly due to the decrease in → **non-current other liabilities** by Euro 240 million to Euro 310 million. This in turn chiefly resulted from the year-on-year decline in the value of derivative financial instruments on account of realisation and the lower level of market prices. These reduced the fair values of energy trading transactions recognised under IAS 39. By contrast, → **non-current financial debt** increased by Euro 123 million to Euro 1,299 million, a development primarily due to the financing of the new gas-powered CHP plant in Kiel.

Notes to Balance Sheet
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Notes to Balance Sheet
Note 30
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At Euro 1,216 million, **current debt** also decreased compared with the figure of Euro 1,497 million at the previous year's balance sheet date. This development was significantly influenced by → **current financial debt** which, largely as a result of repayments of bank liabilities, fell by Euro 292 million to Euro 148 million. On the other hand, → **current other liabilities** rose by Euro 98 million to Euro 548 million, a development due among other factors to advance payments received at subsidiaries. Furthermore, this increase also resulted from IAS 39 measurement items.

Notes to Balance Sheet
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Notes to Balance Sheet
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Investments

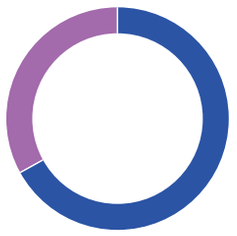
We invested a total of Euro 194 million in the 2017 financial year (previous year: Euro 236 million). The key focus here was on investments in our existing plants and grids, which accounted for Euro 130 million (67 %), while Euro 64 million (33 %) was channelled into growth investments.

Investments

Euro million	**FY 2017**	FY 2016	+/– change	% change
Generation and Infrastructure	150	196	–46	–23
Trading and Portfolio Management	0	0	0	0
Sales and Services	25	20	+5	+25
Strategic Investments	7	5	+2	+40
Other Activities	12	15	–3	–20
Total	**194**	**236**	**–42**	**–18**
of which growth investments	64	121	–57	–47
of which investments in existing busines	130	115	+15	+13

Definition of investments in → **Glossary**

INVESTMENTS
Shares (%)



	FY 2017
Investments in existing business	67
Growth investments	33

Our largest investment projects in the 2017 financial year included:

- Construction of the gas-powered CHP plant in Kiel
- Maintenance and renewal of 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 168 million in the year under report. As of 30 September 2017, these items totalled Euro 1,448 million as against Euro 1,616 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 206 million to Euro 1,077 million.

Cash flow statement

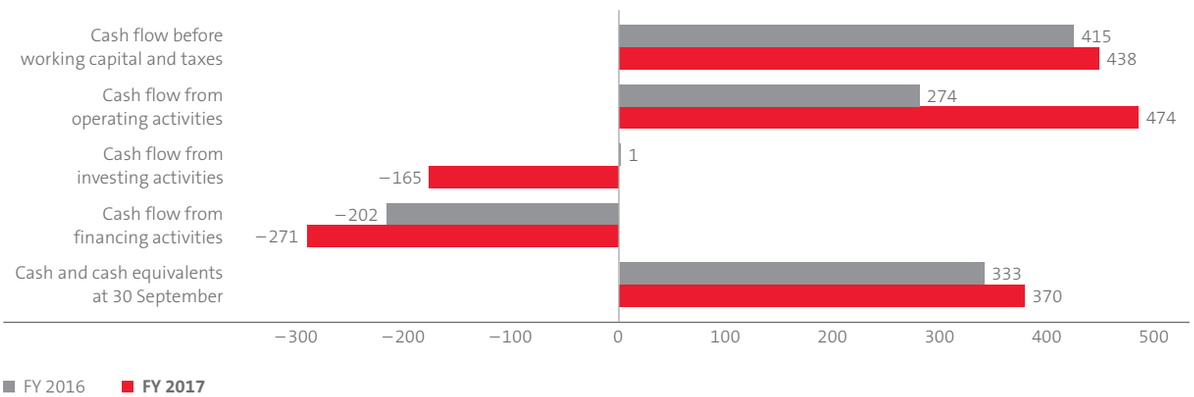
In the year under report we generated **cash flow before working capital and taxes** of Euro 438 million, Euro 23 million more than in the previous year's period. This key figure was significantly influenced by annual earnings before taxes on income, which rose even after the elimination of non-cash income and expense items.

The **cash flow from operating activities** showed a marked improvement of Euro 200 million to Euro 474 million. Alongside the higher cash flow before working capital and taxes, this positive development was also due to significant inflows of capital resulting from changes in other asset and liability items. In particular, the reduction in receivables and in security deposits turned out significantly higher in the 2017 financial year than in the previous year.

Due in particular to items in the 2016 financial year, the **cash flow from investing activities** fell by Euro 166 million to Euro –165 million in the year under report. On the one hand, the first-time inclusion of the Juwi subgroup in the 2016 financial year had led to an increase in cash and cash equivalents. On the other hand, in the previous year we also sold a water grid at our subsidiary Energieversorgung Offenbach AG, a measure which resulted in significantly higher proceeds from disposals of non-current assets. The previous year's cash flow from investing activities additionally benefited from proceeds from the sale of ZVO Energie GmbH, a shareholding recognised at equity at the Kiel subgroup.

At Euro –271 million, the **cash flow from financing activities** was Euro 69 million lower than in the previous year. This was mainly due to higher loan repayments.

CASH FLOW STATEMENT
Euro million



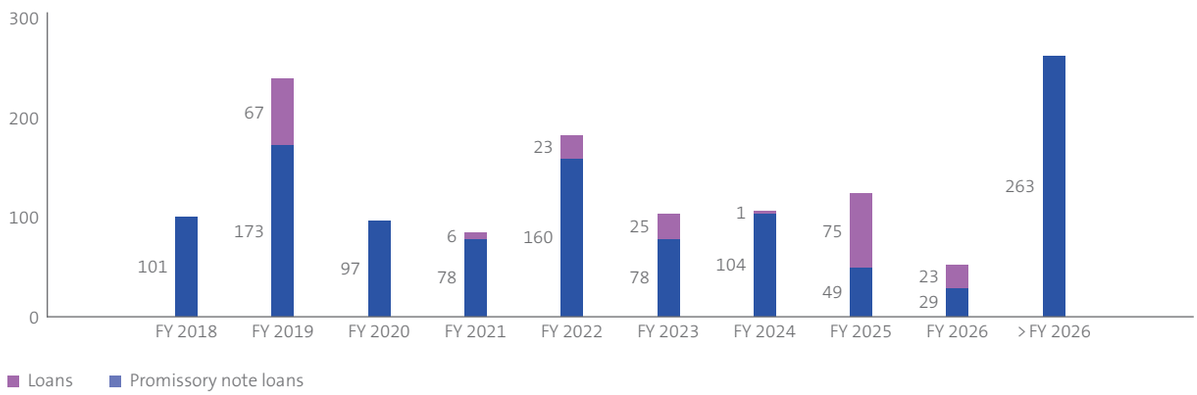
Professional financial management

Given its good access to the capital markets, MVV has no difficulty in covering its liquidity requirements. We benefit in this respect from our strong creditworthiness, our diversified business portfolio and our corporate strategy aimed at 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 are to be extended further in future. In the 2017 financial year, MVV concluded financing agreements, particularly in connection with the construction of the new gas-powered CHP plant in Kiel. Here, we were able to secure a low level of interest for our investments on a long-term basis. Our repayment profile does not show any significant spikes in the years ahead.

To optimally manage both its own liquidity and that of its shareholdings, MVV Energie AG manages a cash pool to which 34 companies within our Group are connected. These links to the cash pool enable the shareholdings to secure their short-term liquidity needs. The long-term financing required for investments is made available via shareholder loans.

REPAYMENT PROFILE

Euro million



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) in the version stipulated in the German Accounting Directive Implementation Act (BilRUG) 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 2017 financial year are published in the Federal Gazette (Bundesanzeiger). The complete 2017 annual financial statements of MVV Energie AG can be downloaded from our → **website,** 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 2017**	FY 2016
Sales	2,315,791	1,976,142
less electricity and natural gas taxes	–123,786	–122,011
Sales less electricity and natural gas taxes	**2,192,005**	**1,854,131**
Increase or reduction in finished and unfinished products	–2,582	1,959
Other own work capitalised	1,990	1,896
Other operating income	35,777	187,378
Cost of materials	1,953,231	1,797,626
Employee benefit expenses	78,823	83,925
Depreciation and amortisation	21,313	22,033
Other operating expenses	108,687	90,234
Financial result	57,627	49,026
Taxes on income	30,701	24,924
Earnings after taxes	**92,062**	**75,648**
Other taxes	446	417
Annual net income	**91,616**	**75,231**
Profit carried forward from previous year	0	784
Allocation to other revenue reserves	32,300	16,699
Unappropriated net profit	**59,316**	**59,316**

Sales excluding energy taxes at MVV Energie AG grew by Euro 338 million to Euro 2,192 million in the 2017 financial year. These sales were generated exclusively in Germany. Of this increase, Euro 168 million was attributable to the amended statement resulting from the BilRUG legislation. Furthermore, on an operating level the sales growth was also driven by increased electricity and district heating turnover. Overall, MVV Energie AG thus exceeded its forecast of matching the previous year's level of sales. The electricity business accounted for 75 % of total sales (previous year: 79 %) and remained the strongest division in terms of sales at MVV Energie AG.

www.mvv.de/investors

At Euro 1,953 million, cost of materials was Euro 156 million higher than in the previous year. Alongside higher electricity procurement volumes, this increase was also due among other factors to the higher apportionment under the German Renewable Energies Act (EEG), a levy which has to be paid to transmission grid operators.

Other operating income decreased by Euro 152 million, with this reduction being chiefly due to the amended statement of sales and other operating income required by the BilRUG legislation. Had this legislation been applicable at the time, other operating income reported for the previous year would have come to Euro 19 million.

At Euro 79 million, employee benefit expenses were Euro 5 million lower than in the previous year. This reduction was primarily due to the non-recurrence of one-off restructuring measures which led to expenses of around Euro 4 million in the 2016 financial year. By contrast, provisions for settlements were Euro 1 million higher than in the previous year. As of 30 September 2017, MVV Energie AG had 909 employees, 28 fewer than at the previous year's balance sheet date.

Depreciation and amortisation decreased year-on-year by Euro 1 million to Euro 21 million. No impairment losses were recognised on non-current assets in the year under report or the previous year. A write-up of Euro 4 million was recognised for the glass fibre network in the year under report, with this amount being reported under other operating income.

Other operating expenses rose by Euro 18 million to Euro 109 million in the 2017 financial year. Material items here related to the conclusion of service agreements and to write-downs of receivables.

The financial result improved year-on-year by Euro 9 million to Euro 58 million. Items positively affecting this figure related above all to a reduction in expenses for the assumption of losses, higher income from profit and loss transfer agreements and lower interest and similar expenses. By contrast, the financial result was reduced in particular by lower income from shareholdings and from loans of financial assets.

Earnings after taxes improved by Euro 16 million to Euro 92 million. Overall, this earnings growth was chiefly driven by higher income from profit and loss transfer agreements and the cooler weather conditions compared with the previous year. Furthermore, earnings also benefited from an increase in the value of CO_2 emission rights as of the respective balance sheet date. Net of other taxes, MVV Energie AG generated annual net income of Euro 92 million in the 2017 financial year (previous year: Euro 75 million). The company therefore exceeded its forecast of matching the previous year's level of annual net income. Based on the profit utilisation resolution adopted by the Annual General Meeting on 10 March 2017, 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 32,300 thousand were formed from the annual net income for the year under report. As of 30 September 2017, MVV Energie AG reported unappropriated net profit of Euro 59 million. The Annual General Meeting will be held on 9 March 2018 and will decide on the dividend proposal adopted by the Executive and Supervisory Boards on 7 December 2017.

Presentation of net asset and financial position of MVV Energie AG

Balance sheet of MVV Energie AG

Euro 000s	**30 Sep 2017**	30 Sep 2016
Assets		
Non-current assets		
Intangible assets	634	700
Property, plant and equipment	368,073	343,314
Financial assets	1,439,688	1,500,533
	1,808,395	**1,844,547**
Current assets		
Inventories	14,191	13,317
Receivables and other assets	284,482	259,289
Cash and cash equivalents	193,379	189,044
	492,052	**461,650**
Deferred expenses and accrued income	569	1,174
	2,301,016	**2,307,371**
Equity and debt		
Equity		
Share capital	168,721	168,721
Capital reserve	458,946	458,946
Revenue reserves	379,922	347,622
Unappropriated net profit	59,316	59,316
	1,066,905	**1,034,605**
Income grants received	44,516	43,795
Provisions	97,250	108,498
Liabilities	1,092,345	1,120,473
	2,301,016	**2,307,371**

Year-on-year, total assets showed a slight reduction of Euro 6 million to Euro 2,301 million.

The asset side of the balance sheet is largely shaped by financial assets. As of 30 September 2017, these totalled Euro 1,440 million, equivalent to a 63 % share of total assets. The equivalent figures for the previous year were Euro 1,501 million and 65 % respectively. The reduction in financial assets was due above all to the repayment of loans to associates. This factor was countered by the granting of new loans. The carrying amounts of the interests held in associates and other shareholdings were reduced by Euro 19 million due to repayments from the capital reserve and write-downs of financial assets. Of this sum, Euro 7 million involved changes in the maturities of loans to associates from the non-current to the current sections of the balance sheet. Property, plant and equipment rose year-on-year by Euro 25 million to Euro 368 million. This was chiefly due to increased investments in several major projects. Furthermore, MVV Energie AG made replacement investments in its existing grids.

Driven above all by higher receivables due from associates, current assets rose to Euro 492 million, up Euro 30 million compared with 30 September 2016.

Equity increased by Euro 32 million in the year under report and came to Euro 1,067 million at the balance sheet date. The equity ratio of 46.4 % as of 30 September 2017 was slightly ahead of the previous year's figure of 44.8 % and reflects the solid equity resources available at MVV Energie AG.

Provisions fell year-on-year by Euro 11 million to Euro 97 million, while liabilities decreased by Euro 28 million to Euro 1,092 million. This reduction especially resulted from lower liabilities to banks. By contrast, increases were reported specifically in liabilities to associates and advance payments received for orders.

MVV Energie AG performs a 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. Among others, these companies include the material subsidiaries in the generation business field and the MVV Umwelt and MVV Enamic subgroups. An adequate volume of committed credit lines is available to secure liquidity.

Activity statements for 2017

With its 2017 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 47 million in the year under report (previous year: Euro 11 million). The new version of § 277 (1) HGB resulting from the BilRUG legislation led to reclassifications in several items in the income statement (sales, other operating income). In the previous year, other operating income of Euro 39 million was reported for electricity distribution; under the BilRUG legislation, Euro 36 million of this total count as sales. Sales for the previous year would have amounted to Euro 47 million.

The gross performance declined year-on-year by Euro 2 million in the 2017 financial year. Measured in terms of total electricity sales of Euro 1.7 billion (previous year: Euro 1.5 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 at MVV Energie AG 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 2017 was opposed by corresponding other operating expenses. Electricity distribution generated annual net income of Euro –2 million in the 2017 financial year (previous year: annual net income of Euro –1 million).

Total assets in the electricity distribution activity field amounted to Euro 130 million as of 30 September 2017 (previous year: Euro 120 million). This corresponds to a 41 % share of total assets in the electricity sector at MVV Energie AG (previous year: 40 %). Property, plant and equipment relating to electricity distribution rose slightly compared with the previous year's balance sheet date. At Euro 112 million (previous year: Euro 105 million), this item accounted for an 86 % share of total electricity distribution assets (previous year: 88 %). Receivables from associates mainly involve receivables due from MVV Netze GmbH. On the equity and debt side, electricity distribution liabilities rose from Euro 50 million to Euro 62 million.

Gas distribution

The gas distribution activity field reported sales of Euro 31 million in the year under report (previous year: Euro 2 million). Like in the electricity distribution field, gas distribution also witnessed reclassifications in several items in the income statement (sales, other operating income) due to the new version of § 277 (1) HGB resulting from the BilRUG legislation. In the previous year, other operating income of Euro 32 million was reported for gas distribution; under the BilRUG legislation, an amount of Euro 31 million of this total counts as sales. Sales for the previous year would thus have amounted to Euro 32 million.

Gross performance in the year under report fell Euro 2 million short of the previous year's figure. With sales of Euro 31 million (previous year: Euro 2 million), the gas distribution activity field is of subordinate significance when compared with total gas sector sales of Euro 226 million (previous year: Euro 205 million). 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. Other operating income from charging on the concession duty to MVV Netze GmbH to 30 September 2017 was opposed by corresponding other operating expenses. In the year under report, the gas distribution activity field generated annual net income of Euro 12 million (previous year: Euro 11 million).

Total assets in the gas distribution activity field came to Euro 94 million at the balance sheet date on 30 September 2017 (previous year: Euro 91 million) and accounted for around 73 % of total assets in the gas sector at MVV Energie AG (previous year: 72 %). At Euro 85 million, property, plant and equipment in gas distribution was slightly higher than in the previous year and corresponded to a 90 % share of assets in this activity field (previous year: 91 %). Receivables from associates mainly involve receivables due from MVV Netze GmbH. On the equity and debt side, gas distribution liabilities increased from Euro 10 million to Euro 14 million.

Corporate Governance Declaration (§ 289a HGB)

Publicly listed companies are obliged under § 289a 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) und 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 on our website on 3 November 2017 as a component of our → **corporate governance report.**

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Declaration pursuant to § 312 AktG

The Executive Board has compiled a report on relationships with associates for the 2017 financial year ("dependent company report") pursuant to § 312 AktG. In this report, it declares that: "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."

Events After Balance Sheet Date

Other the matter presented below, no events of material significance for MVV's business performance occurred between the balance sheet date on 30 September 2017 and the preparation of the 2017 consolidated financial statements.

On 15 October 2017, MVV Energie AG sold its glass fibre network to PFALZKOM | MANET. MVV Energie AG had leased its glass fibre network to this IT and telecommunications provider since 2006 already. This company has now assumed ownership of the entire data transmission network.

Corporate Governance

www.mvv.de/corporate-governance-engl

Corporate governance refers to regulations promoting the management and supervision of companies. High-quality corporate governance forms the basis for the sustainable success of our company. We attach great value to responsible actions, long-term value creation and transparent reporting. We also view good corporate governance as an indispensable factor in maintaining the stable level of trust placed in us by our shareholders, customers, business partners, employees and the general public.

On 3 November 2017, we published the joint → **Corporate Governance Report of the Executive and Supervisory Boards** on the internet and thus made it permanently available to the general public in accordance with Point 3.10 of the German Corporate Governance Code. We published this report in conjunction with the Corporate Governance Declaration pursuant to § 289a of the German Commercial Code (HGB). As well as the annual Declaration of Conformity, the report also includes information about our corporate governance practices. In the Declaration of Conformity, the Executive and Supervisory Boards of MVV Energie AG confirmed that the company complied with all of the recommendations made by the German Corporate Governance Code Government Commission in the latest version of the Code.

Compensation Report

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

Executive Board compensation

Compensation system

The system and level of compensation paid to members of our Executive Board is determined and regularly reviewed by the Supervisory Board, with the necessary resolutions being prepared by the Supervisory Board's Personnel Committee.

In terms of its underlying principles, 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. The system accounts for the requirements of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG), as well as for the recommendations of the German Corporate Governance Code (DCGK). 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 also may 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 components of Executive Board compensation 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. These mainly consist of contributions to insurance policies customary to the market and the non-cash benefit in kind resulting from company car use. These fringe benefits are taxed individually by the Executive Board members.

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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

Two components, each furnished with appropriate minimum thresholds and caps, determine the variable compensation paid to Executive Board members: On the one hand the annual bonus, which is based on the adjusted EBIT generated by MVV in the past financial year and on the other hand the sustainability bonus, which reflects the sustainable increase in the company's value. This is based on MVV's average ROCE (return on capital employed) before IAS 39 items. The figures for the past financial year and for the two preceding financial years are included in the calculation. The sustainability bonus is only paid when the ROCE calculated for a three-year period exceeds a specified minimum threshold. The ROCE key 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 key figure is well suited to appraise the sustainability of the company's operations.

Compared with the annual bonus, the sustainability bonus accounted for the predominant share of variable compensation in the 2017 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

The Executive Board of MVV Energie AG received total compensation of Euro 2,318 thousand in the year under report (previous year: Euro 3,495 thousand including settlement payments made upon the departure of Udo Bekker from the Executive Board).

The tables opposite show both 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.

Former members of the Executive Board received benefits of Euro 468 thousand in the year under report. Provisions totalling Euro 16,784 thousand have been stated for pension obligations towards former members of the Executive Board and their surviving dependants. A total of Euro 275 thousand was added to this item in the year under report.

Compensation of related parties

Pursuant to IAS 24, management staff performing key functions count as related parties. Alongside the Executive Board members, at MVV this group of persons also includes 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 2,928 thousand, with Euro 2,801 thousand of this total involving payments with current maturities. Unless they are insured via municipal supplementary pension companies (ZVKs), members of this group receive a defined contribution company pension of up to 8.6 % of their fixed compensation. They can determine which biometric risks they would like to cover. The expenses incurred for this compensation totalled Euro 127 thousand in the 2017 financial year.

Benefits granted and incomes paid

	Dr. Georg Müller CEO			
Euro 000s	**FY 2017**	Min FY 2017	Max FY 2017	FY 2016
Fixed compensation[1]	507	507	507	482
Fringe benefits[2]	30	30	30	29
Other compensation[3]	17	17	17	17
Total	**554**	**554**	**554**	**528**
Variable compensation	440	0	1,014	388
Total pay	**994**	**554**	**1,568**	**916**
Pension expenses[4]	279	279	279	227
Total compensation	**1,273**	**833**	**1,847**	**1,143**

	Ralf Klöpfer Sales Director			
Euro 000s	**FY 2017**	Min FY 2017	Max FY 2017	FY 2016
Fixed compensation[1]	303	303	303	288
Fringe benefits[2]	72	72	72	70
Other compensation[3]	10	10	10	10
Total	**385**	**385**	**385**	**368**
Variable compensation	293	0	606	259
Total pay	**678**	**385**	**991**	**627**
Pension expenses[4]	197	197	197	141
Total compensation	**875**	**582**	**1,188**	**768**

	Dr. Hansjörg Roll Technology Director			
Euro 000s	**FY 2017**	Min FY 2017	Max FY 2017	FY 2016
Fixed compensation[1]	303	303	303	288
Fringe benefits[2]	38	38	38	57
Other compensation[3]	12	12	12	12
Total	**353**	**353**	**353**	**357**
Variable compensation	293	0	606	259
Total pay	**646**	**353**	**959**	**616**
Pension expenses[4]	261	261	261	200
Total compensation	**907**	**614**	**1,220**	**816**

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

Pension obligations

Euro 000s	Development in virtual pension accounts: Balance at 1 Oct 2016	Development in virtual pension accounts: Pension contribution	Development in virtual pension accounts: Balance at 30 Sep 2017[1]	Pension provisions: Balance at 30 Sep 2017[2]	Allocation to pension provision: Service cost	Allocation to pension provision: Interest expenses
Dr. Georg Müller	2,048	157	2,301	3,648	279	53
Ralf Klöpfer	354	121	489	789	197	10
Dr. Hansjörg Roll	233	138	380	601	261	6
Total	**2,635**	**416**	**3,170**	**5,038**	**737**	**69**

1 Including interest
2 Equivalent to present value of vested claims

Supervisory Board compensation

Compensation system

The compensation of Supervisory Board members is laid down in the Articles of Incorporation of MVV Energie AG as adopted by the Annual General Meeting. The compensation paid to our Supervisory Board members is commensurate to the responsibility they bear and to the scope of their activities. In the 2017 financial year, each member of the Supervisory Board received annual compensation of Euro 10 thousand. The Supervisory Board Chairman received twice and his deputy one and a half times this figure. Members joining or leaving the Supervisory Board during the financial year received prorated compensation. The Chairman of the Audit Committee received additional annual compensation of Euro 5 thousand, while the other members of the committee each received Euro 2.5 thousand. For each meeting of the full Supervisory Board or committee meeting attended, each Supervisory Board member received Euro 1 thousand. 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

The compensation paid to → **Supervisory Board members** totalled Euro 410 thousand in the year under report.

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Supervisory Board compensation FY 2017

Euro	Supervisory Board compensation	Meeting allowances
Dr. Peter Kurz, Chairman	20,000	19,000
Johannes Böttcher	10,000	6,000
Timo Carstensen	10,000	6,000
Peter Dinges (until 31 March 2017)	8,750	9,000
Ralf Eisenhauer	10,000	8,000
Peter Erni	12,500	11,000
Detlef Falk	12,500	11,000
Dieter Hassel (since 7 October 2016)	9,833	6,000
Barbara Hoffmann	10,000	7,000
Prof. Dr. Heidrun Kämper	10,000	6,000
Heike Kamradt	13,479	10,000
Brigitte Kemmer	10,000	5,000
Dr. Antje Mohr	10,000	6,000
Dr. Lorenz Näger	12,500	11,000
Peter Sattler (since 1 April 2017)	5,000	2,000
Bernhard Schumacher	10,000	6,000
Christian Specht	10,000	6,000
Carsten Südmersen	12,500	14,000
Katja Udluft	10,000	4,000
Prof. Heinz-Werner Ufer	15,000	17,000
Jürgen Wiesner	10,000	8,000
Total	**232,062**	**178,000**

Takeover-Related Disclosures

The combined management report includes takeover-related disclosures pursuant to § 289 (4) and § 315 (4) of the German Commercial Code (HGB). The Executive Board has examined these disclosures and offers the following explanatory comments:

Composition of share capital

At the balance sheet date on 30 September 2017, 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

There are no restrictions on voting rights or on transferability. No corresponding agreements between shareholders are known to the Executive Board. 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 22.5 % 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 appointment and dismissal of 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 company's Articles of Incorporation, its Executive Board consists of at least two members. The Supervisory Board is responsible for determining the number of members, as well as for their appointment and dismissal. Members are appointed for a maximum period of five years, 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 increase 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

- Market climate remains challenging
- Consistent implementation of corporate strategy
- Slight sales and earnings growth expected
- Pace of investment to remain high

OUTLOOK

Macroeconomic framework

According to the autumn survey of Germany's leading economic research institutes, the German economy is maintaining its growth course. The pace of this growth slowed slightly in the second half of 2017 but is set to regain momentum once again in 2018. For 2017, the researchers have forecast growth of 1.9 % in the country's gross domestic product. For the 2018 calendar year, they expect an increase of 2.0 %.

Energy policy framework

The following factors in particular are of material relevance for MVV's future business performance: tenders awarded under the German Renewable Energies Act (EEG), the revised grid fee methodology provided for in the German Grid Fee Modernisation Act (NEMoG) and ordinances issued to structure the Amendment to the German Combined Heat and Power Generation Act (KWKG).

Energy industry developments

The decline in prices on wholesale electricity markets has sharply reduced the economic viability of conventional electricity generation in recent years. We currently see no indications of any reversal in this trend. In particular, we do not expect any positive momentum from changes in the clean dark spread, i.e. the margin achieved from generating electricity from hard coal.

According to a forecast jointly issued by the German Wind Energy Association (BWE) and VDMA Power Systems, the volume of net onshore wind power capacity newly added in 2017 is expected to range between 4,500 MW and 5,000 MW. For 2018, the experts have forecast a slightly slower rate of gross capacity addition, in this case of 3,000 MW to 3,500 MW. This figure is ahead of the Federal Government's target of 2,800 MW a year by 2019.

MVV acted early to build on renewable energies in its electricity generation. We expect the megatrend towards ever greater decentralisation of energy generation to be sustainable and the market expectations for our high-growth fields to remain positive. In a policy paper, the Federal Ministry for Economic Affairs and Energy (BMWi) stresses the growing importance of decentralised players. These are also be expected to assume increasing responsibility for the system and to perform system-related services. In its "Decentralised Energy Industry: Opportunity or Threat to Energy Companies" study, the auditing company KPMG expects the share of gross electricity generation attributable to the decentralised energy industry to rise from around 15 % in 2010 to around 26 % to 35 % by 2030.

Executive Board summary of expected business performance

Given the energy policy and industry framework and the potential shift in priorities on the part of a new Federal Government, we expect the market climate to remain challenging in 2018 as well. We 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. Moreover, in our renewable energies project development business the implementation of projects and recognition of the resultant earnings may be postponed between periods, leading to a corresponding degree of volatility in our earnings performance.

We will consistently continue to pursue our corporate strategy, with its focus on sustainable growth. On this basis, we expect MVV to generate profitable growth in the 2018 financial year as well.

Expected sales performance

Due to higher trading volumes, we expect sales in the **Trading and Portfolio Management** reporting segment to slightly exceed the previous year's figure.

In the **Generation and Infrastructure** and **Sales and Services** reporting segments, we expect sales to remain at the previous year's level.

From a current perspective and assuming normal weather conditions, we expect sales (excluding energy taxes) at **MVV** in the 2018 financial year to show slight growth compared with the previous year (Euro 4.0 billion). Our sales performance will depend above all on trading activities and commodity prices, project realisation volumes in the renewable energies project development business and sales activities, as well as on weather conditions.

Expected earnings performance

The earnings performance of the **Generation and Infrastructure** reporting segment will benefit in the 2018 financial year from the development in waste and biomass prices, as well as from availability levels at our plants. In general, the earnings performance of this segment has become more volatile as a result of activities in the renewable energies project development business. Overall, we expect adjusted EBIT in this segment to show moderate growth.

Earnings in the **Trading and Portfolio Management** reporting segment are influenced above all by the development in wholesale electricity prices and the clean dark spread (CDS). The level of CDS is not expected to recover. We therefore expect this reporting segment to report a marked year-on-year reduction in earnings.

We expect to see a slight reduction in adjusted EBIT in the **Sales and Services** reporting segment.

Overall, from an operating perspective we expect adjusted EBIT at **MVV** in the 2018 financial year to show further slight growth compared with the previous year's figure (Euro 224 million). The earnings performance will continue to depend above all on weather and wind conditions, electricity and fuel prices, the clean dark spread and internal cost developments. Furthermore, our adjusted EBIT is subject to increased volatility due to our activities in the renewable energies project development business.

Expected earnings performance of MVV Energie AG in separate financial statements (HGB)

In the separate financial statements of MVV Energie AG prepared in accordance with the German Commercial Code (HGB), we expect sales excluding energy taxes in the 2018 financial year to more or less match the previous year's figure (Euro 2.2 billion). Weather conditions, particularly during the heating period, have a significant influence on sales and sales volumes in the district heating and gas businesses. MVV Energie AG chiefly generates its operating earnings from its grid business, sales activities and income from the interests held in group shareholdings. Overall, we expect annual net income after taxes for the 2018 financial year to significantly exceed the previous year's figure (Euro 92 million).

Stable dividend

With our continuity-based dividend policy, we aim to offer a solid return for our shareholders. In view of this, the Executive Board has planned a dividend of Euro 0.90 per share for the 2017 financial year, and thus once again unchanged on the previous year. The Executive and Supervisory Boards will decide in December 2017 on the dividend to be proposed to the 2018 Annual General Meeting.

Planned investments

Based on the information currently available, we will be investing around Euro 300 million in growth and in modernising and maintaining our plants and grids in the 2018 financial year.

We will be basing our key investment focuses on our strategic alignment. One major investment is the construction of a gas-fired CHP plant in Kiel.

Capital resources and financing structure

MVV has good access to the capital market and therefore has no difficulty in covering its liquidity needs. Thanks to our adjusted equity ratio of 35 %, we will continue to be able to make substantial investments in our growth. We finance investments in our existing business primarily from depreciation. For our growth projects, we draw on the operating cash flow and on optimised project-specific financing facilities, for which we pool structurally similar projects with comparable terms. To finance these, we draw on the capital market or resort to our liquidity resources. Alongside the banking market, we are also monitoring alternative sources of financing, such as the promissory note loan market. By defining and complying with key figures as guidelines for our debt-financed growth, we ensure an implicit rating on investment grade level for MVV.

Forward-looking statements and forecasts

Our combined management report for the MVV Energie Group (IFRS) and MVV Energie AG (HGB) includes forward-looking statements based on current assumptions and estimates. Even though the Executive Board is convinced that these assumptions and budgets are accurate, actual future developments and actual earnings may deviate from these forecasts due to the high current levels of uncertainty and numerous internal and external factors.

New reporting structure from 2018 financial year

MVV plans to adjust its reporting structure from the beginning of the 2018 financial year. This way, we aim to ensure that the consistent alignment of our sales activities to our customers' needs is adequately reflected in our reporting as well. Furthermore, the new structure should also transparently present the growing importance of our business activities in the fields of renewable energies and energy efficiency, as well as our consistent and sustainable focus on ensuring high supply reliability.

MVV will continue to be managed in five reporting segments to which various business fields are allocated:

- Customer Solutions
- New Energies
- Supply Reliability
- Strategic Investments
- Other Activities

OPPORTUNITY AND RISK REPORT

Opportunities and risks are intrinsic aspects of any business activities. One key task on the part of our corporate management involves identifying and exploiting opportunities at an early stage of developments while also detecting risks at an early stage and countering these with suitable measures. To this end, we have installed suitable instruments and processes: On the one hand our internal control system (IKS) in respect of the financial reporting process serves to ensure correct, reliable and uniform company-wide financial reporting. On the other hand, our risk management system (RMS) enables us to record competitive, regulatory and technological developments relevant to our company in particular at an early stage and to systematically manage the resultant opportunities and risks.

Explanation of internal control system (IKS)

Our financial reporting should provide correct, complete, prompt and easily understandable information. To satisfy this expectation, for our financial reporting we work throughout MVV with an internal control system (IKS) in respect of the financial reporting process. This system lays down all those principles, procedures, regulations and measures needed to ensure that business transactions are promptly, completely and accurately recorded in accordance with legal requirements. We use the IKS system to monitor compliance with legal requirements and our internal regulations. These include the principles of proper accounting, the requirements of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG), international accounting standards and the supplementary requirements of the Articles of Incorporation. The IKS system is also intended to avoid any material misstatements that could arise as a result of errors or fraud.

At each of our locations, the internal control system (IKS) is an integral component of our accounting and financial reporting processes. We have analysed all of the necessary processes and interfaces of importance for MVV's consolidated financial statements and its combined management report. This way, we have identified those risks which could counter the objective of publishing the consolidated financial statements in line with the respective norms. To minimise these risks, all of those involved in the processes have received training. Furthermore, we work with detailed schedules governing the preparation of the quarterly statements, the interim consolidated financial statements, the half-year financial report, the consolidated financial statements and the combined management report.

Members of the Executive Boards and the managing directors of our subsidiaries are required to submit an internal balance sheet oath on a quarterly basis, as are select division and group division heads.

Basic principles and organisation of IKS

The consolidated financial statements are centrally compiled by the commercial division at MVV Energie AG. They meet the requirements of International Financial Reporting Standards (IFRS) as adopted by the EU and the supplementary requirements of commercial law set out in § 315a (1) HGB. All key accounting matters are dealt with by our Group's accounting and tax department. The employees at this department also act as contact partners for our subsidiaries. The consolidated financial statements are based on the financial statements initially prepared by individual subsidiaries and then checked by their respective auditors. We subsequently aggregate these financial statements into the consolidated financial statements at MVV Energie AG using SAP consolidation software. Our company's general consolidation processes are laid down in writing and monitored upon preparation of the financial statements. The Audit Committee and the full Supervisory Board review the consolidated financial statements, which are subsequently approved and adopted by the Supervisory Board and then published.

Our IKS system requires application of the dual control principle and consistent adherence to the separation of functions. 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 on the one hand lay down which accounting policies are applicable in accordance with IFRS. On the other hand, they present accounting requirements typical to our company and which relate, for example, to regulatory obligations. Within the respective processes, we regularly communicate with representatives of the various specialist departments to ascertain which further qualitative and quantitative information is relevant to our accounting and to the preparation of our financial statements. We record this information within the framework of our quality assurance processes and thus ensure that all relevant data has been fully documented. We have subdivided our day-to-day accounting and the preparation of the annual financial statements into functional process steps. Automatic or manual checks performed on all hierarchical levels have been laid down for the various process steps.

Uniform standards across all locations

Within MVV Energie AG, our commercial division is responsible for the internal control system (IKS) in respect of the financial reporting process. The same is true for the preparation of the separate financial statements of MVV Energie AG and the consolidated financial statements. The internal control systems we deploy across the whole of MVV are all equivalent and governed by uniform standards. We ensure that our IKS system is documented and comprehensible in all of its stages.

At the most important companies within the Group, IKS managers monitor whether the system is documented in line with a standardised process. These managers report as required to the IKS manager at MVV Energie AG. Based on internal audit reports and proprietary information, the IKS manager at MVV Energie AG compiles the aggregate IKS reporting. The results serve as the basis for our IKS reporting.

All process structures in the departments preparing the financial statements of MVV Energie AG are presented in a special software which is published on our intranet. We have deposited additional information to provide detailed descriptions of the processes and regulations applicable in individual cases. The process steps for the financial statements are subject to a strict schedule. We always check whether information is available in good time and document this data. This involves a standardised process that is comprehensible in all of its stages.

Our accounting department works with integrated Enterprise Resource Planning (ERP) which enables system-based errors to be avoided from the outset. The validity of the data is checked with the assistance of validations set up in the ERP system. Within the ERP system, we have a strict user authorisation concept which excludes the possibility of unauthorised parties gaining access to data and systems, or to system settings, entry and reporting functions.

Regular reporting

In 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 the budget and to the previous year's performance are documented. This information is included in the quarterly reports provided to the Executive Board. These present the business performance in detail, with 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)

Our risk management system (RMS) is structured in such a way as to enable us to identify opportunities and risks at an early stage. We define an opportunity as a significant potential positive budget variance, while significant potential negative variances are referred to as risks. We analyse the Group's opportunities on the basis of in-depth market and competitive analyses. Where possible, we aim to reduce risks or to pass them on to third parties. To this end, we develop suitable measures and monitor their implementation. A successful strategy may also involve deliberately assuming risks – provided that these are manageable and are offset by suitable opportunities.

Basic principles and organisation of RMS

The Executive Board lays down the company's risk policy. It determines all processes and responsibilities, as well as the limits from which risk management applies.

Responsibility for operative risk management lies within the legal business units and business fields, and more specifically with those employees also responsible for operating earnings at the respective business units. One core task of these managers liable for risks involves regularly reviewing the current business situation. They identify material opportunities and risks and assess what implications these may potentially have for budgeted adjusted EBIT. They regularly report their assessments in standardised form to our central risk controlling function. Furthermore, the managers liable for risks are also responsible for implementing and following up measures enabling risks to be managed or reduced and opportunities to be exploited.

RISK MANAGEMENT SYSTEM

Our central risk controlling function monitors the Group's risk situation. It continually monitors those opportunities and risks 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 we have taken to reduce risks. We aggregate the opportunities and risks thereby identified with the assistance of probability calculation methods. The largest single risks are listed separately. We combine the financial implications of the risks actually materialising with their probability of occurrence, evaluate the risk situation and allocate the risks to one of our total of six risk categories. In the next step, we quantify the risk situation in the various risk categories by referring to the potential bottom-line impact of each risk category on the Group's adjusted EBIT. We distinguish between "low", "medium", and "high" risk classes. Within our short and medium-term planning, we carefully weigh up opportunities and risks and account for these in our earnings forecast. It is nevertheless possible that unexpected developments and events may lead to actual adjusted EBIT exceeding or falling short of the value budgeted.

The Executive and Supervisory Boards receive a quarterly risk report presenting the Group's opportunity/risk profile. Any urgent cases of risk are reported immediately to the Executive Board, which then in turn informs the Supervisory Board.

Supervision of IKS and RMS systems

Both the IKS system and the RMS system are implemented, maintained and supervised by the Executive Boards and managing directors of consolidated subsidiaries. Working with a risk-based audit plan, our group internal audit department audits both systems regularly, detects any weaknesses and monitors the effectiveness of any improvements introduced.

The Supervisory Board and/or Audit Committee of MVV Energie AG check each year whether the structure and functionality of the two systems are appropriate, as do the supervisory boards of consolidated shareholdings.

Presentation of expected risk situation

In the following section, we present the expected risk situation and material company risks for MVV. We aggregate these risks into risk categories and allocate them to risk classes, namely "low", "medium", and "high". This classification shows how high (in percent) the expected impact of the risk group is for the Group's planned adjusted EBIT. A detailed explanation of the risks for the 2018 financial year is provided within the risk categories. The potential implications for our reporting segments are based on the reporting structure according to which we managed and reported on the business in the 2017 financial year.

Price risks and opportunities

In the price risks and opportunities category, we aggregate price fluctuations in commodities on both procurement and sales markets, exchange rate movements and interest rate changes. To limit interest rate, exchange rate and commodity risks, we chiefly deploy **→ financial instruments.**

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Fluctuation in clean dark spread (CDS)

The difference between electricity revenues on wholesale markets and the costs incurred to generate the electricity is referred to as the clean dark spread (CDS). Electricity generation costs mainly comprise the costs of coal (including transport costs and currency translation differences) and CO_2 emission rights. We monitor and record price fluctuations with a uniform systematic approach across the Group and take suitable measures to limit potentially negative implications for our generation portfolio management.

In the 2017 financial year, the CDS remained low, although a slight recovery began in the 3rd quarter of our financial year. The low level of CDS impacts negatively on adjusted EBIT in the Trading and Portfolio Management reporting segment to which the marketing of our power plant capacities is allocated in the commodities business field.

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 – and that up to three calendar years in advance. Taking due account of our applicable hedging regulations, our energy trading subsidiary MVV Trading concludes the corresponding futures transactions. This way, we enhance the consistency of our earnings in the Trading and Portfolio Management reporting segment. This also enables us to act early to improve our planning reliability for subsequent financial years.

Fluctuations in waste and biomass prices

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

Changes in exchange rates

Exchange rate movements harbour opportunities and risks for us in connection with fuel procurement, our involvement in the Czech Republic, our generation plants in the UK and our international renewable energies project development business. We limit the resultant risks with natural hedges and futures transactions.

Changes in interest rates

Our finance department continually monitors the interest rate risks relevant to our business. Where possible, we finance our investment projects with fixed interest rates for congruent terms. The current market climate of low interest rates and the corresponding implications for refinancing long-term projects are already accounted for in the company budget. Short to medium-term fluctuations in interest rates result in opportunities and risks for us. It is possible, for example, that demand for renewable energies projects may fall if interest rates rise, as other forms of investment may then become more attractive for investors.

EXPECTED RISK SITUATION IN FY 2018

Risk category		Risk class
PRICE RISKS	» Market prices: • Clean dark spread • Fluctuations in procurement prices • Waste and biomass prices » Exchange rates » Interest rates	MEDIUM
VOLUME RISKS	» Fluctuations in turnover: • Weather conditions and wind volumes • Economic climate » Competition and efficiency » Procurement uncertainties for waste volumes and biomass	MEDIUM
OPERATING RISKS	» Renewable energies project development » Construction projects » Plant operation » Personnel » IT risks	MEDIUM
LEGISLATIVE RISKS	» Regulation » Legal risks	MEDIUM
FINANCING RISKS	» Receivables default » Refinancing » Liquidity » Countries	LOW
STRATEGIC RISKS	» Strategic decisions (including investments)	LOW

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

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

Volume risks and opportunities

Volume fluctuations, whether on the generation and procurement front or on the sales front, may impact positively or negatively on our operating earnings.

Fluctuations in turnover due to weather conditions and wind volumes

Two key factors determining our business performance are weather conditions and wind volumes. Weather conditions influence our turnover with district heating and gas, particularly in the heating period from October to April. Electricity generation volumes at our wind turbines are dependent on wind volumes. 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

Our Group is only affected by macroeconomic developments indirectly. 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 for 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 high in the liberalised energy market. When customers decide to switch provider, this reduces our sales volumes. Efficiency measures at our customers, such as heat insulation, may also result in volume losses. The same holds true when customers generate and consume their energy themselves. By developing innovative and competitive products and services with substantial customer benefits, we can exploit opportunities arising in the liberalised market.

We traditionally work together with the municipal owners of energy grids on a basis of partnership. This way, we lay a foundation to extend existing concessions and increase our chances of acquiring new concessions.

Procurement of waste volumes and biomass
When it comes to incinerating commercial waste and biomass, both the total volumes available and the quality of such volumes may influence the Group's earnings. These factors are in turn influenced by the macroeconomic situation and legal requirements. We minimise volume risks for our plants by working with professional materials flow management. We are also pursuing a substrate and substitute procurement strategy. Lower calorific values for the waste may sometimes be offset with higher volumes.

With regard to the UK's decision to leave the European Union (Brexit), we currently do not expect this to have any significant impact on the future development in volumes and prices for waste and waste timber in the UK market region.

Operating risks and opportunities

For MVV, operating risks and opportunities chiefly arise in connection with renewable energies project development and with the construction and operation of energy generation plants.

We have extensive experience when it comes to constructing and operating waste and biomass plants. Here, we see opportunities for our group of companies, especially in the UK and France.

Uncertainties in renewable energies project development business
Projects in our renewable energies project development business field have significantly shorter planning and construction stages than large-scale generation plants. These projects nevertheless also involve uncertainties.

In general, market developments are dependent on the respective political climate and public acceptance levels. For the wind project development business in Germany, we see future contract awarding rates for project tenders and the development in market interest rates as key opportunity and risk factors. In terms of operational implementation, the course of such projects may be negatively affected by any failure to receive building or operating permits, or delayed receipt of such, and by related issues. The financial success of our international business is also significantly influenced by the different political frameworks and macroeconomic developments in our target markets.

Opportunities are also available to us, as we have extensive expertise and great competence in the field of renewable energies, not only in project development but also in terms of operations management.

Risks resulting from progress with construction projects
Large-scale generation plants involve long planning and construction stages and harbour corresponding risks. Any delay in the completion or launch of operations at our major projects could impact negatively on our expected adjusted EBIT, as this might result in unplanned costs for substitute electricity and heating energy procurement. Moreover, new developments may lead to the costs of such projects turning out higher than planned. We therefore pay great attention to ensuring that projects are robustly designed and budgeted in the planning stage, as well as to detecting and evaluating material opportunities and risks at an early stage. Any potential delay in the construction of the new gas-powered CHP plant in Kiel could lead to reduced subsidies or to higher generation costs. Not only that, any construction cost overrun would negatively affect the profitability of the project. We are countering these risks – to the extent that they are within our control – with professional project organisation and by commissioning suppliers with experience in the sector. Where contractually possible, we transfer the project risks – and especially cost increases and deadline overruns – to the contractual partners responsible for such.

Uncertainties resulting from plant operations
The operation of energy generation plants involves substantial operating uncertainties for our Group. These relate to the Generation and Infrastructure reporting segment. Any unscheduled downtime at plants might lead to a loss of production volumes. This situation may also result in additional financial expenses, such as those incurred to repair the plant, make substitute supplies to our customers or settle contractual penalties.

We 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 supplier and avoid any risks to our reputation. Despite these measures, the possibility of downtime cannot be entirely excluded. Within our maintenance strategy, we optimise scheduled inspection periods and work towards using capacity at our plants over and above the planned hours of use and to increase efficiency rates. This way, we may also be able to realise opportunities by achieving higher generation volumes. We have concluded insurance policies to limit the financial implications of any potential damages. Furthermore, we evaluate potential clean-up projects on derelict land formerly occupied by our plants from a risk and environmental protection perspective.

Personnel developments
Our well-qualified and committed employees form the basis for our company's success. We have implemented numerous measures to attract the right → **employees** for us and to retain them in the long term. Risks may nevertheless also arise with regard to our personnel. Demographic change may lead to capacity risks and risks resulting from an ageing workforce at MVV's companies, with varying implications from location to location. We are providing our employees with targeted further training to enable us to fill key positions with internal candidates in future as well.

In our pension surveys, we have accounted for those factors which could give rise to risks relating to → **pension obligations** and have included these in our budgets.

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IT risks
The digitisation of society is accelerating. Secure data storage and information technology that functions without interruption are necessary for virtually all business processes. We therefore protect our IT infrastructure and IT systems against potential attacks by third parties. We are continually taking extensive technical and organisational measures to combat IT risks. As well as working with security systems, we are increasing security by maintaining a restrictive approach towards granting access authorisations to systems and information. All key hardware components have redundant copies. We permanently reflect data between production systems and geographically separate backup systems. We also have a backup computer centre.

Legislative risks

In the "Legislative Risks" category, we pool those uncertainties arising in connection with regulation and other legal topics.

Regulatory risks
Companies operating in the energy industry are basically exposed to the 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 determined 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 determined in tender processes, and the realisation of subsidies for CHP plants. We are countering these risks by actively participating in political opinion-forming processes. We also contribute to the public debate by publishing up-to-date studies.

Employees
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Legal risks

MVV may be affected by legal risks in connection with court cases, product liability or onerous or unenforceable contracts. Our legal departments check, negotiate and draft contracts aimed at limiting these risks. We have a → **compliance management system** which helps us to avoid any infringements of the law.

MVV's business performance is also exposed to risks resulting from legal pronouncements relating to energy industry-related or other topics. These could affect our ability to structure contracts.

Financing risks and opportunities

The financing risks applicable to MVV chiefly relate to receivables default and refinancing and liquidity risks.

Receivables default risks

When customers or business partners fail to settle our invoices, or only in part, we may be affected by receivables default. This risk may arise, for example, in our OTC trading activities in the Trading and Portfolio Management segment or in our long-term supply relationships. We therefore select our business partners with due commercial prudence and check their creditworthiness in order to limit receivables default risks in all reporting segments. We additionally agree deposits of securities and guarantees. We avoid clusters of default risks by diversifying our portfolio.

Refinancing and liquidity risks

Refinancing and liquidity risks arise when there is the possibility of being unable to obtain the necessary liquid funds in future. A variety of financing instruments, such as promissory note loans, bilateral loans and syndicated loans are available to us to cover our capital requirements. By continually monitoring the financing markets, regularly exchanging information with our lenders and carefully monitoring our liquidity, we counter any refinancing or liquidity risks. Our group-internal cash pool serves to further reduce this risk.

Country risks

MVV is exposed to country risks to the extent that states may become unable or unwilling to meet their payment obligations, as well as due to transfer risks. The implications of country risks materialising for our earnings have gained in significance due to our international activities in the renewable energies project development business field. We perform detailed reviews prior to any entry into new international markets and continually monitor the development in these risks in countries in which we operate. We currently do not expect this factor to have any significant impact on our earnings.

Strategic risks and opportunities

The right strategic decisions form the basis for any company's success. In the energy industry, the energy policy and business framework has been changing dynamically for years now. This transformation harbours strategic risks, but also creates new opportunities. We draw on our strategic planning process to identify potential new markets and technologies. We review our investment projects in great detail and decide in which technologies, companies and projects we intend to invest in, as well as the timing and scope of such investments. We take these decisions on the basis of in-depth market and competitive analyses and thorough viability calculations. Our group strategy department works closely with the Executive Board to continually monitor our strategic alignment and adjust it to any new circumstances.

One important component of our corporate strategy is our intention to make substantial investments in the years ahead. Strategically important investments nevertheless have to generate the expected earnings contributions to enable us to achieve our budgeted level of adjusted EBIT. Despite careful reviews and planning, any erroneous assessments may reduce the adjusted EBIT planned for future financial years.

Due to the ongoing transformation in the German energy system, our company continues to face a high level of planning uncertainty. We are monitoring closely how the decision taken by the UK to leave the European Union (Brexit) will impact on our business in the UK. A weaker British pound, for example, would reduce our earnings denominated in euros. Implications for interest rates, commodities, demand levels and the regulatory framework are also possible. Precise developments will depend on the structure of the exit agreement reached with the EU.

Renewable energies, decentralised new power plants, energy efficiency, digitisation, building refurbishment and sustainable mobility – the energy turnaround in Germany offers opportunities for innovations, new jobs and profitable growth. By connecting the CHP plant in Mannheim to the district heating grid, for example, MVV is enhancing the plant's energy efficiency and thus the environmentally-friendliness of district heating due to the lower primary energy factor involved. Consistently implementing our → **strategy** will enable us to seize these opportunities.

We still see renewable energies as offering sustainably attractive market potential. In the project development business, however, the competitive situation in Germany has changed. This is because the addition of onshore wind turbines has been determined since 2017 by new market-based mechanisms involving tenders and market volumes have simultaneously been limited with maximum capacity caps. In the international business, we see growth potential in photovoltaics, among other areas, and thus opportunities to generate sales growth. This growth is nevertheless also influenced by dependencies on local subsidy regimes, local clients and noticeable competition, especially in high-growth markets in Asia.

We are implementing targeted measures to expand our range of innovative solutions and our decentralised energy management business model. By further expanding district heating based on combined heat and power (CHP) generation, we are drawing on growth opportunities, particularly at our locations in Mannheim, Kiel and Offenbach.

Executive Board summary

For us – as a company operating in the energy industry – our opportunity/risk profile has not changed materially compared with the previous year. On the one hand, competitive pressure remains persistently high. On the other hand, energy policy decisions could still potentially have substantial implications for our business performance – and on the performance of 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 will depend on acceptance volumes in future tender rounds. Alongside political frameworks and public acceptance levels, in our international target markets for renewable energies we also see macroeconomic developments as key factors. We expect our industry to be exposed to further far-reaching changes and an unstable underlying framework. Energy markets remain highly volatile. Furthermore, depending on the specific structure of the exit from the EU the Brexit decision may also impact on our UK business. We are monitoring all of these developments closely. Despite our well-balanced opportunity/risk profile, our business activities therefore remain subject to risks.

Corporate Strategy
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From the perspective of MVV's Executive Board, there were and are no indications that any risks, whether individually or as an aggregate total, 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.

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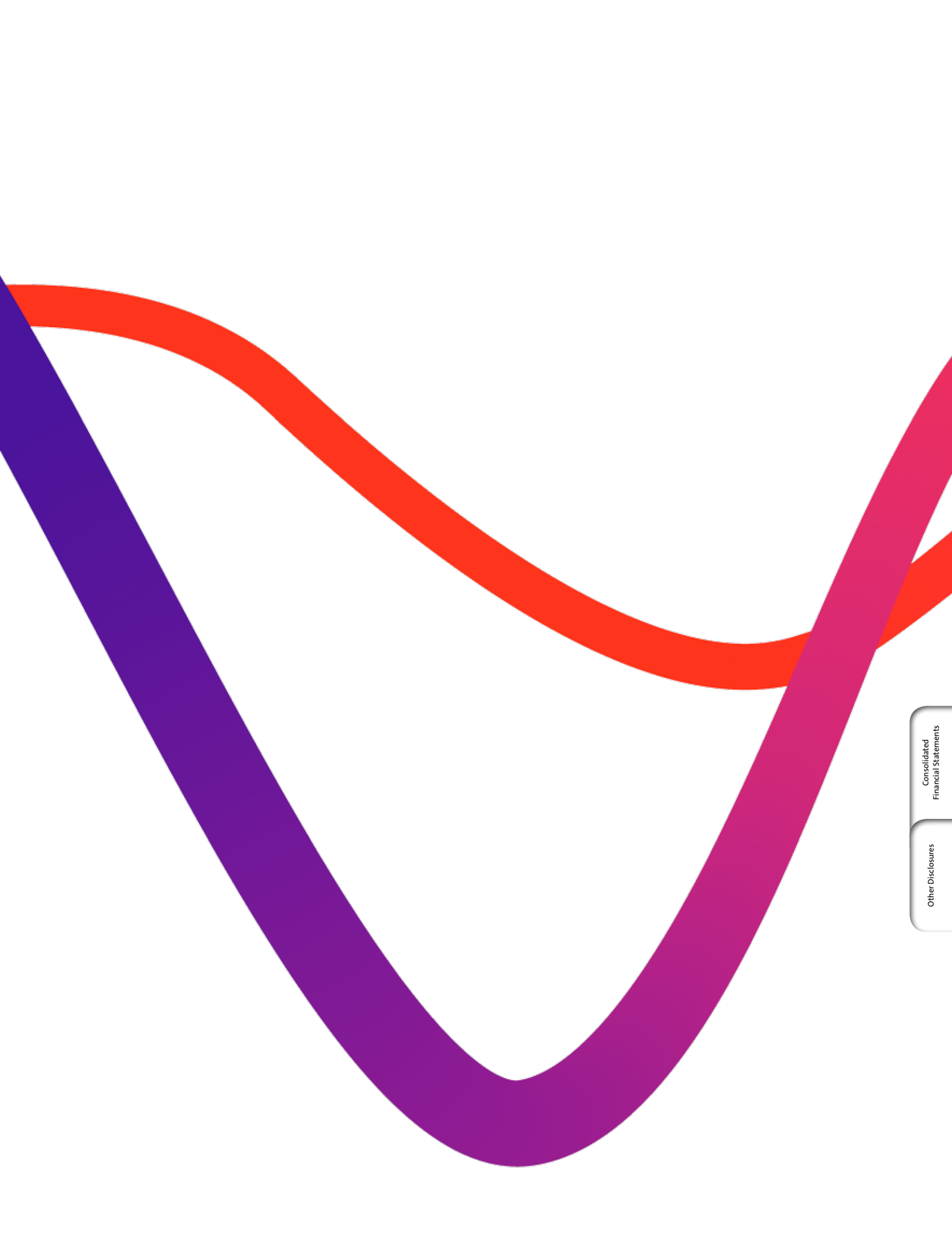


Income Statement

Income statement

Euro 000s	1 Oct 2016 to 30 Sep 2017	1 Oct 2015 to 30 Sep 2016	Notes
Sales	4,177,900	4,235,171	
less electricity and natural gas taxes	168,384	168,725	
Sales after electricity and natural gas taxes	**4,009,516**	**4,066,446**	1
Changes in inventories	−15,053	−25,271	2
Own work capitalised	19,152	19,026	3
Other operating income	320,598	315,575	4
Cost of materials	3,078,743	3,207,911	5
Employee benefit expenses	418,678	406,319	6
Other operating expenses	408,141	394,923	7
Income from companies recognised at equity	11,942	75,384	8
Other income from shareholdings	1,666	2,253	8
Restructuring result	–	−7,419	
EBITDA	**442,259**	**436,841**	
Depreciation	182,748	212,172	9
EBIT	**259,511**	**224,669**	
of which result of IAS 39 derivative measurement	38,900	24,129	
of which EBIT before result of IAS 39 derivative measurement	220,611	200,540	
Financing income	14,624	12,662	10
Financing expenses	68,515	84,189	11
EBT	**205,620**	**153,142**	
Taxes on income	73,135	44,494	12
Annual net income	**132,485**	**108,648**	
of which non-controlling interests	11,145	2,208	
of which earnings attributable to MVV Energie AG shareholders (annual net income after minority interests)	**121,340**	**106,440**	13
Basic and diluted earnings per share (Euro)	**1.84**	**1.62**	

Statement of Comprehensive Income

Statement of income and expenses recognised in group equity

Euro 000s	1 Oct 2016 to 30 Sep 2017	1 Oct 2015 to 30 Sep 2016
Annual net income	**132,485**	**108,648**
Cash flow hedges	32,266	18,208
Currency translation differences	2,814	17,862
Reclassifiable share of companies recognised at equity	–	−60
Items that may subsequently be reclassified to profit or loss	**35,080**	**36,010**
Actuarial gains and losses	7,555	−9,676
Non-reclassifiable share of companies recognised at equity	−11,439	4,144
Items that will not be reclassified to profit or loss	**−3,884**	**−5,532**
Total comprehensive income	**163,681**	**139,126**
Non-controlling interests	17,644	5,384
Total comprehensive income attributable to MVV Energie AG shareholders	**146,037**	**133,742**

Balance Sheet

Balance sheet

Euro 000s	**30 September 2017**	30 September 2016	Notes
Assets			
Non-current assets			
Intangible assets	345,064	351,181	14
Property, plant and equipment	2,519,369	2,539,308	15
Investment property	2,404	2,542	16
Interests in companies recognised at equity	180,015	189,934	17, 18
Other financial assets	56,541	56,980	20
Other receivables and assets	189,270	395,741	21
Deferred tax assets	33,435	50,613	33
	3,326,098	**3,586,299**	
Current assets			
Inventories	282,529	296,057	22
Trade receivables	351,104	457,961	23
Other receivables and assets	343,443	306,624	21
Tax receivables	18,908	15,958	24
Securities	7	32	
Cash and cash equivalents	370,301	333,041	25
Assets held for sale	20,498	7,654	26
	1,386,790	**1,417,327**	
	4,712,888	**5,003,626**	
Equity and debt			
Equity			27
Share capital	168,721	168,721	
Capital reserve	455,241	455,241	
Accumulated net income	705,028	640,654	
Accumulated other comprehensive income	−56,772	−81,469	
Capital of MVV	**1,272,218**	**1,183,147**	
Non-controlling interests	248,884	243,208	
	1,521,102	**1,426,355**	
Non-current debt			
Provisions	198,689	205,157	28, 29
Tax provisions	4,987	3,897	28
Financial debt	1,299,227	1,175,848	30
Other liabilities	310,268	550,247	31
Deferred tax liabilities	162,983	144,777	33
	1,976,154	**2,079,926**	
Current debt			
Other provisions	134,794	166,644	28, 29
Tax provisions	31,803	37,943	28
Financial debt	148,413	440,121	30
Trade payables	351,179	397,233	32
Other liabilities	548,369	449,927	31
Tax liabilities	1,074	5,477	33
	1,215,632	**1,497,345**	
	4,712,888	**5,003,626**	

Statement of Changes in Equity

Statement of changes in equity

Euro 000s	Equity contributed		Equity generated						
				Accumulated other comprehensive income					
	Share capital of MVV Energie AG	Capital reserve of MVV Energie AG	Accumulated net income	Currency translation differences	Fair value measurement of financial instruments	Actuarial gains and losses	**Capital of MVV**	Non-controlling interests	**Total capital**
Balance at 1 Oct 2015	**168,721**	**455,241**	**593,776**	**–242**	**–47,975**	**–58,632**	**1,110,889**	**203,437**	**1,314,326**
Other income and expenses recognised in equity	–	–	–	17,063	13,274	–3,035	27,302	3,176	30,478
Result of business operations	–	–	106,440	–	–	–	106,440	2,208	108,648
Total comprehensive income	**–**	**–**	**106,440**	**17,063**	**13,274**	**–3,035**	**133,742**	**5,384**	**139,126**
Dividends paid	–	–	–59,316	–	–	–	–59,316	–18,699	–78,015
Capital increase/ reduction at subsidiaries	–	–	–	–	–	–	–	1,369	1,369
Change in scope of consolidation	–	–	–246	–2,041	111	8	–2,168	51,717	49,549
Balance at 30 Sep 2016	**168,721**	**455,241**	**640,654**	**14,780**	**–34,590**	**–61,659**	**1,183,147**	**243,208**	**1,426,355**
Balance at 1 Oct 2016	**168,721**	**455,241**	**640,654**	**14,780**	**–34,590**	**–61,659**	**1,183,147**	**243,208**	**1,426,355**
Other income and expenses recognised in equity	–	–	–	2,717	27,627	–5,647	24,697	6,499	31,196
Result of business operations	–	–	121,340	–	–	–	121,340	11,145	132,485
Total comprehensive income	**–**	**–**	**121,340**	**2,717**	**27,627**	**–5,647**	**146,037**	**17,644**	**163,681**
Dividends paid	–	–	–59,316	–	–	–	–59,316	–13,422	–72,738
Change in scope of consolidation	–	–	–103	–	–	–	–103	21	–82
Other changes	–	–	2,453	–	–	–	2,453	1,433	3,886
Balance at 30 Sep 2017	**168,721**	**455,241**	**705,028**	**17,497**	**–6,963**	**–67,306**	**1,272,218**	**248,884**	**1,521,102**

Cash Flow Statement

Cash flow statement [1]

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016
Annual net income before taxes on income	205,620	153,142
Amortisation, depreciation and write-ups on intangible assets, property, plant and equipment and investment property	175,612	212,172
Financial result	53,891	71,527
Interest received	7,490	7,113
Change in non-current provisions	11,566	25,394
Other non-cash income and expenses	−17,307	−26,141
Result of disposal of non-current assets	668	−27,876
Cash flow before working capital and taxes	**437,540**	**415,331**
Change in other assets	270,424	−24,911
Change in other liabilities	−127,821	−61,390
Change in current provisions	−40,435	−17,258
Income taxes paid	−66,114	−37,821
Cash flow from operating activities	**473,594**	**273,951**
Payments for investments in intangible assets, property, plant and equipment and investment property	−177,271	−225,643
Proceeds from disposals of intangible assets, property, plant and equipment and investment property	3,980	50,049
Proceeds from subsidy payments	14,472	27,184
Proceeds from sale of fully consolidated companies	150	4,874
Proceeds from sale of other financial assets	26,063	55,592
Payments for acquisition of fully consolidated companies and other business units	−5,165	116,024
Payments for other financial assets	−26,873	−26,845
Cash flow from investing activities	**−164,644**	**1,235**
Proceeds from taking up of loans	263,773	150,617
Payments for redemption of loans	−407,561	−210,556
Dividends paid	−59,316	−59,316
Dividends paid to non-controlling interests	−13,422	−18,699
Change due to changes in capital at minority interests	20	−76
Interest paid	−54,779	−63,966
Cash flow from financing activities	**−271,285**	**−201,996**
Cash-effective changes in cash and cash equivalents	37,665	73,190
Change in cash and cash equivalents due to currency translation	−405	−2,859
Cash and cash equivalents at 1 October 2016 (2015)	333,041	262,710
Cash and cash equivalents at 30 September 2017 (2016)	**370,301**	**333,041**
of which cash and cash equivalents at 30 September 2017 (2016) with restraints on disposal	1,218	1,360

1 Further information about cash flow statement in Note 37

Cash flow – aggregate presentation

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016
Cash and cash equivalents at 1 October 2016 (2015)	**333,041**	**262,710**
Cash flow from operating activities	473,594	273,951
Cash flow from investing activities	–164,644	1,235
Cash flow from financing activities	–271,285	–201,996
Change in cash and cash equivalents due to currency translation	–405	–2,859
Cash and cash equivalents at 30 September 2017 (2016)	**370,301**	**333,041**

Notes to MVV's 2017 Consolidated Financial Statements

Information about the company

MVV Energie AG has its legal domicile in Mannheim, Germany. Its business address is at Luisenring 49 in 68159 Mannheim. As MVV's parent company, MVV Energie AG acts as an energy producer, distributor and service provider. Its business is managed in the reporting segments of Generation and Infrastructure, Trading and Portfolio Management, Sales and Services, Strategic Investments and Other Activities.

Basis of preparation

MVV's consolidated financial statements have been prepared pursuant to § 315a (1) of the German Commercial Code (HGB) in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and the interpretations (IFRIC) of the IFRS Interpretations Committee (IFRS IC). The consolidated financial statements thus fully conform with the IFRS and IFRIC published by the IASB and IFRS IC to the extent that these had been adopted by the European Union at the end of the period under report and required mandatory application as of 30 September 2017.

The consolidated financial statements have been prepared as of the balance sheet date for the annual financial statements of MVV Energie AG and refer to the 2017 financial year (1 October 2016 to 30 September 2017). The consolidated financial statements are compiled in euros. Unless otherwise indicated, all amounts are stated in thousand euros (Euro 000s).

The income statement has been prepared using the total cost method. In the interests of clarity, individual items have been presented in summarised form in the income statement and balance sheet and listed and commented on separately in the notes.

The Executive Board of MVV Energie AG is responsible for the preparation, completeness and accuracy of the consolidated financial statements and the combined management report. The consolidated financial statements and combined management report were prepared by the Executive Board on 14 November 2017 and subsequently forwarded to the Supervisory Board for approval.

Changes in accounting policies

The International Accounting Standards Board (IASB) and the IFRS Interpretations Committee (IFRS IC) have revised or newly adopted some standards and interpretations which require mandatory application for the first time in the 2017 financial year. None of the standards and interpretations not listed in the table below has any (material) implications for MVV:

Amended standards and interpretations

	EU endorsement	Effective date[1]	Implications
IAS 1 Presentation of Financial Statements	18 Dec 2015	1 Jan 2016	The provision of note disclosures only when their contents are not immaterial results in greater focus on important topics, thus enhancing readers' understanding of the financial statements.

1 Applicable in financial years beginning on or after the date stated

The IASB and the IFRS IC published standards and interpretations not yet requiring mandatory application in the 2017 financial year and of which no voluntary premature application has been made. None of the standards and interpretations not listed in the table below is expected to have any material implications for MVV:

Amended standards and interpretations

		EU endorsement	Effective date[1]
IFRS 9	Financial Instruments: Classification and Measurement of Financial Assets	22 Nov 2016	1 Jan 2018
IFRS 15	Revenue from Contracts with Customers	22 Sep 2016	1 Jan 2018
IFRS 15	Clarification to Revenue from Contracts with Customers	31 Oct 2017	1 Jan 2018
IFRS 16	Leases	31 Oct 2017	1 Jan 2019

1 Applicable in financial years beginning on or after the date stated

The IASB published the definitive version of IFRS 9 "Financial Instruments" in July 2014. The new standard replaces the existing provisions of IAS 39 "Financial Instruments: Recognition and Measurement" and requires mandatory application in financial years beginning on or after 1 January 2018. This standard was adopted into European law in November 2016. MVV Energie AG will make first-time application of the standard from the beginning of the 2019 financial year.

IFRS 9 includes revised provisions governing the classification and measurement of financial instruments, the impairment of financial assets and the recognition of hedge relationships. In future, classification of debt instruments as financial assets will be based on the business model and on the contractual cash flow characteristics of the financial instruments. Moreover, IFRS 9 will introduce a further measurement category for debt instruments. Where the requirements governing the business model and the contractual cash flow characteristics of the respective financial instrument are met, these financial assets will be classified at fair value under other comprehensive income. In this case, all fair value changes with the exception of changes resulting from expected impairments will be recognised under other comprehensive income rather than through profit or loss. The provisions governing financial liabilities as set out in IAS 39 have largely been retained. The new IFRS 9 impairment model provides for the presentation of expected credit losses upon the first-time recognition of a financial asset already. The revised hedge accounting requirements are intended to strengthen the links between the company's risk management strategy and the conclusion of hedge relationships. Moreover, IFRS 9 extends the underlying transactions qualifying for hedge accounting and simplifies effectiveness measurement.

The new requirements governing classification and measurement of financial instruments are not expected to have any material implications for MVV. The IFRS 9 impairment model based on expected credit losses should result in impairment losses being recognised at an earlier point in time, an amendment which will lead to a slight increase in risk provisions. With regard to the new hedge accounting requirements, MVV expects it to be possible to maintain all of its existing hedge relationships. It is currently reviewing the extent to which additional hedge relationships can be designated.

The IASB published the new standard IFRS 15 "Revenues from Contracts with Customers" in May 2014. This includes completely revised revenue recognition requirements and replaces the existing standards and interpretations IAS 11 "Construction Contracts", IAS 18 "Revenue", IFRIC 13 "Customer Loyalty Programmes", IFRIC 15 "Agreements for the Construction of Real Estate", IFRIC 18 "Transfers of Assets from Customers" and SIC-31 "Revenue – Barter Transactions Involving Advertising Services". It lays down a framework to determine whether, when and at what amount revenues require recognition. In future, the revenues requiring recognition will be determined by reference to a five-step model. Furthermore, IFRS 15 includes extended note disclosure requirements. This standard requires first-time mandatory application in all financial years beginning after 1 January 2018. MVV will apply this standard for the first time at the beginning of the 2019 financial year. First-time application is basically required to be retrospective. In April 2016, the IASB published clarifications to IFRS 15 relating in particular to the identification of separate performance obligations, the delineation of principals and agents and the recognition of licensing income. EU endorsement of these clarifications is still outstanding.

MVV has completed an initial assessment of the potential implications of applying IFRS 15 for its consolidated financial statements in the context of the project still underway. The following main implications were identified:

- The clarifications relating to the constellation of principal or agent status are expected to lead to a future reduction in sales of less than 10 %.
- Balance sheet reclassifications are expected to arise between the assets currently recognised and contractual assets and between the liabilities currently recognised and contractual liabilities.
- The capitalisation of contract acquisition costs and amortisation of such costs over the expected contractual term will result in a slight extension in the balance sheet.

MVV applies the retrospective method and recognises accumulated adjustments resulting from initial application as of the date of first-time application.

The new standard IFRS 16 "Leases" sets out new lease accounting requirements which in future will replace the existing requirements and definitions in IAS 17, IFRIC 4, SIC-15 and SIC-27. The existing classification of leases at the lessee as operating or finance leases will be abolished and replaced by a uniform right-of-use model. One exception relates to contracts with terms of less than twelve months and low-value assets. An accounting option is provided for these contracts. Implementation of the new standard will mean that in future operating leases will also trigger capital retention in the form of a right-of-use asset and a liability. This approach is largely comparable with that currently taken to recognise finance leases. For lessors, the accounting model does not differ to any significant extent from that in IAS 17 "Leases".

The requirements of IFRS 16 will require mandatory application in financial years beginning on or after 1 January 2019. MVV will prematurely apply the new standard (assuming that it is endorsed by the EU) for the first time in its financial year beginning on 1 October 2018. This is because the company will also apply IFRS 15 for the first time from this date. The implications of IFRS 16 application for MVV's financial statements are currently being investigated. One material implication identified to date is that the Group will be required to recognise new assets and liabilities for its operating leases, a measure expected to extend the balance sheet by a medium double-digit million euro amount. In the income statement, the new accounting requirements will lead to the amended recognition of lease expenses. This is because IFRS 16 replaces straight-line expenses for operating leases in adjusted EBIT with the amortisation of right-of-use assets and interest expenses for lease liabilities.

No material implications are expected for finance leases.

MVV is expected to draw on the options provided for current and low-value leases. With regard to the transitional requirements, MVV will apply the modified retrospective approach.

Consolidation methods

We have prepared the financial statements included in consolidation on the basis of uniform accounting policies as of 30 September 2017.

Subsidiaries are fully consolidated upon acquisition, i.e. from the time when the Group gains control. Their inclusion in the consolidated financial statements ends when they are no longer controlled by the parent company. Capital consolidation is based on the purchase method. Non-controlling interests represent the share of earnings and net assets not attributable to the Group. In the consolidated balance sheet, they are recognised within equity, separately from the equity attributable to shareholders in the parent company.

Interests in associates and joint ventures are consolidated using the equity method.

Shareholdings in companies not included by way of full consolidation or by application of the equity method have been accounted for pursuant to IAS 39.

Receivables and liabilities between consolidated companies are offset against each other, as are income and expenses. Material intercompany results have also been eliminated.

Scope of consolidation and changes in scope of consolidation

In addition to MVV Energie AG, all material German and foreign subsidiaries in which MVV Energie AG directly or indirectly holds a majority of the voting rights have been included in MVV's consolidated financial statements.

Scope of consolidation

Number of companies	Companies fully consolidated	Companies recognised at equity
30 September 2016	165	34
Additions	9	2
Disposals	11	2
30 September 2017	**163**	**34**

In the 3rd quarter of 2017, MVV Enamic GmbH, Mannheim, acquired 100 % of the shares in Econ Solutions GmbH, Straubenhardt, a company whose object involves developing, selling and servicing energy controlling systems.

The carrying amounts of Econ Solutions GmbH upon full consolidation and the fair values of its identifiable assets and liabilities are presented in the following table. The other fully consolidated companies added in the period under report did not lead to any material changes in MVV's net asset, financial and earnings situation.

Identifiable assets and liabilities

	Econ Solutions GmbH, Straubenhardt	
Euro 000s	Recognised upon acquisition	Carrying amount
Intangible assets	1,553	30
Property, plant and equipment	38	38
Inventories	550	363
Trade receivables	170	170
Other receivables and assets	94	94
Cash and cash equivalents	1	1
Provisions	4	4
Trade payables	80	80
Financial debt	35	35
Other liabilities	76	76
Deferred tax liabilities	467	–
Fair value of net assets	**1,745**	
Goodwill	3,698	

The purchase price for Econ Solutions GmbH amounted to Euro 5,443 thousand. Since its first-time consolidation, this company has contributed Euro 865 thousand to sales and Euro – 371 thousand to earnings. The goodwill arising is attributable to the opportunities thereby acquired and the resultant potential to offer an off-the-peg energy management solution for SME customers on the market immediately.

Currency translation

Foreign currency transactions are recognised at the spot rate applicable at the time the consolidated companies executed the transaction. Monetary assets and liabilities stated in foreign currencies are translated at each balance sheet date at the rate valid on the balance sheet date. Currency translation differences are recognised either within operating earnings or in the financial result in line with their respective allocation.

Annual financial statements of foreign group companies are translated into euros (the reporting currency of the Group) in accordance with the functional currency concept and using the modified reporting date method. MVV determines the functional currency for each of its companies. Assets and liabilities are translated from their respective national currencies into euros at the mean exchange rate valid on the balance sheet date. Income and expense items are translated using annual average exchange rates. Currency differences resulting from the use of different exchange rates for the balance sheet and the income statement are recognised directly in equity under accumulated other comprehensive income (currency translation differences).

Currency translation has been based on the following main exchange rates:

Currency translation

	Reporting date rate		Average rate	
1 Euro	**30 Sep 2017**	30 Sep 2016	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016
Czech crown (CZK)	25.981	27.021	26.671	27.041
British pound (GBP)	0.882	0.861	0.872	0.783
US dollar (USD)	1.181	1.116	1.105	1.111
South African rand (ZAR)	15.944	15.524	14.783	16.399

Source: European Central Bank

Accounting policies

Assets and liabilities are measured at amortised cost in all cases with the exception of certain assets, liabilities and derivative financial instruments which IAS 39 and IFRS 13 require to be measured at fair value and where this can be reliably determined. Non-current receivables and debt are recognised at present value. Assets and liabilities are netted where the relevant requirements are met. Income and expenses derived from assets and liabilities are recognised under earnings from operations or in the financial result depending on the respective balance sheet item. Period deferrals are accounted for where necessary. Items are recognised directly in equity where International Accounting Standards so require and are presented separately in the statement of changes in equity.

The underlying principles of recognition and measurement applied when preparing MVV's consolidated financial statements are set out below.

Intangible assets

Intangible assets were mainly acquired in return for payment and are carried at cost. They are subject to straight-line amortisation based on their pattern of consumption. With the exception of goodwill and one registered trademark, there are no intangible assets with useful lives classified as indefinite. Where MVV has to purchase CO_2 emission rights with holding periods longer than one year, these are recognised as intangible assets at cost. Rights allocated free of charge are recognised at Euro 0. As the CO_2 emission rights constitute non-amortisable assets, they are not subject to amortisation, but nevertheless reduced by any impairment losses arising pursuant to IAS 36.

Property, plant and equipment

Property, plant and equipment is stated at cost, less proportionate depreciation to account for the decline in value of the assets. In the case of internally generated property, plant and equipment, the costs of manufacture are based on allocable direct costs and a commensurate share of directly allocable overhead expenses. Borrowing costs are recognised as a component of costs when they can be directly attributed to the acquisition or manufacture of a qualifying asset. Such costs are recognised as soon as the asset in question requires a significant period of time to be prepared for its intended use or sale. During the commissioning phase, the net balance of income and expenses incurred is capitalised. Income in excess of the expenses incurred is recognised not as a reduction to cost of acquisition or manufacture, but through profit or loss.

The costs of assets are reduced by public subsidies received (investment grants). Public subsidies are recognised when it is reasonably certain that these will be granted and the relevant conditions have been met. Investment grants relate exclusively to asset-based subsidies. These grants are reported separately from investments in the non-current asset schedule.

Items of property, plant and equipment are subject to straight-line depreciation consistent with their pattern of consumption. Depreciation is undertaken pro rata temporis in the year of addition. Scheduled depreciation is based on the following useful lives:

Useful lives in years	
Buildings	3 – 100
Technical equipment and machinery	2 – 60
Transmission grids	3 – 50
Plant and operating equipment	1 – 50

MVV leases specific items of property, plant and equipment (leased items). Lease contracts for items of property, plant and equipment in which MVV bears the main risks and rewards resulting from ownership of the leased item are classified as finance leases. Assets in connection with finance leases are capitalised at the beginning of the lease term at the lower of the fair value of the leased item and the present value of the minimum leasing payments, with equivalent leasing liabilities being recognised under non-current and current liabilities.

Each leasing instalment is divided into its respective interest and principal components in such a way that the leasing liabilities charge consistent interest. The interest component of the leasing instalment is expensed in the income statement. Items of property, plant and equipment governed by finance leases are depreciated over the shorter of their economic useful life or the term of the lease.

Investment properties

Investment properties are measured at amortised cost. In the context of impairment tests, their fair values are regularly determined by way of independent surveys. As these do not constitute observable market prices, measurement is allocable to Level 3 of the IFRS 13 measurement hierarchy.

Impairments of intangible assets, property, plant and equipment and investment property

The carrying amounts of intangible assets, property, plant and equipment and investment property are assessed for impairment at each balance sheet date. An impairment test pursuant to IAS 36 is undertaken should there be any indication of impairment. Goodwill and intangible assets with indefinite useful lives are not subject to scheduled amortisation, but are rather tested for impairment at least once a year. This also applies when changes in circumstances or indications of impairment arise.

Where the carrying amount of an asset is higher than its recoverable amount (the higher of its fair value less disposal costs or its value in use), the carrying amount is written down to the recoverable amount. The fair value represents the best estimate of the recoverable amount. The recoverable amounts must be determined for each individual asset, unless the asset does not generate any largely independent cash flows. In this case, the amount should be stated for which an independent third party would acquire the cash generating unit at the balance sheet date. The fair values/values in use of the cash generating units are determined based on the cash flow forecasts approved by the management and supervisory bodies of MVV Energie AG. Such cash flow forecasts are based on experience and results in previous financial years, as well as on expectations as to future market developments. They refer to the expected development in key macroeconomic figures derived from economic and financial studies.

Key assumptions used in the forecasts concern the development in the price of crude oil, natural gas and coal on the global markets, the price of electricity and gas on the wholesale and end consumer markets and the development in market shares and the relevant regulatory framework.

The cash flow forecasts cover a detailed budgeting period of three years. Figures for subsequent financial years are based on an extrapolation of the results of the final financial year in the detailed budget period. Reference is made to current estimates of growth rates. These growth rates correspond to the average long-term growth rates in the markets in which the companies operate and are consistent with external sources of information concerning market expectations. Impairment losses are recognised when the recoverable amount of the asset (value in use) falls short of its carrying amount. Where the recoverable amount exceeds the carrying amount in subsequent periods, the assets are written up to a maximum of amortised cost.

Goodwill is not written up. Should the carrying amount of a cash generating unit to which goodwill has been allocated exceed its recoverable amount, then the goodwill thereby allocated is written down first. Any further write-down requirement is then accounted for by means of a prorated reduction in the carrying amounts of the other assets at the cash generating unit. However, assets are not written down below their respective present values.

Receivables and other assets

Receivables and other assets include trade receivables, other receivables and assets and tax receivables. Apart from derivative financial instruments, these are measured at amortised cost. Initial measurement is undertaken as of the performance date. Any write-downs required are based on the expected level of default risk. The value of receivables is generally corrected by means of a write-down account.

Trade receivables include accruals/deferrals to cover energy and water sales not yet read or invoiced as of the balance sheet date. Part-payments made in the context of annual consumption invoicing are deducted from the receivables. Default risks existing at the balance sheet date are covered by adequate write-downs. Receivables are derecognised immediately upon becoming uncollectible. The carrying amounts reported are basically equivalent to their respective fair values.

CO_2 emission rights with remaining terms of less than one year and requiring purchase or exchange by MVV are recognised at cost as other assets, while rights allocated free of charge have been recognised at Euro 0.

Inventories

Inventories consist of raw materials and supplies, unfinished and finished products and services and project rights, advance payments made for such and commodity trading assets. They are measured at the lower of cost or net sale value. The commodity trading assets are measured at fair value less disposal costs. Cost of acquisition or manufacture for raw materials is calculated using the average cost method. The manufacturing costs of unfinished and finished products and services and project rights include allocable direct costs and a commensurate share of the material and production overheads required based on normal capacity utilisation rates and thus include production-related full costs. Risks resulting from any impairment in utility are accounted for with suitable deductions.

Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and credit balances at banks with original terms of less than three months.

Non-current assets and liabilities held for sale

Non-current assets which can be sold in their current state and whose sale is highly probable are recognised as non-current assets held for sale. Liabilities due to be dispensed with in a transaction together with assets are reported separately as liabilities held for sale.

Unless the relevant specific standards are applicable, non-current assets held for sale are no longer subject to scheduled depreciation and amortisation, but are rather recognised at fair value less expected disposal costs, where this is lower than the carrying amount. Gains or losses resulting from the measurement of individual non-current assets held for sale or disposal groups are recognised under earnings from continuing operations until their ultimate disposal. Gains or losses resulting from the measurement of discontinued operations at fair value less disposal costs are recognised as earnings from discontinued operations.

Deferred taxes

Deferred taxes are stated for temporary differences between the tax balance sheets and IFRS balance sheets at individual companies arising from the measurement of assets and liabilities for tax purposes on the one hand and for external IFRS accounting on the other, as well as from consolidation processes impacting on earnings. Moreover, deferred tax assets are also recognised for tax reduction claims resulting from the expected utilisation in subsequent years of existing losses carried forward. Such claims are capitalised if the utilisation of these losses carried forward is certain within a five-year forecast horizon based on existing business plans. Deferred taxes are calculated based on the tax rates valid or expected at the individual organisational units upon realisation. Account is taken of the tax regulations valid or already adopted at the balance sheet date.

Provisions

Provisions are recognised for all legal or constructive obligations to third parties at the balance sheet date as a result of past events, when it is probable that a future outflow of resources will be required to settle the obligations and the amounts can be reliably estimated. Provisions are recognised at their expected performance amounts and are not netted with refund claims. Provisions based on a large number of events of the same nature are recognised at the expected value of the potential results.

All non-current provisions are recognised at their expected performance amounts as of the balance sheet date. Non-current provisions are discounted.

Financial instruments

Primary financial instruments: Loans, securities, trade receivables, other cash receivables and cash and cash equivalents are measured at fair value upon addition, taking due account of transaction costs.

Upon subsequent measurement, financial assets are recognised either at fair value or at amortised cost. The subsequent measurement of financial assets in the "financial assets available for sale" category is generally based on their fair values.

Pursuant to IAS 39, changes in fair values are recognised directly in equity, taking due account of deferred taxes. Upon disposal, these changes are recognised through profit or loss. The asset is written down through profit or loss if there are any objective indications of impairment. Permanent recoveries in value are recognised with write-ups to amortised cost. Assets whose fair values cannot be reliably estimated are measured at amortised cost. The subsequent measurement of financial assets in the "loans and receivables" and "financial instruments held to maturity" categories is based on amortised cost, with application of the effective interest rate method where appropriate. The amortised cost of a financial asset is equivalent to the fair value of the consideration provided, adjusted to account for impairments, interest payments and principal repayments. Impairment losses are recognised for any identifiable risks, especially those resulting from expected payment defaults or reductions in expected cash flows. Impairment losses are charged directly to period earnings.

Purchases and sales of financial assets executed on customary market terms are recognised on the date of the transaction, i.e. on the date on which the company assumed the liability to purchase or sell the assets. Purchases and sales executed on customary market terms require transfer of the assets within a period determined by market regulations or conventions.

The fair values of financial instruments traded on organised markets are determined by reference to the bid prices listed on the stock market on the balance sheet date. The fair values of financial instruments for which there is no active market are estimated with due application of valuation techniques. These methods are based on recent transactions performed on customary market terms, on the current value of other instruments which are essentially the same instruments, on analysis of discounted cash flows or on option price models. Pursuant to IFRS 13, due account is also taken of market and credit risks when determining fair values.

Financial assets are retired when the contractual rights to cash flows from the asset expire or when the financial asset is transferred, provided that all principal risks and rewards relating to ownership of the asset are also transferred and the power to dispose over the asset has been ceded.

Financial debt, trade payables and other liabilities are measured at amortised cost, with application of the effective interest rate method where appropriate. In the case of financial debt, cost is equivalent to the amount disbursed. In the case of trade payables and other liabilities, cost is equivalent to the fair value of the consideration received.

Financial liabilities are retired when the underlying obligation has been met, terminated, or has expired.

No use is made of the fair value option.

Derivative financial instruments: Derivative financial instruments include interest rate and currency derivatives, as well as commodity derivatives, in this case mainly for electricity, gas, coal and CO_2. Derivative financial instruments are measured at fair value both upon initial recognition and in subsequent periods and are reported under other assets or other liabilities. The amounts recognised are derived from market values or using generally recognised valuation methods (present value method or option pricing models based on current market parameters). Changes in the value of interest rate and currency derivatives relating to operations are recognised as income or expenses under earnings from operations or in the financial result. Changes in the value of all other derivative financial instruments are recognised as income or expenses under other operating income and expenses. Derivatives deployed in cash flow hedges are treated separately. Where they additionally meet IAS 39 hedge accounting requirements, changes in the fair value of the effective portion of the hedging instrument are recognised directly in equity under fair value measurement of financial instruments. When the underlying transaction is recognised in the income statement, the hedge is also recognised through profit or loss and thus compensates for the impact of the underlying transaction. Alongside cash flow hedge accounting, risks may also be hedged with fair value hedges. Here, changes in the fair values of derivatives serving to hedge a fair value and eligible to be qualified as fair value hedges are recognised through profit or loss at the same time as the risk thereby hedged. For fair value hedges, the changes in the value of primary financial instruments arising due to exchange rate movements may additionally be hedged by the currency-related changes in other primary financial instruments or currency derivatives.

Pending transactions intended to secure market prices in the field of energy trading fall within the scope of IAS 39 and are recognised as derivative financial instruments, while the hedged items (sales contracts) are generally not covered by IAS 39. The accounting treatment under IAS 39 relates in particular to commodities futures transactions. To limit volatility, application is made of the own use exemption or of cash flow hedge accounting, particularly in the electricity and gas businesses.

For closed foreign currency positions, fair value hedges are designated and recognised in accordance with fair value hedge accounting requirements.

Interest rate risks are limited by drawing in particular on interest swaps. These instruments secure the cash flows from financial liabilities with floating interest rates by means of cash flow hedges.

Measurement uncertainties

Discretionary decisions have to be made when applying the accounting policies. Moreover, the preparation of consolidated financial statements in accordance with IFRS requires assumptions and estimates to be made which could impact on the values stated for the assets and liabilities, income and expenses thereby recognised, as well as on the disclosure of contingent liabilities.

Discretionary decisions in the application of accounting policies

The exercising of discretion in the application of accounting policies has not had any material influence on the values of the assets and liabilities reported in the financial statements.

Uncertainties involved in estimates

The following section provides information on the most important forward-looking assumptions and other major sources of uncertainty involved in estimates made at the balance sheet date, as a result of which there is a risk that a material adjustment will be required in the carrying amounts of assets and liabilities in the coming financial year.

The fair values of assets and liabilities and the useful lives of assets have been determined on the basis of management assessment. The same applies to the calculation of any impairments of assets.

The impairment test performed on goodwill and assets requires an estimation of the recoverable amount of the cash generating unit to which the goodwill or asset is allocated. The recoverable amount is primarily calculated on the basis of the value in use of the cash generating unit. In special individual cases, it is calculated based on the fair value of the cash generating unit. For the impairment test, reference is made to the higher of the two values. To estimate the value in use, MVV has to estimate the cash flow surpluses expected to be generated by the cash generating unit in future and furthermore to select an appropriate discount rate to calculate the present value of the cash flow. All assumptions and estimates are based on circumstances and assessments at the balance sheet date or at the date during the financial year on which event-specific impairment becomes necessary. Any deviation in underlying conditions could result in differences arising between such estimates and actual values. Appropriate amendments are made in such cases to the assumptions and if need be to the carrying amount of the goodwill and assets.

Moreover, assumptions also have to be made when calculating actual and deferred taxes. In particular, the possibility of generating corresponding future taxable income plays a major role in the assessment as to whether it will be possible to use deferred tax assets.

The uncertainties arising when measuring the provisions to be recognised are countered with the best possible estimates. Among other methods, the calculations have also been based on probability considerations.

The measurement of sales and cost of materials is dependent on estimates to the extent that consumption deferrals have been undertaken as of the balance sheet date for trade receivables and payables already incurred but not yet invoiced.

Compensation liabilities for partnerships are recognised at prorated fair value. This is determined by compiling a company valuation, taking due account of current budgets and the yield curve.

When assessing measurement uncertainties, reference is always made to the best information available concerning circumstances at the balance sheet date. Actual amounts may differ from estimates. The carrying amounts recognised in the financial statements which are subject to these uncertainties have been stated in the balance sheet and the accompanying information provided in the notes.

The amendments made to estimates in the 2017 financial year due to IAS 8 did not lead to any notable adjustments in the relevant income, expenses, assets or liabilities.

NOTES TO INCOME STATEMENT

1. Sales after electricity and natural gas taxes

Sales include all revenues generated by the typical business activities of the Group. They are recognised upon the transfer of significant risks and rewards to customers or upon the performance of the respective services, provided that receipt of the payment can reliably be expected. The composition of sales broken down into individual segments can be found in Segment Reporting in Note 37.

MVV's main products are electricity, heating energy, gas, water and waste incineration and disposal. Furthermore, the Group generates substantial sales from wind and solar project development services.

External sales by products are structured as follows:

Sales by product group

Euro 000s	**FY 2017**	FY 2016
Electricity	2,147,090	1,961,593
Heating energy	371,210	359,265
Gas	647,841	714,913
Water	87,405	88,330
Other sales	755,970	942,346
	4,009,516	**4,066,447**

Other sales mainly include sales from project development services and customer-specific construction contracts.

Translated into the group currency, sales at our foreign subsidiaries amounted to Euro 230,122 thousand (previous year: Euro 440,329 thousand). The reduction in this share of sales is chiefly due to the expiry of projects and the realisation of numerous projects, accompanied by a high volume of sales, in the previous year.

Customer-specific construction contracts are recognised at percentage of completion. This means that prorated sales and the cost of sales incurred are recognised at the percentage of completion, based on the contractual arrangements with the customers, reached by the balance sheet date and as soon as the results of the construction contract can be reliably estimated. Percentage of completion is calculated on the basis of the project costs incurred by the balance sheet date as a proportion of the total costs of the project. In the balance sheet, the sales posted in line with their percentage of completion are reduced by advance payments received and recognised under trade receivables. As soon as the result of a construction contract cannot be reliably be estimated, the revenues from the contract are only recognised at the level of contract costs incurred and probably collectible. Losses on contracts are immediately expensed in full as soon as they are expected.

Mainly due to the lower number of projects realised, sales from customer-specific construction contracts fell to Euro 110,562 thousand (previous year: Euro 332,130 thousand).

2. Changes in inventories

Changes in inventories mainly relate to unfinished projects and project rights.

3. Own work capitalised

Own work capitalised relates above all to the construction and expansion of distribution grids.

4. Other operating income

Other operating income

Euro 000s	**FY 2017**	FY 2016
Income from IAS 39 derivatives	205,514	202,199
Reversal of provisions	45,490	23,632
Income from sales of assets and write-ups	10,398	3,848
Reversal of write-downs and receipts of receivables already retired	10,149	8,644
Reimbursements of damages claims	7,692	1,717
Agency agreements and personnel supplies	4,952	6,078
Exchange rate gains	4,035	6,346
Credits and refunds	3,946	4,608
Rental income	3,864	3,030
Benefits to employees	3,815	4,027
Income from emission rights	58	17,663
Miscellaneous	20,685	33,783
	320,598	**315,575**

Other operating income particularly relates to positive measurement items for energy trading transactions requiring measurement under IAS 39. Measurement items relating to energy transactions are reported on a gross basis. This valuation-dependent income is offset by corresponding expenses.

A clarification to the Group's internal accounting guidelines for emission rights led to a reduction in other operating income by Euro 17,605 thousand. Had this clarification to the accounting guidelines been applied in the previous year, then other operating income would have been Euro 15,291 thousand lower, with the opposing item mainly being reported under cost of materials. This clarification involves amended statement and has no impact on earnings.

5. Cost of materials

Cost of materials

Euro 000s	**FY 2017**	FY 2016
Raw materials, supplies and purchased goods	2,270,860	2,232,608
Procurement of wind turbines and solar power systems	253,461	430,932
Purchased services	554,422	544,371
	3,078,743	**3,207,911**

Expenses for purchased services mainly relate to expenses for grid utilisation fees, concession duties, maintenance and repair expenses, disposal costs for residual waste and other third-party services.

6. Employee benefit expenses

Employee benefit expenses

Euro 000s	**FY 2017**	FY 2016
Wages and salaries	341,935	333,199
Social security expenses and welfare expenses	57,307	54,924
Pension expenses	19,436	18,196
	418,678	**406,319**

MVV had an annual average of 6,057 employees (previous year: 6,169). This total includes 10 executives (previous year: 11), 5,727 employees (previous year: 5,807), 292 trainees (previous year: 315) and 38 interns/students (previous year: 36).

The executives are members of the management in key functions, i.e. authorised representatives and division heads at MVV Energie AG.

7. Other operating expenses

Other operating expenses

Euro 000s	**FY 2017**	FY 2016
Expenses for IAS 39 derivatives	166,614	178,071
Contributions, fees and duties	33,685	32,654
Expenses for advisory services	24,886	23,142
Rental, leasehold and leasing expenses	21,523	19,924
Additions to write-downs and receivables defaults	21,217	13,716
Maintenance, repair and IT service expenses	19,083	17,877
Public relations expenses	12,460	10,135
Employee benefit and welfare expenses	11,618	10,759
Operating taxes (including energy taxes)	11,535	14,169
Personnel supplies	10,620	10,258
Facility management	7,048	7,772
Expenses for emission rights	6,099	501
Service contracts	6,012	7,458
Exchange rate losses	4,320	8,827
Losses incurred on sales of assets	3,930	5,620
Office materials and specialist literature	2,261	1,926
Hospitality expenses	1,952	2,059
Miscellaneous	43,278	30,055
	408,141	**394,923**

Other operating expenses include negative measurement items for energy trading transactions requiring measurement under IAS 39. Measurement items relating to energy trading transactions are reported on a gross basis. These valuation-dependent expenses are countered by other operating income offsetting this item.

8. Income from companies recognised at equity and other income from shareholdings

Interests in associates and joint ventures are recognised initially at cost and subsequently at the amortised value of the prorated net assets. The carrying amounts are increased or reduced annually to account for prorated earnings, dividends paid and other changes in equity. Any goodwill thereby recognised is included in the value of the shareholding, rather than being reported separately. Impairment losses are recognised on the at-equity carrying amount when the recoverable amount falls short of the carrying amount. The carrying amount is correspondingly written up through profit or loss when the reasons for impairment losses previously recognised no longer apply.

Income from companies recognised at equity and other income from shareholdings

Euro 000s	**FY 2017**	FY 2016
Income from companies recognised at equity	11,942	75,384
Income from other shareholdings	1,873	488
Expenses/income from sales of financial assets	–207	1,765
	13,608	**77,637**

The changes in income from companies recognised at equity are primarily due to the amended inclusion of the Juwi subgroup in the previous year and the retirement of ZVO Energie GmbH.

9. Depreciation and amortisation

Depreciation and amortisation

Euro 000s	**FY 2017**	FY 2016
Depreciation and amortisation	182,748	212,172
of which impairment losses	2,565	32,615

Details about impairment losses can be found in the tables on intangible assets and property, plant and equipment.

10. Financing income

Financing income

Euro 000s	**FY 2017**	FY 2016
Income from currency translation in connection with financing activities	4,591	4,304
Interest income from finance leases	3,238	3,017
Interest income from current account, overnight and fixed-term deposits	1,122	945
Income from IAS 39 measurement	1,008	459
Other interest and similar income	4,665	3,937
	14,624	**12,662**

11. Financing expenses

Financing expenses

Euro 000s	**FY 2017**	FY 2016
Interest expenses on overdraft facilities, non-current and current loans	40,239	48,510
Expenses from currency translation in connection with financing activities	6,380	6,233
Compounding of provisions	2,113	8,005
Expenses for IAS 39 measurement	2,521	100
Other interest and similar expenses	17,262	21,341
	68,515	**84,189**

The other interest and similar expenses were reduced by Euro 1,489 thousand due to the capitalisation of borrowing interest (previous year: Euro 1,715 thousand). The assumed financing cost rate amounted to 1.4 % in the financial year under report and ranged from 3.1 % to 5.7 % in the previous year.

12. Taxes on income

Taxes on income

Euro 000s	FY 2017	FY 2016
Actual taxes	54,168	51,605
Deferred taxes	18,967	−7,111
	73,135	**44,494**

Current tax expenses include trade tax and corporate income tax, including the solidarity surcharge, as well as foreign taxes on income.

The calculation of deferred taxes in Germany is based on the tax rates applicable at individual companies. This tax rate results from the unchanged corporate income tax rate of 15 %, the unchanged solidarity surcharge of 5.5 % and the respectively applicable trade tax rate (currently 12 % to 16 %). The equivalent calculations for foreign companies are based on the respective national tax rates. Where the requirements of IAS 12 are met, deferred tax assets and liabilities are stated on a net basis for each company or fiscal unit.

The deferred tax expenses result from tax expenses of Euro 10,048 thousand (previous year: Euro 11,839 thousand) that are attributable to the change in the write-down on losses carried forward and to the recognition through profit or loss of losses carried forward, as well as from deferred tax expenses of Euro 8,919 thousand (previous year: income of Euro 18,950 thousand) attributable to the arising and/or reversal of temporary differences.

Actual tax expenses were reduced by Euro 3,172 thousand by using tax losses not previously recognised (previous year: Euro 4,078 thousand).

The reconciliation of expected tax expenses with those actually reported is presented in the following table. The tax rate applicable for the tax reconciliation amounts to 30.3 % (previous year: 30.3 %) and comprises the corporate income tax rate, the solidarity surcharge and an average trade tax rate of 14.5 % (previous year: 14.5 %).

Reconciliation of income tax expenses

Euro 000s	FY 2017	FY 2016
Earnings before taxes (EBT)	**205,620**	**153,142**
Expected tax expenses based on tax rate of 30.3 % (previous year: 30.3 %)	**62,303**	**46,402**
Deviations resulting from trade tax assessment base	1,759	1,599
Deviations from expected tax rate	1,985	1,258
Utilisation of losses carried forward, change in write-downs for losses and losses for which no deferred taxes are recognised	10,066	11,833
Non-deductible expenses	5,336	10,178
Tax-exempt income	−15,267	−15,022
Income from shareholdings recognised at equity	991	−8,655
Permanent differences	3,635	2,529
Taxes for previous years	1,446	−6,158
Other	881	530
Effective tax expenses	**73,135**	**44,494**
Effective tax rate (%)	**35.6**	**29.1**

13. Share of earnings attributable to MVV Energie AG shareholders and earnings per share

Share of earnings attributable to MVV Energie AG shareholders and earnings per share

	FY 2017	FY 2016
Share of earnings attributable to MVV Energie AG shareholders (Euro 000s)	121,340	106,440
Number of shares (weighted average in 000s)	65,907	65,907
Earnings per share (Euro)	1.84	1.62
Dividend per share (Euro)	0.90	0.90

The number of individual registered shares in MVV Energie AG amounts to 65,906,796.

The dividend for the 2017 financial year is based on the proposal made by the Executive Board and is subject to approval by the Annual General Meeting on 9 March 2018. This involves the distribution of a dividend of Euro 59,316 thousand. The proposals for the level of dividend for the 2016 financial year and appropriation of earnings were approved by the Annual General Meeting on 10 March 2017. Accordingly, a dividend of Euro 59,316 thousand was distributed.

NOTES TO BALANCE SHEET

14. Intangible assets

Intangible assets include concessions, industrial property rights, customer lists and similar rights and values, goodwill and advance payments.

Concessions, industrial property rights and similar rights and values consist of software and contractually agreed grants to customers and suppliers. The useful lives of such rights are based on the relevant economic aspects or contractual requirements and range from 1 to 50 years. Intangible assets of Euro 5,631 thousand are subject to restrictions on disposal (previous year: Euro 12,403 thousand).

MVV Energie AG only performs an immaterial volume of research and development activities. The amount of research and development expenses qualifying under IFRS came to Euro 401 thousand in the 2017 financial year (previous year: Euro 659 thousand). The development expenses capitalised under IAS 38, which relate to the development of a project data base, amounted to Euro 730 thousand in the current financial year (previous year: Euro 0 thousand).

The impairment tests performed in the 2017 financial year were based on determining the recoverable amount/value in use. This involves discounting expected cash flows at the shareholdings with discount rates (weighted costs of capital) of 6.3 % to 10.8 % before taxes. The discount rates are determined on the basis of available market data. The budget period for the underlying cash flows generally amounts to three years. Growth rates of up to 0.5 % were assumed for perpetuity in the impairment tests performed in the 2017 financial year.

Within the framework of a sensitivity analysis, the impairments resulting from any increase/reduction in the capitalisation discount rate by 0.5 % were calculated. This did not result in any notable changes in the ongoing values.

The carrying amounts stated for goodwill are structured as follows:

Goodwill carrying amounts

Euro 000s	**30 Sep 2017**	30 Sep 2016
Juwi subgroup	98,970	98,970
Energieversorgung Offenbach subgroup	75,894	75,894
MVV Enamic subgroup	35,416	36,611
Windwärts subgroup	6,073	6,073
MVV Energie CZ subgroup	6,211	5,939
MVV Umwelt subgroup	5,583	5,584
Other subgroups	2,259	1,038
	230,406	**230,109**

For the purposes of performing impairment tests, goodwill was allocated to cash generating units. These correspond to the legal subgroups. No impairment losses were recognised for goodwill in the 2017 financial year.

Intangible assets

Euro 000s	Concessions, industrial property rights and similar rights and values	Goodwill	Advance payments	**Total**
Gross value at 1 October 2015	289,422	142,966	5,193	437,581
Change in scope of consolidation	29,911	99,832	30	129,773
Currency adjustments	−199	49	–	−150
Additions	3,820	–	5,692	9,512
Disposals	−2,077	–	–	−2,077
Reclassifications	2,659	–	−2,960	−301
Gross value at 30 September 2016	**323,536**	**242,847**	**7,955**	**574,338**
Amortisation at 1 October 2015	−194,630	−16,067	1	−210,696
Change in scope of consolidation	–	3,343	–	3,343
Currency adjustments	38	−14	−1	23
Scheduled amortisation	−17,195	–	–	−17,195
Impairment losses	−122	–	–	−122
Disposals	1,441	–	–	1,441
Reclassifications	49	–	–	49
Amortisation at 30 September 2016	**−210,419**	**−12,738**	**–**	**−223,157**
Net value at 30 September 2016	**113,117**	**230,109**	**7,955**	**351,181**
Gross value at 1 October 2016	323,536	242,847	7,955	574,338
Change in scope of consolidation	2,193	4,919	128	7,240
Currency adjustments	55	363	–	418
Additions	5,733	–	2,869	8,602
Subsidy payments	−78	–	–	−78
Disposals	−1,168	–	–	−1,168
Reclassifications	8,364	–	−7,437	927
Reclassifications pursuant to IFRS 5	−4,318	−4,892	–	−9,210
Gross value at 30 September 2017	**334,317**	**243,237**	**3,515**	**581,069**
Amortisation at 1 October 2016	−210,419	−12,738	–	−223,157
Currency adjustments	−68	−93	–	−161
Scheduled amortisation	−15,237	–	–	−15,237
Impairment losses	−771	–	–	−771
Disposals	889	–	–	889
Reclassifications pursuant to IFRS 5	2,432	–	–	2,432
Amortisation at 30 September 2017	**−223,174**	**−12,831**	**–**	**−236,005**
Net value at 30 September 2017	**111,143**	**230,406**	**3,515**	**345,064**

15. Property, plant and equipment

Property, plant and equipment

Euro 000s	Land, leasehold rights and buildings, including buildings on third-party land	Technical equipment and machinery	Other assets, plant and operating equipment	Advance payments and construction in progress	**Total**
Gross value at 1 October 2015	780,026	4,279,956	201,868	350,831	5,612,681
Change in scope of consolidation	44,737	−36,573	6,212	294	14,670
Currency adjustments	−13,605	−29,016	−304	5,174	−37,751
Additions	1,234	72,309	6,554	136,034	216,131
Subsidy payments received	−13	−19,670	−9	−257	−19,949
Disposals	−3,659	−43,429	−4,148	−2,421	−53,657
Reclassifications	106,003	222,081	1,893	−329,677	300
Reclassifications pursuant to IFRS 5	200	−117	–	–	83
Gross value at 30 September 2016	**914,923**	**4,445,541**	**212,066**	**159,978**	**5,732,508**
Depreciation at 1 October 2015	−380,674	−2,554,939	−145,661	–	−3,081,274
Change in scope of consolidation	1	33,711	–	–	33,712
Currency adjustments	241	639	67	–	947
Scheduled depreciation	−22,830	−127,855	−11,677	–	−162,362
Impairment losses	−3,018	−29,265	−210	–	−32,493
Disposals	1,990	42,909	3,432	–	48,331
Reclassifications	−14	−2	−32	–	−48
Reclassifications pursuant to IFRS 5	–	−13	–	–	−13
Depreciation at 30 September 2016	**−404,304**	**−2,634,815**	**−154,081**	**–**	**−3,193,200**
Net value at 30 September 2016	**510,619**	**1,810,726**	**57,985**	**159,978**	**2,539,308**
Gross value at 1 October 2016	914,923	4,445,541	212,066	159,978	5,732,508
Change in scope of consolidation	–	12	255	–	267
Currency adjustments	1,839	798	−9	113	2,741
Additions	2,201	44,779	6,832	114,858	168,670
Subsidy payments	−77	−4,778	−102	–	−4,957
Disposals	−8,536	−61,927	−9,534	−633	−80,630
Reclassifications	4,105	77,855	1,024	−83,911	−927
Reclassifications pursuant to IFRS 5	–	−2	−29,467	–	−29,469
Gross value at 30 September 2017	**914,455**	**4,502,278**	**181,065**	**190,405**	**5,788,203**
Depreciation at 1 October 2016	−404,304	−2,634,815	−154,081	–	−3,193,200
Currency adjustments	−1,983	−4,043	−35	–	−6,061
Scheduled depreciation	−23,103	−130,322	−11,521	–	−164,946
Write-ups	–	–	7,136	–	7,136
Impairment losses	–	−1,794	–	–	−1,794
Disposals	5,035	60,129	9,117	–	74,281
Reclassifications	–	28	−28	–	–
Reclassifications pursuant to IFRS 5	–	2	15,748	–	15,750
Depreciation at 30 September 2017	**−424,355**	**−2,710,815**	**−133,664**	**–**	**−3,268,834**
Net value at 30 September 2017	**490,100**	**1,791,463**	**47,401**	**190,405**	**2,519,369**

The impairment losses arising in the 2017 financial year were mainly attributable to the development in the wind yield at various cash generating units. The wind yield at two windfarms in the Generation and Infrastructure segment were lower than originally planned. The management took this as an indication to perform impairment tests on these cash generating units. The future values in use were determined using a discount rate of 5.4 % before tax.

Property, plant and equipment up to an equivalent value of Euro 64 million (previous year: Euro 73 million) has been provided as security for financial debt. This involves land, buildings, technical equipment and machinery. Property, plant and equipment subject to restrictions on disposal amounts to Euro 128 million (previous year: Euro 162 million).

The subsidy payments received in the 2017 financial year chiefly relate to urban planning measures in connection with the distribution grid. There are no conditions that have not been met or other performance uncertainties in connection with these subsidy payments.

The largest additions to advance payments and construction in progress in the 2017 financial year related to the preparations for a gas-powered CHP plant.

16. Investment property

The investment property involves a piece of land let out in the USA. Rental income amounted to Euro 34 thousand in the financial year under report (previous year: Euro 34 thousand). Direct operating expenses came to Euro 0 thousand (previous year: Euro 0 thousand). The fair value of the investment property is at least equivalent to the carrying amount.

Investment property

Euro 000s	FY 2017	FY 2016
Gross value at 1 October	2,542	–
Change in scope of consolidation	–	2,606
Currency adjustments	–138	–64
Gross value at 30 September	**2,404**	**2,542**
Depreciation at 1 October	–	–
Depreciation at 30 September	–	–
Net value at 30 September	**2,404**	**2,542**

17. Joint ventures

MVV Energie AG operates joint ventures with partners. In view of their size and influence on the Group, the following companies have been identified as material joint ventures:

Together with its shareholders, Uniper Kraftwerke GmbH and Stadtwerke Kiel AG, which is a subsidiary of MVV Energie AG, the company Gemeinschaftskraftwerk Kiel GmbH operates a hard coal-fired power plant in Kiel. Stadtwerke Kiel AG owns a 50 % share of the capital. All significant decisions have to be reached jointly by the shareholders.

Stadtwerke Ingolstadt is responsible for the energy supply in the Ingolstadt region. MVV Energie AG owns a 48.4 % share of the capital in Stadtwerke Ingolstadt Beteiligungen GmbH, which as the financial holding company pools several subsidiaries. All significant decisions have to be reached jointly by the shareholders.

The assets, liabilities, equity, sales, annual net income and other income and expenses at material joint ventures are presented in the following tables:

Statement of comprehensive income for material joint ventures

	Juwi AG, Wörrstadt		Gemeinschaftskraftwerk Kiel GmbH, Kiel		Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt	
Euro 000s	**Financial year**	1 Oct 2015 to 17 Dec 2015	**Financial year**	Previous year	**Financial year**	Previous year
Sales excluding energy taxes	–	246,634	78,060	96,939	197,794	181,896
Scheduled depreciation and amortisation	–	–3,069	–2,344	–3,038	–13,402	–12,121
Interest income	–	4,882	10	17	106	89
Interest expenses	–	–2,824	–4,840	–7,667	–1,127	–986
Income tax expenses/income	–	–9,916	2,545	3,385	–8,441	–7,784
Annual net income	–	25,578	7,639	1,534	19,328	19,628
Other income and expenses	–	–95	–	–	95	–45
Total comprehensive income for period	**–**	**25,483**	**7,639**	**1,534**	**19,423**	**19,583**
Dividends received from material joint ventures	–	–	767	767	9,135	8,558

Further key financial figures for material joint ventures

	Juwi AG, Wörrstadt		Gemeinschaftskraftwerk Kiel GmbH, Kiel		Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt	
Euro 000s	**Financial year**	17 Dec 2015	**Financial year**	Previous year	**Financial year**	Previous year
Assets	**–**	**621,199**	**107,453**	**110,598**	**275,854**	**269,303**
Non-current assets	–	129,986	8,136	10,306	223,500	214,100
Current assets	–	491,213	99,317	100,292	52,354	55,203
of which cash and cash equivalents	–	116,024	11,008	10,137	883	10,655
Equity and debt	**–**	**621,199**	**107,453**	**110,598**	**275,903**	**269,303**
Equity	–	118,170	22,978	16,873	66,584	66,036
Non-current provisions	–	9,473	56,301	56,296	5,053	3,765
Non-current debt and other liability items	–	150,132	–	–	121,474	123,351
of which non-current financial debt	–	119,684	–	–	43,168	46,632
Current provisions	–	77,276	25,981	34,110	58	86
Current debt and other liability items	–	266,148	2,193	3,319	82,734	76,065
of which current financial debt	–	19,953	–	–	58,928	48,061

Reconciliation of summarised key financial figures with carrying amounts of material joint ventures

	Juwi AG, Wörrstadt		Gemeinschaftskraftwerk Kiel GmbH, Kiel		Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt	
Euro 000s	**Financial year**	1 Oct 2015 to 17 Dec 2015	**Financial year**	Previous year	**Financial year**	Previous year
Net assets at 1 October	–	92,687	16,873	16,873	66,036	64,135
Profit/loss for period	–	25,578	7,639	1,534	19,328	19,628
Distribution	–	–	–1,534	–1,534	–18,875	–17,682
Other income and expenses	–	–95	–	–	95	–45
Net assets at 30 September	**–**	**118,170**	**22,978**	**16,873**	**66,584**	**66,036**
Group share of net assets	–	74,589	11,489	8,437	32,227	31,961
Other items	–	–	322	322	–154	–154
Goodwill	–	106,716	–	–	53,759	53,759
Carrying amount of interest in joint ventures	**–**	**181,305**	**11,811**	**8,759**	**85,832**	**85,566**

The aggregate profit/loss, total comprehensive income and carrying amounts at non-material joint ventures are presented in the following table:

Summarised key financial figures for non-material joint ventures

Euro 000s	Financial year	Previous year
Profit/loss for period	–4,657	–9,136
Total comprehensive income for period	–4,657	–9,136
Carrying amount of interest in non-material joint ventures	**34,301**	**34,944**

18. Associates

MVV Energie AG has identified Grosskraftwerk Mannheim AG as a material associate in view of its size and its influence on the Group.

Grosskraftwerk Mannheim AG operates what is one of Europe's most efficient hard coal-fired power plants in Mannheim. Overall, the Group owns a 28% share of the capital in this company. Grosskraftwerk Mannheim AG is a power plant jointly owned by the following shareholders: RWE Generation SE, Essen, EnBW Energie Baden-Württemberg AG, Karlsruhe, and MVV RHE GmbH, Mannheim. Due to the positions held on the company's supervisory board and its votes at the annual general meeting, MVV RHE GmbH exercises significant influence on this company.

The assets, liabilities, equity, sales, annual net income and other income and expenses of Grosskraftwerk Mannheim AG are as follows:

Statement of comprehensive income for material associates

	Grosskraftwerk Mannheim AG, Mannheim	
Euro 000s	Financial year	Previous year
Sales excluding energy taxes	524,745	603,080
Scheduled depreciation and amortisation	–97,105	–71,791
Interest expenses	–65,801	–46,606
Income tax expenses/income	1	–27,204
Annual net income	–4,662	49,188
Other income and expenses	–41,019	14,877
Total comprehensive income for period	**–45,681**	**64,065**
Dividends received from material associates	–	1,861

Further key financial figures for material associates

	Grosskraftwerk Mannheim AG, Mannheim	
Euro 000s	Financial year	Previous year
Assets	**2,081,990**	**2,190,315**
Non-current assets	1,919,335	1,980,544
Current assets	162,655	209,771
of which cash and cash equivalents	216	26,357
Equity and debt	**2,081,990**	**2,190,315**
Equity	127,273	172,954
Non-current provisions	705,497	651,496
Non-current debt and other liability items	1,105,856	1,191,201
of which non-current financial debt	1,035,000	1,100,000
Current provisions	79,796	110,097
Current debt and other liability items	63,568	64,567
of which current financial debt	30,285	14,395

Reconciliation of summarised key financial figures with carrying amounts of material associates

	Grosskraftwerk Mannheim AG, Mannheim	
Euro 000s	Financial year	Previous year
Net assets at 1 October	172,954	133,761
Profit/loss for period	–4,662	49,188
Distribution	–	–6,646
Other income and expenses	–41,019	14,877
Other Group adjustments	–	–18,226
Net assets at 30 September	**127,273**	**172,954**
Group share of net assets	35,636	48,427
Other items	1,897	1,897
Carrying amount of investment in associate	**37,533**	**50,324**

The aggregate profits, total comprehensive income and carrying amounts of non-material associates are presented in the following table:

Summarised key financial figures for non-material associates

Euro 000s	**Financial year**	Previous year
Profit/loss for period	4,333	5,312
Total comprehensive income for period	4,333	5,312
Carrying amount of investment in non-material associates	**10,538**	**9,927**

Other comprehensive income at material associates includes items resulting from the measurement of pension obligations and currency translation differences.

The income from shareholdings collected by MVV from associates amounted to Euro 1,366 thousand in the 2017 financial year (previous year: Euro 9,158 thousand).

Our share of the contingent liabilities of companies measured at equity amounted to Euro 1,042 thousand (previous year: Euro 550 thousand).

The joint venture Gemeinschaftskraftwerk Kiel GmbH and associate Grosskraftwerk Mannheim AG have financial years ending on 31 December, and thus deviating from MVV's financial year. Their results have been recognised at the Group accordingly. As both of these companies basically involve power plants whose costs are fully reimbursed and whose annual net income and distributions remain constant, the deviating balance sheet date does not have any implications for MVV. As in the previous year, no publicly listed market prices were available.

19. Subsidiaries with non-controlling interests of material significance to the Group

On account of their size and their influence on the Group, the following companies have been identified as material subsidiaries: Stadtwerke Kiel AG, Kiel, Energieversorgung Offenbach AG, Offenbach am Main, and Juwi AG, Wörrstadt.

The statements of comprehensive income and further key financial information concerning the non-controlled interests in the companies are presented in the following tables.

The figures stated represent amounts prior to consolidation.

Statement of comprehensive income for non-controlled interests in Energieversorgung Offenbach AG

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016
Sales excluding energy taxes	344,982	388,372
Annual net income	13,637	11,319
Other income and expenses	2,364	2,385
Total comprehensive income for period	**16,001**	**13,704**
Total comprehensive income attributable to non-controlling interests	8,000	6,852
Dividends paid (to non-controlling shareholders)	5,288	6,812

Further key financial figures for non-controlled interests in Energieversorgung Offenbach AG

Euro 000s	**30 Sep 2017**	30 Sep 2016
Assets	**345,315**	**354,177**
Non-current assets	285,440	285,937
Current assets	59,875	68,240
of which cash and cash equivalents	14,418	11,974
Equity and debt	**345,315**	**354,177**
Equity	151,563	146,139
Non-current provisions	33,466	31,041
Non-current debt and other liability items	107,213	98,156
of which non-current financial debt	72,707	64,189
Current provisions	7,523	9,206
Current debt and other liability items	45,550	69,635
of which current financial debt	1,483	27,359

Statement of comprehensive income for non-controlled interests in Stadtwerke Kiel AG

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016
Sales excluding energy taxes	715,580	739,791
Annual net income	16,035	21,596
Other income and expenses	2,002	314
Total comprehensive income for period	**18,037**	**21,910**
Total comprehensive income attributable to non-controlling interests	8,838	10,736
Dividends paid (to non-controlling shareholders)	4,802	10,143

Statement of comprehensive income for non-controlled interests in Juwi AG

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	18 Dec 2015 to 30 Sep 2016
Sales excluding energy taxes	33,990	33,161
Annual net income	–27,345	2,229
Other income and expenses	92	–112
Total comprehensive income for period	**–27,253**	**2,117**
Total comprehensive income attributable to non-controlling interests	–10,051	781
Dividends paid (to non-controlling shareholders)	–	–

Further key financial figures for non-controlled interests in Stadtwerke Kiel AG

Euro 000s	**30 Sep 2017**	30 Sep 2016
Assets	**647,105**	**612,108**
Non-current assets	571,760	530,950
Current assets	75,345	81,158
of which cash and cash equivalents	17,426	149
Equity and debt	**647,105**	**612,108**
Equity	215,424	207,187
Non-current provisions	29,626	34,627
Non-current debt and other liability items	295,253	171,291
of which non-current financial debt	253,585	129,920
Current provisions	11,464	15,083
Current debt and other liability items	95,338	183,920
of which current financial debt	28,910	102,607

Further key financial figures for non-controlled interests in Juwi AG

Euro 000s	**30 Sep 2017**	30 Sep 2016
Assets	**249,118**	**237,518**
Non-current assets	82,937	82,491
Current assets	166,181	155,027
of which cash and cash equivalents	26,375	15,315
Equity and debt	**249,118**	**237,518**
Equity	96,904	104,053
Non-current provisions	597	571
Non-current debt and other liability items	84,030	92,045
of which non-current financial debt	83,801	91,713
Current provisions	5,071	3,753
Current debt and other liability items	62,516	37,096
of which current financial debt	58,379	19,319

Total non-controlled interests in subsidiaries in the period under report amounted to Euro 248,884 thousand, of which Euro 105,194 thousand related to Stadtwerke Kiel AG, Kiel, Euro 56,874 thousand to Energieversorgung Offenbach AG, Offenbach am Main, Euro 38,802 thousand to Juwi AG, Wörrstadt, and Euro 48,015 thousand to non-material subsidiaries.

20. Other financial assets

Write-downs and the development in other financial assets are reported in the following table, as well as under income from companies recognised at equity and other income from shareholdings (Note 8), financing income (Note 10) and financing expenses (Note 11).

Other financial assets

Euro 000s	Other majority shareholdings	Other shareholdings	Loans in connection with finance leases	General loans and securities	**Total**
Gross value at 1 October 2015	3,106	14,005	43,848	2,843	63,802
Change in scope of consolidation	306	999	–	22	1,327
Currency adjustments	3	–1	–	–	2
Additions	2,601	6	5,136	13,859	21,602
Disposals	–4,769	–115	–408	–9,872	–15,164
Reclassifications	100	–	–6,118	453	–5,565
Reclassifications pursuant to IFRS 5	–	–7,654	–	–	–7,654
Gross value at 30 September 2016	**1,347**	**7,240**	**42,458**	**7,305**	**58,350**
Amortisation at 1 October 2015	–1,661	–	–33	–	–1,694
Currency adjustments	–3	–	–	–	–3
Impairment losses	–71	–845	–	–	–916
Disposals	1,243	–	–	–	1,243
Amortisation at 30 September 2016	**–492**	**–845**	**–33**	**–**	**–1,370**
Net value at 30 September 2016	**855**	**6,395**	**42,425**	**7,305**	**56,980**
Gross value at 1 October 2016	1,347	7,240	42,458	7,305	58,350
Change in scope of consolidation	–	–	–	6,595	6,595
Currency adjustments	16	–1	–	–	15
Additions	90	528	4,109	10,107	14,834
Disposals	–68	–495	–	–17,847	–18,410
Reclassifications	–	–	–3,052	–390	–3,442
Gross value at 30 September 2017	**1,385**	**7,272**	**43,515**	**5,770**	**57,942**
Amortisation at 1 October 2016	–492	–845	–33	–	–1,370
Currency adjustments	–18	–	–	–	–18
Impairment losses	–5	–8	–	–	–13
Amortisation at 30 September 2017	**–515**	**–853**	**–33**	**–**	**–1,401**
Net value at 30 September 2017	**870**	**6,419**	**43,482**	**5,770**	**56,541**

Other financial assets comprise loans, receivables in connection with finance leases, other majority shareholdings and other shareholdings. These items are measured and categorised as follows:

The loans included in this line item are classified under loans and receivables, while leasing receivables are classified under leases. Loans are valued at amortised cost, less impairments where applicable. Finance leases are recognised as receivables in the amount of the present value of the minimum leasing payments (net investment value). The other shareholdings recognised under other financial assets involve minority shareholdings, associates and joint ventures not included in MVV's consolidated financial statements due to materiality considerations. Other majority shareholdings and other shareholdings are measured at amortised cost, corrected where necessary to account for impairments due to a reduction in expected cash flows or existing default risks.

Any default risks identifiable for financial assets are accounted for with write-downs recognised under income from shareholdings or in the financial result.

Loans and leasing receivables have fixed interest rates, with an average interest rate of 4.2 % (previous year: 3.3 %). The average period for which interest rates remain fixed amounts to 6.7 years in the case of fixed-interest loans (previous year: 6.5 years) and to 6 years in the case of finance leases (previous year: 6.5 years). Reclassifications mainly involve reclassifications of the aforementioned items to current financial assets in line with their respective maturities.

Further information about financial instruments can be found in Note 35.

As in the previous year, there were no restrictions on disposal or other encumbrances.

Other financial assets also include the non-current share of finance leases. In several contracting projects, MVV acts as lessor in the context of finance lease agreements. The reconciliation of the present value of minimum leasing payments with gross investments in leases is as follows:

Reconciliation

Euro 000s	**30 Sep 2017**	30 Sep 2016
Present value of minimum leasing payments with maturities < 1 year	**6,842**	**5,763**
Present value of minimum leasing payments with maturities > 1 year		
1 to 5 years	22,677	20,288
longer than 5 years	22,076	22,383
Present value of minimum leasing payments with maturities > 1 year	**44,753**	**42,671**
Total present value of minimum leasing payments	**51,595**	**48,434**
Financing income not yet realised	13,803	14,700
Gross investments in finance leases	**65,398**	**63,134**

21. Other receivables and assets

Other receivables and assets have been broken down into their respective contents and counterparties in the following tables. The hedging relationship has also been stated in the case of derivative financial instruments.

Financial and non-financial receivables and assets

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Financial receivables and assets						
Derivative financial instruments	174,259	257,310	431,569	365,663	186,042	551,705
Receivables from security deposits for energy trading transactions	–	126	126	–	45,604	45,604
Receivables in connection with finance leases	–	6,430	6,430	–	5,330	5,330
Suppliers with debit balances	–	4,312	4,312	–	3,263	3,263
Loans	–	6,496	6,496	–	1,258	1,258
Receivables from employees	–	207	207	–	295	295
Escrow accounts	–	48	48	–	53	53
Miscellaneous other assets	9,437	36,398	45,835	22,616	36,989	59,605
Non-financial receivables and assets						
Other tax receivables	–	22,936	22,936	–	20,308	20,308
Deferred expenses and accrued income	5,574	8,946	14,520	7,462	7,034	14,496
Emission rights	–	234	234	–	448	448
	189,270	**343,443**	**532,713**	**395,741**	**306,624**	**702,365**

Derivative financial instruments (financial receivables and assets)

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Derivative financial instruments	174,259	257,310	431,569	365,663	186,042	551,705
of which without IAS 39 hedges	148,499	248,636	397,135	353,437	184,822	538,259
of which cash flow hedges	25,760	8,674	34,434	12,226	1,220	13,446

Derivative financial instruments fell in value compared with the previous year. This was due to realisation and to lower market prices and the resultant reduction in the fair values of energy trading transactions recognised under IAS 39. These items relate to interest, currency and commodity derivatives for electricity, gas, coal, CO_2 and other certificates.

Further information about financial instruments can be found in Note 35.

Other tax receivables mainly include input tax and energy tax credits.

Non-current miscellaneous assets include expenses of Euro 7,226 thousand for the extension and renewal of infrastructure assets at the two British power plants. These assets are not within MVV's control but are essential for the supply of electricity and steam. The outlays thereby incurred are being deferred over the corresponding contractual term.

Other receivables and assets

Euro 000s	30 September 2017 Non-current	30 September 2017 Current	30 September 2017 Total	30 September 2016 Non-current	30 September 2016 Current	30 September 2016 Total
Other receivables and assets						
from third parties	188,880	341,837	530,717	393,821	304,704	698,525
from other majority shareholdings	–	449	449	–	376	376
from companies recognised at equity	390	1,132	1,522	1,920	1,494	3,414
from other shareholdings	–	25	25	–	50	50
	189,270	**343,443**	**532,713**	**395,741**	**306,624**	**702,365**

Current other assets also include the current portion of leasing receivables and loans. Measurement of these items is based on the same principles as for the non-current portions. These principles are outlined under other financial assets.

Furthermore, miscellaneous other assets mainly relate to receivables due from a former shareholder of a subsidiary, receivables due from third parties for building cost grants and input taxes not yet deductible.

The write-downs and maturity structures for other receivables and assets have been presented in Note 35.

To reduce the counterparty risk involved in highly fluctuating fair values of energy trading derivatives, security deposits are exchanged with external trading partners. These involve margins. To reduce these counterparty risks, payments are made both with the European Energy Exchange (EEX) and in some cases within the framework of bilateral agreements. These are reflected in the receivables from security deposits for energy trading transactions line item. Receivables from security deposits decreased compared with the previous year, falling to Euro 126 thousand (previous year: Euro 45,604 thousand). This was due to the realisation of the respective items and to a lower volume of new energy trading transactions.

There were no indications of impairment requirements for non-impaired other receivables and assets. All write-downs undertaken were calculated following consideration of each case and were not based on any general allowance.

22. Inventories

Inventories

Euro 000s	30 Sep 2017	30 Sep 2016
Raw materials and supplies	38,868	42,577
Finished and unfinished products and services (project rights)	75,676	109,555
Finished and unfinished products (other) and merchandise	51,316	46,779
Advance payments	114,813	95,296
Commodity trading assets	1,856	1,850
	282,529	**296,057**

Write-downs of Euro 150 thousand were recognised for raw materials and supplies (previous year: Euro 137 thousand). Write-ups of Euro 312 thousand were also included for raw materials and supplies due to an increase in their net disposal price (previous year: Euro 3 thousand).

The commodity trading assets item includes inventories relating to special gas storage transactions. These items have been measured by reference to wholesale prices as of the balance sheet date and involve Level 2 measurement. The definitions of individual measurement levels can be found in Note 35.

23. Trade receivables

Trade receivables

Euro 000s	30 Sep 2017	30 Sep 2016
Trade receivables	351,104	457,961
of which due from other majority shareholdings	501	433
of which due from companies recognised at equity	14,545	27,007
of which due from other shareholdings	453	1,435

The above table shows those trade receivables with terms of under one year. Trade receivables with terms of more than one year are of immaterial significance at the Group and have been recognised under other receivables and assets.

The trade receivables recognised as of 30 September 2017 include receivables of Euro 4,826 thousand (previous year: Euro 82,465 thousand) for the settlement of construction contracts in line with their percentage of completion. Revenues of Euro 110,562 thousand were recognised for construction contracts in the year under report (previous year: Euro 334,059 thousand). Total costs incurred for construction contracts not yet complete as of the balance sheet date came to Euro 33,684 thousand (previous year: Euro 252,804 thousand). Construction contracts not yet complete resulted in a profit of Euro 4,234 thousand (previous year: profit of Euro 34,597 thousand). Advance payments received for construction contracts amounted to Euro 22,810 thousand (previous year: Euro 21,659 thousand).

Receivables with carrying amounts totalling Euro 299 thousand were sold within the framework of factoring agreements in the 2017 financial year (previous year: Euro 290 thousand). These receivables were fully retired.

The write-downs and maturity structures for trade receivables have been presented in Note 35. Receivables are written down on the basis of their actual age. Furthermore, large receivables are assessed individually to determine their specific write-down requirements. There were no indications of write-down requirements for non-impaired trade receivables.

24. Tax receivables

The tax receivables of Euro 18,908 thousand (previous year: Euro 15,958 thousand) mainly relate to corporate income tax and trade tax refund claims. These have been recognised at nominal value or, where necessary, at present value.

25. Cash and cash equivalents

Cash and cash equivalents predominantly comprise credit balances at banks. The acquisition of fully consolidated companies and other business units resulted in the addition of cash and cash equivalents of Euro 992 thousand (previous year: Euro 116,054 thousand). The disposal of fully consolidated companies and other business units led to the retirement of cash and cash equivalents of Euro 5,946 thousand (previous year: Euro 1,842 thousand).

Within the framework of short-term liquidity management structures, credit balances are exclusively deposited at banks of impeccable creditworthiness. As in the previous year, such balances bear interest at interbank levels.

26. Assets held for sale

The glass fibre network at MVV Energie AG was classified as held for sale. The carrying amount was written up by Euro 7,136 thousand to amortised cost. The sale of this network at a price of Euro 31,535 thousand was executed on 15 October 2017. Furthermore, assets relating to multi-utility contracts at MVV ImmoSolutions GmbH, Mannheim, were reclassified to assets held for sale as they are planned to be sold. The sale price for these assets amounts to Euro 24,800 thousand.

27. Equity

The structure and development of equity have been presented in the statement of changes in equity.

Share capital: The share capital of MVV Energie AG amounts to Euro 168,721 thousand and is divided into 65,906,796 individual registered shares of Euro 2.56 each. All registered shares are paid up in full. The City of Mannheim directly and indirectly owned 50.1 % of the shares as of 30 September 2017, while EnBW Energie Baden-Württemberg AG held 22.5 %, RheinEnergie AG 16.3 % and ENGIE Deutschland AG 6.3 % of the shares. The remaining 4.8 % of the shares were in free float.

Authorised capital II: By resolution dated 14 March 2014, the Annual General Meeting of MVV Energie AG authorised the Executive Board until 13 March 2019 to increase the share capital on one or several occasions by a total of up to Euro 51,200 thousand. Shareholders must generally be granted subscription rights; however, the Executive Board may exclude such rights on one or several occasions, in full or in part, for a total of Euro 13,180 thousand. The Executive Board of MVV Energie AG has not yet made any use of this authorisation.

Authorisation to buy back treasury stock: By resolution dated 13 March 2015, the Annual General Meeting authorised the Executive Board until 12 March 2020 to acquire treasury stock up to 10 % of existing share capital upon adoption of the resolution. The Executive Board of MVV Energie AG has not yet made any use of this authorisation.

Capital reserve: The capital reserve relates to MVV Energie AG. This reserve includes external flows of funds requiring inclusion under § 272 HGB. The variance of Euro 3,705 thousand to the capital reserve in the financial statements of MVV Energie AG is due to transaction costs for the capital increases executed in 2006 and 2007, which have been recognised as a reduction to the capital reserve.

Equity generated: In addition to the prorated revenue reserves and accumulated annual net income of MVV Energie AG and of other consolidated companies since the date of initial consolidation, equity generated also includes accumulated changes recognised directly in equity as a result of the fair value measurement of financial instruments, mainly relating to hedge relationships recognised under IAS 39, as well as currency translation differences arising upon the translation of foreign financial statements and actuarial gains and losses for defined benefit plans. Income of Euro 27,627 thousand was recognised directly in equity in the financial year under report in connection with the fair value measurement of financial instruments (previous year: income of Euro 13,274 thousand).

28. Provisions

Provisions

Euro 000s	Balance at 1 Oct 2016	Change in scope of consolidation	Currency adjustments	Utilised	Reversed	Added	Reclassified	Interest component	**Balance at 30 Sep 2017**
Non-current provisions									
Pensions and similar obligations	**87,461**	**–**	**–**	**–2,596**	**–**	**–8,248**	**–**	**1,201**	**77,818**
Tax provisions	**3,897**	**–**	**–**	**–9**	**–**	**1,099**	**–**	**–**	**4,987**
Other provisions									
Personnel-related obligations	54,651	–15	–7	–832	3,179	6,302	–7,329	758	50,349
Restructuring obligations	1,210	–	–	–	–	–	–1,210	–	–
Refurbishment, dismantling and warranty obligations	42,809	–580	–36	–1,175	1,036	5,366	–3,292	42	42,098
Provisions for litigation and contract risks	742	–58	–	–3	–	780	2,071	6	3,538
Miscellaneous contingencies	18,284	–65	–32	–323	4,763	9,452	2,227	106	24,886
Total other provisions	**117,696**	**–718**	**–75**	**–2,333**	**8,978**	**21,900**	**–7,533**	**912**	**120,871**
Total non-current provisions	**209,054**	**–718**	**–75**	**–4,938**	**8,978**	**14,751**	**–7,533**	**2,113**	**203,676**
Current provisions									
Tax provisions	**37,943**	**–135**	**–6**	**–24,960**	**1,178**	**20,139**	**–**	**–**	**31,803**
Other provisions									
Personnel-related obligations	43,269	746	–74	–36,594	2,849	31,298	7,329	–	43,125
Services not yet invoiced	10,937	–	–302	–5,817	3,381	22,880	–	–	24,317
Restructuring obligations	6,209	–	–	–3,574	–	–	1,210	–	3,845
Refurbishment, dismantling and warranty obligations	13,813	4	–47	–6,344	3,717	4,233	3,292	–	11,234
Provisions for litigation and contract risks	9,653	–	6	–385	6,090	4,679	3,639	–	11,502
Miscellaneous contingencies	82,763	–85	118	–41,292	20,059	27,263	–7,937	–	40,771
Total other provisions	**166,644**	**665**	**–299**	**–94,006**	**36,096**	**90,353**	**7,533**	**–**	**134,794**
Total current provisions	**204,587**	**530**	**–305**	**–118,966**	**37,274**	**110,492**	**7,533**	**–**	**166,597**
Total provisions	**413,641**	**–188**	**–380**	**– 123,904**	**46,252**	**125,243**	**–**	**2,113**	**370,273**

Provisions broken down by maturity

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Provisions for pensions and similar obligations	77,818	–	77,818	87,461	–	87,461
Tax provisions	4,987	31,803	36,790	3,897	37,943	41,840
Personnel-related obligations	50,349	43,125	93,474	54,651	43,269	97,920
Services not yet invoiced	–	24,317	24,317	–	10,937	10,937
Restructuring obligations	–	3,845	3,845	1,210	6,209	7,419
Refurbishment, dismantling and warranty obligations	42,098	11,234	53,332	42,809	13,813	56,622
Provisions for litigation and contract risks	3,538	11,502	15,040	742	9,653	10,395
Miscellaneous contingencies	24,886	40,771	65,657	18,284	82,763	101,047
	203,676	**166,597**	**370,273**	**209,054**	**204,587**	**413,641**

Uncertain tax liabilities have been recognised as tax provisions by reference to the best estimate of the anticipated tax payment or the expected amount to the extent that such payment is likely to arise. Where tax assessment notices have been received, the respective items are recognised under tax liabilities. Tax provisions include provisions for taxes on income, such as corporate income tax, including the solidarity surcharge, and trade tax.

The provisions for personnel-related obligations category comprises provisions for early retirement expenses and provisions for employee benefit expenses.

The provisions for early retirement expenses mainly relate to legal and constructive obligations towards employees as a result of part-time early retirement agreements. The actuarial assumptions correspond to those used in the measurement of pensions and similar obligations.

The provisions for employee benefit expenses mainly include collectively agreed obligations, such as allowances, compensation payments, bonus payments, employee working hour credits and anniversary bonuses. The provisions for employee benefit expenses include individual items for which utilisation depends on a specified degree of target achievement.

The restructuring obligations category comprises provisions recognised in connection with an approved plan for restructuring the business and making socially responsible personnel cuts in business fields.

The services not yet invoiced category principally involves supplies and services from third parties which have already been provided but not yet invoiced. These have been measured on the basis of appropriate estimates.

The provisions for refurbishments, dismantling obligations and warranties category mainly includes dismantling obligations in connection with the construction of a gas storage facility and for wind turbines.

The provisions for warranties relate to wind and solar projects already completed. These provisions have been recognised on the basis of contractual requirements. Recognition has been based on assessments of individual cases and relevant factors.

The provisions for litigation and contract risks category includes provisions for the litigation risks relating to several individual risks for which the level of claim is uncertain. The value has been based on the most likely outcome of the litigation expected on the basis of the information currently available. Furthermore, this category also includes provisions for onerous contracts.

Miscellaneous contingencies include provisions in connection with risks relating to contractual obligations for completed projects and for the renewal of infrastructure assets, provisions for the risks associated with a price adjustment clause, provisions for risks resulting from the review of § 6a of the German Land Transfer Tax Act (GrEstG) by the European Court of Justice and for the risks resulting from a tax audit of interest expenses pursuant to § 233a of the German Tax Code (AO).

The provisions recognised are utilised in line with the terms to which they have been allocated.

29. Provisions for pensions and similar obligations

The company pension plans consist of defined contribution and defined benefit plans.

The pension scheme for MVV employees is largely arranged in line with collective wage and salary agreements specific to the respective companies. This results in indirect pension obligations to employees which are covered almost exclusively by municipal supplementary pension companies (ZVKs).

This requires allocations to be made for retirement periods. The payments made in this context serve to finance current pension outlays. According to IFRS requirements, this type of pension plan represents a defined benefit plan, as the individual benefits provided by the ZVKs to former employees of member companies are not dependent on the level of contributions paid into the pension funds. Moreover, as the employees of several member companies are insured by the ZVKs, this type of pension plan is considered a multi-employer plan and thus requires the application of special regulations.

Given the redistribution of the benefits provided by ZVKs among member companies and the lack of adequate information about the age structures, personnel turnover rates and salaries of the employees thereby covered, no information is available on the proportion of future payment obligations (economic obligation) accruing to MVV. In view of this, IFRS does not permit recognition of provisions and the amounts therefore have to be treated at MVV as a defined contribution obligation, even though it is actually a defined benefit pension plan. Contributions to the pension plan are measured as a percentage of compensation subject to the additional pension premium and are borne by employees and employers. The percentage rate of contribution is determined by the ZVKs. Contributions in the 2018 financial year are expected in the same amount as in the previous year. The contributions are used for the beneficiaries as a collective entity. Should the ZVKs have insufficient funds, then they could raise the mandatory contribution. Should MVV terminate its membership of the ZVKs, then they would be entitled to financial settlement. The amount of settlement is calculated as the present value of beneficiaries' existing entitlement and future claims on the part of their surviving dependants and existing pension entitlements for vested claims at the time at which membership is terminated.

An amount of Euro 30,168 thousand was paid into the state pension systems in the 2017 financial year (previous year: Euro 26,023 thousand). The payments made to municipal supplementary pension companies (ZVKs) and the state pension system are viewed as payments to defined contribution plans. These contributions are recognised as expenses and reported under employee benefit expenses.

An amount of Euro 15,273 thousand was paid into defined contribution pension systems in the 2017 financial year (previous year: Euro 14,248 thousand).

Furthermore, there are direct pension obligations resulting from former collectively agreed provisions (measured in terms of duration of company service and employee compensation), as well as individual commitments made to Executive Board members.

Provisions for pensions and similar obligations are recognised exclusively for defined benefit plans.

The principal estimates involved in the measurement of provisions for pensions and similar obligations relate in particular to the discount factor, biometric probabilities and trend assumptions. Any deviations in the development in these estimates could result in differences between the amounts recognised and the obligations actually arising over time. Actuarial gains and losses are fully recognised in the period in which they arise. They are recognised outside the income statement in the statement of income and expenses recognised in group equity. This means that any amendments in estimates have direct implications for MVV.

Pursuant to IAS 19, the pension provisions are calculated using the projected unit credit method. As well as pensions and vested claims known of at the balance sheet date, this method also accounts for pay rises and pension increases expected in future. The calculation made application of the 2005 G mortality tables published by Prof. Dr. Klaus Heubeck.

The main parameters used to calculate the defined benefit plans as of 30 September 2017 are:

Parameters

	30 Sep 2017	30 Sep 2016
Discount rate	2.0%	1.4%
Future pay rises	2.0–3.0%	2.5–3.0%
Future pension increases	1.6–2.0%	1.6–3.0%

The expenses for these pensions and similar obligations structured as defined benefit plans comprise the following items:

Pension provision expenses

Euro 000s	**FY 2017**	FY 2016
Service cost	2,352	2,197
Interest expenses	1,201	1,707
	3,553	**3,904**

The interest expenses for vested pension claims are reported in the income statement under financing expenses (other interest and similar expenses). The other expenses are recognised as employee benefit expenses.

The present value of the defined benefit obligations developed as follows:

Development in pension claims

	30 September 2017			30 September 2016		
Euro 000s	**Present value of defined benefit obligations**	**Fair value of plan assets**	**Total**	Present value of defined benefit obligations	Fair value of plan assets	Total
Balance at 1 October	87,973	512	87,461	72,566	–	72,566
Current service cost	2,352	–	2,352	2,197	–	2,197
Interest expenses (interest income)	1,201	–	1,201	1,707	–	1,707
Remeasurement						
(i) Income from plan assets (excluding amounts included in interest income from plan assets)	–	8	–8	–	7	–7
(ii) Actuarial gains/losses	–10,529	6	–10,535	13,147	1	13,146
Payments made to beneficiaries	–2,596	–	–2,596	–2,592	–	–2,592
Contributions to plan assets	–	57	–57	–	393	–393
Change in scope of consolidation	–	–	–	837	–	837
Reclassifications	–	–	–	111	111	–
Balance at 30 September	**78,401**	**583**	**77,818**	**87,973**	**512**	**87,461**

At MVV, the defined benefit pension obligations at the Group are countered by a low volume of plan assets.

The provision recognised in the balance sheet is calculated as follows:

Euro 000s	FY 2017	FY 2016
Present value of defined benefit obligation	78,401	87,973
Fair value of plan assets	583	512
Provision recognised at 30 September	**77,818**	**87,461**

The plan assets involve contractual trust arrangements (CTAs) managed as trust assets by the trustee Deutsche Pensflex Treuhand e. V. Furthermore, there are insurance contracts with private insurers and an investment fund organised by an international fund company listed on the capital market.

The actuarial gains and losses recognised in group equity for defined benefit obligations developed as follows:

Accumulated actuarial gains and losses recognised in equity

Euro 000s	FY 2017	FY 2016
Accumulated actuarial gains (+) and losses (–) recognised in equity at 1 October	–19,408	–12,229
Actuarial gains (+) and losses (–) recognised in equity	5,792	–7,179
Accumulated actuarial gains (+) and losses (–) recognised in equity at 30 September	**–13,616**	**–19,408**

The experience adjustments to the present value of pension claims (changes in assumptions) form part of the actuarial gains and losses attributable to the pension claims in the given year.

Pension payments of Euro 2,852 thousand are forecast for existing pension obligations for the 2018 financial year.

The weighted average duration of the defined benefit plans amounts to 15 years.

The expected maturity of undiscounted pension payments as of the balance sheet date was as follows:

Expected pension payments

Euro 000s	
2018	2,852
2019	3,185
2020	3,263
2021	3,317
2022	4,205
>2022	78,300
	95,122

The sensitivity analysis is based on changes in one assumption while other assumptions remain constant. This is unlikely to occur in reality. Furthermore, it is possible that changes in several assumptions will correlate with each other. The sensitivity of the defined benefit obligation to actuarial assumptions has been calculated using the same method used to calculate pension provisions in the balance sheet.

The methods and types of assumption used to prepare the sensitivity analysis have not changed compared with the previous year.

Sensitivity analysis

	Impact on obligation		
	Change in assumption by	Increase in assumption	Reduction in assumption
Discount rate	0.50 %	Reduction by 7 %	Increase by 5 %
Future pay rises	0.50 %	–	Reduction by 3 %
Future pension increases	0.50 %	Increase by 3 %	Reduction by 5 %
Mortality	1 year	Increase by 3 %	–

30. Financial debt

Financial debt

Euro 000s	30 September 2017 Non-current	30 September 2017 Current	30 September 2017 Total	30 September 2016 Non-current	30 September 2016 Current	30 September 2016 Total
Liabilities						
to banks	1,224,523	137,354	1,361,877	1,092,927	369,240	1,462,167
in connection with finance leases	42,755	3,147	45,902	50,672	3,468	54,140
to other majority shareholdings	–	766	766	–	418	418
to companies recognised at equity	–	1,581	1,581	–	31,836	31,836
to other shareholdings	–	460	460	–	970	970
Other financial debt	31,949	5,105	37,054	32,249	34,189	66,438
	1,299,227	**148,413**	**1,447,640**	**1,175,848**	**440,121**	**1,615,969**

Maturity in years

Euro 000s	30 September 2017 < 1 year	30 September 2017 1 – 5 years	30 September 2017 > 5 years	30 September 2016 < 1 year	30 September 2016 1 – 5 years	30 September 2016 > 5 years
Liabilities						
to banks	137,354	585,627	638,895	369,240	454,918	638,009
in connection with finance leases	3,147	9,556	33,199	3,468	3,401	47,271
to other majority shareholdings, companies recognised at equity and other shareholdings	2,807	–	–	33,224	–	–
Other financial debt	5,105	16,115	15,835	34,189	16,414	15,835
	148,413	**611,298**	**687,929**	**440,121**	**474,733**	**701,115**

The fixed-rate liabilities to banks amounting to Euro 1,063 million (previous year: Euro 1,246 million) have an average interest rate of 3.1 % (previous year: 2.9 %), while the floating-rate liabilities to banks of Euro 299 million (previous year: Euro 216 million) have an average interest rate of 2 % (previous year: 2.7 %). The average remaining period for which the rate remains fixed in the case of fixed-rate liabilities amounts to six years (previous year: six years).

As of 30 September 2017, MVV had undrawn committed credit lines of Euro 700 million at its disposal (previous year: Euro 527 million).

Liabilities in connection with finance leases are recognised at the present value of future leasing payments. The fair values of other financial debt items are basically equivalent to the carrying amounts reported.

The liabilities in connection with finance lease contracts involve buildings, various items of technical equipment and plant and operating equipment. The agreements provide for extension options in some cases, but do not include any purchase options or price adjustment clauses.

The transition from the present value of future minimum leasing payments to the liabilities reported is as follows:

Present value of minimum leasing payments

Euro 000s	30 Sep 2017	30 Sep 2016
Present value of minimum leasing payments with maturities		
up to 1 year	6,026	3,468
1 to 5 years	2,856	3,401
longer than 5 years	61,513	47,271
Total	**70,395**	**54,140**
Financing costs not yet realised	1,062	33,169
Gross liabilities in connection with finance leases	**71,457**	**87,309**

31. Other liabilities

Other liabilities have been broken down into their respective contents and counterparties in the tables below. The hedging relationship has also been stated in the case of derivative financial instruments.

Following initial recognition, liabilities other than derivative financial instruments are measured at amortised cost using the effective interest rate method. This is basically consistent with their present values.

Other financial and non-financial liabilities

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Other financial liabilities						
Derivative financial instruments	143,028	243,666	386,694	381,031	207,892	588,923
Liabilities to employees	–	24,609	24,609	–	24,555	24,555
Customer creditor balances	–	7,310	7,310	–	8,491	8,491
Interest liabilities	–	7,111	7,111	–	7,354	7,354
Liabilities for security deposits for energy trading transactions	–	3,304	3,304	–	2,203	2,203
Concession duties	–	2,000	2,000	–	1,243	1,243
Social security liabilities	–	703	703	–	676	676
Miscellaneous other financial liabilities	10,864	25,514	36,378	13,396	17,904	31,300
Other non-financial liabilities						
Advance payments received	–	173,405	173,405	–	120,621	120,621
Deferred income and accrued expenses	156,376	4,799	161,175	155,820	12,497	168,317
Liabilities for other taxes	–	55,948	55,948	–	46,491	46,491
	310,268	**548,369**	**858,637**	**550,247**	**449,927**	**1,000,174**

Other liabilities

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Liabilities	310,268	374,964	685,232	550,247	329,306	879,553
of which to companies recognised at equity	3,925	1,561	5,486	1,315	11,143	12,458
Advance payments received for orders	–	173,405	173,405	–	120,621	120,621
	310,268	**548,369**	**858,637**	**550,247**	**449,927**	**1,000,174**

Derivative financial instruments involve interest rate derivatives, currency derivatives and commodity derivatives for electricity, gas, coal, CO_2 and other rights. Further details about financial instruments can be found in Note 35.

Derivative financial instruments (other financial liabilities)

	30 September 2017			30 September 2016		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Derivative financial instruments	143,028	243,666	386,694	381,031	207,892	588,923
of which without IAS 39 hedges	112,623	233,861	346,484	331,552	195,503	527,055
of which cash flow hedges	30,405	9,805	40,210	49,479	12,389	61,868

To reduce the counterparty risk involved in highly fluctuating fair values of energy trading derivatives, security deposits (margins) are exchanged with the EEX. Moreover, the Group has entered into bilateral risk reduction agreements in some cases.

Liabilities for other taxes mainly involve energy and value added tax liabilities.

Miscellaneous other liabilities mainly relate to liabilities for progress payments and liabilities for the remaining purchase price payments for subsidiaries acquired.

Deferred income and accrued expenses largely involve building cost grants for house connection costs.

32. Trade payables

Trade payables

Euro 000s	**30 Sep 2017**	30 Sep 2016
Trade payables	351,179	397,233
to other majority shareholdings	30	57
to companies recognised at equity	14,338	14,617
to other shareholdings	–	27

Trade payables are measured at amortised cost. The table shows trade payables with terms of under one year. Due to their immaterial significance for the Group, trade payables maturing in the medium to long term have been recognised under other liabilities.

33. Tax liabilities and deferred taxes

The tax liabilities of Euro 1,074 thousand (previous year: Euro 5,477 thousand) consist of income tax liabilities.

The deferred taxes reported for the 2017 financial year relate to the following items:

Deferred taxes

	30 September 2017		30 September 2016	
Euro 000s	**Deferred tax assets**	**Deferred tax liabilities**	Deferred tax assets	Deferred tax liabilities
Intangible assets	1,372	–22,732	1,511	–23,845
Property, plant and equipment, including investment property	10,640	–164,218	10,374	–164,833
Inventories	2,838	–4,737	1,838	–6,393
Special item	–	–1,406	–	–2,121
Other assets and positive fair values of derivatives	19,168	–206,715	15,206	–246,439
Provisions for pensions	11,433	–	14,508	–
Non-current other provisions	20,604	–	21,482	–
Current other provisions	6,992	–18,268	7,000	–14,815
Liabilities and negative fair values of derivatives	210,321	–21,286	277,731	–20,004
Losses carried forward	28,845	–	36,865	–
Deferred taxes (gross)	**312,213**	**–439,362**	**386,515**	**–478,450**
Value adjustment	–2,399	–	–2,229	–
Netting	–276,379	276,379	–333,673	333,673
Deferred taxes (net)	**33,435**	**–162,983**	**50,613**	**–144,777**

Of the (net) deferred taxes presented above, Euro 17,672 thousand (previous year: Euro 33,199 thousand) relate to non-current deferred tax assets and Euro 111,101 thousand (previous year: Euro 109,593 thousand) to non-current deferred tax liabilities.

No deferred tax assets have been recognised for corporate income tax loss carryovers of Euro 84,779 thousand (previous year: Euro 80,831 thousand), for trade tax loss carryovers of Euro 87,457 thousand (previous year: Euro 77,318 thousand) or for international loss carryovers of Euro 84,395 thousand (previous year: Euro 89,093 thousand).

For temporary differences of Euro 11,340 thousand at shareholdings (previous year: Euro 11,081 thousand), no deferred tax liabilities have been stated for an amount of Euro 3,436 thousand (previous year: Euro 3,358 thousand), as such differences are unlikely to be reversed by dividend distributions or disposal of the companies in the foreseeable future.

Deferred tax assets of Euro 8,443 thousand (previous year: Euro 16,895 thousand) have been recognised as of the balance sheet date for companies that generated a loss in the financial year under report or the previous year. The realisation of these assets is exclusively dependent on the generation of future profits. Based on the budget figures available, we expect these assets to be realised.

Deferred taxes of Euro 7,791 thousand were recognised directly in other comprehensive income in group equity in the 2017 financial year (previous year: Euro 23,105 thousand).

The income tax items included within other comprehensive income in group equity can be broken down into their components as follows:

Income tax items

	30 September 2017		30 September 2016	
Euro 000s	**Income tax**	**Gross**	Income tax	Gross
Actuarial gains and losses	–2,979	10,534	3,475	–13,142
Share of total earnings attributable to companies recognised at equity	–	–11,439	–	4,144
Items that will not be reclassified to profit or loss	**–2,979**	**–905**	**3,475**	**–8,998**
Cash flow hedges	–12,335	44,601	–8,814	27,022
Currency translation difference	–	2,814	–	17,862
Share of total earnings attributable to companies recognised at equity	–	–	–	–60
Items that will be reclassified to profit or loss	**–12,335**	**47,415**	**–8,814**	**44,824**

34. Contingent claims, liabilities and financial obligations

The volume of obligations listed below corresponds to the scope of liability pertaining at the balance sheet date. The company has such obligations in the form of guarantees amounting to Euro 1 million (previous year: Euro 1.3 million). As in the previous year, no collateral has been provided for third-party liabilities. The company has contingent liabilities of Euro 7 million in connection with warranty agreements (previous year: Euro 0.9 million).

MVV's purchase commitments in connection with investment orders placed amounted to Euro 4.8 million for investments in intangible assets (previous year: Euro 5.4 million) and to Euro 41.2 million for investments in property, plant and equipment (previous year: Euro 27.5 million).

The financial obligations relating to operating leases primarily involve water grids, car pools, IT equipment, land leasehold payments and rental payments for buildings and storage facilities. The minimum leasing payments have the following maturity structure:

Financial obligations for operating leases

	Nominal value	
Euro 000s	**30 Sep 2017**	30 Sep 2016
Operating leases		
up to 1 year	9,030	6,191
1 to 5 years	20,098	14,635
longer than 5 years	28,746	23,665
	57,874	**44,491**

In leases where economic ownership remains with the lessor (operating leases), the assets thereby leased are recognised at the lessor. The leasing expenses incurred are recognised as expenses over the term of the leasing contract.

The contracts provide for extension options in some cases, but do not include any purchase options. In some cases, rental contracts include price adjustment clauses linked to the consumer price index.

Contingent liabilities involve potential obligations to third parties or existing obligations for which an outflow of resources is unlikely or whose amount cannot be reliably determined. Contingent liabilities are not recognised in the balance sheet. The volume of obligations stated in the notes for contingent liabilities corresponds to the scope of liability at the balance sheet date. Contingent claims are treated by analogy with this approach.

The Group had a contingent claim with a present value of Euro 4.9 million from the State of Baden-Württemberg and the City of Mannheim in connection with a land decontamination measure.

35. Financial instruments

In the field of interest hedges, existing underlying transactions have been included in cash flow hedges with terms of up to nine years as of 30 September 2017 (previous year: ten years). For commodity hedges, the terms of planned hedged items amount to up to five years (previous year: up to six years). Both interest rate hedging instruments and commodity derivatives require net settlements to be paid at contractually fixed dates largely congruent with the hedged items. The hedging instruments mostly involve swaps which generate cash flows throughout their contractual terms.

Income of Euro 32,266 thousand was recognised directly in equity in the 2017 financial year (previous year: income of Euro 18,208 thousand).

The amounts reclassified from equity and recognised through profit or loss in the income statement in connection with cash flow hedge accounting were as follows:

Amounts reclassified

Euro 000s	**FY 2017**	FY 2016
Included in EBIT	3,231	–22,738
Included in financial and tax results	–9,634	–11,431
Total amounts withdrawn	**–6,403**	**–34,169**

The amounts recognised directly in equity and attributable reclassification amounts are presented in the following table:

Amounts recognised in equity

Euro 000s	30 Sep 2017	30 Sep 2016
Cash flow hedges	32,266	18,208
of which changes recognised in equity	25,863	–15,961
of which changes recognised through profit or loss	6,403	34,169

Expenses of Euro 567 thousand were recognised for the ineffective portion of cash flow hedges in the 2017 financial year (previous year: income of Euro 100 thousand). The results of ineffective portions of cash flow hedges are recognised as other operating income or expenses to the extent that they exceed the cumulative fair value change in the respective hedged items. For interest rate hedges, the results are recognised under other interest income and expenses.

Fair value hedges were deployed for closed foreign currency positions in the 2017 financial year. The following amounts were recognised in the income statement in connection with these hedge relationships:

Gains and losses recognised in income statement for fair value hedges

Euro 000s	FY 2017	FY 2016
Gains/losses on underlying transaction	–5,223	–39,016
Gains/losses on hedging instrument	5,218	39,643

The carrying amounts and fair value of financial instruments and their allocation to IAS 39 measurement categories have been presented in the following tables. The classes presented are based on the balance sheet.

IAS 39 measurement categories for carrying amounts at 30 September 2017

Euro 000s	IAS 39 measurement category	Carrying amounts	of which not within scope of IFRS 7	Fair values
Assets				
Financial assets				
of which unconsolidated shareholdings	available for sale	7,289	–	7,289
of which loans excluding finance leases	loans and receivables	12,266	–	12,266
of which loans in connection with finance leases	not applicable	49,912	–	49,912
of which securities	held for trading	7	–	7
Trade receivables < 1 year	loans and receivables	351,104	–	351,104
Other assets				
of which derivatives outside hedge accounting	held for trading	397,135	–	397,135
of which derivatives within hedge accounting	not applicable	34,434	–	34,434
of which other operating assets	loans and receivables	88,218	37,897	88,218
Cash and cash equivalents	loans and receivables	370,301	–	370,301
		1,310,666	**37,897**	**1,310,666**
Liabilities				
Financial debt				
of which financial debt in connection with finance leases	not applicable	45,902	–	45,902
of which other financial debt	amortised cost	1,401,738	–	1,474,771
Trade payables < 1 year	amortised cost	351,179	–	351,179
Other liabilities				
of which derivatives outside hedge accounting	held for trading	346,484	–	346,484
of which derivatives within hedge accounting	not applicable	40,210	–	40,210
of which other operating liabilities	amortised cost	471,943	391,231	471,943
		2,657,456	**391,231**	**2,730,489**

IAS 39 measurement categories for carrying amounts at 30 September 2016

Euro 000s	IAS 39 measurement category	Carrying amounts	of which not within scope of IFRS 7	Fair values
Assets				
Financial assets				
of which unconsolidated shareholdings	available for sale	7,250	–	7,250
of which loans excluding finance leases	loans and receivables	8,563	–	8,563
of which loans in connection with finance leases	not applicable	47,755	–	47,755
of which securities	held for trading	32	–	32
Trade receivables < 1 year	loans and receivables	457,961	–	457,961
Other assets				
of which derivatives outside hedge accounting	held for trading	538,259	–	538,259
of which derivatives within hedge accounting	not applicable	13,446	–	13,446
of which other operating assets	loans and receivables	144,072	35,547	144,072
Cash and cash equivalents	loans and receivables	333,041	–	333,041
		1,550,379	**35,547**	**1,550,379**
Liabilities				
Financial debt				
of which financial debt in connection with finance leases	not applicable	54,140	–	54,140
of which other financial debt	amortised cost	1,561,829	–	1,673,137
Trade payables < 1 year	amortised cost	397,233	–	397,233
Other liabilities				
of which derivatives outside hedge accounting	held for trading	527,055	–	527,055
of which derivatives within hedge accounting	not applicable	61,868	–	61,868
of which other operating liabilities	amortised cost	411,251	336,105	411,251
		3,013,376	**336,105**	**3,124,684**

Given the predominantly current remaining terms of trade receivables and payables, other operating receivables and liabilities and cash and cash equivalents, their carrying amounts as of the balance sheet date are basically equivalent to their fair values.

The fair value of other financial debt items is determined as their present value, taking due account of future payments. These items are discounted using the currently valid interest rate as of the balance sheet date (Level 2).

The following table presents the key parameters for financial instruments measured at fair value. Pursuant to IFRS 7, the individual levels are defined as follows:

Level 1: Measurement based on prices listed on active markets and taken over without amendment

Level 2: Measurement based on directly or indirectly observable factors other than those in Level 1

Level 3: Measurement based on factors not observable on the market.

Measurement at cost: This category includes those financial instruments which IAS 39 requires to be measured at cost. On their transaction dates, these instruments were not in liquid markets, as a result of which their current recognition at cost approximates to their fair value. These items mainly involve other shareholdings and other majority shareholdings.

Fair value hierarchy at 30 September 2017

Euro 000s	Level 1	Level 2	Level 3	At cost
Financial assets				
Unconsolidated shareholdings	–	–	–	7,289
Securities	7	–	–	–
Derivatives outside hedge accounting	97,157	299,950	28	–
Derivatives within hedge accounting	34,141	293	–	–
Financial liabilities				
Derivatives outside hedge accounting	105,315	240,653	516	–
Derivatives within hedge accounting	13,677	25,519	1,014	–

Fair value hierarchy at 30 September 2016

Euro 000s	Level 1	Level 2	Level 3	At cost
Financial assets				
Unconsolidated shareholdings	–	–	–	7,250
Securities	–	27	–	5
Derivatives outside hedge accounting	134,019	404,044	196	–
Derivatives within hedge accounting	13,393	53	–	–
Financial liabilities				
Derivatives outside hedge accounting	152,853	373,769	433	–
Derivatives within hedge accounting	22,941	38,927	–	–

The derivatives of Euro 1,014 thousand in Level 3 hedge accounting include interest swaps with floor (previous year: Euro 0 thousand). The fair value of these derivatives amounts to Euro 1,014 thousand. Any upward or downward change in the volatility factored into the calculation by an absolute figure of 1 would increase the fair value by Euro 200 thousand or reduce it by Euro 194 thousand.

The following reconciliation account presents the development in financial instruments recognised in Level 3.

Development in financial instruments recognised in Level 3

Euro 000s	Balance at 1 Oct 2016	Gains/ losses in income statement	Gains/ losses in other comprehensive income	Balance at 30 Sep 2017
Financial assets				
Derivatives outside hedge accounting	196	–168	–	28
Financial liabilities				
Derivatives outside hedge accounting	433	83	–	516
Derivatives within hedge accounting	–	1,454	–440	1,014

Development in financial instruments recognised in Level 3

Euro 000s	Balance at 1 Oct 2015	Gains/ losses in income statement	Gains/ losses in other comprehensive income	Balance at 30 Sep 2016
Financial assets				
Derivatives outside hedge accounting	404	–208	–	196
Financial liabilities				
Derivatives outside hedge accounting	369	64	–	433

Gains and loses in income statement for Level 3 financial instruments FY 2017

Euro 000s	Total	of which still held at 30 Sep 2017
Other operating income	–	–
Other operating expenses	–251	–
Financing expenses	–1,454	–
	–1,705	**–**

Gains and losses in income statement for Level 3 financial instruments FY 2016

Euro 000s	Total	of which still held at 30 Sep 2016
Other operating income	–	–
Other operating expenses	–272	–
	–272	**–**

Impairments of financial assets

Euro 000s	Unconsolidated shareholdings	Loans	Trade receivables < 1 year	Other operating assets
Balance at 1 October 2015	1,661	1,534	20,414	3,452
Utilisations/disposals	1,243	–	9,245	1,634
Net additions	919	232	24,080	508
Reclassifications	–	–	393	–328
Balance at 30 September 2016	**1,337**	**1,766**	**35,642**	**1,998**
Balance at 1 October 2016	1,337	1,766	35,642	1,998
Utilisations/disposals	–	–	11,638	201
Net additions	31	341	14,306	1,892
Reclassifications	–	–	–	–363
Balance at 30 September 2017	**1,368**	**2,107**	**38,310**	**3,326**

Impairment losses recognised in the 2017 financial year for individual IFRS 7 categories amounted to Euro 13 thousand for unconsolidated shareholdings (previous year: Euro 916 thousand), Euro 18,619 thousand for trade receivables (previous year: Euro 13,060 thousand) and Euro 2,598 thousand for other operating assets (previous year: Euro 656 thousand).

Netting of financial assets and financial liabilities

The financial assets and financial liabilities listed below are subject to netting, enforceable master netting agreements or similar arrangements.

Netting of financial assets at 30 September 2017

Euro 000s	Gross amount of financial assets reported	Gross amount of financial liabilities reported that are netted in balance sheet	Net amount of financial assets reported in balance sheet	Related amounts not netted in balance sheet		Net amount
				Financial instruments	Cash collateral received	
Loans excluding finance leases	12,266	–	12,266	–	–	12,266
Securities	7	–	7	–	–	7
Trade receivables < 1 year	528,014	–190,140	337,874	–	–	337,874
Derivative financial instruments	431,569	–	431,569	–145,320	–16,534	269,715
Other operating assets	101,448	–	101,448	–	–	101,448
Cash and cash equivalents	370,301	–	370,301	–12,620	–	357,681
	1,443,605	**–190,140**	**1,253,465**	**–157,940**	**–16,534**	**1,078,991**

Netting of financial liabilities at 30 September 2017

Euro 000s	**Gross amount of financial liabilities reported**	**Gross amount of financial assets reported that are netted in balance sheet**	**Net amount of financial liabilities reported in balance sheet**	**Related amounts not netted in balance sheet**		**Net amount**
				Financial instruments	**Cash collateral received**	
Financial debt	1,401,738	–	1,401,738	–5,684	–594	1,408,016
Trade payables < 1 year	506,599	–155,420	351,179	–	–	351,179
Derivative financial instruments	386,694	–	386,694	–145,320	–13,356	545,370
Other operating liabilities	506,663	–34,720	471,943	–	–	471,943
	2,801,694	**–190,140**	**2,611,554**	**–151,004**	**–13,950**	**2,776,508**

Netting of financial assets at 30 September 2016

Euro 000s	Gross amount of financial assets reported	Gross amount of financial liabilities reported that are netted in balance sheet	Net amount of financial assets reported in balance sheet	Related amounts not netted in balance sheet		Net amount
				Financial instruments	Cash collateral received	
Loans excluding finance leases	8,563	–	8,563	–	–	8,563
Securities	32	–	32	–	–	32
Trade receivables < 1 year	731,869	–273,908	457,961	–	–	457,961
Derivative financial instruments	551,705	–	551,705	–447,196	–2,203	102,306
Other operating assets	144,072	–	144,072	–	–	144,072
Cash and cash equivalents	333,041	–	333,041	–2,509	–	330,532
	1,769,282	**–273,908**	**1,495,374**	**–449,705**	**–2,203**	**1,043,466**

Netting of financial liabilities at 30 September 2016

Euro 000s	Gross amount of financial liabilities reported	Gross amount of financial assets reported that are netted in balance sheet	Net amount of financial liabilities reported in balance sheet	Related amounts not netted in balance sheet		Net amount
				Financial instruments	Cash collateral received	
Financial debt	1,561,829	–	1,561,829	–48,358	–489	1,610,676
Trade payables < 1 year	652,677	–255,444	397,233	–	–	397,233
Derivative financial instruments	588,923	–	588,923	–447,196	–45,604	1,081,723
Other operating liabilities	429,715	–18,464	411,251	–	–	411,251
	3,233,144	**–273,908**	**2,959,236**	**–495,554**	**–46,093**	**3,500,883**

Net results by measurement category

Financial instruments have been recognised in the income statement with the following net results pursuant to IFRS 7:

Net results (IFRS 7)

Euro 000s	FY 2017	FY 2016
Financial assets and financial liabilities held for trading	41,954	26,415
Financial assets available for sale	1,433	2,914
Loans and receivables	−14,887	−8,152

The presentation of net results takes due account of standalone derivatives included in the "financial assets and financial liabilities held for trading" measurement category. The net result in the "financial assets and financial liabilities held for trading" category is largely attributable to fair value measurement pursuant to IAS 39.

The net result in the "financial assets available for sale" category chiefly involves income and distributions from shareholdings, as well as disposal gains.

The net results in the "loans and receivables" category predominantly relate to write-downs and additions.

The interest income and interest expenses in connection with financial assets and financial liabilities measured at cost chiefly result from the total interest income and expenses presented below.

Total interest income and expenses

Euro 000s	FY 2017	FY 2016
Total interest income	8,980	7,879
Total interest expenses	47,222	57,763

The financial result also includes interest components for provisions not covered by IFRS 7 disclosure requirements, as a result of which the figures published here differ from the financial result. The interest income reported here mainly results from credit balances at banks, overnight and fixed-term deposits, and loans. The interest expenses largely relate to loan obligations. As in the previous year, total interest income does not include interest on financial assets already impaired.

Financing and price risks

General information about financing and price risks: Due to its business activities, MVV is exposed to various financial risks. These comprise receivables default and liquidity risks, interest and exchange rate risks and market price risks on both procurement and sales markets. MVV's risk management pursues the objective of identifying developments on financial markets at an early stage and of countering any resultant negative implications. This is achieved by laying down internal guidelines, discretionary frameworks, responsibilities, separations of functions and checks.

Derivative financial instruments are used to cover against market price risks. For interest rate risks, these mainly involve interest swaps. Currency risks are hedged by concluding forward currency transactions. Commodity derivatives are deployed in the field of energy trading. The use of commodity derivatives for proprietary energy trading is only permitted within narrow limits and is monitored and managed with a separate limit system.

Receivables default risks: The risk of economic loss arising as a result of a business partner failing to meet its contractual payment obligations is referred to as receivables default risk. This encompasses both the risk of direct default and the risk of reduced creditworthiness. In its trading activities, MVV maintains its business relationships predominantly with banks and other trading partners of good credit standing. Receivables default risks towards contractual partners are inspected upon conclusion of the contract and monitored continuously. This risk is limited by setting trading limits for transactions with business partners and, where appropriate, by demanding cash collateral. Where possible, default risk is already reduced in advance by means of suitable framework agreements with trading partners. Risk clusters only apply to an immaterial extent at various subsidiaries that have sales contracts with just one customer.

MVV is exposed to receivables default risks in its sales business, as customers may potentially fail to meet their payment obligations. This risk is limited by regularly inspecting the creditworthiness of major items in our customer portfolio.

In the carrying amounts recognised in the balance sheet for financial assets (receivables, derivatives and other assets, as well as cash and cash equivalents and assets held for sale), default risks have already been recognised in the form of impairments. The volume of receivables defaults was immaterial both in the year under report and the previous year.

As derivatives may be subject to substantial fluctuations in their fair values, the counterparty risk of derivative financial assets has been presented in the following overviews. Only recognised accounts have been included. Where netting agreements are in place with a trading partner, the actual risk, i.e. the net risk, has been presented. No account has been taken of counterparties with negative balances, i.e. where there is no counterparty risk. In all other cases, the figures have not been netted against negative fair values.

Counterparty risk at 30 September 2017

Euro 000s	**Total**		**of which < 1 year**		**of which 1 to 5 years**	
Counterparty rating as per Standard & Poor's and/or Moody's	**Nominal value**	**Counterparty risk**	**Nominal value**	**Counterparty risk**	**Nominal value**	**Counterparty risk**
AAA and Aaa to AA– and Aa3	318,607	69,106	86,958	33,162	231,649	35,944
A+ and A1 to A– and A3	44,951	9,338	14,207	4,038	30,744	5,300
BBB+ and Baa1 to BBB– and Baa3	274,579	60,773	108,450	33,786	166,129	26,987
BB+ and Ba1 to BB– and Ba3	–	–	–	–	–	–
Other	923,782	186,162	277,162	79,680	646,620	106,482
	1,561,919	**325,379**	**486,777**	**150,666**	**1,075,142**	**174,713**

Counterparty risk at 30 September 2016

Euro 000s	Total		of which < 1 year		of which 1 to 5 years	
Counterparty rating as per Standard & Poor's and/or Moody's	Nominal value	Counterparty risk	Nominal value	Counterparty risk	Nominal value	Counterparty risk
AAA and Aaa to AA– and Aa3	234,970	38,436	4,302	310	230,668	38,126
A+ and A1 to A– and A3	46,712	13,326	17,035	2,799	29,677	10,527
BBB+ and Baa1 to BBB– and Baa3	297,239	49,813	52,317	4,903	244,922	44,910
BB+ and Ba1 to BB– and Ba3	–	–	–	–	–	–
Other	1,218,292	164,015	441,312	52,983	776,980	111,032
	1,797,213	**265,590**	**514,966**	**60,995**	**1,282,247**	**204,595**

As in the previous year, there are no receivables default risks with terms longer than five years. Major shares of the nominal derivative volumes in question involve trading partners for which external ratings are available. Internal ratings are available for the nominal derivative volumes reported under "Other".

For trading transactions concluded with stock exchanges, security payments are deposited in order to reduce any additional receivables default risks.

The receivables default risks involved in financial assets and their maturities broken down by category are structured as follows:

Receivables default risks and maturities at 30 September 2017

Euro 000s	**Loans**	**Trade receivables < 1 year**	**Other operating assets**
Neither overdue nor impaired	62,178	264,245	45,949
Overdue but not impaired			
≤ 6 months	–	39,290	928
> 6 months ≤ 1 year	–	7,499	74
> 1 year	–	4,314	1,618
Net value of assets written down	–	35,756	1,752
	62,178	**351,104**	**50,321**

Receivables default risks and maturities at 30 September 2016

Euro 000s	Loans	Trade receivables < 1 year	Other operating assets
Neither overdue nor impaired	56,318	371,079	106,533
Overdue but not impaired			
≤ 6 months	–	46,969	993
> 6 months ≤ 1 year	–	2,630	341
> 1 year	–	6,790	43
Net value of assets written down	–	30,493	615
	56,318	**457,961**	**108,525**

Liquidity risks: Liquidity risk involves the risk of a company being unable to meet its financial obligations adequately. MVV is subject to liquidity risks as a result of its obligation to meet its liabilities in full and on time, as well as its obligation to service security payments (margins) from energy trading partners. Cash and liquidity management at MVV is responsible for maintaining the company's solvency at all times. This involves calculating all cash requirements and all cash surpluses. The major subgroups have a cash pooling process which enables liquidity requirements and surpluses to be balanced at short notice, thus reducing bank transactions to a necessary minimum.

A financial budget is compiled for liquidity management purposes. Any financing requirements arising are covered by means of suitable liquidity management instruments. Alongside the liquidity available on a daily basis, MVV has further liquidity reserves in the form of committed credit lines. The volume of contractually committed credit lines is structured in such a way as to ensure that the Group has adequate liquidity reserves available at all times, even in a difficult market climate. In view of its available liquidity and existing credit lines, MVV does not see itself as being exposed to any material liquidity risks.

Covenants customary to the industry have been agreed with some of the financing banks. These entitle the banks to terminate the facilities in the event of any material deterioration in the company's asset, financial and earnings position. All covenants had been complied with as of the balance sheet date on 30 September 2017.

MVV's group companies are generally financed by banks and by MVV Energie AG.

Items of security have been provided to banks to limit their risks in connection with loans granted to MVV. These are subdivided into non-current assets, receivables and cash and cash equivalents with a total amount of Euro 9,776 thousand (previous year: Euro 14,348 thousand) and firmly deposited debt service reserves with a carrying amount of Euro 0 thousand (previous year: Euro 385 thousand). Furthermore, interests in subsidiaries amounting to Euro 14,045 thousand have been provided as security (previous year: Euro 13,505 thousand).

Contractually agreed outflows of funds for financial liabilities are presented in undiscounted form in the table below. The figures include the corresponding interest payments.

Undiscounted cash flows

	30 September 2017			30 September 2016		
Euro 000s	**Maturities < 1 year**	**Maturities 1–5 years**	**Maturities > 5 years**	Maturities < 1 year	Maturities 1–5 years	Maturities > 5 years
Non-derivative financial liabilities						
Liabilities to banks	169,907	677,853	697,408	407,816	563,298	760,363
Liabilities in connection with finance leases	5,970	19,844	45,643	6,920	4,306	76,083
Trade payables	351,179	421	26	397,233	432	757
Other financial debt	8,456	17,313	15,835	64,815	18,211	15,835
Other financial liabilities	69,792	4,369	6,063	62,147	6,169	6,053
Derivative financial liabilities	237,412	121,211	39	183,168	338,998	22
	842,716	**841,011**	**765,014**	**1,122,099**	**931,414**	**859,113**

Interest rate risks: Interest rate risks relate to credit balances at banks on the asset side and to floating-rate liabilities to banks on the debt side of the balance sheet.

The sensitivity analysis below presents the impact of changes in interest rates on annual earnings and equity. This analysis has been based on the assumption that there are no changes in any other parameters, such as exchange rates. The analysis only includes financial instruments where interest rate risk could impact on equity or annual earnings.

Any upward or downward variance in the level of interest rates in the euro area by 10 % as of the balance sheet date on 30 September 2017 would have led annual net income to deteriorate/improve by a total of Euro 0 thousand/Euro 0 thousand (previous year: Euro 20 thousand/Euro 20 thousand). This variance would have reduced/increased equity by a total of Euro –944 thousand/Euro 1,281 thousand (previous year: Euro 694 thousand/Euro 702 thousand).

Foreign currency risks: Foreign currency risks mainly relate to our UK projects. During the operating stage of the projects, cash flows are generated exclusively in British pounds. The resultant foreign currency risks are hedged by natural hedges in the form of currency-congruent financing and by using derivative financial instruments.

Commodity price risks: Within the framework of our energy trading activities, energy trading contracts are concluded for the purposes of price risk management, adjustments to actual loads and margin optimisation. All transactions are governed by narrow, clearly defined limits which have to be adhered to at all times.

Price change risks chiefly arise in connection with the procurement and disposal of electricity and gas and the procurement of coal and emission rights. These price risks are hedged with suitable financial instruments by reference to the stipulated limits. Derivative hedging instruments were used in the year under report. The hedging instruments used mainly involved forwards, futures, swaps and options.

The sensitivity involved in the measurement of electricity, coal, gas and emission right derivatives is analysed in the following section. This analysis has been based on the assumption that there are no changes in all other parameters and that there is mutual dependency between the commodities. The analysis only includes derivatives for which fluctuations in market values could impact on equity or annual earnings. These involve derivatives requiring mandatory recognition. The analysis does not include derivatives earmarked for the physical delivery of non-financial items in line with the company's expected procurement, sale or utilisation (own use). These do not require recognition under IAS 39.

If the market price at the balance sheet date on 30 September 2017 had been 10 % higher/lower, this would have increased/decreased annual net income by Euro 8,808 thousand/ Euro 8,856 thousand (previous year: Euro 14,495 thousand/ Euro 14,607 thousand). Equity as of the same reporting date would have increased/decreased by Euro 15,753 thousand/ Euro 15,801 thousand (previous year: Euro 23,920 thousand/ Euro 24,034 thousand).

The following table presents the nominal volumes and fair values of the derivatives used:

Nominal volumes and fair values

	30 September 2017			30 September 2016		
	Nominal volumes		**Fair values**	Nominal volumes		Fair values
Euro 000s	**Total**	**of which with remaining terms of more than 1 year**		Total	of which with remaining terms of more than 1 year	
Interest derivatives	447,890	337,856	–29,764	338,034	319,633	–45,235
Commodity derivatives	3,900,442	953,409	74,231	7,284,170	1,739,947	7,905
Currency derivatives	20,954	57	408	1,992	47	112
	4,369,286	**1,291,322**	**44,875**	**7,624,196**	**2,059,627**	**–37,218**

Interest derivatives relate almost exclusively to interest swaps. Currency derivatives are mainly intended to hedge foreign exchange risks.

Commodity derivatives can be subdivided as follows:

Commodity derivatives

Euro 000s	30 September 2017 Nominal volumes	30 September 2017 Fair values	30 September 2016 Nominal volumes	30 September 2016 Fair values
Commodity derivatives				
Electricity	2,581,052	46,194	4,755,973	4,588
Coal	25,472	19,313	22,508	15,182
Gas	1,242,506	4,051	2,414,595	669
CO_2 rights	50,675	5,083	90,266	–12,297
Other	737	–411	828	–237
	3,900,442	**74,230**	**7,284,170**	**7,905**
Commodity derivatives				
Futures	3,874,293	54,687	7,260,186	–8,153
Swaps	25,472	19,313	22,508	15,182
Options	677	230	1,476	876
	3,900,442	**74,230**	**7,284,170**	**7,905**

The positive fair values amounting to Euro 431,569 thousand (previous year: Euro 551,705 thousand) are countered by margining liabilities of Euro 3,304 thousand (previous year: Euro 2,203 thousand). These are reported under other liabilities. The negative fair values of Euro 386,694 thousand (previous year: Euro 588,923 thousand) are countered by cash collateral of Euro 126 thousand (previous year: Euro 45,604 thousand).

Capital management

MVV Energie AG is not subject to any statutory minimum capital requirements, but pursues its internal objective of using effective financial management to maintain its equity ratio at a level necessary to attain a good rating in the banking market and to boost the earnings strength of the company.

The adjusted equity ratio referred to for management purposes represents adjusted consolidated equity as a proportion of adjusted total assets. Adjusted equity consists of all equity items reported in the consolidated financial statements, including non-controlling and minority interests, but excluding non-operating IAS 39 derivative measurement items and the associated impact on deferred taxes. It is intended to maintain an adjusted equity ratio of at least 30 %.

Measures to comply with the targeted equity ratio initially take place within the business planning process and within the framework of investment budgeting in the case of major (unplanned) investment measures. By issuing shares, the company is able to adjust its equity base to requirements.

The key figure used in our value-based management of the company and the capital management thereby required is the value spread. This key figure is calculated as the difference between the period-based adjusted return on capital employed (adjusted ROCE) and the weighted average cost of capital (WACC).

There were no changes in the underlying capital management requirements compared with the previous year.

36. Segment reporting

Segment report from 1 October 2016 to 30 September 2017

Euro 000s	External sales excl. energy taxes	Intercompany sales excl. energy taxes	Scheduled depreciation	Impairment losses
Generation and Infrastructure	937,032	667,080	138,273	1,794
Trading and Portfolio Management	790,153	611,758	67	–
Sales and Services	2,175,306	447,619	15,937	771
Strategic Investments	103,937	3,646	11,207	–
Other Activities	3,088	25,632	14,699	–
Consolidation	–	–1,755,735	–	–
	4,009,516	**–**	**180,183**	**2,565**

Euro 000s	Material non-cash income and expenses	Adjusted EBIT	Income from companies recognised at equity	Investments
Generation and Infrastructure	3,654	183,246	7,074	149,608
Trading and Portfolio Management	2,781	–21,445	–862	–
Sales and Services	12,910	36,190	–4,668	24,786
Strategic Investments	1,110	24,192	9,842	6,983
Other Activities	4,063	2,158	556	12,087
Consolidation	–	51	–	–
	24,518	**224,392**	**11,942**	**193,464**

Segment report from 1 October 2015 to 30 September 2016

Euro 000s	External sales excl. energy taxes	Intercompany sales excl. energy taxes	Scheduled depreciation	Impairment losses
Generation and Infrastructure	1,109,616	636,938	133,876	21,613
Trading and Portfolio Management	645,317	643,235	270	–
Sales and Services	2,209,854	262,362	17,103	11,002
Strategic Investments	99,149	3,930	10,486	–
Other Activities	2,510	25,489	17,822	–
Consolidation	–	–1,571,954	–	–
	4,066,446	**–**	**179,557**	**32,615**

Euro 000s	Material non-cash income and expenses	Adjusted EBIT	Income from companies recognised at equity	Investments
Generation and Infrastructure	2,526	160,531	47,034	195,921
Trading and Portfolio Management	1,723	–30,663	–	–
Sales and Services	10,511	29,414	1,011	19,916
Strategic Investments	–1,222	24,059	9,949	5,622
Other Activities	244	30,040	17,390	15,024
Consolidation	–	76	–	–
	13,782	**213,457**	**75,384**	**236,483**

External reporting is based on the internal management structure, thus complying with the management approach pursuant to IFRS 8. Units are grouped in such a way that the pooling of specialist competence under one roof forms the basis for stringent portfolio management at the Group. Business fields based on the respective energy industry value chain stages have been allocated to the reporting segments of Generation and Infrastructure, Trading and Portfolio Management, Sales and Services, Strategic Investments and Other Activities. The characteristics used to identify and aggregate the segments relate above all to asset and capital intensity, technical features, customer structures and needs, internal cooperation and the pooling of activities and processes.

Analytically, the business fields can be further broken down by subgroup and individual company with their products.

- The **Generation and Infrastructure** reporting segment comprises the conventional power plants, energy from waste plants and biomass plants at the Mannheim, Stadtwerke Kiel, Energieversorgung Offenbach and MVV Umwelt subgroups. This reporting segment also contains our waterworks, wind turbines and biomethane plants. Moreover, it comprises grid facilities for electricity, heating energy, gas and water and technical service units for the grid-based distribution of energy and water and thus allocated to the grids business field. Furthermore, this reporting segment includes renewable energies project development, especially Juwi AG and Windwärts Energie GmbH.

The business fields aggregated here are based on classifications that are significant for the Group. The criteria referred to relate in particular to the high asset intensity, long technical lifecycles, long-term financing structures and comparable customer and supplier groups.

- The **Trading and Portfolio Management** reporting segment includes energy procurement and portfolio management and the energy trading business at MVV Trading GmbH.

- The **Sales and Services** reporting segment includes the retail and secondary distribution business for electricity, heating energy, gas and water at the Mannheim, Stadtwerke Kiel and Energieversorgung Offenbach subgroups, the energy-related services business at the MVV Enamic and Energieversorgung Offenbach subgroups and the new ventures business field.

The key focus of aggregation for these business fields relates to the service business and to customer requirements. Use is made of comparable services methods, the customer is the key focus of the business, activities and marketing processes for the customers are pooled and almost exclusively target external customers (e.g. sales to third parties).

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

- The **Other Activities** reporting segment consists in particular of shared service companies and cross-divisional functions.

- Consolidation includes figures for transactions with other reporting segments that are eliminated for consolidation purposes.

Intercompany sales represent the volume of sales between segments. The transfer prices between segments correspond to customary market terms. Segment sales prior to consolidation are equivalent to the total of intercompany and external sales.

The reconciliation of earnings before interest and taxes with adjusted EBIT is presented in the following table:

Reconciliation of EBIT (income statement) with adjusted EBIT

Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016	+/– change
EBIT as per income statement	259,511	224,669	34,842
Financial derivative measurement items	–38,900	–24,129	–14,771
Structural adjustment for part-time early retirement	543	2,481	–1,938
Restructuring expenses	–	7,419	–7,419
Interest income in connection with finance leases	3,238	3,017	221
Adjusted EBIT	**224,392**	**213,457**	**10,935**

Of segment sales with external customers, 94.3 % were generated in Germany (previous year: 89.2 %). The regional breakdown of sales is based on the geographical location of the respective companies.

No individual customers of MVV account for or exceed 10 % of total sales.

The segment report presented in accordance with IFRS 8 is based on the internal management structure. This is mainly reflected in segment earnings (adjusted EBIT) and investments. The reconciliation of EBIT with adjusted EBIT is apparent in the above table. In the management perspective, the concept of investments includes both the additions apparent in the respective schedules and the change in non-current assets from first-time consolidation. By contrast, additions to securities and loans do not form part of the investment concept in the management perspective and have therefore been excluded.

Consistent with the management approach, the earnings stated for the reporting segment include internal transfer relationships between the reporting segments (charges and credits). The distribution of reporting segment earnings presented in the "adjusted EBIT" column corresponds to the distribution of earnings referred to in internal reporting. In some cases, this means that items are charged or credited to earnings in other business fields, and thus in other reporting segments, than the field or segment in which the item responsible for such charge or credit is located. This applies in particular to reporting segments and business fields fully or partly managed on the basis of cost centre logic (conventional generation, shared service centres and cross-divisional functions). In the case of conventional generation, primary costs are incurred in operative terms in the Generation and Infrastructure reporting segment. These are charged in full to the Trading and Portfolio Management and Sales and Services reporting segments. The latter segments reimburse the Generation and Infrastructure reporting segment by way of a return on its capital employed.

From the 2018 financial year, we plan to manage MVV on the basis of a new reporting structure. This will also be reflected in amended segment reporting. Further information about this can be found in the outlook, which forms part of the combined management report.

37. Cash flow statement

The cash flow statement portrays the flow of funds from operating activities, investing activities and financing activities. The cash flows from investing and financing activities are calculated directly. The cash flow from operating activities, on the other hand, has been derived indirectly. The amount of cash and cash equivalents stated in the cash flow statement is consistent with the corresponding figure in the balance sheet.

Inflows and outflows of funds from the acquisition and disposal of consolidated companies are included in the cash flow from investing activities.

Detailed explanations of the development in individual cash flows can be found in the report on the financial position, which forms part of the combined management report.

38. Related party disclosures

Business transactions performed between the parent company and its consolidated subsidiaries, which constitute related parties, are not outlined in this section, as they were eliminated in the course of consolidation.

The City of Mannheim is the sole shareholder in MVV GmbH. MVV GmbH owns 99.99 % of the shares in MVV Verkehr GmbH, which in turn has a 50.1 % shareholding in MVV Energie AG. The City of Mannheim and the companies it controls therefore represent related parties as defined in IFRS.

Numerous contractually agreed legal relationships are in place between the MVV companies and the City of Mannheim and the companies it controls (electricity, gas, water and district heating supply agreements, rental, leasing and service agreements). Moreover, concession agreements are also in place between MVV Energie AG and the City of Mannheim.

The concession duties to the City of Mannheim amounted to Euro 19,040 thousand (previous year: Euro 19,032 thousand).

All business agreements have been concluded on customary market terms and are basically analogous to the supply and service agreements concluded with other companies.

Related party disclosures

	Goods and services provided				Receivables		Liabilities	
	Income		Expenses					
Euro 000s	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016	**1 Oct 2016 to 30 Sep 2017**	1 Oct 2015 to 30 Sep 2016	**30 Sep 2017**	30 Sep 2016	**30 Sep 2017**	30 Sep 2016
City of Mannheim	13,956	13,780	23,518	21,518	331	1,196	9,857	5,454
Abfallwirtschaft Mannheim[1]	6,385	–	877	–	1,297	710	149	–
GBG Mannheimer Wohnungsbau-gesellschaft mbH	13,473	10,737	145	132	117	776	12	–
m:con – mannheim :congress GmbH	3,952	3,875	425	411	6,764	7,166	1	–
MVV GmbH	68	66	–	–	1	–	–	–
MVV Verkehr GmbH	34	33	5	5	5	1	–	–
Rhein-Neckar-Verkehr GmbH	6,324	6,474	76	290	2,735	2,624	1,724	2,469
Stadtentwässerung Mannheim	1,410	1,737	429	653	78	345	11	13
Companies recognised at equity	80,514	102,968	231,561	222,909	16,437	25,689	21,405	58,911
Other related parties	23,972	24,301	4,666	4,733	4,587	3,946	1,930	1,964
	150,088	**163,971**	**261,702**	**250,651**	**32,352**	**42,453**	**35,089**	**68,811**

1 Previous year's figures adjusted

The income and expenses with related parties include income of Euro 26 thousand (previous year: Euro 30 thousand) and expenses of Euro 395 thousand (previous year: Euro 9 thousand) for goods and services provided to management staff performing key functions.

Pursuant to IAS 24, related parties also include management staff performing key functions. Alongside the Executive Board, this group of persons at MVV includes active heads of division and authorised company representatives of MVV Energie AG.

Customer contracts concerning the supply of electricity, gas, water and district heating have been concluded between MVV Energie AG and members of its Executive and Supervisory Boards and members of the management (division heads, authorised representatives). These have been concluded on customary market terms and do not differ from other customer contracts.

MVV has otherwise not concluded or performed any material related party transactions. In particular, as in the previous year no loans or advances had been granted to members of the Executive or Supervisory Boards as of 30 September 2017. As in the previous year, the company also did not issue any guarantees on behalf of members of the Executive or Supervisory Boards.

MVV Energie AG has compiled a dependent company report in accordance with § 312 AktG for the financial year ending on 30 September 2017.

The disclosure requirements for the compensation of management staff performing key functions at the Group cover the compensation paid to active members of the Executive Board, the Supervisory Board, active division heads and authorised representatives.

Active members of the Executive Board were compensated as follows:

Executive Board compensation

Euro 000s	FY 2017	FY 2016
Short-term employee benefits (excluding share-based compensation)	2,318	2,770
Post-employment benefits	737	706
Total	**3,055**	**3,476**

Post-employment benefits correspond to the service cost resulting from pension provisions for active members of the Executive Board.

The compensation paid to active division heads and authorised representatives came to Euro 2,928 thousand in the year under report (previous year: Euro 2,993 thousand). Of this total, Euro 2,801 thousand involved current benefits (previous year: Euro 2,860 thousand).

Unless they are insured via municipal supplementary pension companies (ZVKs), management staff performing key functions receive a defined contribution company pension of up to 8.6 % of their fixed basic compensation. They can determine the biometric risks which should be covered. The expenses incurred for this amounted to Euro 127 thousand in the 2017 financial year (previous year: Euro 133 thousand).

Active members of the Supervisory Board were compensated as follows:

Supervisory Board compensation

Euro 000s	FY 2017	FY 2016
Fixed compensation (including meeting allowances)	410	438

Individualised information and further details concerning the compensation of Executive and Supervisory Board members can be found in the audited compensation report, which forms part of the combined management report.

Former members of the Executive Board received benefits of Euro 468 thousand in the year under report (previous year: Euro 475 thousand). Provisions totalling Euro 16,784 thousand have been stated for pension obligations towards former members of the Executive Board (previous year: Euro 18,666 thousand). A total of Euro 275 thousand was allocated to this item in the year under report (previous year: Euro 385 thousand).

39. MVV's shareholdings

Information about the composition of the companies and shareholdings included in the consolidated financial statements of MVV Energie AG pursuant to § 313 (2) HGB form part of the consolidated financial statements submitted to the electric Federal Gazette (Bundesanzeiger). The list of shareholdings has also been published online at **www.mvv.de/investors.**

40. Auditor's fee

The following fees were incurred in Germany for the services performed by the auditor of the consolidated financial statements, PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, in the 2017 financial year:

Auditor's fee

Euro 000s	FY 2017	FY 2016
Audit	1,822	1,460
Other auditing services	317	303
Tax advisory services	101	189
Other services	578	457
	2,818	**2,409**

The audit services line item relates above all to the fees paid for the audit of the consolidated financial statements and the audit of the separate financial statements of MVV Energie AG and its subsidiaries. The fees paid for other auditing services mainly relate to audits performed in accordance with energy industry requirements/attestations (EEG, KWKG) and voluntary certification services. The tax advisory services line item particularly involves fees for the support provided in the context of tax audits and for tax advisory services in the field of transfer prices. The fees paid for other services chiefly include fees for project advisory services relating to the conversion in accounting to new IFRS standards.

41. Utilisation of exemption under § 264 (3) HGB

The following German subsidiaries will draw on the disclosure exemption provided for under § 264 (3) HGB for the 2017 financial year:

- BFE Institut für Energie und Umwelt GmbH, Mühlhausen
- MVV Alpha zwei GmbH, Mannheim
- MVV Alpha fünfzehn GmbH, Mannheim
- MVV Umwelt GmbH, Mannheim
- MVV Umwelt Ressourcen GmbH, Mannheim
- MVV Umwelt UK GmbH, Mannheim
- MVV Windenergie GmbH, Mannheim

42. Declaration of Conformity under § 161 AktG

The Executive and Supervisory Boards of MVV Energie AG submitted their Declaration of Conformity with the recommendations of the German Corporate Governance Code pursuant to § 161 AktG and made this available to the company's shareholders.

The complete declaration is published on the internet at **www.mvv.de/investors.**

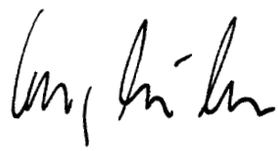
43. Information on concessions

In addition to the concession agreements between the City of Mannheim and MVV Energie AG (please see Note 38 Related party disclosures), further concession agreements have also been concluded between MVV companies and local and regional authorities. The remaining terms range from one to 18 years. These agreements assign responsibility for operating the respective distribution grids and providing for their maintenance. Should these agreements not be extended upon expiry, the facilities for supplying the respective utility services must be taken over by the new concession holder upon payment of commensurate compensation.

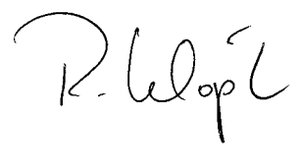
44. Events after balance sheet date

The sale of the glass fibre network at MVV Energie AG was executed on 15 October 2017.

Mannheim, 14 November 2017
MVV Energie AG
Executive Board



Dr. Müller



Klöpfer

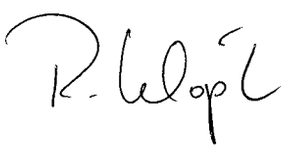
Dr. Roll

Responsibility Statement

"We affirm that, to the best of our knowledge, the consolidated financial statements give a true and fair view of the net asset, financial and earnings position of the Group in accordance with applicable accounting principles and that the group management report provides a fair view of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group."

Mannheim, 14 November 2017
MVV Energie AG
Executive Board

Dr. Müller



Klöpfer

Dr. Roll

Directors and Officers

EXECUTIVE BOARD OF MVV ENERGIE AG

Dr. Georg Müller
CEO, Commercial Affairs
and Labour Director

Ralf Klöpfer
Sales

Dr. Hansjörg Roll
Technology

SUPERVISORY BOARD OF MVV ENERGIE AG

Dr. Peter Kurz
(Chairman)
Lord High Mayor of City of Mannheim

Peter Dinges[1]
(Deputy Chairman until 31 March 2017)
Chairman of Group Works Council (until 31 March 2017)

Heike Kamradt[1]
(Deputy Chairman since 14 April 2017)
Chairman of Group Works Council (since 24 April 2017)

Johannes Böttcher[1]
Chairman of Works Council of
Energieversorgung Offenbach AG

Timo Carstensen[1]
Deputy Chairman of
Works Council of Stadtwerke Kiel AG

Ralf Eisenhauer
Construction and Project Manager at
MWS Projektentwicklungsgesellschaft mbH, Mannheim

Peter Erni[1]
Trade Union Secretary at ver.di Rhine-Neckar

Detlef Falk[1]
Chairman of Works Council of Stadtwerke Kiel AG

Dieter Hassel
Member of Executive Board of RheinEnergie AG, Cologne
(since 7 October 2016)

Barbara Hoffmann
Auditor, Tax Advisor

Prof. Dr. Heidrun Kämper
Academic Employee at Institut für Deutsche Sprache,
Mannheim

Brigitte Kemmer
Tax Advisor

Dr. Antje Mohr[1]
Trade Union Secretary at ver.di Kiel

Dr. Lorenz Näger
Member of Executive Board of HeidelbergCement AG

Peter Sattler
Member of Works Council (since 1 April 2017)

Bernhard Schumacher[1]
Director of Regional Sales Division at MVV Energie AG

Christian Specht
First Mayor of City of Mannheim

Carsten Südmersen
Management Consultant

Katja Udluft[1]
Trade Union Secretary at ver.di Rhine-Neckar

Prof. Heinz-Werner Ufer
Graduate in Economics

Jürgen Wiesner[1]
Chairman of Works Council of MVV Energie AG

Additional positions held by members of the Executive and Supervisory Boards on supervisory boards or comparable supervisory bodies are listed in detail on the following pages.

1 Employee representative

MEMBERS OF SUPERVISORY BOARD COMMITTEES AT MVV ENERGIE AG

Committee	Name	
Audit Committee	• Prof. Heinz-Werner Ufer (Chairman) • Peter Dinges (Deputy Chairman until 31 March 2017) • Heike Kamradt (Deputy Chairman since 14 April 2017) • Peter Erni • Detlef Falk • Dr. Lorenz Näger • Carsten Südmersen	
Personnel Committee	• Dr. Peter Kurz (Chairman) • Peter Dinges (Deputy Chairman until 31 March 2017) • Heike Kamradt (Deputy Chairman since 14 April 2017) • Ralf Eisenhauer • Peter Erni (since 14 April 2017) • Carsten Südmersen • Jürgen Wiesner	
Nomination Committee	• Dr. Peter Kurz (Chairman) • Ralf Eisenhauer • Barbara Hoffmann • Carsten Südmersen • Prof. Heinz-Werner Ufer	
Mediation Committee	• Dr. Peter Kurz (Chairman) • Peter Dinges (until 31 March 2017) • Heike Kamradt (since 14 April 2017) • Carsten Südmersen • Jürgen Wiesner	
New Authorised Capital Creation Committee	• Dr. Peter Kurz (Chairman) • Peter Dinges (until 31 March 2017) • Ralf Eisenhauer • Peter Erni • Dieter Hassel (since 7 October 2016) • Heike Kamradt (since 14 April 2017) • Christian Specht • Carsten Südmersen • Prof. Heinz-Werner Ufer	

MEMBERS OF EXECUTIVE BOARD OF MVV ENERGIE AG

Name	Positions held on other statutory supervisory boards of German companies	Membership of comparable German and foreign company supervisory boards
Dr. Georg Müller	• Energieversorgung Offenbach AG, Offenbach (Chairman) • Grosskraftwerk Mannheim AG, Mannheim • Juwi AG, Wörrstadt (Chairman) • MVV Enamic GmbH, Mannheim (Deputy Chairman) • MVV Insurance Services GmbH, Mannheim (Chairman) • MVV Trading GmbH, Mannheim • MVV Umwelt GmbH, Mannheim • Saarschmiede GmbH, Völklingen • Stadtwerke Kiel AG, Kiel (Chairman)	
Ralf Klöpfer	• Energieversorgung Offenbach AG, Offenbach • IDOS Software AG, Karlsruhe • Juwi AG, Wörrstadt • MVV Enamic GmbH, Mannheim (Chairman) • MVV Trading GmbH, Mannheim (Chairman) • Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt (Deputy Chairman) • Stadtwerke Kiel AG, Kiel	• BEEGY GmbH, Mannheim (Chairman) • MVV Energie CZ a.s., Prague, Czech Republic (Chairman since 14 October 2016) • Qivalo GmbH, Mannheim (Deputy Chairman since 20 September 2017) • Soluvia GmbH, Mannheim • Stadtmarketing Mannheim GmbH, Mannheim
Dr. Hansjörg Roll	• Energieversorgung Offenbach AG, Offenbach • Grosskraftwerk Mannheim AG, Mannheim • Juwi AG, Wörrstadt • MVV Netze GmbH, Mannheim (Chairman) • MVV Umwelt GmbH, Mannheim (Chairman) • Stadtwerke Kiel AG, Kiel	• MVV Energie CZ a.s., Prague, Czech Republic • Soluvia GmbH, Mannheim (Chairman since 19 October 2016)

MEMBERS OF SUPERVISORY BOARD OF MVV ENERGIE AG

Name **Occupation**	**Positions held on other statutory supervisory boards of German companies**	**Membership of comparable German and foreign company supervisory boards**
Dr. Peter Kurz (Chairman) Lord High Mayor of City of Mannheim	• Klinikum Mannheim GmbH University Hospital, Mannheim (Chairman) • MVV GmbH, Mannheim (Chairman)	• GBG Mannheimer Wohnungsbaugesellschaft mbH, Mannheim (Chairman) • m:con – mannheim:congress GmbH, Mannheim (Chairman until 31 December 2016) • mg – Gründungszentren GmbH, Mannheim (Chairman since 1 January 2017) • MWS Projektentwicklungsgesellschaft mbH, Mannheim (Chairman) • Popakademie Baden-Württemberg GmbH, Mannheim • Sparkasse Rhein Neckar Nord, Mannheim • Stadtmarketing Mannheim GmbH, Mannheim
Peter Dinges (Deputy Chairman until 31 March 2017) Chairman of Group Works Council (until 31 March 2017)	• Energieversorgung Offenbach AG, Offenbach • MVV Enamic GmbH, Mannheim (until 1 May 2017) • MVV GmbH, Mannheim • MVV Netze GmbH, Mannheim (until 1 May 2017) • MVV Umwelt GmbH, Mannheim (until 1 May 2017)	• Soluvia GmbH, Mannheim (until 3 May 2017)
Heike Kamradt (Deputy Chairman since 14 April 2017) Chairman of Group Works Council (since 24 April 2017)	• MVV Enamic GmbH, Mannheim (since 26 May 2017) • MVV Insurance Services GmbH, Mannheim • MVV Netze GmbH, Mannheim (since 26 May 2017) • MVV Trading GmbH, Mannheim • MVV Umwelt GmbH, Mannheim	
Johannes Böttcher Chairman of Works Council of Energieversorgung Offenbach AG	• Energieversorgung Offenbach AG, Offenbach (Deputy Supervisory Board Chairman)	
Timo Carstensen Deputy Chairman of Works Council of Stadtwerke Kiel AG	• Stadtwerke Kiel AG, Kiel	

MEMBERS OF SUPERVISORY BOARD OF MVV ENERGIE AG

Name Occupation	Positions held on other statutory supervisory boards of German companies	Membership of comparable German and foreign company supervisory boards
Ralf Eisenhauer Construction and Project Manager at MWS Projekt-entwicklungsgesellschaft mbH, Mannheim		• Sparkasse Rhein Neckar Nord, Mannheim • Stadtmarketing Mannheim GmbH, Mannheim
Peter Erni Trade Union Secretary at ver.di Rhine-Neckar		
Detlef Falk Chairman of Works Council of Stadtwerke Kiel AG	• Stadtwerke Kiel AG, Kiel	• Soluvia GmbH, Mannheim
Dieter Hassel Member of Executive Board of RheinEnergie AG, Cologne (since 7 October 2016)	• NetCologne Gesellschaft für Telekommunikation mbH, Cologne • BRUNATA-METRONA GmbH, Hürth	• AggerEnergie GmbH, Gummersbach • BELKAW GmbH, Bergisch Gladbach (Supervisory Board Chairman) • Energieversorgung Leverkusen GmbH & Co. KG, Leverkusen • Gasversorgungsgesellschaft mbH, Rhein-Erft, Hürth • Rheinische NETZGesellschaft mbH, Cologne • Stadtwerke Leichlingen GmbH, Leichlingen (Deputy Supervisory Board Chairman) • Stadtwerke Lohmar GmbH & Co. KG, Lohmar
Barbara Hoffmann Auditor, Tax Advisor		• Berliner Stadtreinigungsbetriebe, Anstalt des öffentlichen Rechts, Berlin
Prof. Dr. Heidrun Kämper Academic Employee at Institut für Deutsche Sprache, Mannheim		• m:con – mannheim:congress GmbH, Mannheim • Stadt Mannheim Beteiligungs GmbH, Mannheim
Brigitte Kemmer Tax Advisor		
Dr. Antje Mohr Trade Union Secretary at ver.di Kiel	• Stadtwerke Kiel AG, Kiel	

MEMBERS OF SUPERVISORY BOARD OF MVV ENERGIE AG

Name **Occupation**	**Positions held on other statutory supervisory boards of German companies**	**Membership of comparable German and foreign company supervisory boards**
Dr. Lorenz Näger Member of Executive Board of HeidelbergCement AG		• Castle Cement Limited, Maidenhead, UK • Cimenteries CBR S.A., Brussels, Belgium • ENCI Holding N.V., 's-Hertogenbosch, Netherlands • Hanson Limited, Maidenhead, UK • Hanson Pioneer España, S.L.U., Madrid, Spain • HeidelbergCement Canada Holding Limited, Maidenhead, UK • HeidelbergCement Holding S.à.r.l., Luxembourg • HeidelbergCement UK Holding Limited, Maidenhead, UK • HeidelbergCement UK Holding II Limited, Maidenhead, UK • Italcementi Fabbriche Riunite Cemento S.p.A., Bergamo, Italy • Lehigh B.V., 's-Hertogenbosch, Netherlands (Chairman) • Lehigh Hanson, Inc., Irving, TX, USA • Lehigh Hanson Materials Limited, Calgary, Canada • Lehigh UK Limited, Maidenhead, UK • Palatina Insurance Limited, Sliema, Malta • PHOENIX Pharmahandel GmbH & Co. KG, Mannheim, Germany • PT Indocement Tunggal Prakarsa Tbk., Jakarta, Indonesia • Recem S.A., Luxembourg
Peter Sattler Member of Works Council of MVV Energie AG (since 1 April 2017)	• MVV Insurance Services GmbH, Mannheim	
Bernhard Schumacher Director of Regional Sales Division at MVV Energie AG		• Management Stadtwerke Buchen GmbH, Buchen (Deputy Supervisory Board Chairman) • Stadtwerke Schwetzingen Verwaltungs-gesellschaft mbH, Schwetzingen • Stadtwerke Walldorf GmbH & Co. KG, Walldorf
Christian Specht First Mayor of City of Mannheim	• Klinikum Mannheim GmbH University Hospital, Mannheim (since 15 Februar 2017) • MVV Verkehr GmbH, Mannheim (Chairman) • Rhein-Neckar-Verkehr GmbH, Mannheim	• Verkehrsverbund Rhein-Neckar GmbH (VRN), Mannheim (Chairman)

MEMBERS OF SUPERVISORY BOARD OF MVV ENERGIE AG

Name Occupation	Positions held on other statutory supervisory boards of German companies	Membership of comparable German and foreign company supervisory boards
Carsten Südmersen Management Consultant		• m:con – mannheim:congress GmbH, Mannheim (until 31 March 2017) • MWS Projektentwicklungsgesellschaft mbH, Mannheim (until 31 March 2017) • Sparkasse Rhein Neckar Nord, Mannheim (until 31 March 2017) • Stadtmarketing Mannheim GmbH, Mannheim (until 31 March 2017)
Katja Udluft Trade Union Secretary at ver.di Rhine-Neckar		
Prof. Heinz-Werner Ufer Graduate in Economics	• Amprion GmbH, Dortmund (Chairman)	
Jürgen Wiesner Chairman of Works Council of MVV Energie AG	• MVV Enamic GmbH, Mannheim • MVV Trading GmbH, Mannheim • MVV Umwelt GmbH, Mannheim (since 26 May 2017)	• Soluvia GmbH, Mannheim (since 24 May 2017)

Independent Auditor's Report

To MVV Energie AG, Mannheim

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of MVV Energie AG, Mannheim, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 30 September 2017, the consolidated income statement and statement of comprehensive income, statement of change in equity, cash flow statement for the financial year from 1 October 2016 to 30 September 2017 and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of MVV Energie AG, which is combined with the Company's management report, for the financial year from 1 October 2016 to 30 September 2017. The Corporate Governance Statement pursuant to § (Article) 289a HGB ("Handelsgesetzbuch": German Commercial Code) and § 315 Abs. (paragraph) 5 HGB and the Corporate Governance Report according to section 3.10 of the German Corporate Governance Code have not been audited by us with regard to content according to the German legal requirements.

In our opinion, based on the findings of our audit,

- the accompanying consolidated financial statements comply, in all material respects, with IFRS, as adopted by the EU, and the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB and give a true and fair view of the net assets and financial position of the Group as at 30 September 2017 as well as the results of operations for the financial year from 1 October 2016 to 30 September 2017 in accordance with these requirements and
- the accompanying group management report as a whole provides a suitable view of the Group's position. In all material respects, the group management report is consistent with the consolidated financial statements, complies with the German legal requirements and suitably presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the Corporate Governance Statement and the Corporate Governance Report mentioned above.

According to § 322 Abs. 3 Satz (sentence) 1 HGB, we state that our audit has not led to any reservations with respect to the propriety of the consolidated financial statements and the group management report.

Basis for Audit Opinions

We conducted our audit of the consolidated financial statements and the group management report in accordance with § 317 HGB and the EU Audit Regulation (No 537/2014) under consideration of the German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Our responsibilities under those provisions and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the Group entities in accordance with provisions under EU law as well as German commercial law and professional requirements, and we have fulfilled our other German ethical responsibilities in accordance with these requirements. Furthermore, we declare in accordance with Article 10 (2) f) of the EU Audit Regulation that we have not provided any prohibited non-audit services referred to in Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 October 2016 to 30 September 2017. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon, and we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

1. **Recoverability of goodwill**
2. **Accounting treatment of energy trading transactions**
3. **Accounting treatment of renewable energies project development**

Our presentation of these key audit matters has been structured in each case as follows:

a. Matter and issue
b. Audit approach and findings
c. Reference to further information

Hereinafter we present the key audit matters:

1. Recoverability of goodwill

a. Goodwill amounting in total to € 230 million is reported under the "Intangible assets" balance sheet item in the consolidated financial statements of MVV Energie AG. Goodwill is tested for impairment by the Company once a year or when there are indications of impairment to determine any possible need for write-downs. Impairment testing is carried out at the level of the groups of cash-generating units to which the relevant goodwill has been allocated. The carrying amount of the relevant goodwill is compared with the corresponding recoverable amount in the context of the impairment test. The calculation of the recoverable amount generally employs the value in use. The present value of the future cash flows from the respective group of cash-generating units normally serves as the basis of valuation. Present values are calculated using discounted cash flow models. For this purpose, the medium-term business plan adopted by the Group forms the starting point for future projections based on assumptions about long-term rates of growth. Expectations relating to future market developments and assumptions about the development of macroeconomic factors are also taken into account. The discount rate used is the weighted average cost of capital for the relevant group of cash-generating units. The impairment test determined that no write-downs were necessary.

The outcome of this valuation exercise is dependent to a large extent on the estimates made by management with respect to the future cash inflows from the respective group of cash-generating units, the discount rate used, the rate of growth and other assumptions, and is therefore subject to considerable uncertainty. Against this background and due to the complex nature of the valuation, this matter was of particular significance during our audit.

b. As part of our audit, we evaluated the methodology employed for the purposes of performing the impairment test, among other things. After matching the future cash inflows used for the calculation against the medium-term business plan adopted by the Group, we assessed the appropriateness of the calculation, in particular by coordinating it with general and sector-specific market expectations. We also assessed whether the basis for including the costs of Group functions was accurate. In the knowledge that even relatively small changes in the discount rate applied can have a material impact on the value of the entity calculated in this way, we also focused our testing in particular on the parameters used to determine the discount rate applied, and evaluated the valuation model. We retraced the sensitivity analyses performed by the Company, in order to reflect the uncertainty inherent in the projections. Overall, the measurement inputs and assumptions used by management are in line with our expectations and are also within the ranges considered by us to be reasonable.

c. The Company's goodwill disclosures are contained in section 14 "Intangible Assets" of the notes to the consolidated financial statements.

2. Accounting treatment of energy trading transactions

a. Within the MVV Energie AG Group, the consolidated subsidiary MVV Trading GmbH has primary responsibility for the procurement of energy and emission rights and for hedging energy price risks for the Group companies MVV Energie AG, Stadtwerke Kiel AG, Energieversorgung Offenbach AG and Stadtwerke Ingolstadt GmbH. MVV Trading GmbH trades to a large extent on the spot and futures market for electricity, gas and emission rights on stock exchanges and on the over-the-counter market for these purposes. These contracts are classified as derivative financial instruments in accordance with IAS 39, which are either accounted for at fair value through profit or loss (classified as held-for-trading financial instruments) or as pending transactions if the underlying for the derivative financial instrument will be received or delivered as part of the Company's own expected purchase, sale or usage requirements ("own use exemption"). The accounting treatment for physically settled derivative financial instruments is determined with the aid of the risk management system of MVV Trading GmbH, which allocates these derivative financial instruments to their corresponding purpose and therefore to the appropriate accounting treatment from a Group perspective. Accordingly, physically settled derivative financial instruments that do not form part of the Group's own expected purchase, sale or usage requirements and all financially settled derivative financial instruments are measured at fair value through profit or loss. To some extent these derivative financial instruments for energy are included as hedging instruments in the hedge accounting in accordance with IAS 39 as so called hedged cash flows. The underlying transactions are the purchase respectively the sale of energy at varying prices within maximum 5 years.

Energy trading transactions are settled with the help of an energy trading system, whereupon the previous trading system for the commodity energy was replaced in financial year 2016/2017 with a new energy trading system. This system handles the process chain from the recording of trading transactions to the calculation and measurement of positions and the confirmation of trading transactions, as well as risk management. In view of the high volume of trading and the complexity of accounting for derivatives in accordance with IAS 39 and IFRS 13, respectively, as well as its significant effects on the net assets, financial position and results of operations, this business area is of particular importance for the consolidated financial statements and the performance of our audit.

b. As part of our audit, among other things, we assessed the appropriateness of the internal control system established for the purpose of entering into and settling energy trading transactions, including the trading system used for this purpose. In the context of the audit of the internal control system, we also evaluated the effectiveness of the controls established by the Company on a sample basis. We analyzed the methodology for determining the fair values of the derivative instruments with respect to compliance with IFRS 13 and carried out an appraisal using our own valuations on a sample basis. With respect to the accounting treatment of the derivatives in accordance with IAS 39, we evaluated the application of the own use exemption for physically settled derivative financial instruments using the process implemented within the Group – from the submission of orders by the consolidated subsidiaries to MVV Trading GmbH to the processing of the data by MVV Trading – and satisfied ourselves that the own use exemption is applied correctly on the basis of a random sample. With respect to the hedged cash flows, we assessed the essential past hedge effectiveness and the expected future hedge effectiveness and the correctness of the corresponding amounts recorded in equity as well as the reclassified amounts within the consolidated income statement. In our view, the accounting policies applied by management and the methodology for accounting for energy trading transactions are appropriate overall.

c. The Company's disclosures relating to energy trading and its effects on the consolidated financial statements are contained in section "35 Financial instruments" in the notes to the consolidated financial statements.

3. Accounting treatment of renewable energies project development

a. The project business within the MVV Energie AG Group primarily comprises the development and marketing of onshore wind turbines and photovoltaics systems. As a result of the complexity and long-term nature of the projects, there is a considerable need for estimates and assumptions to be made in this area, resulting in corresponding ranges of values from an accounting point of view. Against this background, this matter was of particular significance for our audit.

b. For the purposes of our audit, we first of all obtained an understanding of the process whereby projects are developed and marketed. The key factor for the detailed accounting treatment was an analysis of the projects into those for which revenue must be recognized when the contract is completed and those for which revenue must be recognized in accordance with the percentage of completion. We evaluated projects on a sample basis to establish whether the respective preconditions were met. In cases where revenue was recognized on completion of the contract in accordance with IAS 18, our audit focused in particular on cost components that were eligible for capitalization or required to be capitalized and their measurement within inventories, taking account of their net realizable value (IAS 2). In cases where revenue was recognized in accordance with the percentage of completion (IAS 11), we evaluated the determination of the degree of completion of customer-specific contracts on the basis of the cost-to-cost method and the resulting proportion of revenue recognized, bearing in mind the principle that a prospective loss must be recognized as soon as it is probable. As a result of these procedures, we are able to record that the assumptions and estimates made by management are appropriate overall in our opinion.

c. The Company's disclosures relating to the accounting treatment of the project development activities and their effects on the consolidated financial statements are contained in sections 1 "Sales after electricity and natural gas taxes" and 23 "Trade receivables" in the notes to the consolidated financial statements.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

Management is responsible for the preparation of the consolidated financial statements, which comply, in all material respects, with IFRS, as adopted by the EU, and the additional German legal requirements applicable under § 315a Abs. 1 HGB, and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. In addition, management is responsible to disclose, as applicable, matters related to going concern. Furthermore management is responsible for using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Moreover, management is also responsible for the preparation of the group management report, which as a whole provides a suitable view of the Group's position and is consistent in all material respects with the consolidated financial statements, complies with German legal requirements and suitably presents the opportunities and risks of future development. Furthermore, management is responsible for such policies and procedures (systems) as management determines are necessary to enable the preparation of a group management report in accordance with the applicable German legal requirements and to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and the Group Management Report

Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides a suitable view of the Group's position as well as, in all material respects, is consistent with the consolidated financial statements as well as the findings of our audit, complies with German legal requirements and suitably presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation under consideration of the German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

Throughout the audit we exercise professional judgment and maintain professional skepticism. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and the policies and procedures relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of those systems.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements and the group management report or, if such disclosures are inadequate, to modify our respective audit opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the net assets and financial position as well as the results of operations of the Group in accordance with IFRS, as adopted by the EU, and the additional German legal requirements applicable under § 315a Abs. 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate whether the group management report is consistent with the consolidated financial statements, its compliance with the German legal requirements and the view it provides of the Group's position.

- Perform audit procedures on the prospective information presented by management in the group management report. Based on sufficient and appropriate audit evidence, we hereby, in particular, evaluate the material assumptions used by management as a basis for the prospective information and the appropriate derivation of the prospective information from these assumptions. We are not issuing a separate audit opinion on the prospective information or the underlying assumptions. There is a significant, unavoidable risk that future events deviate significantly from the prospective information.

We communicate with those charged with governance, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Other Disclosures pursuant to Article 10 of the EU Audit Regulation

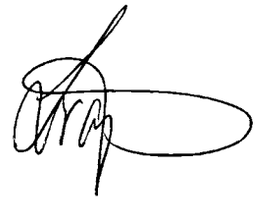
We were appointed as group auditor by the Annual General Meeting on 10 March 2017. We were engaged by the Supervisory Board on 31 May 2017. We have acted uninterruptedly as the group auditor of MVV Energie AG, Mannheim, since financial year 2008/2009.

We confirm that the audit opinions contained in this auditor's report are consistent with the additional report to the audit committee referred to in Article 11 of the EU Audit Regulation (German Longform Report).

RESPONSIBLE AUDITOR

The auditor responsible for the audit is Kerstin Krauß.

Mannheim, 14 November 2017
PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft



Folker Trepte
Wirtschaftsprüfer
(German Public Auditor)

Kerstin Krauß
Wirtschaftsprüferin
(German Public Auditor)

Other Disclosures

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About this Report

Notes to Consolidated Financial Statements Page 118

In our 2017 Annual Report, we have documented information about sustainability at MVV in accordance with the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI) in the G4 version. Furthermore, we have accounted for the G4 Sector Disclosures for Electric Utilities.

Unless otherwise indicated, the information we provide refers to our 2017 financial year (1 October 2016 to 30 September 2017). **G4-28** Based on our assessment, our reporting complies with the "Core" option set out in the Guidelines. In the → **index of GRI-G4 contents,** we state both the material topics for our Group and the associated G4 indicators. We additionally publish proprietary company indicators. The page references in the index all refer to this 2017 Annual Report, which we published on 12 December 2017. Our previous annual report was published on 13 December 2016. It also included a chapter on sustainability and also complied with the "Core" option pursuant to GRI G4. **G4-29**

Index of GRI-G4 Contents Pages 189-191

Within the report, indications and references are denoted as follows:

Reference to other information contained in this report.

Reference to other information on the internet.

G4 Reference to a sentence or paragraph that contains disclosures in accordance with the Sustainability Reporting Guidelines of the Global Reporting Initiative.

G4 If underlined, the reference indicates a section.

Unless otherwise indicated, the information refers to MVV, i.e. to all → **fully consolidated companies.** In our sustainability reporting, we publish additional data about our at-equity shareholdings as our stakeholders rightly expect a high degree of transparency from us. Most of the energy we generate conventionally, for example, comes from the two joint power plants, namely Grosskraftwerk Mannheim (GKM) and Gemeinschaftskraftwerk Kiel (GKK). For select topics, we focus on our three largest locations of Mannheim, Offenbach and Kiel – for example in our disclosures on grid infrastructure. Unless stated otherwise in the comments on the various indicators, our reporting focuses on those markets and regions in which we primarily operate. These are Germany, the UK and the Czech Republic. Most of our suppliers and partners are also located in these regions. **G4-8** **G4-17**

We compile our greenhouse gas balance sheet on the basis of the Greenhouse Gas Protocol. The overwhelming share of the CO_2 emissions we report comes from plants governed by the emission trading system (ETS) and is therefore certified. We collect further data with the assistance of various internal and external systems. Among others, these include energy audits and energy management systems, occupational health and safety systems such as OHSAS 18001, environmental management systems such as EMAS and compliance management systems.

In the index of GRI-G4 contents, we have indicated which report contents are subject to external audits. These audits were performed by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) within its audit of the consolidated financial statements and management report (FSA). **G4-33**

Index of GRI-G4 Contents

Indicator	Designation	Page	Notes	Assurance **G4-33**
General standard disclosures				
Strategy and analysis				
G4-1	CEO statement	4-6		
Organisational profile				
G4-3	Name	50		FSA
G4-4	Brands	51-53		FSA
G4-5	Headquarters	50		FSA
G4-6	Countries	50		FSA
G4-7	Nature of ownership and legal form	50		FSA
G4-8	Markets	188		FSA
G4-9	Company size	50, 64		FSA
G4-10	Total workforce	40		FSA
G4-11	Bargaining agreements		75 % of our employees in Germany are employed at companies that have concluded collective bargaining agreements.	
G4-12	Supply chain	21		
G4-13	Major changes in report		None	
G4-14	Explanation of precautionary approach		Given our strategic corporate alignment, which is closely linked to our sustainability strategy, we account for the precautionary approach towards dealing with potentially negative implications for the environment.	
G4-15	Sustainability initiatives	18		
G4-16	Memberships	18		
Identified material aspects and boundaries				
G4-17	Scope of consolidation	118		FSA
G4-18	Definition of report contents	19	Supplementary information on Pages 16-18	
G4-19	Material aspects	20	Supplementary information on Page 19	
G4-20	Aspect boundaries outside the organisation	19		
G4-21	Aspect boundaries inside the organisation	19		
G4-22	Changes in form of presentation	19		
G4-23	Changes in scope of report		None	
Stakeholder engagement				
G4-24	Overview of stakeholders	18		
G4-25	Selection of stakeholders	18		
G4-26	Approach to stakeholder engagement	18		
G4-27	Consideration of key stakeholder concerns	17-19	Key stakeholder concerns are dealt with in greater detail under material topics (Pages 23-47).	
Report profile				
G4-28	Reporting period	188		
G4-29	Publication date	188		
G4-30	Reporting cycle		Annually	
G4-31	Contact partner	Reverse cover		
G4-32	GRI content index	189-191	GRI-G4 in accordance with the Core option	
G4-33	External assurance	188		
Governance				
G4-34	Governance structure	17, 50		
G4-56	Values and principles	17, 22		

Indicator	Designation	Page	Notes	Assurance **G4-33**
General standard disclosures for the sector – G4 Sector Disclosures Electric Utilities (EU)				
G4-10+EU	Subcontractors		We do not record data concerning employment relationships and employment contracts for employees at the companies and service providers we commission, neither do we do so for freelancers.	
G4-11+EU	Bargaining agreements at subcontractors		We do not record data concerning employment relationships and employment contracts for employees at the companies and service providers we commission, neither do we do so for freelancers.	
G4-EU1	Installed capacity	23-26		
G4-EU2	Generation volumes	26-28		
G4-EU3	Number of customers		For competition-related reasons, we do not publish any detailed disclosures on customer totals.	
G4-EU4	Grid lengths	28		
G4-EU5	CO_2 rights	75		
Specific standard disclosures concerning material topics				
Material topic: renewable energies				
DMA	Management approach	23		
Material aspect: contribution to energy turnaround				
MVV-1	Electricity generation	23		
MVV-2	Installed capacity for renewable energies	24		
Material topic: supply reliability				
DMA	Management approach	26-27		
Material GRI aspect (sector-specific): availability and reliability				
MVV-3	Diversified generation portfolio	27		
G4-EU29	Average power outage duration (SAIDI)	28		
Material GRI aspect: indirect economic impacts				
G4-EC7	Investments in public infrastructure	28		
Material topic: market and customer				
DMA	Management approach	29		
Material GRI aspect: product labelling				
MVV-4	Customised solutions	29		
G4-PR5	Customer satisfaction surveys	30		
Material aspect: data protection and information security				
MVV-5	Data protection and information security	30		
Material topic: energy efficiency				
DMA	Management approach	30-31		
Material GRI aspect: energy				
G4-EN7	Reducing energy requirements	31-32		
Material GRI aspect (sector-specific): system efficiency				
G4-EU12	Grid losses	32		

Indicator	Designation	Page	Notes	Assurance **G4-33**
Material topic: climate protection				
DMA	Management approach	33-34		
Material GRI aspect: emissions				
G4-EN15	Direct greenhouse gas emissions (Scope 1)	35		
G4-EN15+EU	Specific Scope 1 emissions	35		
G4-EN16	Indirect greenhouse gas emissions (Scope 2)	35		
G4-EN16+EU	Specific Scope 2 emissions	35		
G4-EN17	Other indirect greenhouse gas emissions (Scope 3)	35		
G4-EN19	Reduction in GHG emissions	35		
Material topic: resource use and environmental protection				
DMA	Management approach	36		
Material GRI aspect (sector-specific): system efficiency				
G4-EU11	System efficiency	37		
Material GRI aspect: materials				
G4-EN1	Materials used	37		
Material GRI aspect: emissions				
G4-EN21	Air pollutant emissions (absolute)	38		
G4-EN21+EU	Air pollutant emissions (specific)	38		
Material topic: employees				
DMA	Management approach	40		
Material GRI aspect: training and education				
G4-LA10	Knowledge management	41		
Material GRI aspect: measures to promote women				
MVV-6	Measures to promote women	42		
Material GRI aspect: occupational health and safety				
G4-LA5	Occupational safety committees	43		
G4-LA6	Work-related accidents	44		
G4-LA6+EU	Work-related accidents at subcontractors		We do not systematically collect data or review occupational health and safety at the companies we commission.	
Material topic: social responsibility				
DMA	Management approach	44		
Material GRI aspect: economic performance				
G4-EC1	Value creation	45		FSA
Material GRI aspect: local communities				
G4-SO1	Measures to involve local communities	46	No disclosures on scope	
Material aspect: commitment to society				
MVV-7	Commitment to society	47	We do not systematically collect data or review occupational health and safety at the companies we commission.	

Further GRI disclosures reported

MVV reports further GRI disclosures; the further information provided on indicators either does not relate to material aspects or exceeds the "Core" scope option: G4-2 (Pages 99-107), G4-36 (Page 17), G4-46 (Page 102), G4-51 (Pages 91-93), G4-57 (Page 17, Page 90), G4-LA1 (in part: Page 41), G4-LA12 (in part: Page 42, Pages 172-178), G4-LA14 (Pages 21-22), G4-LA 15 (Pages 22-23), G4-SO4 (Page 17, Page 90), G4-SO6 (www.mvv.de/corporate-governance-engl)

Ten-Year Overview

Ten-year overview

	FY 2017[1,2]	FY 2016[1,2]	FY 2015[1,2]	FY 2014[2]	FY 2013[2]
Income statement (Euro million)					
Sales excluding energy taxes	4,010	4,066	3,422	3,717[1]	4,044
Adjusted EBITDA	407	425	336	330[1]	376
Adjusted EBIT	224	213	175	170[1]	208
Adjusted EBT	169	139	132	127[1]	143
Adjusted annual net income	107	98	92	93[1]	101
Adjusted annual net income after minority interests	93	95	75	86[1]	85
Sales excluding energy taxes (Euro million)					
Generation and Infrastructure	937	1,110	454	403	390
Trading and Portfolio Management	790	645	733	928[1]	1,054
Sales and Services	2,176	2,210	2,133	2,278	2,356
Strategic Investments	104	99	99	104[1]	243
Other Activities/Consolidation	3	2	3	4	1
Total	**4,010**	**4,066**	**3,422**	**3,717**	**4,044**
Adjusted EBIT (Euro million)					
Generation and Infrastructure	183	161	133	124	149
Trading and Portfolio Management	−21	−31	−29	−22	−16
Sales and Services	36	29	42	31	40
Strategic Investments	24	24	21	28[1]	32
Other Activities/Consolidation	2	30	8	9	3
Total	**224**	**213**	**175**	**170**	**208**
Investments (Euro million)					
Generation and Infrastructure	150	196	417	270	337
Trading and Portfolio Management	–	–	12	9	9
Sales and Services	25	20	22	14[1]	14
Strategic Investments	7	5	5	4[1]	17
Other Activities/Consolidation	12	15	14	13	15
Total	**194**	**236**	**470**	**310**	**392**
of which growth investments	64	121	336	207[1]	301
of which investments in existing business	130	115	134	103[1]	91

	FY 2012[2]	FY 2011[2]	FY 2010[2]	FY 2009[2]	FY 2008[2]
	3,895	3,600	3,359	3,161	2,636
	399	404	406	385	398
	223	242	243	239	249
	151	179	165	165	181
	98	125	105	112	123
	80	108	95	98	110
	354	327	329	–	–
	976	800	684	–	–
	2,162	2,096	1,984	–	–
	398	373	356	–	–
	5	4	6	–	–
	3,895	**3,600**	**3,359**	**3,161**	**2,636**
	141	138	122	–	–
	3	24	40	–	–
	21	39	39	–	–
	38	35	37	–	–
	20	6	5	–	–
	223	**242**	**243**	**239**	**249**
	224	148	151	–	–
	4	4	0	–	–
	33	21	60	–	–
	17	84	34	–	–
	16	24	22	–	–
	294	**281**	**267**	**255**	**241**
	191	177	156	–	–
	103	104	111	–	–

1 Since 2015 financial year: Ingolstadt subgroup no longer recognised proportionately, but included in consolidated financial statements at equity (figures for 2014 financial year adjusted)
2 Since 2008 financial year: excluding non-operating measurement items for financial derivatives; since 2009 financial year: also excluding restructuring result; since 2011 financial year: also including interest income from finance leases; since 2013 financial year: also excluding structural adjustment for part-time early retirement

Ten-year overview

	FY 2017[1,2]	FY 2016[1,2]	FY 2015[1,2]	FY 2014[2]	FY 2013[2]
Balance sheet figures (Euro million)					
Non-current assets	3,326	3,586	3,513	3,056[1]	3,032
Current assets	1,387	1,417	1,071	1,015[1]	1,207
Share capital	169	169	169	169	169
Capital reserve	455	455	455	455	455
Accumulated net income	705	641	594	579[1]	547
Accumulated other comprehensive income	−57	−81	−107	−73	−74
Non-controlling interests	249	243	203	206[1]	206
Equity	1,521	1,426	1,314	1,336[1]	1,303
Non-current debt	1,976	2,080	2,211	1,710[1]	1,751
Current debt	1,216	1,497	1,059	1,025[1]	1,185
Total assets	4,713	5,004	4,584	4,071[1]	4,239
Net financial debt[3]	1,077	1,283	1,341	1,063[1]	1,111
Key balance sheet figures and ratios					
Cash flow from operating activities (Euro million)	474	274	255	407[1]	372
Adjusted equity ratio[4] (%)	35.1	33.0	33.8	35.7[1]	34.5
ROCE[5] (%)	8.2	7.6	6.6	6.7[1]	8.3
WACC[6] (%)	6.1	6.4	6.4	7.4	7.4
Value spread[7] (%)	2.1	1.2	0.2	−0.7[1]	0.9
Capital employed[8] (Euro million)	2,734	2,806	2,660	2,527[1]	2,507
Share and dividend					
Closing price[9] at 30 September (Euro)	22.85	19.90	21.15	23.89	22.35
Annual high[9] (Euro)	24.15	22.00	26.20	26.05	28.00
Annual low[9] (Euro)	19.90	19.30	20.26	21.85	20.50
Market capitalisation at 30 September (Euro million)	1,506	1,312	1,394	1,575	1,473
Average daily trading volume (no. of shares)	8,313	5,630	4,233	2,882	4,121
No. of individual shares at 30 September (000s)	65,907	65,907	65,907	65,907	65,907
No. of shares with dividend entitlement (000s)	65,907	65,907	65,907	65,907	65,907
Dividend per share (Euro)	0.90[10]	0.90	0.90	0.90	0.90
Dividend total (Euro million)	59.3[10]	59.3	59.3	59.3	59.3
Adjusted earnings per share[11] (Euro)	1.41	1.45	1.14	1.30[1]	1.29
Cash flow from operating activities per share[11] (Euro)	7.19	4.16	3.86	6.18[1]	5.64
Adjusted carrying amount per share[11,12,13] (Euro)	18.88	18.36	17.73	18.03[1]	17.89
Price/earnings ratio[11,14]	16.2	13.7	18.6	18.4[1]	17.3
Price/cash flow ratio[11,14]	3.2	4.8	5.5	3.9[1]	4.0
Dividend yield[14] (%)	3.9[10]	4.5	4.3	3.8	4.0

	FY 2012[2]	FY 2011[2]	FY 2010[2]	FY 2009[2]	FY 2008[2]
	2,868	2,965	2,684	2,795	2,725
	1,211	910	953	1,159	1,062
	169	169	169	169	169
	455	455	455	455	455
	517	512	452	371	506
	−48	−3	16	15	24
	207	213	95	103	116
	1,300	1,346	1,187	1,113	1,270
	1,882	1,555	1,500	1,698	1,445
	897	974	950	1,143	1,072
	4,079	3,875	3,637	3,954	3,787
	1,028	1,011	1,202	1,192	1,139
	285	376	356	258	262
	36.1	37.7	35.7	33.9	35.5
	9.0	9.7	9.1	9.0	10.2
	8.6	8.5	8.5	8.5	8.5
	0.4	1.2	0.6	0.5	1.7
	2,486	2,489	2,688	2,649	2,444
	21.39	23.86	29.00	30.83	33.20
	27.96	29.90	33.00	34.04	33.75
	19.50	18.85	29.00	26.55	28.00
	1,410	1,573	1,911	2,032	2,188
	6,707	8,431	6,108	19,162	29,575
	65,907	65,907	65,907	65,907	65,907
	65,907	65,907	65,907	65,907	65,907
	0.90	0.90	0.90	0.90	0.90
	59.3	59.3	59.3	59.3	59.3
	1.21	1.63	1.44	1.48	1.69
	4.33	5.70	5.40	3.91	4.01
	17.80	17.61	16.94	16.52	16.53
	17.7	14.6	20.1	20.8	19.6
	4.9	4.2	5.4	7.9	8.3
	4.2	3.8	3.1	2.9	2.7

1 Since 2015 financial year: Ingolstadt subgroup no longer recognised proportionately, but included in consolidated financial statements at equity (figures for 2014 financial year adjusted)
2 Since 2008 financial year: excluding non-operating measurement items for financial derivatives; since 2009 financial year: also excluding restructuring result; since 2011 financial year: also including interest income from finance leases; since 2013 financial year: also excluding structural adjustment for part-time early retirement
3 Non-current and current financial debt less cash and cash equivalents
4 Since 2008 financial year: adjusted equity as percentage of adjusted total assets
5 Return on capital employed: until 2009 financial year: adjusted EBITA as percentage of capital employed; since 2010 financial year: adjusted EBIT as percentage of capital employed
6 Weighted average cost of capital
7 Value spread (ROCE less WACC)
8 Until 2010 financial year: adjusted equity plus financial debt plus provisions for pensions and similar obligations plus accumulated goodwill amortisation (calculated as annual average); since 2011 financial year: adjusted equity plus financial debt plus provisions for pensions and similar obligations less cash and cash equivalents (calculated as annual average)
9 XETRA trading
10 Pending approval by Annual General Meeting on 9 March 2018
11 Weighted average number of shares: since 2009 financial year: 65,906,796; 2008 financial year: 55,767,290
12 Excluding minority interests, weighted annual average number of shares
13 Excluding non-operating measurement items for financial derivatives
14 Basis: closing price in XETRA trading at 30 September

Ten-year overview

	FY 2017[1]	FY 2016[1]	FY 2015[1]	FY 2014[1]	FY 2013
Sales volumes					
Electricity turnover (kWh million)	26,293	21,797	20,823	23,207[1]	25,817
of which Generation and Infrastructure (kWh million)	454	465	351	142	61
of which Trading and Portfolio Management (kWh million)	15,122	9,982	10,342	12,154[1]	14,489
of which Sales and Services (kWh million)	10,442	11,093	9,891	10,678	10,733
of which Strategic Investments (kWh million)	275	257	239	233[1]	534
Heating energy turnover (kWh million)	6,917	6,716	6,995	6,292[1]	7,510
of which Generation and Infrastructure (kWh million)	1,037	1,069	1,188	496	402
of which Trading and Portfolio Management (kWh million)	–	–	–	–	–
of which Sales and Services (kWh million)	5,106	4,909	5,065	5,021[1]	5,901
of which Strategic Investments (kWh million)	774	738	742	775[1]	1,207
Gas turnover (kWh million)	25,190	28,270	27,410	22,517[1]	25,078
of which Generation and Infrastructure (kWh million)	261	259	144	103	60
of which Trading and Portfolio Management (kWh million)	18,428	21,467	20,556	15,883[1]	16,313
of which Sales and Services (kWh million)	6,302	6,377	6,563	6,393	7,482
of which Strategic Investments (kWh million)	199	168	147	138[1]	1,223
Water turnover (m^3 million)	40	41	46	47	47
Combustible waste delivered (tonnes 000s)	2,291	2,306	2,041	1,940	1,888
Number of employees (headcount at 30 September)					
MVV	6,062	6,174	5,308	5,166[1]	5,459
of which in Germany	5,227	5,328	4,676	4,561[1]	4,890
of which abroad	835	846	632	605	569
Full-time equivalents (at 30 September)	5,487	5,575	4,828	4,688[1]	4,785

	FY 2012	FY 2011	FY 2010	FY 2009	FY 2008
	28,283	26,093	23,891	19,582	18,188
	93	155	334	–	–
	15,750	12,855	10,771	–	–
	11,071	11,678	11,510	–	–
	1,369	1,405	1,276	–	–
	6,888	7,289	7,586	7,217	7,006
	274	141	305	–	–
	673	669	721	–	–
	4,772	5,226	5,239	–	–
	1,169	1,253	1,321	–	–
	17,418	10,888	11,775	10,851	9,166
	4	–	–	–	–
	7,762	1,700	2,313	–	–
	7,567	7,759	7,356	–	–
	2,085	1,429	2,106	–	–
	53	54	54	53	55
	1,897	1,835	1,762	1,599	1,550
	5,541	5,919	6,059	6,037	5,873
	4,900	5,278	5,444	5,457	5,311
	641	641	615	580	562
	4,898	5,085	5,181	5,171	4,936

1 Since 2015 financial year: Ingolstadt subgroup no longer recognised proportionately, but included in consolidated financial statements at equity (figures for 2014 financial year adjusted)

Glossary

B

Base load electricity

Base load is the term used to describe that level of electricity demand that may not be undercut even in times of very weak requirements. As the volumes of electricity fed into the electricity grid and consumed may not vary to any significant extent, due account has to be taken of consumers' different levels of demand over the course of a day. To this end, there are power plants for base load electricity production and plants that are only added when demand is higher.

Biogas

Biogas is gas obtained from biomass by way of fermentation in the absence of oxygen (i.e. anaerobic fermentation). The raw materials used for this purpose are organic waste or sewage, farm fertilisers, such as slurry and manure, and plant remains. Deliberately cultivated energy plants – so-called regenerative fuels – can also be used for biogas production. Biogas is used in the decentralised generation of electricity and heating energy or refined into biomethane.

Biomass

The renewable fuel of biomass is used in solid, liquid and gaseous state to generate electricity and heating energy. At MVV's biomass power plants, biomass heating energy plants and biomass CHP plants, we mostly use waste timber, residual forest timber and green cuttings as fuels.

Biomethane

To be capable of use in ways largely similar to regular natural gas, biogas has to be refined. This process involves rinsing out a majority of its incombustible and corrosive components. The end product is referred to biomethane, which satisfies quality standards similar to those for natural gas. Biomethane may be fed into the natural gas grid and thus transported over long distances. It is mostly used to produce electricity and heating energy at combined heat and power (CHP) units or as vehicle fuel.

C

Clean dark spread (CDS)

The clean dark spread refers to the margin achieved from generating electricity from hard coal. It portrays the difference between electricity revenues on the wholesale markets on the one hand and prices for fuel (coal, including transport), the price of CO_2 emission rights and the Euro/USD exchange rate on the other.

CO_2 emission rights

To reduce emissions of carbon dioxide (CO_2), a gas harmful to the climate, a market has been created for CO_2 emission rights. Emission right trading has resulted in a market-based instrument aimed at protecting the environment, one that offers participant companies an incentive to reduce their CO_2 emissions at the minimum cost to the overall economy. An industrial company must demonstrate a corresponding right (certificate) for every tonne of CO_2 it intends to emit. This certificate can be traded, with the price being set on the EEX in Leipzig, for example. Issuers have the option of either purchasing rights or reducing their CO_2 emissions by investing in climate-friendly technology and selling the rights thereby no longer required as a result.

CO_2 emissions: Scope 1, 2, 3

For recording purposes, CO_2 emissions are subdivided into three classes (scopes). Scope 1 includes a company's direct emissions, such as those arising at proprietary plants. Indirect emissions arising outside the company are recorded as Scope 2 and 3 emissions; Scope 2 includes energy-related emissions associated with externally procured energy and Scope 3 covers those emissions resulting from services and upstream products acquired.

Combined heat and power (CHP) generation
Combined heat and power (CHP) generation is the term used to describe the simultaneous generation of electrical energy and heating energy usable for heating purposes (district heating) or production processes (process heat). Compared with the separate generation of electricity (in condensation power plants) and heating energy (at heating power plants), CHP generation reduces the volume of primary energy required for production, and thus also the volume of CO_2 emissions. As an efficient generation technology, CHP thus has an indispensable role to play in the conversion of the energy system.

Commodity
Designation for a standardised tradable good, such as electricity, gas, coal or CO_2 emission rights.

Contracting
A distinction is made between energy supply contracting (e.g. supply of heating energy by building and operating a heating energy plant tailored to the customer's needs and remaining in contractor ownership), operations contracting (the contractor operates the customer's plant and ensures optimal operations) and savings contracts (the contract guarantees energy savings and may possibly take over the necessary investments in the plant or application technology). The objective of contracting is to achieve economic and ecological benefits by optimising processes.

D

Day-ahead market
Most electricity trading on the exchange is handled on the day-ahead market, a so-called spot market. As its name implies, this market trades in electricity supplies for the following day – based on the latest consumption forecasts.

Degree day figures
Degree day figures are a weather indicator used to assess heating energy requirements. According to VDI Guideline 4710, degree days are calculated as the difference between an indoor room temperature of 20 degrees Celsius and an average daily outdoor temperature lower than the so-called heating threshold of 15 degrees Celsius, below which heating is required according to the degree day method.

Direct marketing
The term direct marketing designates the direct sale of electricity from renewable energy sources on the energy exchange (e.g. the EEX in Leipzig) or to large customers. One direct marketing instrument on the energy exchange is the market premium model. In this, the operators of renewable energies plants receive the regular market price, which is less than fixed EEG compensation. This is supplemented by the market premium. Since 1 January 2016, direct marketing within the market premium model is the prescribed model for new plants to receive subsidies. In the absence of direct marketing, operators of renewable energies plants sell their electricity to the relevant regional grid operator, which in turn makes it available to the energy exchange.

E

EEX
The European Energy Exchange (EEX) in Leipzig is the marketplace for electricity, natural gas, CO_2 emission rights and coal. Admission to the exchange enables companies to trade in all products on the spot and futures markets of the EEX.

Efficiency
The efficiency of an energy generation plant represents the volume of energy made available for use over a specified time period as a percentage of the energy input.

I

Interest swap

Denotes a financial instrument in which two contractual parties agree to exchange interest payments on fixed nominal amounts at specified dates. In general, a fixed interest rate is exchanged for a variable interest rate. Interest swaps are used by companies to hedge against changes in interest rates. In an interest swap with floor, there is a contractually fixed lower interest limit enabling the buyer to hedge itself against falling interest rates.

Investments

In the investments referred to in this Annual Report in the overview of key figures, combined management report and segment reporting, a distinction is made between investments in intangible assets, property, plant and equipment and investment property, investments in the acquisition of fully consolidated companies and investments in other financial assets (excluding additions to securities and loans). Both cash-effective and non-cash-effective investments are included. We also distinguish between growth investments and investments in our existing business. In the cash flow statement, only the outgoing payments for investments are recorded.

M

Materials flow management

Systematic process intended to continually optimise input and output waste flows. The aim is to achieve maximum efficiency in terms of satisfying specific plant capacities with the best materials composition, for example in terms of calorific value and waste properties. The term also denotes cross-regional concepts to supply waste to the appropriate disposal plants based on individual customers' requirements and the different types of waste involved.

P

Power-to-heat

Term used to refer to the generation of heating energy using electricity. Power-to-heat offers an opportunity to use surplus electricity volumes from renewable energies, and especially wind turbines and photovoltaics systems, by coupling the electricity and heating sectors to provide heating energy.

R

Repowering

Term used to describe the replacement of first-generation wind turbines with modern turbines. This offers many benefits. Halving the number of turbines and simultaneously doubling capacity by making more efficient use of locations can treble the yield. Modern wind turbines not only make better use of the available wind, thus minimising wind power generation costs. They can also be integrated far better into the electricity grid.

S

Smart grid

By working with the latest innovative technologies and new services, smart grids offer the possibility of actively and flexibly adjusting generation, grid control, storage and consumption to the constantly changing needs of the energy markets.

Smart meters

Smart meters are an instrument linking energy generation and energy demand in line with requirements and consumption. A smart meter system comprises a digital electricity meter and a communications unit – the smart meter gateway. This gateway enables meters to be integrated into the smart electricity grid in line with data protection and security requirements. Smart meters make consumption transparent for consumers and can also be used for electronic data transmission or automatic appliance management.

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Financial Calendar

12 December 2017

Annual Report
2017 Financial Year

12 December 2017

Annual Results Press Conference and Analysts' Conference
2017 Financial Year

15 February 2018

Q1 Quarterly Statement
2018 Financial Year

9 March 2018

Annual General Meeting

15 May 2018

H1 Interim Report
2018 Financial Year

15 August 2018

9M Quarterly Statement
2018 Financial Year

11 December 2018

Annual Report
2018 Financial Year

11 December 2018

Annual Results Press Conference and Analysts' Conference
2018 Financial Year

The dates of analysts' conference calls to be held during the financial year will be announced in good time.

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