Consolidated Financial Statements

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Income Statement

Income statement

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022	Notes
Sales	6,783,781	6,093,298	
Less electricity and natural gas taxes	164,733	169,710	
Sales less electricity and natural gas taxes	**6,619,048**	**5,923,588**	1
Changes in inventories	17,238	40,249	2
Own work capitalised	26,682	26,161	3
Income from derivative financial instruments [1]	4,574,871	4,634,560	4
Other operating income [1, 2]	257,645	126,271	5
Cost of materials	5,495,172	5,283,911	6
Employee benefit expenses	541,285	510,767	7
Expenses for derivative financial instruments [1]	3,891,854	4,506,589	8
Other operating expenses [1]	306,779	207,052	9
Impairment losses on financial instruments	14,303	20,409	
Income from companies recognised at equity [2]	21,683	22,159	10
Other income from shareholdings [2]	2,174	1,456	10
EBITDA	**1,269,948**	**245,716**	
Depreciation and amortisation	206,878	211,262	11
EBIT	**1,063,070**	**34,454**	
of which result of IFRS 9 derivative measurement	185,867	– 315,329	
of which EBIT before result of IFRS 9 derivative measurement	877,203	349,783	
Financing income	36,106	36,452	12
Financing expenses	77,410	71,676	13
EBT	**1,021,766**	**– 770**	
Taxes on income	268,560	– 11,397	14
Annual net income	**753,206**	**10,627**	
of which non-controlling interests	– 291,904	302,732	
of which earnings attributable to MVV Energie AG shareholders (annual net income after minority interests)	**1,045,110**	**– 292,105**	15
Basic earnings per share (Euro)	**15.86**	**– 4.43**	
Diluted earnings per share (Euro)	**15.86**	**– 4.43**	

1 Previous year's figures adjusted. For reasons of transparency and to account for ongoing market volatility, income from / expenses for derivative financial instruments have been stated separately.

2 Previous year's figure adjusted. Reclassification of disposal gains

Statement of Comprehensive Income

Statement of income and expenses recognised in group equity

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Annual net income	**753,206**	**10,627**
Cash flow hedges	– 673,834	745,999
Hedging costs	219	– 102
Currency translation differences	10,908	– 2,476
Reclassifiable share of companies recognised at equity	– 1,249	– 898
Items that may subsequently be reclassified to profit or loss	**– 663,956**	**742,523**
Actuarial gains and losses	2,239	26,912
Non-reclassifiable share of companies recognised at equity	39,692	3,634
Items that will not be reclassified to profit or loss	**41,931**	**30,546**
Other comprehensive income	**– 622,025**	**773,069**
Total comprehensive income	**131,181**	**783,696**
Non-controlling interests	– 391,711	378,413
Total comprehensive income attributable to MVV Energie AG shareholders	**522,892**	**405,283**

Balance Sheet

Balance sheet

Euro 000s	**30 Sep 2023**	30 Sep 2022	Notes
Assets			
Non-current assets			
Intangible assets	312,670	316,205	16
Property, plant and equipment	2,924,047	2,955,387	17
Right-of-use assets	140,393	145,411	18
Investment properties	2,678	2,911	19
Interests in companies recognised at equity	154,005	194,418	20, 21
Other financial assets [1]	13,541	9,028	23
Asset-side derivative financial instruments [2]	530,232	3,764,544	24
Other financial receivables and assets [1, 2]	60,510	55,274	25
Other non-financial receivables and assets [2]	16,687	10,989	26
Deferred tax assets	47,275	115,219	39
	4,202,038	**7,569,386**	
Current assets			
Inventories	322,143	352,155	
Asset-side derivative financial instruments [2]	3,006,122	13,662,345	27
Trade receivables	515,010	554,103	28
Other financial receivables and assets [2]	321,028	62,569	25
Other non-financial receivables and assets [2]	185,865	183,440	26
Income tax receivables	26,249	58,236	29
Cash and cash equivalents	975,026	1,884,998	30
Assets held for sale	–	1,047	
	5,351,443	**16,758,893**	
	9,553,481	**24,328,279**	

1 Previous year's figure adjusted. Non-current lease receivables and loans have been reclassified to other financial receivables and assets.

2 Previous year's figure adjusted. For reasons of transparency and to account for ongoing market volatility, derivative financial instruments have been stated separately, as have financial and non-financial receivables and assets.

Balance sheet

Euro 000s	**30 Sep 2023**	30 Sep 2022	Notes
Equity and debt			
Equity			31
Share capital	168,721	168,721	
Capital reserve	455,241	455,241	
Accumulated net income	1,552,624	569,653	
Accumulated other comprehensive income	– 21,294	524,178	
Capital of MVV	**2,155,292**	**1,717,793**	
Non-controlling interests	300,713	728,278	
	2,456,005	**2,446,071**	
Non-current debt			
Provisions	136,280	147,704	32, 33
Financial debt	1,527,406	1,733,109	34
Liability-side derivative financial instruments [1]	487,807	3,428,029	35
Other financial liabilities [1]	28,245	19,379	36
Other non-financial liabilities [1]	178,597	143,081	37
Deferred tax liabilities	198,770	527,143	39
	2,557,105	**5,998,445**	
Current debt			
Other provisions	217,761	202,915	32, 33
Tax provisions	4,807	1,054	32
Financial debt	270,563	183,826	34
Liability-side derivative financial instruments [1]	2,950,467	13,177,746	35
Trade payables	471,570	507,216	38
Other financial liabilities [1]	254,510	1,540,118	36
Other non-financial liabilities [1]	243,855	231,504	37
Income tax liabilities	126,838	39,384	39
	4,540,371	**15,883,763**	
	9,553,481	**24,328,279**	

1 Previous year's figure adjusted. For reasons of transparency and to account for ongoing market volatility, derivative financial instruments have been stated separately, as have financial and non-financial liabilities.

Statement of Changes in Equity

Statement of changes in equity

Euro 000s	Equity contributed: Share capital of MVV Energie AG	Equity contributed: Capital reserve of MVV Energie AG	Equity generated: Accumulated net income	Equity generated: Accumulated other comprehensive income: Currency translation difference	Equity generated: Accumulated other comprehensive income: Fair value measurement of financial instruments	Equity generated: Accumulated other comprehensive income: Actuarial gains and losses	**Capital of MVV**	Non-controlling interests	**Total capital**
Balance at 1 October 2021	**168,721**	**455,241**	**929,166**	**20,799**	**– 103,886**	**– 78,824**	**1,391,217**	**367,407**	**1,758,624**
Other comprehensive income	–	–	–	– 3,648	676,473	24,563	697,388	75,681	773,069
Annual net income	–	–	– 292,105	–	–	–	– 292,105	302,732	10,627
Total comprehensive income	**–**	**–**	**– 292,105**	**– 3,648**	**676,473**	**24,563**	**405,283**	**378,413**	**783,696**
Dividends paid	–	–	– 69,202	–	–	–	– 69,202	– 22,919	– 92,121
Capital increase/reduction at subsidiaries	–	–	–	–	–	–	–	–	–
Change in scope of consolidation/ level of shareholding	–	–	1,794	– 120	– 11,179	–	– 9,505	5,377	– 4,128
Balance at 30 September 2022	**168,721**	**455,241**	**569,653**	**17,031**	**561,408**	**– 54,261**	**1,717,793**	**728,278**	**2,446,071**
Balance at 1 October 2022	**168,721**	**455,241**	**569,653**	**17,031**	**561,408**	**– 54,261**	**1,717,793**	**728,278**	**2,446,071**
Other comprehensive income	–	–	–	9,502	– 573,217	41,497	– 522,218	– 99,807	– 622,025
Annual net income	–	–	1,045,110	–	–	–	1,045,110	– 291,904	753,206
Total comprehensive income	**–**	**–**	**1,045,110**	**9,502**	**– 573,217**	**41,497**	**522,892**	**– 391,711**	**131,181**
Dividends paid	–	–	– 69,202	–	–	–	– 69,202	– 27,147	– 96,349
Capital increase/reduction at subsidiaries	–	–	–	–	–	–	–	–	–
Change in scope of consolidation/ level of shareholding	–	–	7,063	– 18,133	– 5,196	75	– 16,191	– 8,707	– 24,898
Balance at 30 September 2023	**168,721**	**455,241**	**1,552,624**	**8,400**	**– 17,005**	**– 12,689**	**2,155,292**	**300,713**	**2,456,005**

Cash Flow Statement

Cash flow statement [1]

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Annual net income before taxes on income	1,021,766	– 770
Amortisation, depreciation and write-ups of intangible assets, property, plant and equipment and investment properties	206,878	208,570
Financial result	41,304	35,225
Interest received	28,676	6,976
Change in non-current provisions	– 483	– 12,128
Other non-cash income and expenses	– 215,920	346,025
Result of disposal of non-current assets	– 130,059	– 53,454
Cash flow before working capital and taxes	**952,162**	**530,444**
Change in other assets	– 224,876	– 354,070
Change in other liabilities	– 1,249,417	840,832
Change in current provisions	17,143	25,412
Income taxes paid	– 108,764	– 90,592
Cash flow from operating activities	**– 613,752**	**952,026**
Payments for investments in intangible assets, property, plant and equipment and investment properties	– 320,675	– 292,056
Proceeds from disposals of intangible assets, property, plant and equipment and investment properties	4,686	4,034
Proceeds from subsidy payments	5,018	18,659
Proceeds from sale of fully consolidated companies [2]	179,729	25,617
Proceeds from sale of other financial assets, including companies recognised at equity, non-current lease receivables and loans	151,334	76,508
Payments for acquisition of fully consolidated companies and other business units [2]	– 5,392	– 33,969
Payments for other financial assets, including companies recognised at equity, non-current lease receivables and loans	– 26,476	– 5,262
Cash flow from investing activities	**– 11,776**	**– 206,469**
Payments from taking up of loans	26,665	321,792
Payments for redemption of loans [3, 4]	– 140,498	– 272,258
Payments for redemption of lease liabilities [3, 4]	– 16,294	– 15,806
Dividends paid	– 69,202	– 69,202
Dividends paid to non-controlling interests	– 27,148	– 22,919
Change due to changes in capital at minorities	–	– 742
Interest paid	– 58,932	– 58,815
Cash flow from financing activities	**– 285,409**	**– 117,950**
Cash-effective changes in cash and cash equivalents	– 910,937	627,607
Change in cash and cash equivalents due to currency translation	965	– 786
Cash and cash equivalents at 1 October 2022 (2021)	1,884,998	1,258,177
Cash and cash equivalents at 30 September 2023 (2022)	**975,026**	**1,884,998**
of which cash and cash equivalents at 30 September 2023 (2022) with restraints on disposal	2,607	150

1 See further disclosures on cash flow statement in Note 43

2 See disclosures in “Scope of consolidation and changes in scope of consolidation”

3 Previous year’s figure adjusted. Payments for redemption of lease liabilities now stated in separate line item.

4 See “Liabilities in connection with financing activities” table in Note 43

Cash Flow Statement

Cash flow – aggregate presentation

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Cash and cash equivalents at 1 October 2022 (2021)	**1,884,998**	**1,258,177**
Cash flow from operating activities	– 613,752	952,026
Cash flow from investing activities	– 11,776	– 206,469
Cash flow from financing activities	– 285,409	– 117,950
Change in cash and cash equivalents due to currency translation	965	– 786
Cash and cash equivalents at 30 September 2023 (2022)	**975,026**	**1,884,998**

Notes to MVV's 2023 Consolidated Financial Statements

Information about the company

MVV Energie AG has its legal domicile in Mannheim, Germany (Mannheim District Court: HRB 1780). Its business address is at Luisenring 49, 68159 Mannheim. It is the parent company of the MVV Group (MVV), which is an energy generator, distributor and service provider. Its business is managed in the reporting segments of Customer Solutions, New Energies, Supply Reliability, Strategic Investments and Other Activities.

Basis of preparation

MVV's consolidated financial statements have been prepared pursuant to § 315e (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 2023.

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 2023 financial year (1 October 2022 to 30 September 2023). 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 line items have been presented in summarised form in the income statement and balance sheet. These are listed and commented on separately in the notes to the consolidated financial statements.

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 Executive Board prepared the consolidated financial statements and combined management report on 14 November 2023 and subsequently forwarded these to the Supervisory Board for approval.

Impact of the war in Ukraine

The 2023 financial year was once again significantly influenced by the war in Ukraine. This created ongoing uncertainties on the energy market, leading to highly volatile prices in the gas and electricity businesses during the year. This continued to produce high rates of inflation and a slowdown in economic activity, particularly in Germany.

For MVV, these circumstances mean that the fair values recognised in the balance sheet, which had risen sharply in the previous year, fell significantly in the 2023 financial year. Total assets also showed a substantial reduction. Due to the high level of intra-year volatility, the energy trading contracts recognised as derivative financial instruments continue to result in high volumes of measurement items in the income statement. These particularly impact on sales and cost of materials, as well as on income from and expenses for derivative financial instruments.

Current developments are continually monitored and assessed in terms of their implications for the MVV Group. Where necessary, measures are initiated. The identification of risks to the company is one of the core tasks incumbent on the company's management. Measures taken to this end in the 2023 financial year included forming cross-departmental task forces to ensure a permanent exchange of information about potential risks and changing underlying conditions.

Overall, MVV's assessment of the impact of the Ukraine war on the Group has not changed compared with the previous year. Procurement prices, particularly for the main products of electricity and gas, continue to be contractually agreed. Energy trading contracts are deployed to hedge the risk of any increase in the company's procurement costs. MVV is not exposed to any material risks from open positions or open volumes to be covered on the market. In view of this, no provisions for onerous contracts have been recognised in this respect. Allowances for receivables depend on customers' payment behaviour, taking due account of the macroeconomic situation. The development in sales and the cost of materials both in the financial year and in future is significantly influenced by the development in wholesale prices, particularly for electricity and gas.

Impact of climate-related risks

The energy industry has been undergoing a fundamental transformation for several years already. This is notably influenced by international climate protection targets and geopolitical crises. MVV is actively helping to shape this transformation. Our pathway to the future is the "Mannheim Model". This comprises three strategic focuses, which involve both opportunities and risks. Alongside the heat transition, with its move towards increasingly renewable heat generation, and the electricity transition, with the accelerated expansion of renewables energies, innovative marketing concepts and pooled project development capacities, we also provide solutions to support our customers in implementing their own energy transitions.

Given their growing importance, climate-related risks are continually monitored and assessed by the central risk controlling function in conjunction with the Group's overall risk situation. Risk profiles, whose assessment also accounts for any measures initiated, are compiled to this end.

Opportunities and risks relating to climate change have been accounted for when preparing the consolidated financial statements as of 30 September 2023, as have the objectives of our strategy, sustainability and climate protection. The financial statements take due account of all foreseeable factors that impact on our assets, liabilities, income and expenses.

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 2023 financial year. These standards and interpretations did not have any material implications for MVV.

The IASB and the IFRS IC have published standards and interpretations not yet requiring mandatory application in the 2023 financial year and of which no voluntary premature application has been made. To the extent that they already been endorsed by the EU, these standards and interpretations are not expected to have any material implications for MVV.

Consolidation methods

The financial statements included in consolidation have been prepared on the basis of uniform accounting policies as of 30 September 2023.

Subsidiaries are fully consolidated upon acquisition, i.e. from the time when the Group gains control. Their inclusion in the consolidated financial statements therefore ends when they are no longer controlled by the parent company. Capital consolidation is based on the purchase method. Non-controlling interests held in the earnings and net assets of fully consolidated subsidiaries, which are reported under equity, are not attributable to the Group. In the consolidated balance sheet, they are recognised separately from equity attributable to shareholders in the parent company. Subsidiaries that due to materiality considerations have not been fully consolidated in MVV's consolidated financial statements have been reported under other majority shareholdings. The materiality review is based on financial criteria, such as sales, EBIT and total assets. The threshold values are based on current group figures and amount to 0.75 % of the aforementioned key figures.

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

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. Furthermore, subsidiaries at which contractual provisions result in control by MVV are included in the consolidated financial statements irrespective of whether MVV holds a majority of voting rights.

Scope of consolidation

	Companies fully consolidated	Companies recognised at equity
1 October 2022	131	32
Additions	7	1
Disposals	26	3
30 September 2023	**112**	**30**

MVV sold its Czech subgroup together with the parent company MVV Energie CZ a.s. and is thus continuing to align its portfolio towards its #climatepositive strategy.

The disposal of the Czech subgroup with its fully consolidated subsidiaries was completed on 9 December 2022. MVV Energie AG received contractually agreed funds totalling Euro 187,791 thousand from this sale. When offset with the liquid funds thereby disposed of at the Czech companies, the net inflow of funds amounted to Euro 178,637 thousand.

The carrying amounts of the assets and liabilities as of the disposal date (9 December 2022) were as follows:

Net assets

	Czech subgroup
Euro 000s	**Value upon disposal**
Intangible assets	7,185
Property, plant and equipment	132,091
Right-of-use assets	629
Other financial assets	207
Asset-side derivative financial instruments	9,196
Other receivables and assets	2,907
Deferred tax assets	274
Inventories	5,320
Trade receivables	12,697
Cash and cash equivalents	9,154
Provisions	2,901
Financial debt	6,924
Liability-side derivative financial instruments	649
Other liabilities	12,651
Deferred tax liabilities	13,517
Trade payables	7,543
Less other comprehensive income [1]	16,512
Less minority interests	8,815
Net assets	**110,148**

1 of which Euro 18,134 thousand recycled through profit or loss for currency translation and Euro 5,197 thousand for fair value measurement of financial instruments

In the 4th quarter of 2023, MVV also disposed of its shares in Frassur GmbH and AVA Abwasser- und Verwertungsanlagen GmbH, both in Mörfelden-Walldorf, and in MDW Muldendienst West GmbH, Frankfurt am Main. Further retirements among fully consolidated companies relate to five mergers and to the sale of three project companies at the Juwi subgroup. The aggregate carrying amounts of the assets and liabilities thereby disposed of at the aforementioned companies are presented in the following table. Overall, MVV received liquid funds of Euro 18,269 thousand from the sales of the six companies referred to above.

Net assets

	Other companies sold
Euro 000s	Value upon disposal
Intangible assets	3,619
Property, plant and equipment	990
Right-of-use assets	4,493
Trade receivables	2,048
Other receivables and assets	575
Deferred tax assets	90
Inventories	10,597
Cash and cash equivalents	2,301
Provisions	136
Financial debt	6,353
Other liabilities	711
Deferred tax liabilities	84
Trade payables	17,860
Less other comprehensive income	– 258
Less minority interests	– 88
Net assets	**– 85**

In the 1st quarter of the year under report, Juwi Energie Rinnovabili Srl, Verona, Italy, a company fully consolidated within the MVV Group, acquired 70 % of the shares in GEMdev Srl, Milan, Italy. This company, which is a project company with the objectives of developing and marketing photovoltaics systems in Italy, has been fully consolidated since its acquisition. Additions to fully consolidated companies also include five companies which were previously included as other majority shareholdings and have now been fully consolidated. In the 3rd quarter of the year under report, the company Juwi UW GmbH, Wörrstadt, was founded with the objective of pooling all substations to be built by Juwi GmbH in future.

In the 3rd quarter of the year under report, MVV Energie AG sold its 48.40 % shareholding in Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt, to Ingolstädter Kommunalbetriebe AöR, Ingolstadt. Furthermore, the 55 % stake held in the at-equity shareholding SWT Solar GmbH, Trier, was also sold in the 3rd quarter. A further retirement among at-equity companies relates to the liquidation of Renabi GmbH, Mannheim, in the 4th quarter of the year under report. The shareholding held in Renabi GmbH previously amounted to 51 %.

The sole addition to at-equity companies involves a company at the Juwi subgroup which was previously included under other majority shareholdings and has been consolidated using the equity method since the 3rd quarter of the year under report.

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 reporting rate. Consistent with the respective allocation, currency translation differences are recognised either in earnings from operations or the financial result.

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 2023**	30 Sep 2022	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Czech crown (CZK)	24.339	24.549	23.974	24.817
British pound (GBP)	0.865	0.883	0.870	0.847
US dollar (USD)	1.059	0.975	1.068	1.084
South African rand (ZAR)	19.981	17.535	19.411	17.131

Source: European Central Bank

Accounting policies

Assets and liabilities are measured at amortised cost in all cases apart from certain assets, liabilities and derivative financial instruments which IFRS 9 or another relevant standard require to be measured at fair value where this can be reliably determined. Non-current receivables and debt are initially 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 when required by International Accounting Standards and are presented separately in the statement of changes in equity.

The underlying principles of recognition and measurement applied in the preparation of MVV's consolidated financial statements are set out below.

Intangible assets

Intangible assets were predominantly acquired in return for payment and are carried at cost, reduced where appropriate by subsidies received. They are subject to straight-line amortisation based on their pattern of consumption. For material intangible assets, scheduled amortisation is based on the following useful lives, broken down by asset classes typical to the Group:

Useful lives in years

Customer contracts and customer lists	4 – 28
Software and software licences	3 – 25
Other intangible assets	20 – 40

The useful lives stated above are reviewed and newly calculated each year.
With the exception of goodwill, there are no material intangible assets with useful lives classified as indefinite.

Decisions concerning useful lives are guided by economic considerations or contractual conditions.

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 written down but, pursuant to IAS 36, nevertheless reduced by any impairment losses. Development costs are recognised as intangible assets if the following criteria are met:

- The completion of the asset is technically feasible, so that it will be available for use or sale.
- The management has the intention to complete the asset so that it will be available for use or sale.
- The company has the ability to use or sell the asset.
- The company can demonstrate how the asset will generate probable future economic benefits.
- Adequate technical, financial and other resources are available to complete development and to use or sell the asset.
- The expenditure attributable to the asset during its development can be reliably measured.

Directly allocable costs that are capitalised include employee expenses and a commensurate share of relevant overheads. Capitalised development costs are amortised from the time at which the asset is available for use. Research and development expenses that do not satisfy the aforementioned criteria are recognised as expenses in the income statement. Development expenses previously expensed are not recognised as assets in subsequent periods.

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 if the asset in question requires a significant period of at least twelve months to be prepared for its intended use or sale. During the preparation phase, the net balance of income and expenses is capitalised.

The cost of assets is reduced by public subsidies received (investment grants). Public subsidies are recognised when it is sufficiently 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 recognised on a time-apportioned basis in the year of addition. Scheduled depreciation for material items of property, plant and equipment is based on the following useful lives, broken down into asset classes typical to the Group:

Useful lives in years

Buildings	16 – 50
Technical equipment and machinery	10 – 44
Transmission grids	14 – 50
Plant and operating equipment	5 – 33

The useful lives stated above are reviewed and newly calculated each year.

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 .

Impairment test of intangible assets, property, plant and equipment and investment properties

The carrying amounts of intangible assets, property, plant and equipment and investment properties are assessed for indications of impairment at each balance sheet date. An impairment test pursuant to IAS 36 is performed if there are any such indications. 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.

If 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 for which an independent third party would acquire the cash generating unit at the balance sheet date is stated.

The fair values/values in use of the cash generating units are determined on the basis of 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 years, as well as on expectations as to future market develop-ments. 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 global markets, the price of electricity and gas on 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 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 falls short of its carrying amount. Write-ups are recognised if the reasons for impairment losses recognised in the past no longer apply and the recoverable amount of the asset exceeds its carrying amount in an impairment test. Assets are written up to a maximum of amortised cost.

Goodwill is not written up. If the carrying amount of a cash generating unit to which goodwill has been allocated exceeds 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.

Other non-financial receivables and assets

Other non-financial receivables and assets include contract assets for project development, other contract assets, other tax receivables, prepaid expenses, emission rights and miscellaneous other non-financial assets.

Other contract assets are measured at amortised cost. The impairment requirements of IFRS 9 also apply to contract assets. A contract asset embodies a company's claim to consideration in return for goods or services which it has transferred to the customer. A contract asset becomes a receivable when the company's claim to consideration becomes unconditional. That is the case when the maturity of the consideration is dependent only on the passage of time.

CO_2 emission rights with remaining terms of less than a year which require purchase or exchange by MVV constitute intangible assets that are recognised at cost as other non-financial assets. Rights allocated free of charge are recognised at Euro 0.

Further information about other non-financial receivables and assets can be found in the comments on Note 26 Other Non-Financial Receivables and Assets.

Inventories

Inventories comprise raw materials and supplies, unfinished and finished products and services and project rights, advance payments made for such and gas holdings. They are measured at the lower of cost or net sale value. Costs of acquisition or manufacture for raw materials and supplies are calculated using the average cost method. The manufacturing costs of unfinished and finished products and services and project rights comprises production-related full costs. These consist of allocable direct costs and a commensurate share of the material and production overheads required based on normal capacity utilisation rates. Risks resulting from impaired 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. Unless another standard stipulates a different form of measurement, they are measured at fair value less expected disposal costs, where this is lower than the carrying amount. Gains or losses from the measurement of individual non-current assets held for sale or disposal groups that do not constitute discontinued operations are recognised under earnings from continuing operations until their ultimate disposal.

Gains or losses from the measurement of discontinued operations and from specific assets within a discontinued operation are recognised separately under earnings from discontinued operations in the income statement. The previous year’s figures in the income statement are adjusted accordingly. The relevant assets and liabilities are recognised in the aforementioned separate line items in the balance sheet. In the cash flow statement, the cash flows from discontinued operations are recognised separately, as are the previous year’s figures. In the balance sheet, by contrast, the previous year’s figures are not adjusted.

Deferred taxes

Deferred taxes are stated for any temporary differences between the tax balance sheets and IFRS balance sheets at individual companies. These arise from the measurement of assets and liabilities for tax purposes and for external IFRS accounting, as well as from consolidated processes impacting on earnings. Any surplus of deferred tax assets from temporary differences is only recognised if it is recoverable. 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 only capitalised if utilisation of these losses carried forward is certain within a maximum forecast horizon of three years based on existing business plans. Deferred taxes are calculated by reference to 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 settlement 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 outcomes.

Provisions for CO_2 emission rights are stated at the amortised cost of the (capitalised) CO_2 emission rights held or at the forward price of CO_2 emission rights already contractually agreed. If part of the obligation is not covered by available CO_2 emission rights, or by rights contractually agreed in a forward transaction, the provision for such obligation is measured at the market price of the CO_2 emission rights at the balance sheet date.

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

Leases

Application is made of the right-of-use model for leases recognised at the lessee. Leases are recognised as right-of-use assets and corresponding lease liabilities from the time when the leased item is available for use by the Group. One exception involves contracts with terms of less than twelve months and leases for which the underlying asset is of low value. The lease payments associated with these leases are expensed on a straight-line basis over the term of the lease. Each lease instalment is divided into principal repayments and financing expenses. Financing expenses are charged to earnings over the term of the lease. The right-of-use asset is subject to straight-line depreciation over the shorter of its useful life and the term of the lease contract. Upon initial recognition, lease-related assets and liabilities are measured at present value. Lease payments are discounted at the interest rate implicit in the lease, if this can be determined, and otherwise using the lessee's incremental borrowing rate.

Lease liabilities refer to buildings, various items of technical equipment and plant and operating equipment. Vehicle leases make up the largest share of leases. Further material leases apply for office buildings, CHP units, district heat storage facilities, storage sites and licence agreements permitting the use of agricultural land and needed to operate wind turbines and the associated infrastructure. Lease liabilities include the present value of the following payments not yet made as of the provision date for the right to use such assets:

- Fixed payments less any receivable lease incentives
- Variable lease payments dependent on an index or interest rate
- Expected residual payments from residual value guarantees provided by the lessor
- The exercise price for a purchase option when the lessee is reasonably certain to exercise the option
- Penalties for the termination of the lease when the term already accounts for the possibility of the lessee exercising a termination option.

Some lease contracts include extension and termination options. Contractual components and conditions of this kind provide the Group with maximum operating flexibility. In determining the terms of the contracts, the management takes due account of all facts and circumstances which offer an economic incentive to exercise termination options. Changes of terms due to the exercising or otherwise of such options are only accounted for in the term of the contract when they are reasonably certain.

Lease contracts for operating leases in which the Group acts as the lessor are recognised through profit or loss on a straight-line basis over the term of the lease. For finance leases, however, the lessor does not count as the economic owner, as a result of which the leased item is derecognised upon the commencement of the lease. The lessor then recognises a receivable in the amount of all lease payments not yet received, including any residual value guarantee, and discounted by the interest rate implicit in the lease. Over the term of the finance lease, the lessor increases the lease receivable through profit or loss for interest income and reduces it in equity by the amount of principal payments received from the lessee.

Financial instruments

Primary financial instruments:

Financial assets, such as shares and shareholdings, loans, securities, trade receivables and payables, other cash receivables and cash and cash equivalents, are measured at fair value upon addition. Upon subsequent measurement, financial assets are recognised either at fair value or at amortised cost. In the case of subsequent measurement at amortised cost, transaction costs are distributed over the term of the financial instrument using the effective interest method. In other cases, they are expensed directly.

The fair values of financial instruments traded on organised markets are determined by reference to their market price at 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 taken of market and credit risks when determining fair values.

Subsequent recognition is determined by the contractual cash flow characteristics and the objectives of the business model in which the financial instruments are held. If the contractual cash flow characteristics of a financial instrument solely comprise payments of principal and interest, the instrument may be recognised at amortised cost using the effective interest method if the business model involves collecting contractual payments from the debtor. If, alongside the collection of contractual cash flows, the business model also involves the possibility of selling the financial instrument, then developments in the fair value of the financial instrument over and above effective interest are recognised in other comprehensive income. In recognising fair value changes in other comprehensive income, due account is taken of deferred taxes. Other business models lead to the recognition of the financial instrument at fair value through profit or loss, particularly when the contractual cash flow characteristics also comprise payments other than principal and interest. Based on their cash flow characteristics, only debt instruments qualify for irrevocable allocation to one of the aforementioned business models upon initial recognition. Any equity instruments held are generally recognised at fair value through profit or loss. If they are held without any intention to trade, the development in the fair value of the equity instrument may be presented through other comprehensive income, taking due account of deferred taxes, but may not be reclassified to the income statement upon disposal.

For financial instruments that are subject to the effective interest method, impairments that are already expected are recognised in accordance with the expected credit loss model. In the general approach, loss allowances are determined such that a distinction is made as to whether or not the default risk of a financial asset has deteriorated significantly since initial recognition. If the default risk has not changed, the loss allowance is determined on the basis of the potential loss event in the next twelve months (12-month expected loss). In the event of a significant deterioration in the default risk that can no longer be classified as low, the loss allowance is based on the lifetime expected credit loss of the financial instrument. In the simplified approach, by contrast, the loss allowance is directly based on lifetime expected credit losses. Alongside trade receivables, lease receivables and contract assets for customer contracts also require application of the simplified approach. Impairments are recognised directly in period earnings and may directly change the carrying amount of the financial instrument or be presented in an allowances schedule.

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.

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

Financial liabilities, such as financial debt, trade payables and other financial liabilities are measured at amortised cost, with application of the effective interest method where appropriate. Upon initial recognition, financial debt is carried at fair value taking due account of directly allocable transaction costs. In the case of trade payables and other financial liabilities, cost is equivalent to the transaction price or 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 option of recognising financial assets and liabilities at fair value through profit or loss upon initial recognition.

Derivative financial instruments:

Derivative financial instruments particularly 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 as asset-side or liability-side derivative financial instruments. The amounts recognised are derived from market values or using recognised valuation methods (present value method or option pricing models based on current market parameters). In particular, certain long-term energy contracts and interest rate derivatives are, where no market prices are available, measured using recognised valuation methods based on internal fundamentals. Changes in the value of currency derivatives relating to operations are recognised as income or expenses under earnings from operations, while changes in the value of interest and currency derivatives not relating to operations are recognised as income or expenses in the financial result. Changes in the value of all other derivative financial instruments are recognised as income or expenses in income from or expenses for derivative financial instruments. Derivatives deployed in cash flow hedges have to be treated separately. If they additionally meet IFRS 9 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 hedging instrument 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 those derivatives which serve to hedge a fair value and qualify as fair value hedges are recognised through profit or loss at the same time as the risk thereby hedged. For fair value hedges, 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. Fair value hedges are designated for closed foreign currency positions.

Energy trading contracts intended to hedge future commodity purchases and sales may be within the scope of IFRS 9. Financial energy trading contracts are recognised as derivative financial instruments. They are either designated as hedging instruments for cash flow hedge relationships or recognised as standalone derivatives. For physical energy trading contracts, a decision has to be taken as to whether they should be treated as derivative financial instruments pursuant to IFRS 9 or whether application is to be made of the own-use exemption. Other energy trading transactions are designated as all-in-one cash flow hedge relationships or recognised as standalone derivatives.

Energy trading contracts intended to hedge future electricity price risks for proprietary generation plants and future gas price risks for stored gas are within the scope of IFRS 9. They are designated as hedging instruments for a fair value hedge relationship.

Energy trading contracts held for trading or concluded in connection with overall risk management for all energy trading contracts are within the scope of IFRS 9. Gains and losses from these energy trading contracts are netted and recognised as income from or expenses for derivative financial instruments.

As well as considering energy trading contracts, a decision also has to be made in some cases for other energy supply contracts and energy procurement contracts to ascertain whether they require treatment as derivative financial instruments under IFRS 9 or application of the own-use exemption. If they are within the scope of IFRS 9, such contracts are recognised as standalone derivatives.

Interest swaps intended to hedge future interest rate risks are within the scope of IFRS 9. They fix the future interest payments for floating-rate financial liabilities and are designated as hedging instruments for cash flow hedge relationships. Developments in the fair value of those components of a hedging instrument that are not designated as hedging a risk from a hedged item may be recognised as hedging costs in other comprehensive income and reversed upon recognition of the hedged item through profit or loss.

Discretionary decisions in the application of accounting policies

Discretionary decisions have to be made when applying accounting policies. This has not materially influenced the values of the assets and liabilities reported in the financial statements.

The items and transactions presented in the consolidated financial statements also regularly trigger tax charges in the form of taxes on income or other types of tax. To avoid uncertainties resulting from tax risks, the items and transactions are regularly structured in line with valid statutory requirements and their interpretation in practice.

For assets due to be sold, a decision has to be taken as to whether these can be sold in their current state and whether such sale is highly likely within the next twelve months. If both are the case, the assets and any associated liabilities have to be recognised and measured as "Assets and liabilities held for sale".

Measurement uncertainties

The preparation of consolidated financial statements in accordance with IFRS requires assets and liabilities to be measured. Here, it is also necessary to make assumptions and estimates which could impact on the values stated for the assets and liabilities, income and expenses thereby recognised and the disclosure of contingent liabilities.

The following section provides information on the most important prospective 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 material adjustments will be required in the carrying amounts of assets and liabilities in the next 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 the higher of the fair value, less disposal costs, of the cash generating unit and its value in use. This is compared with the carrying amount. To estimate the recoverable amount, 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 flows. All assumptions and estimates are based on circumstances and assessments at the balance sheet date or at the relevant date in 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 key role in the assessment as to whether it will be possible to use deferred taxes.

The uncertainties arising when measuring the provisions to be recognised have been countered by applying the best possible estimates based, among other methods, 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 trade payables already incurred but not yet invoiced.

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.

Notes to Income Statement

1. Sales less electricity and natural gas taxes

Sales include all revenues generated by the Group's typical business activities. MVV's main products are electricity, heat, gas, water and waste treatment and disposal. MVV also generates significant revenues from services and photovoltaics and wind power project development. Revenues from contracts with customers are generally recognised upon delivery to the customer or upon performance of the service for the customer. Delivery is deemed complete when control has been transferred to the customer and consideration is unconditional except for the passage of time. If consideration is conditional on something other than the passage of time, the respective claims are recognised as contract assets. If consideration received is higher than the services performed, a contract liability is recognised.

If one party is essentially responsible for performing the contract, no inventory and default risks are assumed, MVV cannot influence the pricing and remuneration takes the form of a commission payment, then MVV acts as an agent. Grid operation services provided on the basis of the German Renewable Energies Act (EEG) are particularly relevant in this respect. In the case of feed-in remuneration, as grid operator MVV accepts the electricity from plant operators and makes this available to the transmission grid operator, which in turn markets it on the energy exchange. In this context, the respective sales are netted with cost of materials within the electricity product group, leading to an equivalent reduction in income and expenses. The impact of netting is dependent on the future market premium and compensation paid under the EEG legislation.

The overwhelming share of revenues from contracts with customers is performed over a period of time. The percentage of completion is generally determined using the output method. In some cases, application is also made of the input method. Here, however, it is necessary to document that this method also corresponds to the transfer of control.

Revenues from contracts with customers result from the transaction prices allocated to the respective products and services. These correspond to the value of units delivered, including estimated deferrals for units not yet read or billed as of the balance sheet date.

The average payment target usually amounts to between 14 and 30 days.

The composition of sales broken down into individual segments is presented in Note 42 Segment Reporting.

Sales from contracts with customers (external sales) are broken down by product and presented in the following table:

Sales by product group

Euro 000s	**FY 2023**	FY 2022
Electricity	2,978,618	3,208,871
Heat	492,355	437,633
Gas	1,934,142	1,228,810
Water	89,562	90,766
Project development	303,092	189,522
Other sales	821,279	767,986
	6,619,048	**5,923,588**

Timing of sales recognition

Euro 000s	FY 2023	FY 2022
Sales recognised over time	6,526,650	5,858,776
Electricity	2,978,618	3,208,871
Heat	492,355	437,633
Gas	1,934,142	1,228,810
Water	89,562	90,766
Project development	210,694	124,710
Other sales	821,279	767,986
Sales recognised at a point in time	92,398	64,812
Project development	92,398	64,812
	6,619,048	**5,923,588**

No fixed purchase volumes are agreed in many electricity, gas, heat and water supply agreements, meaning that the performance obligation involves providing and ensuring the ability to call up these products at all times. The associated sales are therefore recognised over time.

Other sales (sales by product group) mainly include revenues from waste incineration, operations management services, contracting and other sales in business fields that do not form part of MVV's core business.

Project development sales include sales from the development and the functional and turnkey construction of wind power and photovoltaics projects. Sales from the sale of project rights, including those assigned by disposal of shares in project companies, are recognised at a point in time. If further services are subsequently performed in connection with project development, the supply and construction of wind turbines and photovoltaics systems or the construction of associated infrastructure, these sales are recognised over time. For reasons of transparency, starting in this financial year project development sales have been split in the above table into sales recognised over time and sales recognised at a point in time. The previous year's figures have been adjusted accordingly. Sales of Euro 110,375 thousand were recognised in the current financial year for items that were included in net contract liabilities at the beginning of the period under report (previous year: Euro 105,957 thousand).

In group currency, sales at our foreign subsidiaries came to Euro 361,279 thousand (previous year: Euro 310,621 thousand). The increase in this share of sales is chiefly due to a higher number of projects realised abroad.

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. Income from derivative financial instruments

This line item comprises income from measurement items for derivative financial instruments deployed in operating activities. These involve commodity derivatives for electricity, gas, coal, CO_2, as well as other rights and currency derivatives. This valuation-dependent income is countered by valuation-dependent expenses. The year-on-year reduction is chiefly due to price changes and the resultant decrease in the values of energy trading transactions recognised under IFRS 9 as of the balance sheet date.

In the previous year, income from derivative financial instruments (Euro 4,635 thousand) was recognised under other operating income.

The most significant measurement item in the 2023 financial year resulted from the measurement of electricity commodity derivatives, which accounted for a 96 % share of the total line item (previous year: 85 %).

5. Other operating income

Other operating income

Euro 000s	**FY 2023**	FY 2022
Income from disposal of associates	77,643	16,094
Income from disposal of companies recognised at equity	57,745	42,354
Agency agreements and personnel supplies	27,437	9,079
Reversal of provisions	22,209	8,741
Reimbursements	21,557	4,837
Income from currency translation	17,250	12,226
Rental income	5,699	5,726
Employee benefits	4,111	3,143
Operating taxes (including energy taxes)	1,063	1,305
Income from sales of assets	958	665
Write-ups	–	2,692
Miscellaneous	21,973	19,409
	257,645	**126,271**

The income from the disposal of associates category includes income from the disposal of the Czech subgroup. In the previous year, income from the disposal of associates (Euro 16,094 thousand) was reported within other income from shareholdings.

The income from the sale of the strategic investment held in Stadtwerke Ingolstadt is reported in the income from disposal of companies recognised at equity category. In the previous year, income from the disposal of companies recognised at equity (Euro 42,354 thousand) was reported within income from companies recognised at equity.

Reimbursements include refunds of costs for insurance policies and contractual penalties.

The income from operating taxes mainly relates to refunds of energy taxes.

Income from currency translation arises in connection with the Group's operating activities.

Miscellaneous other operating income includes large numbers of other business transactions and income, such as income from recoveries and dunning charges.

Undiscounted income recognised for future lease payments is broken down into its respective maturities and presented in the following table. There are no variable lease payments not linked to an index or interest rate.

Future income from operating lease payments

Euro 000s	**FY 2023**	FY 2022
Minimum lease payments with maturities < 1 year	3,147	2,445
Minimum lease payments with maturities > 1 year and < 5 years	10,802	7,542
of which minimum lease payments > 1 year and < 2 years	2,801	2,183
of which minimum lease payments > 2 years and < 3 years	2,741	1,826
of which minimum lease payments > 3 years and < 4 years	2,643	1,815
of which minimum lease payments > 4 years and < 5 years	2,617	1,718
Minimum lease payments with maturities > 5 years	21,962	20,380

6. Cost of materials

Cost of materials

Euro 000s	**FY 2023**	FY 2022
Raw materials, supplies and purchased goods	4,544,791	4,515,565
Procurement of wind turbines and solar power systems	184,042	142,370
Purchased services	766,339	625,976
	5,495,172	**5,283,911**

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.

7. Employee benefit expenses

Employee benefit expenses

Euro 000s	**FY 2023**	FY 2022
Wages and salaries	445,467	414,967
Social security expenses and welfare expenses	72,941	71,933
Pension expenses	22,877	23,867
	541,285	**510,767**

MVV had an annual average of 6,260 employees (previous year: 6,517). This total includes 11 executives (previous year: 10), 5,922 employees (previous year: 6,167), 291 trainees (previous year: 305) and 36 interns/students (previous year: 35).

The executives are authorised representatives and division heads at MVV Energie AG.

8. Expenses for derivative financial instruments

This line item comprises expenses for measurement items for derivative financial instruments deployed in operating activities. These involve commodity derivatives for electricity, gas, coal, CO_2, as well as other rights and currency derivatives. These valuation-dependent expenses are countered by valuation-dependent income. The year-on-year reduction is chiefly due to price changes and the resultant decrease in the values of energy trading transactions recognised under IFRS 9 as of the balance sheet date. In the previous year, expenses for derivative financial instruments (Euro 4,507 thousand) were recognised under other operating expenses.

The most significant measurement item in the 2023 financial year resulted from the measurement of electricity commodity derivatives, which accounted for an 88 % share of the total line item (previous year: 96 %).

9. Other operating expenses

Other operating expenses

Euro	**FY 2023**	FY 2022
Contributions, fees and duties	47,070	38,901
Expenses for advisory services	35,255	31,245
Public relations expenses	34,746	14,049
Expenses for maintenance, repairs and IT services	30,930	21,637
Other services	24,926	12,488
Operating taxes (including energy taxes)	19,092	14,695
Expenses for currency translation	18,080	11,607
Other employee-related expenses	16,172	12,039
Rental, leasing, IT application and other recurring expenses	14,577	17,812
Pecuniary compensation to customers	11,583	–
Expenses in connection with the disposal of associates	2,222	–
Expenses for office materials and specialist literature	2,173	1,958
Miscellaneous	49,953	30,621
	306,779	**207,052**

In the 2023 financial year, the contributions, fees and duties category includes one-off expenses in a single-digit million euro amount for the windfall tax.

The expenses for operating taxes mainly include expenses for energy taxes relating to energy consumption.

Expenses for currency translation arise in connection with the Group's operating activities.

Miscellaneous other operating expenses include large numbers of other business transactions and expenses, such as vehicle pool costs and subsidy and sales promotion expenses.

10. 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 shareholdings, 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. When the reasons for impairment losses previously recognised on the at-equity carrying amount no longer apply, the carrying amount is correspondingly written up through profit or loss.

Income from companies recognised at equity and other income from shareholdings

Euro 000s	**FY 2023**	FY 2022
Income from companies recognised at equity	21,683	22,159
Income from other shareholdings	2,174	766
Income from disposals of other shareholdings	–	690
	23,857	**23,615**

11. Depreciation and amortisation

Depreciation and amortisation

Euro 000s	**FY 2023**	FY 2022
Depreciation and amortisation	206,878	211,262
of which impairment losses	–	603

12. Financing income

Financing income

Euro 000s	**FY 2023**	FY 2022
Interest income from finance leases	2,954	3,368
Income from currency translation in connection with financing facilities	3,556	18,805
Income from derivative financial instruments	3,116	26
Interest income from current account, overnight and fixed-term deposits	7,770	975
Interest income from discounting provisions and liabilities	727	9,113
Other interest and similar income	17,983	4,165
	36,106	**36,452**

The income from currency translation in connection with financing facilities mainly results from the translation of group-internal financing facilities concluded in foreign currencies.

The income from derivative financial instruments is chiefly attributable to the measurement of currency derivatives serving to hedge group-internal financing facilities concluded in foreign currencies.

The increase in interest income from current account, overnight and fixed-term deposits is due among other factors to the higher level of interest rates.

The change in interest income from discounting provisions and liabilities principally results from a financial liability recognised at fair value through profit or loss in the previous year due to an increase in the discount rate applied.

The increase in other interest and similar income is primarily due to higher interest income resulting from the development in margins deposited in combination with the development in interest rates.

13. Financing expenses

Financing expenses

Euro 000s	**FY 2023**	FY 2022
Interest expenses for current account, non-current and current loans	35,334	40,885
Expenses for currency translation in connection with financing facilities	18,786	3,595
Expenses for derivative financial instruments	213	10,801
Interest expenses for compounding of provisions	3,796	1,154
Interest expenses for compounding lease liabilities	3,885	3,986
Other interest and similar expenses	15,396	11,255
	77,410	**71,676**

The other interest and similar expenses were reduced by Euro 1,011 thousand due to the capitalisation of borrowing interest (previous year: Euro 494 thousand). The financing cost thereby assumed amounted to around 1.0 % in the 2023 financial year and to between 1.8 % and 2.2 % in the previous year.

The reduction in interest expenses for current account, non-current and current loans is mainly due to the reduction in liabilities to banks.

The expenses for currency translation in connection with financing facilities chiefly result from the translation of group-internal financing facilities concluded in foreign currencies.

The expenses for derivative financial instruments are largely attributable to the measurement of currency derivatives serving to hedge group-internal financing facilities concluded in foreign currencies.

The expenses for compounding provisions principally relate to long-term personnel provisions.

The increase in other interest and similar expenses is primarily due to higher interest expenses resulting from the development in margins received in combination with the development in interest rates.

14. Taxes on income

Taxes on income

Euro 000s	**FY 2023**	FY 2022
Current taxes	228,005	67,752
Deferred taxes	40,555	– 79,149
	268,560	**– 11,397**

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

Deferred taxes in Germany are calculated on the basis of tax rates applicable at individual companies. These result from the unchanged corporate income tax rate of 15 %, the unchanged solidarity surcharge of 5.5 % and the applicable trade tax rate (currently 12 % to 16 %). 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.

Deferred tax expenses are due on the one hand to tax expenses of Euro 7,059 thousand (previous year: Euro 10,048 thousand) attributable to changes in the deferred tax assets stated for losses carried forward and on the other to deferred tax expenses of Euro 33,496 thousand (previous year: Euro 89,197 thousand) attributable to the arising and/or reversal of temporary differences.

Tax expenses were reduced by Euro 3,838 thousand by using tax losses not previously recognised (previous year: Euro 4,293 thousand). The following table presents the reconciliation of expected tax expenses with those actually reported. 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 2023**	FY 2022
Earnings before taxes (EBT)	**1,021,766**	**– 770**
Expected tax expenses based on a tax rate of 30.3 % (previous year: 30.3 %)	**309,595**	**– 233**
Deviations resulting from trade tax assessment base	2,232	1,749
Deviations from expected tax rate	– 16,793	3,390
Utilisation of losses carried forward, change in write-down for losses and losses for which no deferred taxes are recognised	– 3,229	7,922
Non-deductible expenses	20,862	2,407
Tax-exempt income	– 46,984	– 20,784
Income from companies recognised at equity	– 2,879	– 4,403
Permanent differences	7,109	1,735
Taxes for previous years	– 5,208	– 3,188
Miscellaneous	3,855	8
Effective tax expenses	**268,560**	**– 11,397**
Effective tax rate (%)	**26.3**	**1,480.1**

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

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

	FY 2023	FY 2022
Share of earnings attributable to MVV Energie AG shareholders (Euro 000s)	1,045,110	– 292,105
Number of shares (weighted average in 000s)	65,907	65,907
Earnings per share (Euro)	15.86	– 4.43
Dividend per share (Euro)	1.15	1.05
One-off dividend per share (Euro)	0.30	–

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

The dividend for the 2023 financial year corresponds to the proposal made by the Executive Board and is dependent on approval by the Annual General Meeting on 8 March 2024. The proposal foresees distributing a regular dividend of Euro 75,793 thousand, as well as a one-off dividend of Euro 19,772 thousand to mark the 150th anniversary of MVV and its predecessor companies. The Supervisory Board will adopt its dividend proposal for submission to the Annual General Meeting in December 2023. The proposals concerning the level of dividend and the appropriation of profit for the 2022 financial year were accepted by the Annual General Meeting on 10 March 2023.
A dividend of Euro 69,202 thousand was distributed.

Notes to Balance Sheet

16. Intangible assets

Intangible assets comprise customer contracts, software and other intangible assets, goodwill and advance payments. As in the previous year, no intangible assets are subject to restrictions on disposal.

MVV performs only a low volume of research and development. The volume of research and development expenses qualifying under IFRS in the 2023 financial year amounted to Euro 414 thousand (previous year: Euro 987 thousand). Development expenses capitalised under IAS 38 came to Euro 0 in the year under report (previous year: Euro 34 thousand). The development expenses capitalised in the previous year mainly involved the development of a global project database for solar and wind power projects at the Juwi subgroup.

The goodwill impairment tests performed in the 2023 financial year were based on determining the recoverable amounts of the groups of cash generating units to which goodwill was allocated. These still correspond to the legal subgroups.

Where no market prices or other binding indicators for the value of the units are available, their fair values less costs to sell are determined using discounted cash flow methods. These correspond to Level 3 measurements in the IFRS 13 hierarchy. Taking due account of corresponding expected prices from relevant and validated market forecasts, the historic cash flows of the units are extrapolated over a forecast period comprising three detailed planning years and two subsequent years and discounted using discount rates after taxes (weighted costs of capital) of 6.0 % to 8.8 % (previous year: 5.1 % to 7.7 %). As in the previous year, a growth rate of 0.5 % has been assumed for the perpetuity included in the calculation.

Within a sensitivity analysis, the discount rate and the growth rate were each varied by 0.5 percentage points. At one cash generating sales unit, the surplus cover of the recoverable amount stood at Euro 2,669 thousand based on weighted costs of capital of 6.8 %. If the discount rate after taxes were to rise by 0.1 percentage point or if the growth rate were to decrease by 0.1 percentage point, with all other assumptions and parameters remaining unchanged, the carrying amount of this cash generating unit would exceed its recoverable amount.

The carrying amounts stated for goodwill are structured as follows:

Goodwill carrying amounts

Euro 000s	**30 Sep 2023**	30 Sep 2022
Juwi subgroup	84,497	79,076
Energieversorgung Offenbach subgroup	65,068	68,582
MVV Enamic subgroup	65,305	65,317
MVV Energie CZ subgroup	–	6,624
MVV Umwelt subgroup	3,081	3,080
Other subgroups	8,238	8,238
	226,189	**230,917**

The addition to goodwill at the Juwi subgroup is mainly due to the full consolidation of GEMdev S.r.l. The sale of the companies Frassur GmbH and MDW Muldendienst West GmbH led goodwill at the Energieversorgung Offenbach subgroup to decrease by Euro 3,514 thousand. The minor reduction of Euro 12 thousand at the MVV Enamic subgroup is attributable to the retrospective adjustment made to the initial consolidation balance sheet for the companies Avantag Energy S.à.r.l. and Decartec GmbH (previously: Philipp Rass Energy GmbH) in the past financial year. The disposal of the Czech subgroup led to a reduction in goodwill by Euro 6,624 thousand.

Intangible assets

Euro 000s	Customer contracts, software and other intangible assets	Goodwill	Advance payments	**Total**
Gross value at 1 October 2021	330,204	263,792	12,346	606,342
Change in scope of consolidation	– 1,435	21,711	– 77	20,199
Currency adjustments	– 371	393	2	24
Additions	1,836	–	15,960	17,796
Disposals	– 58,541	–	– 33	– 58,574
Reclassifications	3,149	–	– 2,941	208
Gross value at 30 September 2022	**274,842**	**285,896**	**25,257**	**585,995**
Amortisation at 1 October 2021	– 263,794	– 54,885	–	– 318,679
Change in scope of consolidation	3,485	–	–	3,485
Currency adjustments	– 3	– 94	–	– 97
Scheduled amortisation	– 12,692	–	–	– 12,692
Impairment losses	– 339	–	–	– 339
Disposals	58,532	–	–	58,532
Amortisation at 30 September 2022	**– 214,811**	**– 54,979**	**–**	**– 269,790**
Net value at 30 September 2022	**60,031**	**230,917**	**25,257**	**316,205**
Gross value at 1 October 2022	274,842	285,896	25,257	585,995
Change in scope of consolidation	– 4,875	– 6,958	– 3	– 11,836
Currency adjustments	472	162	–	634
Additions	3,495	–	10,940	14,435
Disposals	– 6,922	–	– 1,847	– 8,769
Reclassifications	3,262	–	– 3,262	–
Gross value at 30 September 2023	**270,274**	**279,100**	**31,085**	**580,459**
Amortisation at 1 October 2022	– 214,811	– 54,979	–	– 269,790
Change in scope of consolidation	4,361	2,114	–	6,475
Currency adjustments	– 139	– 46	–	– 185
Scheduled amortisation	– 11,136	–	–	– 11,136
Disposals	6,847	–	–	6,847
Amortisation at 30 September 2023	**– 214,878**	**– 52,911**	**–**	**– 267,789**
Net value at 30 September 2023	**55,396**	**226,189**	**31,085**	**312,670**

17. 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 2021	1,040,821	5,178,926	187,864	248,547	6,656,158
Change in scope of consolidation	–	– 9,471	– 1,494	–	– 10,965
Currency adjustments	1,152	– 181	177	151	1,299
Additions	2,472	70,653	7,950	208,803	289,878
Subsidy payments received	– 1,014	– 17,612	– 33	–	– 18,659
Disposals	– 4,181	– 29,951	– 15,884	– 2,385	– 52,401
Reclassifications	13,607	88,553	2,543	– 103,086	1,617
IFRS 5 reclassifications	– 1,047	–	–	–	– 1,047
Gross value at 30 September 2022	**1,051,810**	**5,280,917**	**181,123**	**352,030**	**6,865,880**
Depreciation at 1 October 2021	– 496,663	– 3,128,422	– 142,552	– 229	– 3,767,866
Change in scope of consolidation	–	2,104	723	–	2,827
Currency adjustments	– 1,753	– 2,704	– 141	– 9	– 4,607
Scheduled depreciation	– 25,303	– 145,770	– 9,582	–	– 180,655
Write-ups	787	1,750	155	–	2,692
Impairment losses	–	–	–	– 264	– 264
Disposals	2,408	19,300	15,672	–	37,380
Reclassifications	– 27	27	–	–	–
Depreciation at 30 September 2022	**– 520,551**	**– 3,253,715**	**– 135,725**	**– 502**	**– 3,910,493**
Net value at 30 September	**531,259**	**2,027,202**	**45,398**	**351,528**	**2,955,387**
Gross value at 1 October 2022	1,051,810	5,280,917	181,123	352,030	6,865,880
Change in scope of consolidation	– 146,221	– 201,461	– 5,800	– 8,280	– 361,762
Currency adjustments	6,010	9,463	– 54	194	15,613
Additions	4,978	66,561	11,413	223,579	306,531
Subsidy payments received	– 47	– 4,838	– 133	–	– 5,018
Disposals	– 1,214	– 45,094	– 3,225	– 1,426	– 50,959
Reclassifications	5,220	131,200	1,558	– 132,266	5,712
Gross value at 30 September 2023	**920,536**	**5,236,748**	**184,882**	**433,831**	**6,775,997**
Depreciation at 1 October 2022	– 520,551	– 3,253,715	– 135,725	– 502	– 3,910,493
Change in scope of consolidation	77,128	142,885	5,183	242	225,438
Currency adjustments	– 2,134	– 4,328	39	– 4	– 6,427
Scheduled depreciation	– 22,767	– 145,308	– 10,353	–	– 178,428
Disposals	614	14,506	2,840	–	17,960
Reclassifications	–	– 390	390	–	–
Depreciation at 30 September 2023	**– 467,710**	**– 3,246,350**	**– 137,626**	**– 264**	**– 3,851,950**
Net value at 30 September 2023	**452,826**	**1,990,398**	**47,256**	**433,567**	**2,924,047**

The property, plant and equipment presented mainly relates to internally used property, plant and equipment. In the non-current asset schedule, distribution grids are allocated to the technical equipment and machinery category.

As in the previous year, no property, plant or equipment was provided as security for financial debt in the 2023 financial year. Property, plant and equipment of Euro 73,465 thousand is subject to restrictions on disposal (previous year: Euro 81,966 thousand).

Subsidy payments received mainly involve government grants received in the 2023 financial year chiefly in connection with urban planning measures for the relocation of gas and water pipelines and the laying of cables. Further government grants related to CHP subsidies and the expansion of charging infrastructure. There are no conditions that have not been met or other performance uncertainties in connection with these subsidy payments.

Advance payments account for an immaterial share of advance payments and construction in progress. The largest additions to advance payments and construction in progress in the 2023 financial year include the construction of plants to generate green heat, the construction of a sewage sludge treatment plant and measures to extend and renew our distribution grids to secure supply reliability.

Property, plant and equipment also include assets leased by MVV as the lessor within operating leases. At 30 September 2023, the carrying amounts attributable to these assets were subdivided as follows: land and buildings of Euro 7,050 thousand (previous year: Euro 9,808 thousand); technical equipment and machinery of Euro 6,359 thousand (previous year: Euro 4,793 thousand); advance payments and construction in progress of Euro 16 thousand (previous year: Euro 185 thousand); and plant and operating equipment of Euro 242 thousand (previous year: Euro 161 thousand).

18. Leases as lessee

The development in right-of-use assets recognised in connection with leased items is presented in the table below:

Right-of-use assets

Euro 000s	Land and buildings	IT hardware and software	Vehicles	Technical equipment and machinery	Plant and operating equipment	Other leased items	**Total**
Opening balance at 1 October 2021	122,719	1,175	5,656	25,124	16	133	154,823
Depreciation and amortisation	– 11,684	– 566	– 2,764	– 2,174	– 10	– 115	– 17,313
Additions	14,038	281	3,130	941	16	19	18,425
Other changes	– 5,437	– 1	– 1,150	– 3,934	–	– 2	– 10,524
Closing balance at 30 September 2022	**119,636**	**889**	**4,872**	**19,957**	**22**	**35**	**145,411**
Opening balance at 1 October 2022	119,636	889	4,872	19,957	22	35	145,411
Depreciation and amortisation	– 12,019	– 547	– 3,115	– 1,590	– 13	– 31	– 17,315
Additions	11,848	580	6,543	374	30	104	19,479
Other changes	– 6,401	– 148	– 628	–	– 4	– 1	– 7,182
Closing balance at 30 September 2023	**113,064**	**774**	**7,672**	**18,741**	**35**	**107**	**140,393**

Further disclosures about the leases recognised in MVV's capacity as lessee are presented in the following table:

Disclosures on leases (as lessee)

Euro 000s	**FY 2023**	FY 2022
Interest expenses for lease liabilities	3,885	3,986
Outflow of cash for leases	15,155	17,468
Expenses for short-term leases	1,829	1,048
Expenses for low-value leases	4,546	3,481
Expenses for variable lease payments	52	74
Income from sub-lease arrangements	140	85

With regard to future lease payments, the windfarms in some cases face risks resulting from variable leasehold payments that are dependent on the amount of feed-in revenues. Further risks involve future developments in consumer price indices, to which lease payments are in some cases linked.

In the previous financial year, MVV had only one sale and leaseback transaction which was concluded in order to procure liquidity. In the current financial year, by contrast, there are no sale and leaseback transactions.

19. Investment properties

Investment properties involve a piece of land let out in the USA. Rental income in the 2023 financial year amounted to Euro 93 thousand (previous year: Euro 101 thousand). As in the previous year, direct operating expenses amounted to Euro 0 thousand. The fair value of the investment property approximates to its carrying amount.

Investment properties

Euro 000s	**FY 2023**	FY 2022
Gross value at 1 October	2,911	2,451
Currency adjustments	– 233	460
Gross value at 30 September	**2,678**	**2,911**
Depreciation at 1 October	–	–
Depreciation at 30 September	**–**	**–**
Net value at 30 September	**2,678**	**2,911**

20. Joint ventures

MVV operates joint ventures with partners. In view of its size and its influence on the Group, the following company has been identified as a material joint venture:

Grosskraftwerk Mannheim AG operates what is one of Europe's most efficient hard-coal-fired plants in Mannheim. Overall, MVV 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.

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

Statement of comprehensive income for material joint venture

Euro 000s	Grosskraftwerk Mannheim AG, Mannheim **Financial year**	Grosskraftwerk Mannheim AG, Mannheim Previous year
Sales excluding energy taxes	1,541,759	1,007,201
Scheduled depreciation and amortisation	– 114,982	– 117,064
Interest income	69	–
Interest expenses	– 30,456	– 37,087
Income tax expenses/income	– 13,916	– 23,000
Annual net income	24,245	30,968
Other comprehensive income	145,180	9,693
Total comprehensive income for period	**169,425**	40,661

Further key financial figures for material joint venture

Euro 000s	Grosskraftwerk Mannheim AG, Mannheim **Financial year**	Grosskraftwerk Mannheim AG, Mannheim Previous year
Assets	**2,070,786**	**2,017,183**
Non-current assets	1,266,125	1,427,019
Current assets	804,661	590,164
of which cash and cash equivalents	36,182	264
Equity and debt	**2,070,786**	**2,017,183**
Equity	346,289	176,864
Non-current provisions	507,149	733,023
Non-current debt and other liability items	467,384	530,425
of which non-current financial debt	380,000	480,000
Current provisions	498,520	437,204
Current debt and other liability items	251,444	139,667
of which current financial debt	56,796	69,870

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

Euro 000s	Grosskraftwerk Mannheim AG, Mannheim **Financial year**	Grosskraftwerk Mannheim AG, Mannheim Previous year
Net assets at 1 October	176,864	136,203
Profit/loss for period	24,245	30,968
Other comprehensive income	145,180	9,693
Net assets at 30 September	**346,289**	**176,864**
Group share of net assets	96,961	49,522
Other items	1,897	1,897
Carrying amount of interest in joint venture	**98,858**	**51,419**

Other comprehensive income at the material joint venture includes items resulting from the measurement of pension obligations.

The consolidated joint venture Grosskraftwerk Mannheim AG has a financial year ending on 31 December, and thus deviating from MVV's financial year. Its results have been recognised at the Group accordingly. As this company involves a power a power plant 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 price is available.

Stadtwerke Ingolstadt Beteiligungen GmbH was a material joint venture for MVV until its disposal in the 3rd quarter of the year under report. The carrying amount of the interest in the previous year amounted to Euro 88,837 thousand.

The aggregate profit/loss, total comprehensive income and carrying amounts of 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	1,549	2,671
Other comprehensive income	– 1,836	1,608
Total comprehensive income for period	– 287	4,279
Carrying amount of interest in non-material joint ventures	**40,030**	**39,339**

21. Associates

The aggregate profit/loss, 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	3,875	3,422
Total comprehensive income for period	3,875	3,422
Carrying amount of interest in non-material associates	**15,117**	**14,823**

The income from shareholdings collected by MVV from associates in the 2023 financial year amounted to Euro 595 thousand (previous year: Euro 962 thousand).

MVV's share of the contingent liabilities at associates amounted to Euro 1,437 thousand (previous year: Euro 1,521 thousand).

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

Given their size and influence on the Group, the following companies have been identified as material subsidiaries with non-controlling interests: Stadtwerke Kiel AG, Kiel, and Energieversorgung Offenbach AG, Offenbach am Main.

The statements of comprehensive income and further key financial information concerning the non-controlling interests in the companies are presented in the following tables. The figures stated represent amounts prior to consolidation.

Statement of comprehensive income for subsidiaries with non-controlling interests - Energieversorgung Offenbach AG

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Sales excluding energy taxes	668,043	521,402
Annual net income (+) / deficit (–)	– 268,456	271,641
Other comprehensive income	– 110,471	79,173
of which fair value measurement of financial instruments	– 111,013	72,377
of which actuarial gains and losses	542	6,796
Total comprehensive income for period	**– 378,927**	**350,814**
Total comprehensive income attributable to non-controlling interests	– 189,459	175,403
Dividends paid (to non-controlling shareholders)	10,666	8,963

Further key financial figures for subsidiaries with non-controlling interests - Energieversorgung Offenbach AG

Euro 000s	**30 Sep 2023**	30 Sep 2022
Assets	**544,215**	**1,179,403**
Non-current assets	344,692	563,984
Current assets	199,523	615,419
of which cash and cash equivalents	45,911	110,663
Equity and debt	**544,215**	**1,179,403**
Equity	177,874	578,135
of which fair value measurement of financial instruments	– 11,584	99,429
of which actuarial gains and losses	2,121	1,579
Non-current provisions	17,189	22,026
Non-current debt and other liability items	165,618	264,206
of which non-current financial debt	112,884	124,366
Current provisions	10,540	9,097
Current debt and other liability items	172,994	305,939
of which current financial debt	15,822	10,974

Statement of comprehensive income for subsidiaries with non-controlling interests - Stadtwerke Kiel AG

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022
Sales excluding energy taxes	1,549,334	1,521,710
Annual net income (+) / deficit (–)	– 350,940	324,874
Other comprehensive income	– 685	9,387
of which fair value measurement of financial instruments	– 867	5,324
of which actuarial gains and losses	182	4,063
Total comprehensive income for period	**– 351,625**	**334,261**
Total comprehensive income attributable to non-controlling interests	– 172,296	163,788
Dividends paid (to non-controlling shareholders)	10,068	11,553

Further key financial figures for subsidiaries with non-controlling interests - Stadtwerke Kiel AG

Euro 000s	**30 Sep 2023**	30 Sep 2022
Assets	**1,030,718**	**2,318,507**
Non-current assets	757,681	1,145,131
Current assets	273,037	1,173,376
of which cash and cash equivalents	70,643	320,014
Equity and debt	**1,030,718**	**2,318,507**
Equity	367,735	739,906
of which fair value measurement of financial instruments	3,182	4,049
of which actuarial gains and losses	– 65	– 246
Non-current provisions	31,577	25,291
Non-current debt and other liability items	215,745	583,646
of which non-current financial debt	128,971	230,341
Current provisions	17,074	17,434
Current debt and other liability items	398,587	952,230
of which current financial debt	104,651	32,437

In the period under report, total non-controlling interests in the equity of subsidiaries amounted to Euro 300,713 thousand (previous year: Euro 728,278 thousand), of which Euro 172,732 thousand (previous year: Euro 355,249 thousand) related to Stadtwerke Kiel AG, Kiel, Euro 69,492 thousand (previous year: Euro 269,740 thousand) to Energieversorgung Offenbach AG, Offenbach am Main, and Euro 58,489 thousand (previous year: Euro 103,289 thousand) to non-material subsidiaries.

23. Other financial assets

Other financial assets mainly comprise other shareholdings that are recognised at fair value through profit or loss. This line item also includes interests in associates, as well as associates and joint ventures recognised as other shareholdings to the extent that these are recognised at amortised cost due to materiality considerations.

The development in other financial assets is presented in Note 10 Income from Companies Recognised at Equity and Other Income from Shareholdings and Note 41 Financial Instruments.

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

24. Asset-side derivative financial instruments

The Group concludes commodity derivatives for electricity, gas, coal and CO_2, as well as other certificates and currency derivatives, in connection with its operating activities. In its financing activities, the Group concludes interest and currency derivatives to limit risks.

Asset-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Commodity derivatives	493,245	2,999,358	3,492,603	3,707,321	13,656,228	17,363,549
Interest derivatives	36,686	4,418	41,104	50,754	2,718	53,472
Currency derivatives	301	2,346	2,647	6,469	3,399	9,868
	530,232	**3,006,122**	**3,536,354**	**3,764,544**	**13,662,345**	**17,426,889**

Derivative financial instruments have been broken down into their respective hedge relationships and counterparties in the following tables.

Asset-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Asset-side derivative financial instruments	530,232	3,006,122	3,536,354	3,764,544	13,662,345	17,426,889
of which not involving IFRS 9 hedges	307,907	2,328,590	2,636,497	2,071,343	10,243,546	12,314,889
of which involving IFRS 9 hedges	222,325	677,532	899,857	1,693,201	3,418,799	5,112,000

Asset-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Asset-side derivative financial instruments						
from third parties	530,232	3,006,122	3,536,354	3,762,927	13,661,035	17,423,962
from companies recognised at equity	–	–	–	1,617	1,310	2,927
	530,232	**3,006,122**	**3,536,354**	**3,764,544**	**13,662,345**	**17,426,889**

Derivative financial instruments decreased sharply in value compared with the previous year. This was principally due to significant movements in market prices and the resultant reduction in the fair values of energy trading transactions recognised under IFRS 9.

In the previous year, derivative financial instruments (non-current: Euro 3,764,554 thousand; current: Euro 13,662,345 thousand) formed part of the other receivables and assets (including derivative financial instruments) line item in the balance sheet.

Further information can be found in Note 41 Financial Instruments.

25. Other financial receivables and assets

Other financial receivables and assets have been broken down into their respective contents and counterparties in the following tables.

Other financial receivables and assets

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Receivables from security deposits for energy trading transactions	–	138,982	138,982	–	36,235	36,235
Receivables from finance leases	42,545	9,777	52,322	43,601	9,435	53,036
Suppliers with debit balances	–	6,318	6,318	–	7,580	7,580
Loans	13,639	2,387	16,026	6,539	1,973	8,512
Cash investments	–	155,783	155,783	–	–	–
Miscellaneous other financial assets	4,326	7,781	12,107	5,134	7,346	12,480
	60,510	**321,028**	**381,538**	**55,274**	**62,569**	**117,843**

Other financial receivables and assets

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Other financial receivables and assets						
from third parties	46,942	319,409	366,351	48,982	25,017	73,999
from other majority shareholdings	4,913	1,049	5,962	4,174	1,317	5,491
from companies recognised at equity	8,304	570	8,874	1,742	36,235	37,977
from other shareholdings	351	–	351	376	–	376
	60,510	**321,028**	**381,538**	**55,274**	**62,569**	**117,843**

To reduce the counterparty risk involved in highly fluctuating fair values of energy trading contracts, security deposits are exchanged on the European Energy Exchange (EEX) and Intercontinental Exchange (ICE) marketplaces and with one external partner. These involve margins that are included in the receivables from security deposits for energy trading transactions line item. Receivables from security deposits rose year-on-year to Euro 138,982 thousand (previous year: Euro 36,235 thousand).

Loans are measured at amortised cost.

Cash investments, which involve fixed-term deposits with terms of more than three months and less than one year, are measured at amortised cost.

Finance leases are recognised as receivables in the amount of the present value of minimum lease payments (net investment value). Loans and lease receivables have fixed interest rates, with an average interest rate of 5.2 % (previous year: 5.2 %). The average period for which interest rates remain fixed amounts to 4.7 years in the case of fixed-interest loans (previous year: 2.3 years) and to 5.0 years in the case of finance leases (previous year: 5.4 years).

In several contracting projects and housing concepts for data centres, MVV acts as the lessor in the context of finance lease arrangements. The reconciliation of the minimum lease payments with net investments in leases is as follows:

Reconciliation of net investments in leases

Euro 000s	**30 Sep 2023**	30 Sep 2022
Minimum lease payments with maturities < 1 year	12,565	12,105
Minimum lease payments with maturities > 1 year and < 5 years	33,890	37,814
of which minimum lease payments with maturities > 1 year and < 2 years	10,042	10,101
of which minimum lease payments with maturities > 2 years and < 3 years	9,774	10,301
of which minimum lease payments with maturities > 3 years and < 4 years	7,762	10,306
of which minimum lease payments with maturities > 4 years and < 5 years	6,312	7,106
Minimum lease payments with maturities > 5 years	19,750	14,222
Total minimum lease payments	**66,205**	**64,141**
Less financing income not yet realised	– 13,883	– 11,104
Net investments in finance leases	**52,322**	**53,037**

Further disclosures on leases involving finance lease arrangements are summarised in the following table:

Disclosures on leases involving finance leases (as lessor)

Euro 000s	**FY 2023**	FY 2022
Financing income from net investment in lease	2,954	3,368
Profit or loss on sale	– 2,145	151

The costs of acquiring contracts (customer acquisition costs), which are capitalised pursuant to IFRS 15, form part of the miscellaneous other financial assets line item. Costs relating to contract terms of less than one year are directly expensed.

These costs are amortised over the average contractual term and developed as follows:

Customer acquisition costs pursuant to IFRS 15

Euro 000s	**FY 2023**	FY 2022
Balance at 1 October	708	626
Balance at 30 September	371	708

The write-downs and maturity structures for other financial receivables and assets have been presented in Note 41 Financial Instruments.

In the previous year, other financial receivables and assets (non-current: Euro 55,274 thousand; current: Euro 62,569 thousand) formed part of the other receivables and assets (including derivative financial instruments) line item. Non-current loans (Euro 6,539 thousand) and non-current receivables from finance lease arrangements (Euro 43,601 thousand) were reported under other financial assets in the previous year.

26. Other non-financial receivables and assets

Other non-financial receivables and assets have been broken down into their respective contents and counterparties in the following tables.

Other non-financial receivables and assets

		30 September 2023			30 September 2022	
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Project development contract assets	–	48,758	48,758	–	22,695	22,695
Other contract assets	2,904	20,072	22,976	2,940	12,882	15,822
Other tax receivables	–	91,352	91,352	–	113,419	113,419
Deferred expenses and accrued income	11,178	12,061	23,239	4,999	29,319	34,318
Emission rights	–	4,562	4,562	–	1,335	1,335
Miscellaneous other non-financial assets	2,605	9,060	11,665	3,050	3,790	6,840
	16,687	**185,865**	**202,552**	**10,989**	**183,440**	**194,429**

Other non-financial receivables and assets

		30 September 2023			30 September 2022	
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Other non-financial receivables and assets						
from third parties	16,687	185,805	202,492	10,989	166,375	177,364
from companies recognised at equity	–	60	60	–	17,065	17,065
	16,687	**185,865**	**202,552**	**10,989**	**183,440**	**194,429**

Project development contract assets showed a significant increase of due to Euro 26,063 thousand due to projects not yet settled. Other contract assets rose by Euro 7,154 thousand. This increase is chiefly due to projects not yet completed in several investment projects in which MVV is acting as the general contractor.

The opening and closing balances of contract assets recognised under IFRS 15 are presented in the following table:

Contract assets

Euro 000s	**FY 2023**	FY 2022
Balance at 1 October	38,517	94,387
Balance at 30 September	71,734	38,517

Other tax receivables mainly include input tax and energy tax credits.

The reduction in deferred expenses and accrued income largely results from an advance payment made in the previous year to Grosskraftwerk Mannheim for its coal stocking measures.

Emission rights include CO_2 emission rights which have to be purchased or exchanged by MVV, as well as rights allocated free of charge. Due to the development in prices and volumes, emission rights increased by Euro 3,227 thousand.

Miscellaneous other non-financial assets include expenses of Euro 2,243 thousand for the past extension and renewal of infrastructure assets for British generation positions. 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 terms. Furthermore, this item also includes input taxes that are not yet deductible.

In the previous year, other non-financial receivables and assets (non-current: Euro 10,989 thousand; current: Euro 183,440 thousand) formed part of the other receivables and assets (including derivative financial instruments) line item.

27. Inventories

Inventories

Euro 000s	**30 Sep 2023**	30 Sep 2022
Raw materials and supplies	104,343	121,761
Finished and unfinished products and services (project rights)	83,964	94,816
Finished and unfinished products and services (other) and merchandise	67,175	56,451
Advance payments	42,801	39,703
Gas holdings	23,860	39,424
	322,143	**352,155**

Write-downs of Euro 4,556 thousand were recognised for inventories (previous year: Euro 1,195 thousand). Write-ups of Euro 636 thousand were included due to higher net disposal prices (previous year: Euro 2,015 thousand).

Advance payments relate to wind power and photovoltaics projects under construction.

Gas holdings consist of gas stored in caverns. The reduction in this line item is due to the decline in gas procurement prices compared with the previous year.

28. Trade receivables

Trade receivables

Euro 000s	**30 Sep 2023**	30 Sep 2022
Trade receivables	515,010	554,103
of which due from other majority shareholdings	131	16
of which due from companies recognised at equity	1,758	12,486
of which due from other shareholdings	1,742	694

The above table exclusively 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.

Trade receivables arise in connection with contracts with customers.

The write-downs and maturity structures for trade receivables have been presented in Note 41 Financial Instruments.

29. Income tax receivables

The income tax receivables of Euro 26,249 thousand (previous year: Euro 58,236 thousand) mainly relate to corporate income tax and trade tax refund claims. These have been recognised at nominal value.

30. Cash and cash equivalents

Cash and cash equivalents predominantly comprise balances at banks. The outflows of security deposits for counterparty default risk (margins) requiring payment by MVV in the period under report led to a reduction in cash and cash equivalents by Euro 1,400,040 thousand (previous year: inflow of Euro 595,307 thousand). The acquisition of fully consolidated companies and other business units resulted in the addition of cash and cash equivalents of Euro 80 thousand (previous year: Euro 2,049 thousand). The disposal of fully consolidated companies and other business units led to the retirement of cash and cash equivalents of Euro 11,455 thousand (previous year: Euro 2,530 thousand).

Within the framework of short-term liquidity management structures, credit balances are exclusively deposited at banks of impeccable creditworthiness.

31. Equity

The structure and development of equity are 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 with an arithmetic value of Euro 2.56 each. All registered shares are paid up in full. At 30 September 2023, the City of Mannheim directly and indirectly owned 50.10 % of the shares, while FS DE Energy GmbH held 45.08 % of the shares. The remaining 4.82 % of the shares are in free float.

Authorised Capital II: By resolution dated 8 March 2019, the Annual General Meeting of MVV Energie AG authorised the Executive Board until 7 March 2024 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 maximum total of up to 9,880,000 new individual registered shares. 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 2020, the Annual General Meeting authorised the Executive Board until 12 March 2025 to acquire treasury stock up to 10 % of the share capital existing at the time at which the Annual General Meeting adopted the resolution or, if lower, at the time at which the authorisation is exercised. The Executive Board of MVV Energie AG has not yet made any use of this authorisation.

Capital reserve: This relates to MVV Energie AG and includes external flows of funds requiring inclusion pursuant to § 272 HGB. The variance of Euro 3,705 thousand to the capital reserve presented 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 cumulative changes recognised directly in equity as a result of the fair value measurement of financial instruments, mainly relating to hedge relationships recognised under IFRS 9, as well as currency translation differences arising upon the translation of foreign financial statements and actuarial gains and losses for defined benefit pension plans. Expenses of Euro 573,217 thousand were 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 676,473 thousand). For non-controlling interests, expenses of Euro 100,444 thousand were recognised directly in equity for the fair value measurement of financial instruments (previous year: income of Euro 69,424 thousand).

32. Provisions

Provisions

Euro 000s	Balance at 1 Oct 2022	Change in scope of consoli-dation	Currency adjust-ments	Utilised	Reversed	Added	Changes within equity	Reclassi-fied	Interest compo-nent	**Balance at 30 Sep 2023**
Non-current provisions										
Pensions and similar obligations	**75,381**	**– 76**	**– 1**	**– 3,265**		**2,923**	**– 4,486**	**–**	**2,669**	**73,145**
Personnel-related obligations	8,973	– 85	1	– 1,036	– 412	1,103	–	– 507	– 125	7,912
Refurbishment, dismantling and warranty obligations	40,241	– 1,106	132	– 13	– 230	5,981	– 1,226	– 51	502	44,230
Provisions for litigation and contract risks	3,033	–	–	– 302	– 762	971	–	– 35	11	2,916
Miscellaneous contingencies	20,076	–	–	– 2,197	– 7,200	751	–	– 3,368	15	8,077
Total other provisions	**72,323**	**– 1,191**	**133**	**– 3,548**	**– 8,604**	**8,806**	**– 1,226**	**– 3,961**	**403**	**63,135**
Total non-current provisions	**147,704**	**– 1,267**	**132**	**– 6,813**	**– 8,604**	**11,729**	**– 5,712**	**– 3,961**	**3,072**	**136,280**
										–
Current provisions										**–**
Tax provisions	**1,054**	**–**	**11**	**– 518**	**– 1**	**4,261**	**–**	**–**	**–**	**4,807**
Other provisions										–
Personnel-related obligations	44,446	– 515	– 257	– 38,984	– 2,225	54,168	–	507	–	57,140
Services not yet invoiced	95,633	–	– 137	– 92,012	– 1,837	101,855	–	–	–	103,502
Refurbishment, dismantling and warranty obligations	8,972	– 109	– 245	– 1,677	– 480	1,980	–	51	–	8,492
Provisions for litigation and contract risks	8,333	– 424	– 134	– 5,001	– 1,370	1,027	–	35	–	2,466
Miscellaneous contingencies	45,531	– 710	16	– 25,147	– 7,691	30,794	–	3,368	–	46,161
Total other provisions	**202,915**	**– 1,758**	**– 757**	**– 162,821**	**– 13,603**	**189,824**	**–**	**3,961**	**–**	**217,761**
Total current provisions	**203,969**	**– 1,758**	**– 746**	**– 163,339**	**– 13,604**	**194,085**	**–**	**3,961**	**–**	**222,568**
										–
Total provisions	**351,673**	**– 3,025**	**– 614**	**– 170,152**	**– 22,208**	**205,814**	**– 5,712**	**–**	**3,072**	**358,848**

Provisions broken down by maturity

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Provisions for pensions and similar obligations	73,145	–	73,145	75,381	–	75,381
Tax provisions	–	4,807	4,807	–	1,054	1,054
Personnel-related obligations	7,912	57,140	65,052	8,973	44,446	53,419
Services not yet invoiced	–	103,502	103,502	–	95,633	95,633
Refurbishment, dismantling and warranty obligations	44,230	8,492	52,722	40,241	8,972	49,213
Provisions for litigation and contract risks	2,916	2,466	5,382	3,033	8,333	11,366
Miscellaneous contingencies	8,077	46,161	54,238	20,076	45,531	65,607
	136,280	**222,568**	**358,848**	**147,704**	**203,969**	**351,673**

As of the reporting date, tax provisions mainly include other tax provisions for value added taxes and electricity taxes.

The provisions for personnel-related obligations category comprises provisions for early retirement expenses and 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 to measure pensions and similar obligations.

The personnel-related obligations mainly include collectively agreed obligations, such as allowances, 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 services not yet invoiced category principally relates to the provision and invoicing of CO_2 costs to an at-equity company. These items have been measured on the basis of appropriate estimates.

The provisions for refurbishment, dismantling and warranty obligations 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 photovoltaics and wind power 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 utilisation is uncertain. The value is based on the most likely outcome of litigation expected on the basis of the information currently available. Furthermore, this category also includes provisions for onerous contracts.

Miscellaneous contingencies mainly include provisions for risks relating to contractual obligations for completed projects and for the renewal of infrastructure assets.

The provisions recognised are utilised in accordance with the terms to which they are allocated. Depending on their term, non-current provisions are discounted with discount rates of between 3.0 % and 4.2 % (previous year: 1.0 % and 3.8 %.

33. 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 rate and salaries of the employees thereby covered, no data 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 by 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 remuneration subject to the additional pension premium and are borne by employees and employers. The percentage rate of contribution is determined by the ZVKs. MVV expects contributions in the 2024 financial year 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 increase the mandatory contribution. Should MVV terminate its membership of the ZVKs, then they would be entitled to financial compensation. The amount of compensation 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.

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. In the 2023 financial year, payments of 38,071 thousand were made to state pension systems (previous year: Euro 37,560 thousand). Moreover, an amount of Euro 16,754 thousand was paid into defined contribution pension schemes (previous year: Euro 16,777 thousand).

Furthermore, there are direct pension obligations resulting from former collective agreements (measured in terms of duration of company service and employee remuneration), 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 used when measuring provisions for pensions and similar obligations particularly include 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.

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 2018 G Heubeck mortality tables. The main parameters used to calculate the defined benefit plans at 30 September 2023 are:

Parameter

	FY 2023	FY 2022
Discount rate	4.2 %	3.8 %
Future pay rises	2.5-3.0 %	2.5-3.0 %
Future pension increases	1.6-3.0 %	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 2023**	FY 2022
Service cost	3,270	4,127
Interest expense	2,669	1,082
	5,939	**5,209**

The interest expenses for vested pension claims are reported in the income statement under financing expenses (compounding of provisions). 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 2023			30 September 2022
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	76,642	1,261	75,381	96,870	826	96,044
Current service cost	3,270	–	3,270	4,127	–	4,127
Retrospective service cost	–	–	–	–	–	–
Interest expenses (interest income)	2,669	–	2,669	1,082	–	1,082
Remeasurement						
(i) Income from plan assets (excluding amounts included in interest income from plan assets)	–	32	– 32	–	8	– 8
(ii) Actuarial gains/losses						
of which due to changes in financial assumptions	– 4,664	– 21	– 4,643	– 35,955	– 26	– 35,929
of which due to changes in demographic assumptions	–	–	–	–	–	–
of which due to changes in experience adjustments	156	–	156	502	–	502
Payments made to beneficiaries	– 3,265	–	– 3,265	– 3,233	–	– 3,233
Employer contributions	–	315	– 315	–	453	– 453
Change in scope of consolidation	– 76	–	– 76	–	–	–
Reclassifications	–	–	–	13,249	–	13,249
Balance at 30 September	**74,732**	**1,587**	**73,145**	**76,642**	**1,261**	**75,381**

The defined benefit pension obligations at the Group are countered by a low volume of plan assets. The amount of provision recognised in the balance sheet is calculated as follows:

Calculation of provisions

Euro 000s	**FY 2023**	FY 2022
Present value of defined benefit obligation	74,732	76,642
Fair value of plan assets	1,587	1,261
Provisions recognised at 30 September	**73,145**	**75,381**

The plan assets mainly 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 and 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 2023**	FY 2022
Accumulated actuarial gains (+) and losses (-) recognised in equity at 1 October	1,354	– 20,720
Actuarial gains (+) and losses (-) recognised in equity	1,821	22,074
Accumulated actuarial gains (+) and losses (-) recognised in equity at 30 September	**3,175**	**1,354**

Experience adjustments to the present value of the 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 5,382 thousand are forecast for existing pension obligations in the 2024 financial year.

In the financial year, use was made of a discount rate appropriate to the expected weighted remaining term of 13 years.

The expected maturity of undiscounted pension payments at the balance sheet date was as follows:

Expected pension payments

Euro 000s	
2024	5,382
2025	6,581
2026	10,816
2027	4,183
2028	5,,557
>2028	76,503
	109,022

The sensitivity analysis is based on changes in one assumption while all other assumptions remain constant. That 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 when preparing 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	0.5	Reduction by 6 %	Increase by 6 %
Future pay rises	0.5	Increase by 1 %	Reduction by 1 %
Future pension increases	0.5	Increase by 2 %	Reduction by 2 %
Mortality	1 year	Increase by 3 %	–

34. Financial debt

Financial debt

			30 September 2023			30 September 2022
Euro 000s	Non-current	Current	Total	Non-current	Current	Total
Liabilities						
to banks	1,379,073	251,057	1,630,130	1,581,379	162,744	1,744,123
in connection with leases	122,468	14,302	136,770	125,463	14,748	140,211
to other majority shareholdings	–	838	838	–	719	719
to companies recognised at equity	–	–	–	–	1,301	1,301
to other shareholdings	–	1,300	1,300	–	900	900
Other financial debt	25,865	3,066	28,931	26,267	3,414	29,681
	1,527,406	**270,563**	**1,797,969**	**1,733,109**	**183,826**	**1,916,935**

Maturity in years

			30 September 2023			30 September 2022
Euro 000s	< 1 year	1 - 5 years	> 5 years	< 1 year	1 - 5 years	> 5 years
Liabilities						
to banks	251,057	547,399	831,674	162,744	703,137	878,242
in connection with leases	14,302	46,822	75,646	14,748	44,209	81,254
to other majority shareholdings, companies recognised at equity and other shareholdings	2,138	–	–	2,920	–	–
Other financial debt	3,066	14,001	11,864	3,414	14,524	11,743
	270,563	**608,222**	**919,184**	**183,826**	**761,870**	**971,239**

The fixed-rate liabilities to banks of Euro 1,162,540 thousand (previous year: Euro 1,290,250 thousand) have an average interest rate of 1.5 % (previous year: 1.5 %), while the floating-rate liabilities to banks of Euro 467,590 thousand (previous year: Euro 453,874 thousand) have an average interest rate of 3.8 % (previous year: 2.4 %). The average remaining period for which the interest rate remains fixed in the case of fixed-rate liabilities amounts to nine years (previous year: nine years). The floating-rate liabilities to banks are hedged.

At 30 September 2023, MVV had undrawn committed credit lines of Euro 1,578,652, thousand (previous year: Euro 1,417,087 thousand).

Lease liabilities have been recognised at the present value of mandatory lease payments over the term of the lease. These refer to the right-of-use assets presented in Note 18 Leases as Lessee.

35. Liability-side derivative financial instruments

The Group concludes commodity derivatives for electricity, gas, coal and CO_2, as well as other certificates and currency derivatives, in connection with its operating activities. In its financing activities, the Group concludes interest and currency derivatives to limit risks.

Liability-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Commodity derivatives	486,684	2,948,099	3,434,783	3,427,789	13,170,921	16,598,710
Interest derivatives	–	–	–	48	–	48
Currency derivatives	1,123	2,368	3,491	192	6,825	7,017
	487,807	**2,950,467**	**3,438,274**	**3,428,029**	**13,177,746**	**16,605,775**

Derivative financial instruments have been broken down into their respective hedge relationships and counterparties in the following tables.

Liability-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Liability-side derivative financial instruments	487,807	2,950,467	3,438,274	3,428,029	13,177,746	16,605,775
of which not involving IFRS 9 hedges	278,693	2,233,513	2,512,206	2,200,297	10,210,293	12,410,590
of which involving IFRS 9 hedges	209,114	716,954	926,068	1,227,732	2,967,453	4,195,185

Liability-side derivative financial instruments

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Liability-side derivative financial instruments	487,807	2,950,467	3,438,274	3,428,029	13,177,746	16,605,775
to third parties	487,807	2,950,467	3,438,274	3,425,706	13,172,184	16,597,890
to companies recognised at equity	–	–	–	2,323	5,562	7,885
	487,807	**2,950,467**	**3,438,274**	**3,428,029**	**13,177,746**	**16,605,775**

Derivative financial instruments decreased sharply in value compared with the previous year. This was principally due to significant movements in market prices and the resultant reduction in the fair values of energy trading transactions recognised under IFRS 9.

In the previous year, derivative financial instruments (non-current: Euro 3,428,029 thousand; current: Euro 13,177,746 thousand) formed part of the other liabilities (including derivative financial instruments) line item in the balance sheet.

Further information can be found in Note 41 Financial Instruments.

36. Other financial liabilities

Other financial liabilities have been broken down into their respective contents and counterparties and presented in the tables below. After initial recognition, financial liabilities are measured at amortised cost using the effective interest method.

Other financial liabilities

		30 September 2023			30 September 2022	
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Liabilities to employees	–	31,628	31,628	–	32,500	32,500
Customer credit balances	–	15,594	15,594	–	18,028	18,028
Interest liabilities	–	7,738	7,738	–	7,734	7,734
Liabilities for security deposits for energy trading transactions	–	155,983	155,983	–	1,453,276	1,453,276
Concession duties	–	1,498	1,498	–	2,938	2,938
Miscellaneous other financial liabilities	28,245	42,069	70,314	19,379	25,642	45,021
	28,245	**254,510**	**282,755**	**19,379**	**1,540,118**	**1,559,497**

Other financial liabilities

		30 September 2023			30 September 2022	
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Other financial liabilities	28,245	254,510	282,755	19,379	1,540,118	1,559,497
of which to third parties	28,245	253,825	282,070	19,379	1,539,935	1,559,314
of which to other majority shareholdings	–	533	533	–	6	6
of which to companies recognised at equity	–	152	152	–	177	177
of which to other shareholdings	–	–	–	–	–	–
	28,245	**254,510**	**282,755**	**19,379**	**1,540,118**	**1,559,497**

To reduce the counterparty risk involved in highly fluctuating fair values of energy trading contracts, security deposits are exchanged on the European Energy Exchange (EEX) and Intercontinental Exchange (ICE) marketplaces and with one external partner. These involve margins that are included in the liabilities from security deposits for energy trading transactions line item. Liabilities of Euro 155,983 thousand were recognised for security deposits at the reporting date on 30 September 2023 (previous year: Euro 1,453,276 thousand).

Miscellaneous other financial liabilities mainly relate to liabilities for earn-out obligations and deferred liabilities.

In the previous year, other financial liabilities (non-current: Euro 19,379 thousand; current: Euro 1,540,118 thousand) formed part of the other liabilities (including derivative financial instruments) line item in the balance sheet.

Further information can be found in Note 41 Financial Instruments.

37. Other non-financial liabilities

Other non-financial liabilities have been broken down into their respective contents and counterparties and presented in the tables below. After initial recognition, non-financial liabilities are measured at amortised cost using the effective interest method.

Other non-financial liabilities

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Contract liabilities for advance payments received	–	131,035	131,035	1,049	95,847	96,896
Contract liabilities for building cost grants	153,013	10,171	163,184	125,320	8,377	133,697
Other contract liabilities	9,785	8,863	18,648	10,573	14,529	25,102
Liabilities in connection with German Fuel Emissions Trading Act (BEHG)	626	24,532	25,158	502	23,348	23,850
Liabilities for other taxes	–	34,963	34,963	–	86,409	86,409
Liabilities due to German Natural Gas Heat Emergency Aid (EWSG) and Electricity Price Cap (StromPBG) Acts	–	31,104	31,104	–	–	–
Social security liabilities	–	450	450	–	1,086	1,086
Miscellaneous other non-financial liabilities	15,173	2,737	17,910	5,637	1,908	7,545
	178,597	**243,855**	**422,452**	**143,081**	**231,504**	**374,585**

Other non-financial liabilities

	30 September 2023			30 September 2022		
Euro 000s	**Non-current**	**Current**	**Total**	Non-current	Current	Total
Liabilities	178,597	112,820	291,417	142,032	135,657	277,689
of which to third parties	178,430	112,820	291,250	141,865	135,657	277,522
of which to companies recognised at equity	167	–	167	167	–	167
Advance payments received for orders	–	131,035	131,035	1,049	95,847	96,896
of which from third parties	–	131,033	131,033	1,049	95,632	96,681
of which from companies recognised at equity	–	–	–	–	213	213
of which from other shareholdings	–	2	2	–	2	2
	178,597	**243,855**	**422,452**	**143,081**	**231,504**	**374,585**

Other contract liabilities showed a year-on-year reduction as of 30 September 2023. This is due to the almost full completion of projects in the photovoltaics systems planning and construction business.

The opening and closing balances of contract liabilities recognised under IFRS 15 are presented in the following table:

Contract liabilities

Euro 000s	**FY 2023**	FY 2022
Balance at 1 October	255,694	241,253
Balance at 30 September	**312,867**	**255,694**

MVV expects that, of the transaction price allocated to unsatisfied performance obligations at 30 September 2023, an amount of Euro 150,068 thousand (previous year: Euro 118,752 thousand) will be recognised as revenues in the next reporting period. The remaining amount of Euro 162,797 thousand (previous year: Euro 136,942 thousand) will be recognised in subsequent financial years.

At 30 September 2023, liabilities for other taxes chiefly include value added and energy tax liabilities. Miscellaneous other non-financial liabilities mainly involve payments by co-shareholders towards the future decarbonisation of district heat.

In the previous year, other non-financial liabilities (non-current: Euro 143,081 thousand; current: Euro 231,504 thousand) formed part of the other liabilities (including derivative financial instruments) line item in the balance sheet. Furthermore, in the previous year social security liabilities (current: Euro 1,086 thousand) were reported under other financial liabilities in the other liabilities (including derivative financial instruments) line item in the balance sheet.

38. Trade payables

Trade payables

Euro 000s	**30 Sep 2023**	30 Sep 2022
Trade payables	471,570	507,216
of which to other majority shareholdings	775	263
of which to companies recognised at equity	7,109	7,644
of which to other shareholdings	401	242

Trade payables are measured at amortised cost. The above table exclusively 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 .

39. Income tax liabilities and deferred taxes

This line item includes income tax liabilities of Euro 126,838 thousand (previous year: Euro 39,384 thousand). The deferred taxes reported for the 2023 financial year relate to the following items:

Deferred taxes

	30 September 2023		30 September 2022	
Euro 000s	**Deferred tax assets**	**Deferred tax liabilities**	Deferred tax assets	Deferred tax liabilities
Intangible assets	8,473	– 9,448	8,690	– 10,734
Property, plant and equipment	32,163	– 185,777	27,940	– 197,870
Right-of-use assets	–	– 38,203	–	– 42,641
Inventories	22,955	– 4,232	19,530	– 8,105
Asset-side derivative financial instruments	241	– 1,357,420	966	– 6,582,981
Other financial and non-financial receivables and assets	68,151	– 36,450	24,410	– 42,732
Provisions for pensions	9,093	–	7,016	–
Non-current other provisions	7,409	–	15,306	–
Current other provisions	11,400	– 19,469	11,417	– 24,193
Liability-side derivative financial instruments	1,289,224	–	6,307,328	– 5,716
Other financial and non-financial liabilities	106,352	– 122,169	502,234	– 502,444
Lease liabilities	37,256	–	44,640	–
Losses carried forward	28,956	–	36,015	–
Deferred taxes (gross)	1,621,673	– 1,773,168	7,005,492	– 7,417,416
Netting	– 1,574,398	1,574,398	– 6,890,273	6,890,273
Deferred taxes (net)	**47,275**	**– 198,770**	**115,219**	**– 527,143**

The deferred tax liabilities of Euro – 1,542 thousand reported as a special item in the previous year were reclassified to property, plant and equipment in the year under report.

Of the (net) deferred taxes presented above, Euro 10,141 thousand (previous year: Euro 26,741 thousand) relate to non-current deferred tax assets and Euro 53,841 thousand (previous year: Euro 133,194 thousand) to non-current deferred tax liabilities.

No deferred tax assets have been recognised for corporate income tax loss carryovers of Euro 67,683 thousand (previous year: Euro 62,131 thousand), trade tax loss carryovers of Euro 54,993 thousand (previous year: Euro 42,845 thousand) or foreign loss carryovers of Euro 143,815 thousand (previous year: Euro 186,152 thousand). Of foreign loss carryovers, Euro 668 thousand lapses after nine years, while Euro 27,002 thousand lapses after twelve to nineteen years.

For temporary differences of Euro 7,954 thousand at shareholdings (previous year: Euro 10,505 thousand), no deferred tax liabilities have been stated for an amount of Euro 2,410 thousand (previous year: Euro 3,183 thousand), as such differences are unlikely to be reversed by dividend distribution or disposal of the companies in the foreseeable future.

Deferred tax assets of Euro 8,914 thousand (previous year: Euro 2,965 thousand) have been recognised at the balance sheet date for companies that generated a loss in the financial year under report or the previous year in cases where the realisation of the assets exclusively depends on the generation of future profits. Such realisation is chiefly attributable to restructuring measures, as well as to the prompt marketing of renewable energies projects. Any surplus of deferred tax assets from temporary differences is only recognised when it is recoverable.

In the 2023 financial year, deferred taxes of Euro 14,310 thousand (credit balance) were recognised directly in other comprehensive income as part of group equity (previous year: debit balance of Euro 275,173 thousand).

The income tax items within other comprehensive income in group equity can be broken down into their components as follows:

Income tax items

	30 September 2023		30 September 2022	
Euro 000s	**Income tax**	**Gross**	Income tax	Gross
Actuarial gains and losses	– 2,247	4,486	– 8,513	35,426
Share of total comprehensive income attributable to companies recognised at equity	–	39,692	–	3,634
Items that will not be reclassified to profit or loss	**– 2,247**	**44,178**	**– 8,513**	**39,060**
Cash flow hedges/hedging costs	290,321	– 963,936	– 311,511	1,057,407
Currency translation differences	–	10,908	–	– 2,476
Share of total comprehensive income attributable to companies recognised at equity	–	– 1,249	–	– 898
Items that will be reclassified to profit or loss	**290,321**	**– 954,277**	**– 311,511**	**1,054,033**

40. Contingent assets, contingent liabilities and financial obligations

The volume of obligations for contingent liabilities, contingent assets and financial obligations stated below corresponds to the scope of liability at the balance sheet date.

Contingent liabilities involve possible obligations to third parties or existing obligations for which an outflow of resources is not probable or whose amount cannot be determined with sufficient reliability. Contingent assets are defined as possible assets that arise from past events, the existence of which will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events. Neither contingent liabilities nor contingent assets are recognised in the balance sheet.

The company has contingent liabilities of Euro 9.9 million for warranty agreements (previous year: Euro 7.4 million). It has obligations of this nature in the form of guarantees amounting to Euro 9.9 million (previous year: Euro 9.5 million). As in the previous year, no collateral has been provided for third-party liabilities.

MVV has purchase commitments of Euro 95.5 million in connection with investment orders placed and financial obligations (previous year: Euro 132.4 million).

The Group has a contingent asset from the State of Baden-Württemberg and the City of Mannheim in connection with a land decontamination measure. This claim has a present value of Euro 2.3 million (previous year: Euro 2.3 million).

41. Financial instruments

Fair values and carrying amounts of financial instruments

The carrying amounts of financial instruments recognised at MVV and their allocation to the IFRS 9 measurement categories have been presented in the following tables. The classes presented are based on the balance sheet.

IFRS 9 measurement categories for carrying amounts

Euro 000s	IFRS 9 measurement categories	30 Sep 2023	30 Sep 2022
Assets			
Other financial assets			
of which other shareholdings	Fair value through profit or loss	8,373	6,104
of which other shareholdings	Not applicable	5,168	2,721
of which securities	Fair value through profit or loss	–	204
Trade receivables < 1 year	Amortised cost	515,010	554,103
Asset-side derivative financial instruments			
of which derivatives outside hedge accounting	Fair value through profit or loss	2,636,497	12,314,889
of which derivatives within hedge accounting	Not applicable	899,857	5,112,000
Other financial receivables and assets			
of which loans	Amortised cost	16,026	8,512
of which finance lease receivables	Not applicable	52,322	53,037
of which miscellaneous other financial receivables and assets	Amortised cost	313,190	56,295
Cash and cash equivalents	Amortised cost	975,026	1,884,998
		5,421,469	**19,992,863**
Liabilities			
Financial debt			–
of which financial debt involving leases	Not applicable	136,770	140,211
of which other financial debt	Amortised cost	1,661,199	1,776,724
Trade payables < 1 year	Amortised cost	471,570	507,216
Liability-side derivative financial instruments			
of which derivatives outside hedge accounting	Fair value through profit or loss	2,512,206	12,410,590
of which derivatives within hedge accounting	Not applicable	926,068	4,195,185
Other financial liabilities			
of which other financial liabilities	Amortised cost	257,568	1,543,115
of which other financial liabilities	Fair value through profit or loss	25,187	16,382
		5,990,568	**20,589,423**

Given the predominantly short-term remaining terms of trade receivables and payables, loans, miscellaneous other financial receivables and assets, other financial liabilities and cash and cash equivalents, their carrying amounts at the balance sheet date basically correspond to their fair values. Variances relate to finance lease receivables and other financial debt. The carrying amount of finance lease receivables amounts to Euro 52,322 thousand (previous year: Euro 53,037 thousand) while their fair value stands at Euro 42,499 thousand (previous year: Euro 60,328 thousand). The carrying amount of financial debt amounts to Euro 1,661,199 thousand (previous year: Euro 1,776,724 thousand), while its fair value stands at Euro 1,892,496 thousand (previous year: Euro 1,624,158 thousand).

The fair value of finance lease receivables and other financial debt items is determined as their present value, taking due account of future payments. These items are discounted using the discount rate valid as of the balance sheet date. Should MVV not have sufficient new information to measure the fair value, then cost is referred to as an approximate estimate of the fair value.

With regard to the fair value measurement of financial instruments, reference is made to the information provided on financial instruments under Accounting Policies.

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.

Fair value hierarchy at 30 September 2023

Euro 000s	**Level 1**	**Level 2**	**Level 3**
Financial assets			
Other shareholdings	–	–	8,373
Derivatives outside hedge accounting	2,578,172	53,416	4,909
Derivatives within hedge accounting	606,918	287,432	5,507
Financial liabilities			
Derivatives outside hedge accounting	2,349,348	162,774	84
Derivatives within hedge accounting	700,006	224,773	1,289
Other financial liabilities	–	–	25,187

Fair value hierarchy at 30 September 2022

Euro 000s	Level 1	Level 2	Level 3
Financial assets			
Other shareholdings	–	–	6,104
Securities	204	–	–
Derivatives outside hedge accounting	9,157,539	3,138,469	18,881
Derivatives within hedge accounting	3,698,897	1,407,413	5,690
Financial liabilities			
Derivatives outside hedge accounting	9,271,027	3,138,312	1,251
Derivatives within hedge accounting	1,551,195	2,643,517	473
Other financial liabilities	–	–	16,382

No items were reclassified between Levels 1 and 2 of the measurement hierarchy in the year under report. Similarly, no items were reclassified into or out of Level 3.

The other shareholdings in Level 3 do not have market prices listed on any active market. The fair value of other shareholdings is determined in a capital value method by discounting future cash flows. Discounting is undertaken by reference to the discount rate valid at the balance sheet date. The input parameters used to measure the fair value are set with due consideration of economic developments and available company data. The fair value thereby determined would increase or decrease depending on the development in future sales and future EBIT.

Derivatives outside hedge accounting in Level 3 relate to commodity derivatives. Where no market prices are available, the fair value is determined using recognised valuation methods based on internal fundamental data. In this, we refer to listings on active markets. Where no active markets are available, reference is made to company-specific assumptions. The positive fair values mainly relate to a power purchase agreement (PPA) involving a long-term electricity procurement contract. The fair value of this derivative amounts to Euro 3,075 thousand (previous year: Euro 18,750 thousand). Any change in the market price by 40 % upwards or downwards (previous year: 45 %) would increase or decrease the fair value by Euro 3,886 thousand respectively (previous year: Euro 12,132 thousand).

The derivatives of Euro 4,219 thousand in Level 3 hedge accounting mainly include interest swaps with floor (previous year: Euro 5,217 thousand). The fair value of these derivatives amounts to Euro 4,418 thousand (previous year: Euro 5,217 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 1 thousand (previous year: Euro 4 thousand) or reduce it by Euro 1 thousand (previous year: Euro 3 thousand).

Other Level 3 liabilities include variable purchase price components resulting from acquisitions. Their fair value is determined using the discounted cash flow method. This involves discounting the cash flows expected in future with a predetermined discount rate. The input parameters are set with due consideration of contractual requirements and available company data. The fair value thereby determined would increase or decrease depending on the development in future sales and future EBIT.

The following reconciliation presents the development in financial instruments recognised in Level 3:

Development in financial instruments recognised in Level 3

Euro 000s	**Balance at 1 Oct 2022**	**Gains/losses in income statement**	**Gains/losses in OCI**	**Additions/ disposals**	**Balance at 30 Sep 2023**
Financial assets					
Other shareholdings	6,104	2,182	–	87	8,373
Derivatives outside hedge accounting	18,881	– 12,380	–	– 1,592	4,909
Derivatives within hedge accounting	5,690	–	3,460	– 3,643	5,507
Financial liabilities					
Derivatives outside hedge accounting	1,251	– 361	–	– 806	84
Derivatives within hedge accounting	473	–	2,743	– 1,927	1,289
Other financial liabilities	16,382	8,905	–	– 100	25,187

Development in financial instruments recognised in Level 3

Euro 000s	Balance at 1 Oct 2021	Gains/losses in income statement	Gains/losses in OCI	Additions/ disposals	Balance at 30 Sep 2022
Financial assets					
Other shareholdings	5,909	–	–	195	6,104
Derivatives outside hedge accounting	3,459	16,758	–	– 1,336	18,881
Derivatives within hedge accounting	11	–	5,679	–	5,690
Financial liabilities					
Derivatives outside hedge accounting	518	1,202	–	– 469	1,251
Derivatives within hedge accounting	3,381	–	– 1,370	– 1,538	473
Other financial liabilities	26,206	– 7,008	–	– 2,816	16,382

The gains and losses recognised through profit or loss for Level 3 financial instruments are presented in the income statement in the following line items:

Gains and losses recognised in statement of comprehensive income for Level 3 financial instruments

Euro 000s	**Total**	**of which still held at 30 Sep 2023**
Other operating income and expenses	– 20,758	– 20,904
Income from shareholdings	2,182	2,182
Financial result	– 166	– 166
Other comprehensive income	717	4,218
	– 18,025	**– 14,670**

Gains and losses recognised in statement of comprehensive income for Level 3 financial instruments

Euro 000s	Total	of which still held at 30 Sep 2022
Other operating income and expenses	15,552	15,786
Financial result	7,012	7,012
Other comprehensive income	7,049	7,037
	29,613	**29,835**

Netting of financial assets and financial liabilities

The financial assets and financial liabilities are netted and presented as a net amount in the balance sheet if MVV currently has a legally enforceable right to set-off the recognised amounts and intends either to settle on a net basis or to realise the assets and settle the liability simultaneously.

Furthermore, agreements have been concluded in which the set-off criteria are not met but which permit set-off of the respective amounts in specific circumstances, such as insolvency. The amounts of financial assets and financial liabilities netted in the balance sheet are presented in the following table. Financial assets and financial liabilities that are subject to a legally enforceable master set-off agreement but which are not netted for accounting purposes are also presented. The related amounts that are not netted in the balance sheet mainly include margins payments received and paid for market transactions and derivative financial instruments not meeting the set-off criteria of IAS 32.

Netting of financial assets at 30 September 2023

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: Financial instruments	Related amounts not netted in balance sheet: Cash collateral received/granted	Net amount
Loans	16,026	–	16,026	–	–	16,026
Securities	–	–	–	–	–	–
Trade receivables < 1 year	549,821	– 34,811	515,010	–	–	515,010
Derivative financial instruments	3,536,354	–	3,536,354	– 3,072,926	– 284,664	178,764
Miscellaneous other financial receivables and assets	313,190	–	313,190	–	– 173	313,017
Cash and cash equivalents	975,026	–	975,026	– 145,223	–	829,803
	5,390,417	**– 34,811**	**5,355,606**	**– 3,218,149**	**– 284,837**	**1,852,620**

Netting of financial liabilities at 30 September 2023

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: Financial instruments	Related amounts not netted in balance sheet: Cash collateral received/granted	Net amount
Other financial debt	1,661,199	–	1,661,199	145,223	2,458	1,513,518
Trade payables < 1 year	506,381	34,811	471,570	–	–	471,570
Derivative financial instruments	3,438,274	–	3,438,274	3,072,926	267,664	97,684
Other financial liabilities	282,755	–	282,755	–	–	282,755
	5,888,609	**34,811**	**5,853,798**	**3,218,149**	**270,122**	**2,365,527**

Netting of financial assets at 30 September 2022

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: Financial instruments	Related amounts not netted in balance sheet: Cash collateral received/granted	Net amount
Loans	8,512	–	8,512	–	–	8,512
Securities	204	–	204	–	–	204
Trade receivables < 1 year	772,438	– 218,335	554,103	–	–	554,103
Derivative financial instruments	17,426,889	–	17,426,889	– 14,466,876	– 2,425,314	534,699
Miscellaneous other financial receivables and assets	56,295	–	56,295	–	–	56,295
Cash and cash equivalents	1,884,998	–	1,884,998	–	–	1,884,998
	20,149,336	**– 218,335**	**19,931,001**	**– 14,466,876**	**– 2,425,314**	**3,038,811**

Netting of financial liabilities at 30 September 2022

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: Financial instruments	Related amounts not netted in balance sheet: Cash collateral received/granted	Net amount
Other financial debt	1,776,724	–	1,776,724	258,581	1,951	1,516,192
Trade payables < 1 year	695,180	187,964	507,216	–	–	507,216
Derivative financial instruments	16,605,775	–	16,605,775	14,466,876	1,008,220	1,130,679
Other financial liabilities	1,590,954	30,371	1,560,583	–	–	1,560,583
	20,668,633	**218,335**	**20,450,298**	**14,725,457**	**1,010,171**	**4,714,670**

Net results by measurement category

The following net results have been recognised by measurement category in the income statement:

Net results

Euro 000s	**FY 2023**	FY 2022
Financial assets and liabilities measured at fair value through profit or loss	679,197	124,204
of which mandatorily measured at fair value	679,197	124,204
Financial assets measured at amortised cost	– 34,356	– 5,536
Financial liabilities measured at amortised cost	4,166	993

The net results from financial assets and financial liabilities measured at fair value through profit or loss mainly comprise results of the market valuation of commodity derivatives. The net results from financial assets and liabilities measured at fair value through profit or loss are recognised in the income statement.

The net results from the financial assets measured at amortised cost category (excluding the interest result presented below) principally consist of impairment losses and of currency translation income and expenses.

The net results from the financial liabilities measured at amortised cost category (excluding the interest result presented below) largely comprise currency translation income and expenses.

The total interest income and expenses for financial assets and financial liabilities that are not measured at fair value through profit or loss are presented in the following table:

Total interest income and expenses

Euro 000s	**FY 2023**	FY 2022
Total interest income	25,721	5,132
of which from financial assets and liabilities measured at amortised cost	25,721	5,132
Total interest expenses	61,219	44,838
of which for financial assets and liabilities measured at amortised cost	61,220	44,838

The interest income from financial assets and liabilities that are measured at amortised cost is chiefly attributable to interest paid on current accounts, overnight and fixed-term deposits, as well as to other interest and similar income.

The interest expenses for financial and liabilities that are measured at amortised cost largely result from loan obligations, as well as from other interest and similar expenses.

Risk management
Due to its business activities, MVV is exposed to various financial risks. These comprise default, liquidity, interest and exchange rate risks, as well as commodity price risks on both procurement and sales markets. MVV's risk management pursues the objective of identifying developments on financial and commodity markets at an early stage and countering any resultant negative implications. This process is laid down in internal guidelines, discretionary frameworks, responsibilities, separations of functions, checks and processes.

Derivative financial instruments are used to cover against market 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 strict limits and is monitored and managed with a separate limit system and robust risk indicators.

The maximum default risk for the assets recognised in the balance sheet, including derivatives with positive fair values, is equivalent to the carrying amounts recognised. The collateral held and other credit collateral available include margin payments received for market transactions, particularly in the energy trading business, as well as master set-off agreements.

The risks resulting from financial instruments are unchanged on the previous year, as are the methods used to measure and control risks.

Further information about MVV's risk management system can be found in the Opportunity and Risk Report within the combined management report.

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 default risk. This encompasses both the direct default risk 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. Moreover, risks are secured and structured with credit collateral and contractual mitigation mechanisms. Default risks for contractual partners are inspected upon conclusion of the contract and monitored continuously, with efforts being made to secure the credit exposure in the event of significant deteriorations in creditworthiness. 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. In particular, commodity transactions are concluded on the basis of master agreements such as EFET, which ensure that detailed checks are performed on the counterparty's creditworthiness.

For trading transactions concluded with energy exchanges, security payments (margins) are deposited by our contract partners (counterparties) in order to reduce any additional default risks.

In the carrying amounts of financial assets, default risks have already been accounted for by way of write-downs. These are only stated for financial instruments that are measured at amortised cost. For financial instruments that are measured at fair value, the receivables default risk is already accounted for in the fair value.

IFRS 9 requires any expected credit loss to be accounted for by way of an allowance upon initial recognition of the respective asset already. These expected losses are determined using either the general or the simplified approach.

MVV has applied the simplified approach to determine the expected losses for trade receivables, contract assets and lease receivables. This requires recognition of a loss allowance equivalent to the credit losses expected over the lifetime of the instrument ("lifetime expected credit losses"). To determine loss allowances, MVV mostly works with a provision matrix based on historic default rates and with prospective and market data-based information, such as knowledge of economic developments at customers and macroeconomic data.

When using the provision matrix, financial instruments have to be allocated to different customer segments showing similar patterns of default. Our customer segments are mostly based on the business models which are in turn mostly allocable to a similar geographical area.

Any internal or external ratings available for our customers are used as the basis for determining the expected credit losses.

Loss allowances for loans and other financial assets are determined using the general approach. This requires financial assets to be investigated in terms of their credit default risk and allocated to one of three stages of the impairment model in line with their respective development. The creditworthiness of the contract partner forms the basis for assessing credit default risk and is monitored on a regular basis.

All financial assets require allocation to Level 1 upon addition unless they were already impaired upon acquisition or issue. If the credit risk increases significantly after initial recognition, the respective assets are transferred to Level 2. The assessment as to whether credit risk has increased significantly in subsequent periods is performed in a defined default risk management process. At MVV, a significant increase is assumed if the internal rating of the contract partner has deteriorated. Assets are transferred to Level 3 should there be any direct indications of impairment or actual default. A financial instrument is assumed to have defaulted when the asset is 720 days overdue. Financial assets are written down in full when, following a detailed review of the individual case, they are classified as being uncollectible.

For trade receivables, contract assets and lease receivables, MVV applies the simplified approach under IFRS 9 to determine the loss allowance. The development in loss allowances is presented in the following table:

Loss allowances (simplified approach)

Euro 000s	**FY 2023**	FY 2022
Balance at 1 October	31,551	21,555
Net balance of additions/reversals	11,898	18,220
Retirements	– 4,479	– 8,068
Change in scope of consolidation	– 565	– 12
Other	84	– 144
Balance at 30 September	**38,489**	**31,551**

Of the above loss allowance, Euro 37,328 thousand is attributable to trade receivables (previous year: Euro 30,551 thousand), Euro 841 thousand to contract assets (previous year: Euro 709 thousand) and Euro 320 thousand to lease receivables (previous year: Euro 291 thousand).

The default risks for financial assets for which no rating is available and the volume of lifetime expected credit losses and credit default rates for such assets are broken down by age group and presented in the table below:

Receivables default risks (simplified approach) at 30 September 2023

Euro 000s	**Gross carrying amount**	**Loss allowance**	**Credit default rate**
Not overdue	491,362	7,761	1.6%
Overdue by			
< 89 days	42,184	7,926	18.8%
90 to 179 days	5,553	3,088	55.6%
180 to 359 days	5,569	4,043	72.6%
> 359 days	16,021	15,544	97.0%
	560,689	**38,362**	

Receivables default risks (simplified approach) at 30 September 2022

Euro 000s	Gross carrying amount	Loss allowance	Credit default rate
Not overdue	462,672	3,495	0.8%
Overdue by			
< 89 days	29,381	3,086	10.5%
90 to 179 days	6,535	1,807	27.7%
180 to 359 days	4,925	3,146	63.9%
> 359 days	21,873	19,868	90.8%
	525,386	**31,402**	

Impairments of Euro 127 thousand relate to assets whose loss allowances were determined on the basis of an internal or external rating (previous year: Euro 149 thousand).

Due to retirements of financial instruments, the loss allowances recognised for trade receivables changed by Euro 4,479 thousand in the 2023 financial year. The retirements relate to uncollectible receivables that had already been written down.

In the case of financial assets not eligible for application of the simplified approach provided for by IFRS 9, MVV applies the general approach to determine loss allowances within the expected loss model. This category mainly includes loans and other financial assets. The following reconciliation presents the development in the loss allowance determined using this method:

Loss allowances (general approach) at 30 September 2023

	12-month expected credit loss	Lifetime expected credit loss		Total
Euro 000s	Level 1	Level 2	Level 3	
Balance at 1 October 2022	12,923	–	374	13,297
Additions	2,719	–	16	2,735
Reversals	– 328	–	– 2	– 330
Retirements	– 1,010	–	– 3	– 1,013
Reclassifications	–	–	–	–
Other	–	–	–	–
Balance at 30 September 2023	**14,304**	**–**	**385**	**14,689**

Loss allowances (general approach) at 30 September 2022

	12-month expected credit loss	Lifetime expected credit loss		Total
Euro 000s	Level 1	Level 2	Level 3	
Balance at 1 October 2021	10,732	–	384	11,116
Additions	2,232	–	–	2,232
Reversals	– 33	–	– 10	– 43
Retirements	– 8	–	–	– 8
Reclassifications	–	–	–	–
Other	–	–	–	–
Balance at 30 September 2022	**12,923**	**–**	**374**	**13,297**

Of the loss allowances presented above, Euro 12,159 thousand relate to loans (previous year: Euro 11,209 thousand) and Euro 2,530 thousand to other financial assets (previous year: Euro 2,088 thousand).

The breakdown of default risk by risk class is presented in the following overview:

Default risk (general approach) at 30 September 2023

Euro 000s	12-month expected credit loss	Lifetime expected credit loss		Total
	Level 1	Level 2	Level 3	
Extremely secure contract partners	14,312	–	–	14,312
Secure contract partners	25,650	–	883	26,533
Acceptable contract partners	5,339	–	–	5,339
Speculative contract partners	–	–	–	–
Balance at 30 September 2023	**45,301**	**–**	**883**	**46,184**

Default risk (general approach) at 30 September 2022

Euro 000s	12-month expected credit loss	Lifetime expected credit loss		Total
	Level 1	Level 2	Level 3	
Extremely secure contract partners	13,665	–	–	13,665
Secure contract partners	18,140	–	875	19,015
Acceptable contract partners	5,012	–	–	5,012
Speculative contract partners	–	–	–	–
Balance at 30 September 2022	**36,817**	**–**	**875**	**37,692**

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. The objective of MVV's cash and liquidity management is to maintain 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 needs and surpluses to be balanced at short notice, thus reducing bank transactions to a necessary minimum. Where possible, wholly owned subsidiaries are centrally financed by MVV Energie AG.

For liquidity management purposes, the company compiles rolling financial budgets which account for operating cash flows, investments, divestments and liquidity requirements in the energy trading business. The degree of detail applied in the budgets decreases from the short-term to the medium-term and long-term perspectives. Any detectible short-term financing requirement is covered within the liquidity management function by drawing on suitable instruments such as credit lines. 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 contractual conditions set out in the financing contracts had been complied with as of the balance sheet date on 30 September 2023.

Further information about financial debt, its maturities and committed credit lines can be found in Note 34 Financial Debt.

Items of security have been provided to banks to limit their risks in connection with loans granted to group companies. These are subdivided into receivables and cash and cash equivalents with a total amount of Euro 3,989 thousand (previous year: Euro 9,521 thousand) and interests in subsidiaries amounting to Euro 2 thousand (previous year: Euro 5,865 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 2023			30 September 2022		
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	279,414	627,341	888,055	190,734	780,175	941,442
Lease liabilities	17,947	58,072	87,085	16,211	49,115	91,133
Trade payables	471,570	968	1,727	507,217	952	1,877
Other financial debt	5,881	16,708	19,286	7,008	17,223	19,838
Other financial liabilities	263,332	5,595	19,956	1,558,728	7,521	19,601
Derivative financial liabilities	2,950,467	487,807	–	13,177,212	3,425,217	–
	3,988,611	**1,196,491**	**1,016,109**	**15,457,110**	**4,280,203**	**1,073,891**

Market risks: Market risks mainly relate to interest rate, currency and commodity price risks. They arise due to changes in interest rates, exchange rates and commodity prices that could impact on MVV's earnings. Market risk management is charged with limiting any potentially negative impact of fluctuations in interest rates, exchange rates and commodity prices on the company's earnings by ensuring that a comprehensive hedging strategy is implemented and that risk positions are closed.

Interest rate risks: MVV's interest rate risk management pursues the objective of minimising the nominal amount and volatility of interest expenses impacting on earnings and liquidity in order to reduce any negative impact of changes in interest rates on the company's performance and ability to pay dividends.

MVV limits its interest rate risks by financing its investment projects, where possible, with facilities with congruent terms and fixed rates. Furthermore, financing-related risks are also managed by using interest derivatives. These risks are hedged by working with interest swaps enabling a fixed interest rate to be paid and conversely a floating interest rate to be collected over the term of the instrument.

Hedging transactions are structured and concluded in a manner appropriate to the interest rate risks identified for the hedged item, thus creating a direct economic relationship. The hedging relationship is measured by reference to the scope of the risk thereby hedged. Furthermore, the hedging relationship accounts for specific parameters of the hedged item, such as its term and planning reliability.

The sensitivity analysis below presents the impact of changes in interest rates on equity. In this analysis, it is assumed that there are no changes in any other parameters, such as exchange rates. The analysis only includes financial instruments for which interest rate risk could impact on equity or annual earnings.

Interest rate risks

Euro 000s		**30 Sep 2023**	30 Sep 2022
Increase in interest rates by + 175 basis points (previous year: + 75 basis points)			
of which interest derivatives within hedge accounting	Equity	14,963	5,801
Reduction in interest rates – 175 basis points (previous year: – 75 basis points)			
of which interest derivatives within hedge accounting	Equity	– 16,464	– 5,930

The aforementioned measures mean that any interest rate risks arising are largely hedged. The residual risk for MVV is of subordinate significance.

Currency risks: The Group is exposed to currency risks due to its international activities outside the euro currency area. These relate to services performed or received in foreign currencies, as well as to investments and their financing in foreign currencies.

Currency risks are monitored and managed on a decentralised basis by the major subgroups. The objective of currency risk management is to minimise any negative impact of exchange rate movements on the company's performance and ability to pay dividends, as well as to safeguard its solvency at all times in each relevant currency.

Currency risks are hedged by natural hedges in the form of currency-congruent financing and by using derivative financial instruments. In natural hedges, the cash flows and changes in the fair value of the hedged item and the hedging transaction cancel each other out. Derivative financial instruments in the form of forward exchange transactions are deployed to hedge risks resulting from changes in the respective spot and forward rates.

Hedging transactions are structured and concluded in a manner appropriate to the currency risks identified for the hedged item, thus creating a direct economic relationship. The hedging relationship is measured by reference to the scope of the risk thereby hedged. Furthermore, the hedging relationship accounts for specific parameters of the hedged item, such as its term and planning reliability.

The currency risks to which MVV is exposed mainly relate to British pounds (GBP) and US dollars (USD). When calculating the currency sensitivity, the variance on which the sensitivity is to be based is adequately stated by reference to an annual analysis of the average variance in exchange rates.

The table below presents an analysis of the impact of exchange rate movements on annual earnings. In this, it is assumed that all other parameters (such as interest rates) remain unchanged. The analysis accounts for financial instruments whose currency risk might impact on equity and annual earnings as shown below.

These particularly involve loans, trade receivables, liabilities to banks, trade payables, currency derivatives within hedge accounting and currency derivatives outside hedge accounting that are denominated in foreign currencies.

Currency risks

Euro 000s		**30 Sep 2023**	30 Sep 2022
Appreciation			
in Euro compared with all currencies	Annual earnings appreciation (previous year: appreciation)	23,736	– 5,389
of which Euro/GBP	Annual earnings + 5 % (previous year: + 6 %)	– 8,791	– 7,669
of which Euro/USD	Annual earnings + 9 % (previous year: + 7 %)	7,545	1,195
Depreciation			
in Euro compared with all currencies	Annual earnings appreciation (previous year: appreciation)	1,136	7,528
of which Euro/GBP	Annual earnings – 5 % (previous year: – 6 %)	9,717	9,012
of which Euro/USD	Annual earnings – 9 % (previous year: – 7 %)	– 7,701	– 289

Commodity price risks: In the context of our energy trading activities, energy trading contracts are concluded for the purposes of risk management, adjustments to actual loads and margin optimisation. Price change risks chiefly arise in connection with the procurement and disposal of electricity and gas and the procurement of coal and emission rights. The risks resulting from these trading and portfolio optimisation activities are limited by setting narrow and clearly defined limit structures. Compliance with the set limits is monitored on an ongoing basis. Regular reporting is also provided on limit capacity. Commodity price risks are managed by the risk management function at our central trading company MVV Trading. Taking due account of the set limits, commodity price risks are hedged by, among other measures, using suitable derivative financial instruments and hedging strategies consistent with the applicable risk management guidelines. Price change simulations enable the potential impact on trading transactions to be determined. Continuous comparison with the trading limits set out in the risk management guidelines then makes it possible to actively manage the risk with corresponding hedging transactions on the market.

The hedging instruments used mainly involve forwards, futures and swaps. The hedging transactions are structured and concluded in a manner appropriate to the currency risks identified for the hedged item, thus creating a direct economic relationship. The price index for the hedging instruments is always selected in such a way that it is congruent with the hedged item. This means that the hedging instruments are exposed to the same commodity price risk as the hedged item. The objective of MVV's hedging activities is always to optimise and minimise risk across the entire portfolio and the existing underlying risks. In the company's procurement activities, the objective is to hedge purchase prices at the market level at which the respective sales contracts were concluded. To secure the generation capacities available at the Group, marketing prices are hedged, as are the corresponding variable production costs.

The sensitivity involved in measuring commodity derivatives for electricity, gas, coal and CO_2 rights is analysed in the following section. This analysis assumes that there are no changes in any 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 mainly involve energy trading transactions recognised as derivatives in accordance with IFRS 9.

Typical volatilities based on historic changes in market prices for the respective subsequent supply year were determined and rounded up or down as appropriate for all commodities. These volatilities state the percentage of fluctuation to which the market prices as of the valuation date are then subjected. For all commodities, the resultant changes in market prices were multiplied with the respective sensitivities and aggregated for each commodity.

The analysis does not include energy trading contracts 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 IFRS 9.

The price risks presented in the table below serve to meet IFRS 7 disclosure requirements and do not reflect MVV's actual economic risks.

Price risks

Euro 000s		**30 Sep 2023**	30 Sep 2022
Appreciation			
Electricity			
	Annual earnings + 40 % (previous year: + 45 %)	35,738	– 765,676
	Equity + 40 % (previous year: + 45 %)	11,312	126,666
Gas			
	Annual earnings + 50 % (previous year: + 55 %)	9,627	756,930
	Equity + 50 % (previous year: + 55 %)	105,483	556,052
Coal			
	Annual earnings + 50 % (previous year: + 55 %)	60,428	260,139
CO_2			
	Annual earnings + 30 % (previous year: + 40 %)	588	532
	Equity + 30 % (previous year: + 40 %)	107,127	182,748
Depreciation			
Electricity			
	Annual earnings + 40 % (previous year: + 45 %)	– 29,938	– 442,911
	Equity + 40 % (previous year: + 45 %)	– 10,594	– 71,567
Gas			
	Annual earnings + 50 % (previous year: + 55 %)	– 9,314	– 757,968
	Equity + 50 % (previous year: + 55 %)	– 104,039	– 510,386
Coal			
	Annual earnings + 50 % (previous year: + 55 %)	– 59,819	– 266,361
CO_2			
	Annual earnings + 30 % (previous year: + 40 %)	– 541	– 532
	Equity + 30 % (previous year: + 40 %)	– 107,026	– 182,748

The aforementioned reduction and management measures mean that commodity price risks are largely hedged and that the residual risks are of subordinate significance for MVV. The remaining residual risks are nevertheless assessed by MVV Trading, our central energy trading company, and are recorded in the risk management system, aggregated and monitored by the central group controlling function.

Derivative financial instruments and hedging relationships

For commodities, MVV deploys forwards, futures and swaps to hedge its commodity, interest rate and currency risks. Financial risks are hedged with interest swaps, while foreign exchange risks are hedged with forward exchange transactions and by way of currency-congruent financial liabilities.

The risks hedged for the hedged items correspond to the contractual terms of the hedging instruments thereby concluded. For commodity and financing risks, for example, the price risks and interest rate risks of the hedged item respectively correspond to the agreed price and interest rate index of the hedging instrument. Currency risks involved in financing activities are hedged using hedging transactions in the corresponding currency. For all hedging relationships, hedging instruments are concluded with the same nominal volume as the respective hedged item. Risks are thereby hedged at a ratio of 1:1. Selecting this hedging strategy means that hedging relationships can be expected to be highly effective on a prospective basis. The effectiveness of hedging transactions is determined in each case upon commencement of the hedge and in regular prospective assessments using the critical terms match method. In addition, a retrospective measurement is performed using the dollar offset method to quantify the effectiveness or ineffectiveness.

The nominal volumes of derivatives recognised under IFRS 9 are presented in the following table:

Nominal volumes by maturity

	30 September 2023			30 September 2022		
Euro 000s	**< 1 year**	**1 – 5 years**	**> 5 years**	< 1 year	1 – 5 years	> 5 years
Interest derivatives	145,500	110,672	192,896	21,496	151,464	250,667
Commodity derivatives	19,192,109	6,840,989	2,634	15,872,808	5,608,535	4,084
Currency derivatives	98,933	16,381	–	83,927	85,767	–
	19,436,542	**6,968,042**	**195,530**	**15,978,231**	**5,845,766**	**254,751**

The commodity derivatives recognised under IFRS 9 can be broken down as follows:

Commodity derivatives

	30 September 2023			30 September 2022		
Euro 000s	**Nominal volumes**	**Fair values of assets**	**Fair values of liabilities**	Nominal volumes	Fair values of assets	Fair values of liabilities
Commodity derivatives						
Electricity	16,220,188	2,488,734	2,271,530	13,576,246	13,178,855	13,382,204
Coal	131,806	11,432	48,218	364,084	267,497	21,800
Gas	5,868,949	778,678	951,358	4,338,897	3,523,973	2,878,792
CO_2 rights	3,808,874	210,836	162,305	3,203,379	393,082	314,189
Other	5,915	2,923	1,372	2,821	142	1,725
	26,035,732	**3,492,603**	**3,434,783**	**21,485,427**	**17,363,549**	**16,598,710**
Commodity derivatives						
Futures	25,991,136	3,475,928	3,417,300	21,232,115	17,096,052	16,576,910
Swaps	29,343	11,086	17,483	253,312	267,497	21,800
Other	15,253	5,589	–	–	–	–
	26,035,732	**3,492,603**	**3,434,783**	**21,485,427**	**17,363,549**	**16,598,710**

As derivative financial instruments may be subject to substantial fluctuations in their fair values, the counterparty risk of derivative financial assets has been presented in the following overview. No account has been taken of energy trading contracts not recognised as commodity derivatives ("own use contracts").

The counterparty risks are analysed by reference to external information and ratings and classified by analogy with the rating categories at Standard & Poor's and/or Moody's. Counterparty risk is based on replacement and sales risks resulting from the fair values of the respective position with the individual trading partner as of the balance sheet date. The calculation takes due account of the netting options agreed with the trading partner in master agreements. If netting has been agreed, the positive and negative fair values are netted for each trading partner. Where no netting agreement is available, only the positive fair values are accounted for.

Counterparty risk at 30 September 2023

Euro 000s	Total		of which < 1 year		of which > 1 year	
Counterparty rating [1]	Nominal value	Counterparty risk	Nominal value	Counterparty risk	Nominal value	Counterparty risk
Without counterparty risk	10,926,773	2,925,295	8,203,416	2,533,005	2,723,357	392,290
AAA and Aaa to AA– and Aa3	822,411	151,570	281,440	93,469	540,971	58,101
A+ and A1 to A– and A3	372,215	58,204	314,521	45,147	57,694	13,057
BBB+ and Baa1 to BBB– and Baa3	193,891	75,546	123,641	60,414	70,250	15,132
BB+ and Ba1 to BB– and Ba3	17,751	7,689	13,625	7,183	4,126	506
	12,333,041	**3,218,304**	**8,936,643**	**2,739,218**	**3,396,398**	**479,086**

1 By analogy with rating categories at Standard & Poor's and/or Moody's

Counterparty risk at 30 September 2022

Euro 000s	Total		of which < 1 year		of which > 1 year	
Counterparty rating [1]	Nominal value	Counterparty risk	Nominal value	Counterparty risk	Nominal value	Counterparty risk
Without counterparty risk	9,871,847	13,193,861	7,193,442	9,881,788	2,678,405	3,312,073
AAA and Aaa to AA– and Aa3	1,132,604	4,011,286	836,705	3,379,216	295,899	632,070
A+ and A1 to A– and A3	509,161	358,516	89,381	224,541	419,780	133,975
BBB+ and Baa1 to BBB– and Baa3	167,962	944,276	126,016	728,199	41,946	216,077
BB+ and Ba1 to BB– and Ba3	6,466	60,283	5,615	53,312	851	6,971
	11,688,040	**18,568,222**	**8,251,159**	**14,267,056**	**3,436,881**	**4,301,166**

1 By analogy with rating categories at Standard & Poor's and/or Moody's

Cash flow hedges serve to hedge against fluctuations in future cash flows. At MVV, cash flow hedges are mainly deployed for commodities to hedge price risks on sales and procurement markets. Furthermore, MVV deploys cash flow hedges to limit the interest risk on floating-rate liabilities.

For interest hedges, existing hedged items were included in cash flow hedges with terms of up to 10 years as of 30 September 2023 (previous year: up to 11 years). For commodity hedges, the terms of planned hedges amount to up to five years (previous year: up to five years).

Both interest hedging instruments and commodity derivatives require net settlements to be paid at contractually fixed dates mainly corresponding to the hedged items.

MVV has concluded hedging transactions with average interest rates of 0.90 % to 4.60 % to hedge against interest rate risks in its financing activities. The average hedged prices for commodity price risks range from Euro 137.93 to Euro 152.20 for electricity, from Euro 36.59 to Euro 58.03 for gas and from Euro 62.54 to Euro 77.52 for emission rights.

The following table presents the carrying amounts and nominal amounts, as well as changes in fair value, for the hedging instruments and hedged items deployed in cash flow hedging relationships:

Hedging relationships involving cash flow hedges at 30 September 2023

	Carrying amount of hedging instrument		Nominal volume	Changes in fair value of hedging instrument (basis for determining hedge ineffectiveness)	Changes in fair value of hedged item (basis for determining ineffectiveness)
Euro 000s	Asset-side derivative financial instruments	Liability-side derivative financial instruments			
Commodity price risk	844,623	921,301	5,170,966	– 995,501	995,501
Interest rate risk	41,104	–	449,067	– 3,021	7,841
	885,727	**921,301**	**5,620,033**	**– 998,522**	**1,003,342**

Hedging relationships involving cash flow hedges at 30 September 2022

	Carrying amount of hedging instrument		Nominal volume	Changes in fair value of hedging instrument (basis for determining hedge ineffectiveness)	Changes in fair value of hedged item (basis for determining ineffectiveness)
Euro 000s	Asset-side derivative financial instruments	Liability-side derivative financial instruments			
Commodity price risk	5,055,409	4,174,227	4,869,142	491,034	– 491,034
Interest rate risk	53,472	48	423,627	63,825	– 64,749
	5,108,881	**4,174,275**	**5,292,769**	**554,859**	**– 555,783**

Cash flow hedges have the following impact on MVV's statement of comprehensive income:

Impact of cash flow hedges on total comprehensive income at 30 September 2023

Euro 000s	**Hedging gains (+)/ losses (–) recognised in OCI**	**Ineffective-ness recognised through profit or loss**	Reclassi-fication through profit or loss
Commodity price risk	– 995,501	–	– 37,798
Interest rate risk	– 3,021	–	10,994
	– 998,522	**–**	**– 26,804**

Impact of cash flow hedges on total comprehensive income at 30 September 2022

Euro 000s	Hedging gains (+)/ losses (–) recognised in OCI	Ineffective-ness recognised through profit or loss	Reclassi-fication through profit or loss
Commodity price risk	491,034	–	– 494,984
Interest rate risk	63,825	–	– 7,333
	554,859	**–**	**– 502,317**

Cases of ineffectiveness resulting from cash flow hedges and their reclassification from other comprehensive income to profit or loss are recognised in the income statement line item in which the respective hedged item is also included. For commodity hedges, amounts of Euro –28,746 thousand and Euro – 73,497 thousand were reclassified through profit or loss and recognised under sales and cost of materials respectively in the 2023 financial year (previous year: Euro 3,298,425 thousand and Euro 2,803,441 thousand respectively). For interest hedges, an amount of Euro – 10,482 thousand was reclassified through profit or loss and recognised under financing expenses (previous year: Euro 7,333 thousand). Due to deconsolidation measures, commodity hedges of Euro – 6,953 thousand and interest hedges of Euro – 512 thousand were reclassified through profit or loss. The reclassifications credited or charged from equity to the income statement refer to hedged items realised in the financial year under report.

The following table shows the development in the cash flow hedge reserve:

Development in hedge reserve

Euro 000s	**FY 2023**	FY 2022
Balance at 1 October [1]	936,240	– 121,167
Unrealised change in reserve for hedging costs		
Interest rate hedges	317	231
Unrealised change in cash flow hedge reserve		
Commodity hedges	– 995,501	491,034
Interest rate hedges	– 3,021	63,825
Reclassification through profit or loss		
Commodity hedges	37,798	494,984
Interest rate hedges	– 10,994	7,333
Balance at 30 September	**– 35,161**	**936,240**

1 Balance at 1 October 2021 adjusted

Fair value hedges serve to hedge risks relating to changes in fair value. At MVV, fair value hedges include foreign-currency payments with hedged items of Euro 247,130 thousand. The hedging instruments deployed involve bank liabilities in British pounds and forward exchange transactions. Furthermore, fair value hedges are deployed to hedge the future electricity price risk at proprietary generation plants and to hedge future gas price risks for stored gas. The hedging instrument deployed involves energy trading contracts.

At 30 September 2023, existing hedged items were included in fair value hedges with terms of up to 9 years (previous year: up to 10 years).

The following table presents the carrying amounts and nominal volumes, as well as changes in the fair value, for the hedged items and hedging instruments deployed in fair value hedging relationships.

Hedging relationships involving fair value hedges at 30 September 2023

	Carrying amount of hedging instrument			**Nominal volume**	**Changes in fair value of hedging instrument (basis for determining hedge ineffectiveness)**	**Changes in fair value of hedged item (basis for determining ineffectiveness)**
Euro 000s	**Asset-side derivative financial instruments**	**Liability-side derivative financial instruments**	**Financial debt**			
Currency risk	–	2,187	148,004	247,130	– 4,819	4,841
Commodity price risk	14,130	2,580	–	38,405	27,607	– 23,386
	14,130	**4,767**	**148,004**	**285,535**	**22,788**	**– 18,545**

Hedging relationships involving fair value hedges at 30 September 2022

	Carrying amount of hedging instrument			Nominal volume	Changes in fair value of hedging instrument (basis for determining hedge ineffectiveness)	Changes in fair value of hedged item (basis for determining ineffectiveness)
Euro 000s	Asset-side derivative financial instruments	Liability-side derivative financial instruments	Financial debt			
Currency risk	–	–	159,691	159,691	– 4,331	4,393
Commodity price risk	3,119	20,910	–	37,037	– 17,791	13,819
	3,119	**20,910**	**159,691**	**196,728**	**– 22,122**	**18,212**

Fair value hedges have the following impact on MVV's statement of comprehensive income:

Impact of fair value hedges on total comprehensive income at 30 September 2023

Euro 000s	**Ineffective-ness recognised through profit or loss**
Currency risk	22
Commodity price risk	4,221
	4,243

Impact of fair value hedges on total comprehensive income at 30 September 2022

Euro 000s	Ineffective-ness recognised through profit or loss
Currency risk	62
Commodity price risk	– 3,972
	– 3,910

In the 2023 financial year, income from the ineffectiveness of currency hedges was recognised under financing income. The ineffectiveness resulted from slightly different nominal volumes of intragroup loans.

In the 2023 financial year, the ineffectiveness for commodities was recognised under income from derivative financial instruments.

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 implicit rating on the financial market and to boost the company's earnings strength.

The adjusted equity ratio referred to for management purposes presents adjusted consolidated equity as a proportion of adjusted total assets. Adjusted equity comprises all equity items reported in the consolidated financial statements, including non-controlling and minority interests, but excluding non-operating IFRS 9 derivative measurement items and the associated impact on deferred taxes. MVV intends to maintain an adjusted equity ratio of at least 30 %. At 30 September 2023, its adjusted equity ratio stood at 39.7 % (previous year: 27.1 %). Due to the growth in total assets resulting from exceptionally high inflows of security deposits for counterparty default risk (margins), the equity ratio fell short of the target in the previous year. This was caused by highly volatile fair values of energy trading derivatives traded on the exchanges. Excluding margins, the adjusted equity ratio amounted to 40.7 % at 30 September 2023 (previous year: 34.3 %).

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 retaining earnings and issuing shares, the company can basically adjust its equity base to requirements.

The key figure used in our value-based corporate management 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). MVV intends to generate a positive value spread. In the financial year under report, the value spread amounted to 25.5 % (previous year: 9.6 %) and resulted from the adjusted ROCE of 33.5% (previous year: 16.2 %) less WACC before taxes of 8.0 % (previous year: 6.6 %). The rise in the ROCE was chiefly driven by the increase in adjusted EBIT by Euro 527 million to Euro 880 million and the increase in capital employed by Euro 451 million to Euro 2,629 million. The target of generating a positive value spread was met in the financial year under report.

The objective of capital management thus particularly involves raising the value spread with measures including optimising the cost of capital. This is achieved on the one hand by optimising capital employed, for example by optimising working capital. On the other hand, the capital structure and, associated with this, the capital cost rate, are designed in such a way as to optimise costs and risks, for example by maintaining the appropriate level of adjusted equity ratio referred to above and by aligning liquidity to operating requirements.

There were no changes in the underlying capital management requirements compared with the previous year.

42. Segment reporting

Segment report from 1 October 2022 to 30 September 2023

Euro 000s	Adjusted external sales excluding energy taxes	Intercompany sales excluding energy taxes	Scheduled depreciation and amortisation	Impairment losses
Customer Solutions	6,312,829	637,170	18,273	–
New Energies	750,111	260,933	94,321	–
Supply Reliability	404,744	1,178,194	76,880	–
Strategic Investments	61,931	2,793	3,423	–
Other Activities	905	44,031	13,981	–
Consolidation	–	– 2,123,121		–
	7,530,520	**–**	**206,878**	**–**

Euro 000s	Material non-cash income and expenses	Adjusted EBIT	Contribution from period income at companies recognised at equity	Investments
Customer Solutions	– 12,911	497,467	202	29,322
New Energies	– 4,530	176,358	4,348	133,302
Supply Reliability	4,298	58,060	5,556	159,494
Strategic Investments	2,684	153,769	68,948	3,895
Other Activities	2,486	– 5,497	374	17,841
Consolidation	–	–	–	–
	– 7,973	**880,157**	**79,428**	**343,854**

Segment report from 1 October 2021 to 30 September 2022

Euro 000s	Adjusted external sales excluding energy taxes	Intercompany sales excluding energy taxes	Scheduled depreciation and amortisation	Impairment losses
Customer Solutions	3,106,292	435,029	18,240	–
New Energies	579,280	308,880	91,309	339
Supply Reliability	387,430	845,550	74,661	264
Strategic Investments	125,405	27,763	11,742	–
Other Activities	1,090	43,193	14,707	–
Consolidation	–	– 1,660,415		–
	4,199,497	**–**	**210,659**	**603**

Euro 000s	Material non-cash income and expenses	Adjusted EBIT	Contribution from period income at companies recognised at equity	Investments
Customer Solutions	– 7,077	135,552	40,504	57,807
New Energies	18,545	149,841	5,343	109,264
Supply Reliability	8,454	37,348	7,924	134,600
Strategic Investments	2,251	17,996	10,488	11,370
Other Activities	2,942	12,414	254	21,568
Consolidation	–	–	–	–
	25,115	**353,151**	**64,513**	**334,609**

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 Customer Solutions, New Energies, Supply Reliability, Strategic Investments and Other Activities. The characteristics used to identify and aggregate the segments relate to the type of products and services, the type of production processes, the asset and capital intensity, customer structures and needs, the sales methods used and, where appropriate, the regulatory framework. Analytically, the business fields can be further broken down by subgroup and individual company with their products.

- The **Customer Solutions** reporting segment is subdivided into the business fields of commodities, retail and business. It comprises the retail and secondary distribution business with electricity, heat, gas and water, the solutions business for all customer segments and the service and trading business at MVV Trading GmbH, Mannheim. The smart cities business field is also included in this reporting segment.

  The key focus of aggregation for these business fields relates to the service business and to customer needs. The customer is the key focus of the business, use is made of comparable service methods, and activities and marketing processes for the customers are pooled and almost exclusively target external customers (e.g. sales to third parties).

- The energy from waste plants, biomass power plants, photovoltaics systems, wind turbines, biomethane plants and biogas plants are allocated to the **New Energies** reporting segment. Furthermore, this reporting segment also includes the renewable energies project development and operations management activities.

  The business fields aggregated in this segment focus on the provision of services, solutions and products in connection with renewable energies. The activities within this reporting segment involve the planning, approval, development, construction and operation of technical plants to generate electricity and heat from sustainable/partly sustainable commodities such as wind, waste timber, residual forest timber, green cuttings, waste/RDF, biogas and sunshine. The processes are characterised by long planning, approval, construction and operating stages.

- In addition to conventional energy generation, the **Supply Reliability** reporting segment also includes grid facilities for electricity, heat, gas and water. It comprises combined heat and power generation, grid facilities and further infrastructure required to provide our customers with a secure supply of electricity, heat, gas and water.

  The business fields aggregated in this segment serve to provide customers with a reliable and stable supply of various products. All facilities are characterised by high asset intensity, long technical lifecycles and long-term financing structures.

- The **Strategic Investments** reporting segment comprises the Köthen Energie subgroup, the MVV Energie CZ subgroup through to the date of its deconsolidation and the at-equity results of select shareholdings in municipal utility companies.

- The **Other Activities** reporting segment consists in particular of the 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. 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 segment reporting presented pursuant to 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 presented in the table below. In the management perspective, the concept of investments is basically aligned to payments for investments in the period under report as presented in the cash flow statement. Alongside payments for intangible assets, property, plant and equipment (adjusted for dismantling obligations) and investment properties, in the management perspective investments also include payments for the acquisition of fully consolidated companies and other business units and payments for other financial assets. Furthermore, additions to unfinished products in connection with finance leases are accounted for as investments. However, additions to securities and loans are not included in this concept of investments.

Consistent with the management approach, the earnings stated for the reporting segments 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 to business fields fully or partly managed on the basis of cost centre logic (shared services and cross-divisional functions). Furthermore, when it comes to the generation of district heat the primary costs are incurred in operative terms in the Supply Reliability and New Energies reporting segments. These are charged to Customer Solutions. The latter reporting segment reimburses Supply Reliability and New Energies with a prorated return on their capital employed.

Segmentation is performed in the same way for all segments through to adjusted EBIT. The table below presents the reconciliation of earnings before interest and taxes (EBIT) with adjusted EBIT:

Reconciliation of EBIT (income statement) with adjusted EBIT

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022	+/– change
EBIT as per income statement	1,063,070	34,454	+ 1,028,616
Measurement and realisation effects for derivatives	– 185,867	315,329	– 501,196
Interest income from finance leases	2,954	3,368	– 414
Adjusted EBIT	**880,157**	**353,151**	**+ 527,006**

Reconciliation of external sales excluding energy taxes with adjusted external sales excluding energy taxes

Euro 000s	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022	+/– change
Sales after electricity and natural gas taxes	6,619,048	5,923,588	+ 695,460
Realisation effects for derivatives	911,472	– 1,724,091	+ 2,635,563
Adjusted sales after electricity and natural gas taxes	**7,530,520**	**4,199,497**	**+ 3,331,023**

Of adjusted segment sales with external customers, 95.2 % were generated in Germany (previous year: 92.6 %). The regional breakdown of sales is based on the geographical location of the respective companies.

No individual customers of MVV account for 10 % or more of total sales.

Of non-current assets, which comprise intangible assets, property, plant and equipment, right-of-use assets, investment properties, shareholdings in companies recognised at equity and other non-financial receivables and assets, Euro 3,147,320 thousand are located in Germany (previous year: Euro 3,073,377 thousand) and Euro 403,159 thousand in third countries (previous year: Euro 551,943 thousand). This breakdown is based on the geographical locations of the respective assets.

43. Cash flow statement

The cash flow statement shows 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.

The cash flow before working capital and taxes increased year-on-year by Euro 422 million. This development was chiefly due to the fact that, also after elimination of non-cash-effective and non-operating income and expenses, the significant year-on-year growth in earnings before taxes (EBT) led to a higher volume of cash-effective operating earnings. The largest item in this elimination related to the non-cash-effective measurement of derivatives pursuant to IFRS 9. The reclassification to the cash flow from investing activities of non-operating income generated from the sales of the MVV Energie CZ Group and the shares in Stadtwerke Ingolstadt also impacted negatively on the cash flow before working capital.

The cash flow from operating activities fell year-on-year by Euro 1,566 million. This resulted above all from higher repayments of security deposits for counterparty default risk (margins). Largely on account of lower wholesale prices for electricity and gas, the period under report saw a significant reduction in the volume of margins received. This more than offset the significant improvement in the operating cash flow. Adjusted to exclude the change in margins deposited, the cash flow from operating activities increased by Euro 430 million to Euro 786 million and was thus consistent with the strong operating earnings performance. Alongside higher earnings, the main factor influencing the year-on-year development in the cash flow from an operating perspective was the reduction in the volume of receivables and inventories.

The development in the cash flow from investing activities was chiefly shaped by proceeds from the sales of the MVV Energie CZ Group and of the shares in Stadtwerke Ingolstadt in the period under report. Moreover, the volume of outgoing payments to acquire companies was lower in the current period. These factors were countered by higher payments for investments in non-current assets. Overall, the cash flow from investing activities rose year-on-year by Euro 195 million.

The cash flow from financing activities fell by Euro 167 million to Euro – 285 million, a development mainly resulting from a lower volume of net new borrowing.

MVV reported cash and cash equivalents of Euro 975 million at 30 September 2023 (30 September 2022: Euro 1,885 million).

The reconciliation of liabilities in connection with financing activities is summarised in the following overview:

Liabilities in connection with financing activities

Euro 000s	30 Sep 2022	Cash-effective changes			Non-cash-effective changes				30 Sep 2023
		Amount taken up	Principal repayment	Interest payments [1]	Change in scope of consolidation	Changes in exchange rates	Additions to leases	Other adjustments	
Liabilities to banks	1,744,123	22,865	– 137,739	– 53,735	– 5,968	6,849	–	–	1,630,130
Lease liabilities	140,211	–	– 16,294	– 3,885	– 4,713	21	19,677	– 2,132	136,770
Other financial debt	32,601	3,800	– 2,759	– 1,312	– 2,582	9	–	–	31,069
	1,916,935	**26,665**	**– 156,792**	**– 58,932**	**– 13,263**	**6,879**	**19,677**	**– 2,132**	**1,797,969**

1 Interest payments do not form part of the closing balance for liabilities in connection with financing activities.

Liabilities in connection with financing activities

Euro 000s	30 Sep 2021	Cash-effective changes			Non-cash-effective changes				30 Sep 2022
		Amount taken up	Principal repayment	Interest payments [1]	Change in scope of consolidation	Changes in exchange rates	Additions to leases	Other adjustments	
Liabilities to banks	1,711,036	289,965	– 246,392	– 53,458	– 3,390	– 7,096	–	–	1,744,123
Lease liabilities	148,601	–	– 15,805	– 3,986	– 9,872	– 5	17,520	– 228	140,211
Other financial debt	26,639	31,826	– 25,866	– 1,371	–	2	–	–	32,601
	1,886,276	**321,791**	**– 288,063**	**– 58,815**	**– 13,262**	**– 7,099**	**17,520**	**– 228**	**1,916,935**

1 Interest payments do not form part of the closing balance for liabilities in connection with financing activities.

44. 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 MKB Mannheimer Kommunalbeteiligungen GmbH. This company owns 99.99 % of the shares in MV Mannheimer Verkehr GmbH, which in turn has a 50.1 % shareholding in MVV Energie AG. The City of Mannheim and the companies, associates and joint ventures 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 (electricity, gas, water and district heat 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 18,284 thousand (previous year: Euro 19,893 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 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022	**1 Oct 2022 to 30 Sep 2023**	1 Oct 2021 to 30 Sep 2022	**30 Sep 2023**	30 Sep 2022	**30 Sep 2023**	30 Sep 2022
Stadt Mannheim	6,722	9,843	21,588	24,037	608	507	6,257	7,786
Abfallwirtschaft Mannheim	13,651	11,649	2,068	1,722	1,436	1,562	6,572	6,061
GBG Mannheimer Wohnungsbaugesellschaft mbH	13,055	14,587	20	243	807	593	783	40
m:con - mannheim:congress GmbH	4,375	4,027	331	212	4,138	4,660	370	265
MKB Mannheimer Kommunalbeteiligungen GmbH	31	8	–	–	–	–	–	–
MV Mannheimer Verkehr GmbH	739	7	8	19	47	–	8	–
Rhein-Neckar-Verkehr GmbH	7,390	7,049	407	–	1,747	209	727	1,186
Stadtentwässerung Mannheim	972	1,489	337	336	149	56	37	15
Associates	12,933	6,207	1,372	1,281	1,223	927	302	1,628
Joint ventures	236,967	200,928	344,598	441,602	9,469	69,526	7,125	15,757
Other related parties	25,255	25,627	9,419	8,594	8,499	6,634	4,294	2,554
	322,090	**281,421**	**380,148**	**478,046**	**28,123**	**84,674**	**26,475**	**35,292**

The income and expenses with other related parties include income of Euro 13 thousand (previous year: Euro 43 thousand) and expenses of Euro 599 thousand (previous year: Euro 336 thousand) for goods and services provided to management staff performing key functions. At the balance sheet date, the company had outstanding obligations of Euro 69 thousand due to Supervisory Board members for their activity on the board (previous year: Euro 100 thousand).

Pursuant to IAS 24, related parties include management staff performing key functions and their close family relatives. Management staff performing key functions include the Executive and Supervisory Boards of MVV Energie AG.

Customer contracts concerning the supply of electricity, gas, water, district heat and energy-related services have been concluded between MVV Energie AG and members of its Executive and Supervisory Boards. 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 2023. As in the previous year, the company also did not issue any guarantees on behalf of Executive or Supervisory Board members. In addition to their supervisory board remuneration, the employee representatives on the Supervisory Board receive salaries customary to the market.

MVV Energie AG has compiled a dependent company report in accordance with § 312 AktG for the financial year ending on 30 September 2023. Furthermore, MVV Energie has established a process for recording and assessing related party transactions pursuant to § 111a et seq. AktG.

The disclosure requirements for the remuneration of management staff performing key functions at the Group cover the remuneration paid to members of the Executive and Supervisory Boards.

Total remuneration for management staff performing key functions amounted to Euro 5,177 thousand in the year under report (previous year: Euro 5,868 thousand). Of this total, Euro 4,432 thousand related to short-term benefits (previous year: Euro 4,076 thousand), while Euro 745 thousand involved post-employment benefits (previous year: Euro 1,792 thousand).

In the year under report, the Executive Board received short-term benefits of Euro 3,890 thousand (previous year: Euro 3,510 thousand). Short-term benefits include fixed remuneration of Euro 1,566 thousand (previous year: Euro 1,727 thousand), fringe benefits of Euro 116 thousand (previous year: Euro 141 thousand) and other remuneration, which includes remuneration paid for board positions held at subsidiaries and shareholdings and is nevertheless imputed to the variable remuneration of Executive Board members, of Euro 34 thousand (Euro 36 thousand), as well as performance-related remuneration totalling Euro 2,174 thousand (previous year: Euro 1,606 thousand). This variable remuneration paid to Executive Board members comprises the annual bonus and sustainability bonuses 1 and 2. Compared with the annual bonus, the sustainability bonuses account for the predominant share of variable remuneration paid to the Executive Board members of MVV Energie AG.

The annual bonus is based on the adjusted EBIT achieved by MVV in the respective past financial year. Sustainability bonuses 1 and 2 are linked to the long-term increase in the company's value and are based on the ROCE and WACC key figures. Sustainability bonus 1 is paid if the bonus-relevant ROCE exceeds the minimum return specified by the Supervisory Board each year over a three-year period. Sustainability bonus 2 is granted if the bonus-relevant ROCE (as an average for the past three years) exceeds the costs of capital (also as an average for the past three years). The bonus components are paid each year. No more far-reaching long-term remuneration targets have been agreed. There are no share-based remuneration agreements or comparable instruments. Provisions of Euro 2,207 thousand were stated for bonus-related obligations as of 30 September 2023 (previous year: Euro 1,721 thousand).

Pension provisions of Euro 8,577 thousand were recognised as of 30 September 2023 for the members of the Executive Board (previous year: Euro 8,097 thousand). The service cost for post-employment benefits amounts to Euro 745 thousand (previous year: Euro 1,702 thousand).

Active Supervisory Board members were remunerated as follows:

Supervisory Board remuneration

Euro 000s	**FY 2023**	FY 2022
Fixed remuneration (including meeting allowances)	542	566

Former members of the Executive Board received benefits of Euro 820 thousand in the year under report (previous year: Euro 755 thousand). Provisions totalling Euro 13,101 thousand have been stated for pension obligations towards former Executive Board members (previous year: Euro 13,076 thousand). A total of Euro 366 thousand was allocated to this item in the year under report (previous year: Euro 161 thousand).

45. MVV's shareholdings

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
Fully consolidated subsidiaries				
Associates (Germany)				
beegy GmbH	Schwalbach am Taunus	Germany	100.00	4
BEG Gernsbacher Höhe UG (haftungsbeschränkt) & Co. KG	Mainz	Germany	0.00	5a, 8
BFE Institut für Energie und Umwelt GmbH	Mühlhausen	Germany	100.00	4
Biokraft Naturbrennstoffe GmbH	Offenbach am Main	Germany	100.00	
Cerventus Naturenergie GmbH	Offenbach am Main	Germany	50.00	
Cerventus Naturenergie Verwaltungs GmbH	Offenbach am Main	Germany	100.00	
Dabit Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG	Mainz	Germany	94.00	
DC Products GmbH (previously: RZ Products Gmbh)	Wallmenroth	Germany	100.00	
DC-Datacenter-Assets GmbH (previously: MVV Energiedienstleistungen Alpha zwei GmbH)	Mannheim	Germany	100.00	7
DC-Datacenter-Group GmbH	Wallmenroth	Germany	100.00	
econ solutions GmbH	Munich (dom.: Mannheim)	Germany	100.00	4
En/Da/Net GmbH	Erfurt	Germany	100.00	4
Energienetze Offenbach GmbH	Offenbach am Main	Germany	100.00	4
Energieversorgung Dietzenbach GmbH	Dietzenbach	Germany	50.00	5b
Energieversorgung Offenbach Aktiengesellschaft	Offenbach am Main	Germany	48.42	2
eternegy GmbH	Mannheim	Germany	100.00	
EVO Ressourcen GmbH	Offenbach am Main	Germany	100.00	4
Fernwärme Rhein-Neckar GmbH	Mannheim	Germany	100.00	4
Gasversorgung Offenbach GmbH	Offenbach am Main	Germany	74.90	
Gesellschaft für Hochspannungsbau Offenbach mbH	Offenbach am Main	Germany	100.00	
IGS Netze GmbH	Gersthofen	Germany	100.00	4
Infrastruktur Oberheimbach II GmbH & Co. KG	Wörrstadt	Germany	72.00	
Infrastruktur Waldweiler GmbH & Co. KG	Wörrstadt	Germany	60.40	
Infrastrukturgesellschaft Hungerberg GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Infrastrukturgesellschaft Veldenz GmbH & Co. KG	Wörrstadt	Germany	56.03	
iwo Pellet Rhein - Main GmbH	Offenbach am Main	Germany	100.00	
juwi Bestandsanlagen GmbH	Wörrstadt	Germany	100.00	4
JUWI GmbH	Wörrstadt	Germany	100.00	
JUWI UW GmbH	Wörrstadt	Germany	100.00	4, 7
juwi Wind Germany 135 GmbH & Co. KG	Wörrstadt	Germany	75.45	
juwi Wind Germany 162 GmbH & Co. KG	Wörrstadt	Germany	80.00	
juwi Wind Germany 180 GmbH & Co. KG	Wörrstadt	Germany	44.80	5a
juwi Wind Germany 221 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 223 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 230 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 247 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany Verwaltungs GmbH	Wörrstadt	Germany	100.00	
Köthen Energie GmbH	Köthen (Anhalt)	Germany	100.00	
MVV Alpha drei GmbH	Mannheim	Germany	100.00	4
MVV Alpha eins GmbH	Mannheim	Germany	100.00	
MVV Alpha fünfzehn GmbH	Mannheim	Germany	100.00	4
MVV Biogas GmbH	Mannheim	Germany	100.00	
MVV Biomethan GmbH	Mannheim (dom.: Wanzleben-Börde)	Germany	100.00	4
MVV Enamic GmbH	Mannheim	Germany	100.00	4
MVV Enamic Korbach GmbH	Korbach	Germany	100.00	4

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
MVV Enamic Ludwigshafen GmbH	Mannheim	Germany	100.00	
MVV Enamic Naturenergie GmbH	Mannheim	Germany	100.00	
MVV EnergySolutions GmbH	Mannheim	Germany	100.00	4
MVV Grüne Wärme GmbH	Mannheim	Germany	100.00	4
MVV ImmoSolutions GmbH	Berlin (dom.: Mannheim)	Germany	100.00	4
MVV Industriepark Gersthofen GmbH	Gersthofen	Germany	100.00	4
MVV Netze GmbH	Mannheim	Germany	100.00	4
MVV RHE GmbH	Mannheim	Germany	100.00	4
MVV Trading GmbH	Mannheim	Germany	100.00	4
MVV Umwelt Asset GmbH	Mannheim	Germany	100.00	4
MVV Umwelt GmbH	Mannheim	Germany	100.00	4
MVV Umwelt Ressourcen GmbH	Mannheim	Germany	100.00	4
MVV Windenergie GmbH	Mannheim	Germany	100.00	4
Netzgesellschaft Köthen mbH	Köthen (Anhalt)	Germany	100.00	4
New Breeze GmbH	Wörrstadt	Germany	100.00	
DecarTec GmbH (previously: Philipp Rass Energy GmbH)	Trier	Germany	100.00	
Soluvia Energy Services GmbH	Offenbach am Main	Germany	100.00	
Soluvia IT-Services GmbH	Kiel	Germany	100.00	
Stadtwerke Kiel Aktiengesellschaft	Kiel	Germany	51.00	
SWKiel Netz GmbH	Kiel	Germany	100.00	4
SWKiel Speicher GmbH	Kiel	Germany	100.00	4
Umspannwerk Kirchberg 2 GmbH & Co. KG	Wörrstadt	Germany	51.60	
Windpark Albisheim GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Windpark Dirlammen GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Windpark Hungerberg I GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Windpark Hungerberg II GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Windpark Kirchberg GmbH & Co. KG	Offenbach am Main	Germany	100.00	
Fully consolidated subsidiaries				
Associates (international)				
AVANTAG Energy S.à.r.l.	Wecker	Luxembourg	100.00	
Cactus Garden Solar LLC	Delaware	USA	100.00	
Corsoleil EURL i.L.	Saint Florent	France	100.00	
Electaparc S.A.	Montevideo	Uruguay	100.00	
GEMdev S.r.l.	Milan	Italy	70.00	7
JSI 01 Srl	Milan	Italy	100.00	
JSI Construction Group LLC	Delaware	USA	100.00	
JSI Equipment Purchasing Inc.	Delaware	USA	100.00	
JSI Equipment Solutions LLC	Delaware	USA	100.00	
JSI Milford Realty Company LLC	Delaware	USA	100.00	
JSI O&M Group LLC	Delaware	USA	100.00	
juwi Energie Rinnovabili Srl	Milan	Italy	100.00	
juwi Energy Services (Pty) Ltd.	Cape Town	South Africa	80.00	
juwi Hellas Renewable Energy Sources Single Member S.A.	Athens	Greece	100.00	
juwi Holding US LLC	Delaware	USA	100.00	
juwi Inc.	Delaware	USA	100.00	
juwi India Renewable Energies Private Limited	Bengaluru	India	100.00	
juwi Philippines Inc.	Pasay City	Philippines	99.99	

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital %[1]	Footnotes
juwi Renewable Energies (Pty) Ltd.	Cape Town	South Africa	100.00	
juwi Renewable Energies Limited	London	UK	100.00	
juwi renewable energies Pvt. Ltd.	Singapore	Singapore	100.00	
juwi Renewable Energies Thai Co., Ltd.	Bangkok	Thailand	74.40	
juwi Renewable Energy Pty. Ltd.	Brisbane	Australia	100.00	
juwi Singapore Projects Pvt. Ltd.	Singapore	Singapore	100.00	
juwi Solar ZA Construction 1 (Pty) Ltd.	Cape Town	South Africa	80.00	
juwi Solar ZA Construction 2 (Pty) Ltd.	Cape Town	South Africa	92.00	
juwi Solar ZA Construction 3 (Pty) Ltd.	Cape Town	South Africa	80.00	
juwi Solar ZA Construction 4 (Pty) Ltd.	Cape Town	South Africa	60.00	
juwi Solar ZA O&M 1 (Pty) Ltd.	Cape Town	South Africa	49.00	5b
juwi Solar ZA O&M 2 (Pty) Ltd.	Cape Town	South Africa	100.00	
juwi Viet Nam Company Limited	Hanoi	Vietnam	100.00	
juwi Wind LLC	Delaware	USA	100.00	
MVV Environment Baldovie Energy Limited	Dundee	UK	100.00	
MVV Environment Baldovie Limited	Dundee	UK	100.00	
MVV Environment Baldovie Waste Limited	Dundee	UK	100.00	
MVV Environment Devonport Limited	Plymouth	UK	100.00	
MVV Environment Limited	Plymouth	UK	100.00	
MVV Environment Ridham Limited	Sittingbourne / Iwade	UK	100.00	
MVV Environment Services Limited	Plymouth	UK	100.00	
Rocky Mountain Solar LLC	Delaware	USA	100.00	
Unconsolidated other shareholdings[9]				
Associates (Germany)				
Blue Village FRANKLIN Mobil GmbH	Mannheim	Germany	100.00	
EVO Vertrieb GmbH	Offenbach am Main	Germany	100.00	
JUWI Deutschland Verwaltungs GmbH (previously: Windwärts Projektmanagement GmbH)	Wörrstadt	Germany	100.00	
juwi Reinstedt Verwaltungs GmbH	Wörrstadt	Germany	100.00	7
juwi Wind Germany 126 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 127 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 128 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 200 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 204 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 218 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 220 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 224 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 225 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 226 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 228 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 232 GmbH & Co. KG	Wörrstadt	Germany	70.00	
juwi Wind Germany 234 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 235 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 236 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 237 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 238 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 239 GmbH & Co. KG	Wörrstadt	Germany	100.00	
juwi Wind Germany 242 GmbH & Co. KG	Wörrstadt	Germany	100.00	7

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
juwi Wind Germany 243 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 244 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 245 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 246 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 248 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 249 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 250 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 251 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 252 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 253 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 254 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 255 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 256 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 257 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 258 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 259 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 260 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 261 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 262 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 263 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 264 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 265 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 266 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 267 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 268 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 269 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 270 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 271 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 272 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 273 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 274 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 275 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
juwi Wind Germany 276 GmbH & Co. KG	Wörrstadt	Germany	100.00	7
luminatis Deutschland GmbH	Landau in der Pfalz	Germany	100.00	
MVV Alpha zwei GmbH	Mannheim	Germany	100.00	4
MVV Insurance Services GmbH	Mannheim	Germany	100.00	
MVV Regioplan GmbH	Mannheim	Germany	100.00	4
MVV Windpark Verwaltungs GmbH	Mannheim	Germany	100.00	
PEJO Elektrotechnik GmbH	Mannheim	Germany	100.00	
Windpark Hellenthal Wiesenhardt GmbH & Co. KG	Wörrstadt	Germany	100.00	
Windwärts Betriebs- und Beteiligungsgesellschaft mbH	Hanover	Germany	100.00	
Unconsolidated other shareholdings[9]				
Associates (international)				
Achab Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Adobe Creek Solar LLC	Delaware	USA	100.00	7
Alachua Solar LLC	Delaware	USA	100.00	

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
Axial Basin Solar LLC	Delaware	USA	100.00	
Baca Solar LLC	Delaware	USA	100.00	
Belviworx (Pty) Ltd.	Cape Town	South Africa	100.00	
Bench Solar LLC	Delaware	USA	100.00	
Boxelder Creek Solar LLC	Delaware	USA	100.00	
Cache Valley Solar LLC	Delaware	USA	100.00	
Chapeno Solar LLC	Delaware	USA	100.00	
Chino Valley Solar LLC	Delaware	USA	100.00	
Coalbank Creek Solar LLC	Delaware	USA	100.00	
Coyote Gulch Solar LLC	Delaware	USA	100.00	
Coyote Spring Solar LLC	Delaware	USA	100.00	7
Crystal Springs Solar LLC	Delaware	USA	100.00	
Delareyville Solar Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Dolores Canyon Solar LLC	Delaware	USA	100.00	
Dove Springs Solar LLC	Delaware	USA	100.00	7
Durbavert (Pty) Ltd.	Cape Town	South Africa	100.00	
Fairforest Solar LLC	Delaware	USA	100.00	
Hartebeest Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Highland Spring Solar LLC	Delaware	USA	100.00	7
Hotazel Solar Farm 1 (Pty) Ltd.	Cape Town	South Africa	100.00	
Hotazel Solar Farm 2 (Pty) Ltd.	Cape Town	South Africa	100.00	
Iron Spring Solar LLC	Delaware	USA	100.00	7
JSI Procurement Group LLC	Delaware	USA	100.00	
JUWI Construction ZA	Cape Town	South Africa	100.00	7
juwi Devco Pty. Ltd.	Brisbane	Australia	100.00	
juwi Development 01 Srl	Milan	Italy	100.00	
juwi Development 04 Srl	Milan	Italy	100.00	
juwi Development 06 Srl	Milan	Italy	100.00	
juwi Development 07 Srl	Milan	Italy	100.00	
juwi Development 09 Srl	Milan	Italy	100.00	
juwi Development 10 Srl	Milan	Italy	100.00	
juwi Development 11 Srl	Milan	Italy	100.00	
juwi Development 14 Srl	Verona	Italy	100.00	
juwi Development 15 Srl	Verona	Italy	100.00	7
juwi Development 16 Srl	Milan	Italy	100.00	7
juwi Development 17 Srl	Milan	Italy	100.00	7
juwi Development 18 Srl	Milan	Italy	100.00	7
juwi Development 19 Srl	Milan	Italy	100.00	7
juwi Development 20 Srl	Milan	Italy	100.00	7
juwi Development 21 Srl	Milan	Italy	100.00	7
juwi Development 22 Srl	Milan	Italy	100.00	7
juwi Development 23 Srl	Milan	Italy	100.00	7
juwi Development 24 Srl	Milan	Italy	100.00	7
juwi Development 25 Srl	Milan	Italy	100.00	7
juwi Energy Services 2 (Pty) Ltd.	Cape Town	South Africa	80.00	
juwi Solar ZA Construction 9 (Pty) Ltd.	Cape Town	South Africa	60.00	
JWT Asset Co., Ltd.	Bangkok	Thailand	49.80	5b
Kaip Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Kap Vley Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
Kenhardt PV1 (Pty) Ltd.	Cape Town	South Africa	100.00	
Kenhardt PV2 (Pty) Ltd.	Cape Town	South Africa	100.00	
Kenhardt PV3 (Pty) Ltd.	Cape Town	South Africa	100.00	
Kiowa Solar LLC	Delaware	USA	100.00	
Koppie Enkel Solar Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Kronos Solar Farm 1 (Pty) Ltd.	Cape Town	South Africa	100.00	
Kronos Solar Farm 2 (Pty) Ltd.	Cape Town	South Africa	100.00	
Kronos Solar Farm 3 (Pty) Ltd.	Cape Town	South Africa	100.00	
La Garita Solar LLC	Delaware	USA	100.00	
Marovax (Pty) Ltd.	Cape Town	South Africa	100.00	
Moffat Solar LLC	Delaware	USA	100.00	
Monarch Solar LLC	Delaware	USA	100.00	
Moonstone Solar LLC	Delaware	USA	100.00	7
Muleshoe Solar LLC	Delaware	USA	100.00	
Namies Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
North Platte Solar LLC	Delaware	USA	100.00	
Oasis Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Ophir Canyon Solar I LLC	Delaware	USA	100.00	
Ophir Canyon Solar II LLC	Delaware	USA	100.00	
Ophir Canyon Solar LLC	Delaware	USA	100.00	
Outeniqua Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Paradox Valley Solar LLC	Delaware	USA	100.00	
Pronghorn Solar LLC	Delaware	USA	100.00	
Rifle Gap Solar LLC	Delaware	USA	100.00	
Saddle Mountain Solar LLC	Delaware	USA	100.00	
San Carlos Solar LLC	Delaware	USA	100.00	
Sierra Mojada Solar LLC CCC	Delaware	USA	100.00	
Sierra Vista Solar LLC	Delaware	USA	100.00	
Silver Moon Solar LLC	Delaware	USA	100.00	
Sky Prairie Solar LLC	Delaware	USA	100.00	7
Skyview Solar LLC	Delaware	USA	100.00	
Snake River Solar LLC	Delaware	USA	100.00	7
South Hills Solar LLC	Delaware	USA	100.00	7
Spanish Peaks II Solar LLC	Delaware	USA	100.00	
Spanish Peaks Solar LLC	Delaware	USA	100.00	
Trifylli Iliaki Single Member S.A.	Athens	Greece	100.00	7
Vredendal Solar Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Wildebeest Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
Williams Creek Solar LLC	Delaware	USA	100.00	7
Zingesele Wind Farm (Pty) Ltd.	Cape Town	South Africa	100.00	
At equity				
Joint ventures (Germany)				
ABeG Abwasserbetriebsgesellschaft mbH	Dietzenbach	Germany	49.00	
Allegro engineering GmbH	Markranstädt-Thronitz	Germany	30.00	
AvanLog Solar GmbH	Rosental (dom.: Munich)	Germany	50.00	
AVR BioGas GmbH	Sinsheim	Germany	41.50	
BEEGY Operations GmbH i.L.	Mannheim	Germany	51.00	3
Biomasse Rhein-Main GmbH	Flörsheim am Main	Germany	33.33	

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital % [1]	Footnotes
Gemeinschaftskraftwerk Kiel Gesellschaft mit beschränkter Haftung	Kiel	Germany	50.00	
GeoHardt GmbH	Schwetzingen	Germany	50.00	
Grosskraftwerk Mannheim Aktiengesellschaft	Mannheim	Germany	28.00	
Infrastruktur Donnersberg GmbH & Co. KG	Wörrstadt	Germany	22.91	
Mainnetz GmbH	Obertshausen	Germany	25.10	
Qivalo GmbH	Mannheim	Germany	42.50	
sMArt City Mannheim GmbH	Mannheim	Germany	50.00	
Solventus GmbH & CO. KG	Kiel	Germany	50.00	
Solventus Verwaltungsgesellschaft mbH	Kiel	Germany	50.00	
Stadtwerke Sinsheim Versorgungs GmbH & Co. KG	Sinsheim	Germany	30.00	
Umspannwerk Donnersberg GmbH & Co. KG	Wörrstadt	Germany	22.91	
Windpark Reinstedt Repowering GmbH & Co. KG	Wörrstadt	Germany	55.00	3, 7
Windpark Worms Repowering GmbH & Co. KG	Wörrstadt	Germany	100.00	3
wärme.netz.werk Rhein-Neckar GmbH	Heidelberg	Germany	33.34	
At equity				
Joint ventures (international)				
juwi Shizen Energy Inc.	Tokyo	Japan	50.00	
At equity				
Associates (Germany)				
ESN EnergieSystemeNord GmbH	Schwentinental	Germany	25.00	
Infrastrukturgesellschaft Erbes-Büdesheim GmbH & Co. KG	Wörrstadt	Germany	22.36	
juwi Wind Germany 100 GmbH & Co. KG	Wörrstadt	Germany	34.32	
Naturenergie Main-Kinzig GmbH	Gelnhausen	Germany	50.00	
Netzgesellschaft Edingen-Neckarhausen GmbH & Co. KG	Edingen-Neckarhausen	Germany	24.00	
Phoenix Energie GmbH	Hanover	Germany	0.05	6
Stadtwerke Buchen GmbH & Co. KG	Buchen-Odenwald	Germany	25.10	
Zweckverband Wasserversorgung Kurpfalz	Mannheim (dom.: Heidelberg)	Germany	51.00	3
At equity				
Associates (international)				
juwi Shizen Energy Operation Inc.	Tokyo	Japan	30.00	

List of MVV's shareholdings at 30 September 2023

	Town/city	Country	Share of capital %[1]	Footnotes
Other minority shareholdings				
(Germany)				
8KU GmbH	Berlin	Germany	12.50	
Infrastruktur Oberheimbach I GmbH & Co. KG	Wörrstadt	Germany	15.00	
juwi Wind Germany 129 GmbH & Co. KG	Wörrstadt	Germany	16.00	
Klimaschutzagentur Mannheim gemeinnützige GmbH	Mannheim	Germany	40.00	9
Main-Kinzig-Entsorgungs- und Verwertungs GmbH	Gelnhausen	Germany	49.00	9
Management Stadtwerke Buchen GmbH	Buchen-Odenwald	Germany	25.20	9
RIO Holzenergie GmbH & Co. Langelsheim KG	Wörrstadt	Germany	37.55	9
Stadtmarketing Mannheim GmbH	Mannheim	Germany	3.09	
Stadtwerke Langen Gesellschaft mit beschränkter Haftung	Langen	Germany	10.00	4
Stadtwerke Schwetzingen GmbH & Co. KG	Schwetzingen	Germany	10.00	
Stadtwerke Schwetzingen Verwaltungsgesellschaft mbH	Schwetzingen	Germany	10.00	
Stadtwerke Sinsheim Verwaltungs GmbH	Sinsheim	Germany	30.00	9
Stadtwerke Walldorf GmbH & Co. KG	Walldorf	Germany	25.10	9
Stadtwerke Walldorf Verwaltungs GmbH	Walldorf	Germany	25.10	9
SWT Regionale Erneuerbare Energien GmbH	Trier	Germany	51.00	9
Wasserversorgungsverband Neckargruppe	Edingen-Neckarhausen	Germany	25.00	9
WiWi Windkraft GmbH & Co. Westpfalz KG i.L.	Wörrstadt	Germany	5.32	
WVE Wasserversorgungs- und -entsorgungsgesellschaft Schriesheim mbH	Schriesheim	Germany	24.50	9

1 Share of capital at 30 September 2023 pursuant to § 16 (4) AktG; equity and annual net income pursuant to HGB or local requirements

2 Majority of voting rights

3 No voting right majority

4 Profit transfer/operating profit transfer agreement

5a Controlling influence – general partner GmbH performs management

5b Controlling influence based on contractual provisions

6 Significant influence based on articles of association

7 Added in financial year

8 Citizens' energy company at the Group

9 Company of immaterial significance

Further disclosures can be found in the list of shareholdings of MVV Energie AG.

46. Auditor's fee

The following fees were incurred in Germany for the services performed by the auditor of the consolidated financial statements, PricewaterhouseCoopers GmbH Wirtschaftsprüfungs-gesellschaft, in the 2023 financial year:

Auditor's fee

Euro 000s	FY 2023	FY 2022
Audit services	2,399	2,270
Other audit services	684	420
Tax advisory services	–	94
Other services	212	608
	3,295	**3,392**

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 audit services mainly involve audits performed in accordance with energy industry requirements/attestations (EEG, KWKG) and voluntary certification services. No tax advisory services were performed in the 2023 financial year. The fees paid for other services chiefly include advisory services provided in connection with our IT projects.

47. Utilisation of § 264 (3) HGB

The following German subsidiaries will draw on the disclosure exemption provided for under § 264 (3) HGB for the 2023 financial year:

- BFE Institut für Energie und Umwelt GmbH, Mühlhausen
- MVV Alpha zwei GmbH, Mannheim
- MVV Alpha drei GmbH, Mannheim
- MVV Alpha fünfzehn GmbH, Mannheim
- MVV Grüne Wärme GmbH, Mannheim
- MVV Umwelt GmbH, Mannheim
- MVV Umwelt Ressourcen GmbH, Mannheim

48. Declaration of Compliance (§ 161 AktG)

The Corporate Governance Statement and Declaration of Compliance were published on our website at **mvv.de/en/corporate-governance** on 7 November 2023.

49. Information on concessions

In addition to the concession agreements between the City of Mannheim and MVV Energie AG (see Note 44 Related Party Disclosures), further concession agreements have also been concluded between MVV companies and local and regional authorities. The remaining terms range from 9 to 20 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.

50. Events after balance sheet date

We are not aware of any events after the balance sheet date.

Mannheim, 14 November 2023

MVV Energie AG

Executive Board

Dr. Georg Müller   Verena Amann   Ralf Klöpfer   Dr. Hansjörg 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 2023

MVV Energie AG

Executive Board

Dr. Georg Müller | Verena Amann | Ralf Klöpfer | Dr. Hansjörg Roll

Directors and Officers

Executive Board of MVV Energie AG

Dr. Georg Müller
CEO, Commercial Affairs

Verena Amann
Personnel and Labour Director

Ralf Klöpfer
Sales

Dr. Hansjörg Roll
Technology

Supervisory Board of MVV Energie AG

Christian Specht
(Member and, since 4 August 2023, Chair) Lord High Mayor of City of Mannheim
(since 4 August 2023)

Dr. Peter Kurz
(Chair until 3 August 2023) Lord High Mayor of City of Mannheim (until 3 August 2023)

Heike Kamradt-Weidner [1]
(Deputy Chair) Chair of Group Works Council

Kathrin Biro [1]
Trade Union Secretary, Managing Director of ver.di Rhine-Neckar District (since 16 October 2023)

Johannes Böttcher [1]
Work Safety Specialist at Energieversorgung Offenbach AG (until 26 October 2022)

Angelo Bonelli [1]
Trade Union Secretary at ver.di Baden-Württemberg State District

Timo Carstensen [1]
Deputy Chair of Works Council of Stadtwerke Kiel AG

Sabine U. Dietrich
Supervisory Board Member, Consultant

Detlef Falk [1]
Chair of Works Council of Stadtwerke Kiel AG

Martin F. Herrmann
Business Angel, Mentor

Barbara Hoffmann
Auditor, Tax Advisor

Dr. Simon Kalvoda [1]
Head of Facility Management Division at MVV Energie AG

Gregor Kurth
Partner, Igneo Infrastructure Partners (Igneo), London, UK

Thoralf Lingnau [1]
Member of Works Council of MVV Energie AG

Dr. Lorenz Näger
Former Deputy Chair of Executive Board and CFO of HeidelbergCement AG
(now Heidelberg Materials AG)

Erik Niedenthal [1]
Chair of Works Council of Energieversorgung Offenbach AG (since 27 October 2022)

Dr. Volker Proffen
Mayor of City of Mannheim (since 16 October 2023)

Tatjana Ratzel
Lawyer, Head of Department at INTER Krankenversicherung AG Mannheim

Thorsten Riehle
Managing Director of Capitol Betriebs-GmbH Mannheim

Andreas Schöniger [1]
Deputy Chair of Works Council of MVV Energie AG

Susanne Schöttke [1]
State District Director at ver.di North

Dr. Stefan Seipl
Businessman, Independent Management Consultant

Susanne Wenz [1]
Deputy State District Director at ver.di Baden-Württemberg (until 31 August 2023)

Positions held by Executive and Supervisory Board members 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	• Dr. Lorenz Näger (Chair) • Heike Kamradt-Weidner (Deputy Chair) • Angelo Bonelli • Detlef Falk • Martin F. Hermann • Gregor Kurth
Personnel Committee	• Christian Specht (Chair since 4 August 2023) • Dr. Peter Kurz (Chair until 3 August 2023) • Heike Kamradt-Weidner (Deputy Chair) • Angelo Bonelli • Barbara Hoffmann • Gregor Kurth • Andreas Schöniger
Nomination Committee	• Christian Specht (Chair since 4 August 2023) • Dr. Peter Kurz (Chair until 3 August 2023) • Barbara Hoffmann • Gregor Kurth • Dr. Lorenz Näger • Tatjana Ratzel • Thorsten Riehle
Mediation Committee	• Christian Specht (Chair since 4 August 2023) • Dr. Peter Kurz (Chair until 3 August 2023) • Heike Kamradt-Weidner • Gregor Kurth • Andreas Schöniger
New Authorised Capital Creation Committee	• Christian Specht (Chair since 4 August 2023) • Dr. Peter Kurz (Chair until 3 August 2023) • Heike Kamradt-Weidner • Gregor Kurth • Dr. Lorenz Näger • Dr. Volker Proffen (since 16 October 2023) • Tatjana Ratzel • Thorsten Riehle • Andreas Schöniger

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	• ABB AG, Mannheim • Energieversorgung Offenbach AG, Offenbach (Chair since 16 February 2023) • Grosskraftwerk Mannheim AG, Mannheim • JUWI GmbH, Wörrstadt (Chair) • Stadtwerke Kiel AG, Kiel (Chair since 20 March 2023)	• MVV Enamic GmbH, Mannheim (Deputy Chair) • MVV Trading GmbH, Mannheim • MVV Umwelt GmbH, Mannheim
Verena Amann	• Energieversorgung Offenbach AG, Offenbach • JUWI GmbH, Wörrstadt • MVV Netze GmbH, Mannheim (Deputy Chair) • Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt (until 23 June 2023) • Stadtwerke Kiel AG, Kiel	• MVV Enamic GmbH, Mannheim • Soluvia IT-Services GmbH, Kiel (Member since 1 October 2023, Chair since 12 October 2023)
Ralf Klöpfer	• Energieversorgung Offenbach AG, Offenbach • JUWI GmbH, Wörrstadt • Stadtwerke Ingolstadt Beteiligungen GmbH, Ingolstadt (Deputy Chair until 23 June 2023) • Stadtwerke Kiel AG, Kiel (Member, Chair until 20 March 2023)	• MVV Enamic GmbH, Mannheim (Chair) • MVV Energie CZ a.s., Prague, Czech Republic (Chair) (until 9 December 2022) • MVV Trading GmbH, Mannheim (Chair) • Qivalo GmbH, Mannheim (Member, Chair until 7 October 2022) • Stadtmarketing Mannheim GmbH, Mannheim
Dr. Hansjörg Roll	• Energieversorgung Offenbach AG, Offenbach (Member, Chair until 16 February 2023) • Grosskraftwerk Mannheim AG, Mannheim (Chair) • JUWI GmbH, Wörrstadt (Deputy Chair) • MVV Netze GmbH, Mannheim (Chair) • Stadtwerke Kiel AG, Kiel	• MVV Energie CZ a.s., Prague, Czech Republic (until 9 December 2022) • MVV Umwelt GmbH, Mannheim (Chair)

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
Christian Specht (Member and, since 4 August 2023, Chair) Lord High Mayor of City of Mannheim (since 4 August 2023)	• GBG Unternehmensgruppe GmbH, Mannheim (Member since 4 August 2023, Chair since 13 October 2023) • Rhein-Neckar-Verkehr GmbH, Mannheim (Chair) • Universitätsklinikum Mannheim GmbH, Mannheim (Chair since 4 August 2023)	• GBG Wohnen GmbH, Mannheim (Chair since 27 October 2023) • mg: mannheimer gründungszentren gmbh, Mannheim (Chair since 4 August 2023) • MKB Mannheimer Kommunal-Beteiligungen GmbH, Mannheim (Member since 4 August 2023, Chair since 27 September 2023) • MV Verkehr GmbH, Mannheim (Chair) • MWS Projektentwicklungsgesellschaft mbH, Mannheim (Chair since 4 August 2023) • Sparkasse Rhein Neckar Nord, Mannheim (Member since 4 August 2023, Deputy Chair since 14 September 2023) • Stadtmarketing Mannheim GmbH, Mannheim (Deputy Chair since 4 August 2023) • Verkehrsverbund Rhein-Neckar GmbH (VRN), Mannheim (Chair)
Dr. Peter Kurz (Chair until 3 August 2023) Lord High Mayor of City of Mannheim (until 3 August 2023)	• Universitätsklinikum Mannheim GmbH, Mannheim (Chair until 3 August 2023)	• GBG Mannheimer Wohnungsbaugesellschaft mbH, Mannheim (Chair until 3 August 2023) • mg: mannheimer gründungszentren gmbh, Mannheim (Chair until 3 August 2023) • MKB Mannheimer Kommunalbeteiligungen GmbH, Mannheim (Chair until 3 August 2023) • MWS Projektentwicklungsgesellschaft mbH, Mannheim (Chair until 3 August 2023) • Sparkasse Rhein Neckar Nord, Mannheim (Chair until 3 August 2023) • Stadtmarketing Mannheim GmbH, Mannheim (Deputy Chair until 3 August 2023)
Heike Kamradt-Weidner (Deputy Chair) Chair of Group Works Council	• MVV Netze GmbH, Mannheim	• MVV Enamic GmbH, Mannheim • MVV Trading GmbH, Mannheim • Soluvia Energy Services GmbH, Offenbach • Soluvia IT-Services GmbH, Kiel (since 7 October 2022)
Kathrin Biro Trade Union Secretary, Managing Director of ver.di Rhine-Neckar District (since 16 October 2023)		
Johannes Böttcher Works Safety Specialist at Energieversorgung Offenbach AG (until 26 October 2022)	• Energieversorgung Offenbach AG, Offenbach (Deputy Chair until 26 October 2022)	• Zusatzversorgungskasse Darmstadt, Darmstadt
Angelo Bonelli Trade Union Secretary at ver.di Baden-Württemberg State District	• TransnetBW GmbH, Stuttgart	

Name **Occupation**	**Positions held on other statutory supervisory boards of German companies**	**Membership of comparable German and foreign company supervisory boards**
Timo Carstensen Deputy Chair of Works Council of Stadtwerke Kiel AG	• Stadtwerke Kiel AG, Kiel	
Sabine U. Dietrich Supervisory Board Member, Consultant	• Commerzbank AG, Frankfurt • H&R GmbH & Co. KGaA, Salzbergen	
Detlef Falk Chair of Works Council of Stadtwerke Kiel AG	• Stadtwerke Kiel AG, Kiel	• Soluvia Energy Services GmbH, Offenbach • Soluvia IT-Services GmbH, Kiel
Martin F. Hermann Business Angel, Mentor		• Česká pošta, s.p., Prague, Czech Republic (Chair)
Barbara Hoffmann Auditor, Tax Advisor		• Berliner Stadtreinigungsbetriebe, Anstalt des öffentlichen Rechts, Berlin
Dr. Simon Kalvoda Head of Facility Management Division at MVV Energie AG		
Gregor Kurth Partner, Igneo Infrastructure Partners (Igneo), London, UK		• Owlcastle Holdings Limited, London, UK • Utilitas Group, Tallinn, Estonia • westconnect GmbH, Essen (since 25 November 2022)
Thoralf Lingnau Member of Works Council of MVV Energie AG		• MVV Enamic GmbH, Mannheim
Dr. Lorenz Näger Former Deputy Chair and CFO of HeidelbergCement AG (now Heidelberg Materials AG)	• PHOENIX Pharma SE, Mannheim	• Blanc & Fischer Familienholding GmbH, Oberderdingen, Germany • PHOENIX Pharmahandel GmbH & Co. KG, Mannheim, Germany • PT Indocement Tunggal Prakarsa Tbk., Jakarta, Indonesia (until 17 March 2023)
Erik Niedenthal Chair of Works Council of Energieversorgung Offenbach AG (since 27 October 2022)	• Energieversorgung Offenbach AG, Offenbach (Member, Deputy Chair since 3 November 2022)	• Soluvia Energy Services GmbH, Offenbach • Soluvia IT-Services GmbH, Kiel
Dr. Volker Proffen Mayor of City of Mannheim (since 16 October 2023)		• MKB Mannheimer Kommunalbeteiligungen GmbH, Mannheim (Deputy Chair since 1 October 2023)
Tatjana Ratzel Lawyer, Head of Department at INTER Krankenversicherung AG Mannheim		
Thorsten Riehle Managing Director of Capitol Betriebs-GmbH		• mg: mannheimer gründungszentren gmbh, Mannheim • Stadtmarketing Mannheim GmbH, Mannheim
Andreas Schöniger Deputy Chair of Works Council of MVV Energie AG		• MVV Trading GmbH, Mannheim • MVV Umwelt GmbH, Mannheim
Susanne Schöttke State District Director at ver.di North	• Deutsche Telekom AG, Bonn	
Dr. Stefan Seipl Businessman, Independent Management Consultant	• Ferngas Netzgesellschaft mbH, Schwaig (Chair) • Pfisterer Holding AG, Winterbach	• Nordion Energi AB, Malmö, Sweden
Susanne Wenz Deputy State District Director at ver.di Baden-Württemberg (until 31 August 2023)		• PSD Bank Karlsruhe-Neustadt eG, Karlsruhe

Independent Auditor's Report

To MVV Energie AG, Mannheim

Report on the Audit of the Consolidated Financial Statements and of 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 at 30 September 2023, the consolidated statement of comprehensive income, the consolidated income statement, the consolidated statement of changes in equity and the consolidated cash flow statement for the financial year from 1 October 2022 to 30 September 2023, as well as the notes to the consolidated financial statements, which include 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 2022 to 30 September 2023. Consistent with German legal requirements, we have not audited the content of those parts of the group management report listed in the "Other information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group at 30 September 2023 and of its financial performance for the financial year from 1 October 2022 to 30 September 2023, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of those parts of the group management report listed in the "Other information" section of our auditor's report.

Pursuant to § 322 Abs. 3 Satz [Sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the audit opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014; referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles 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 the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) letter (f) of the EU Audit Regulation, we declare that we have not provided any non-audit services prohibited under 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 on 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 2022 to 30 September 2023. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; 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:

❶ **Recoverability of goodwill**
❷ **Accounting treatment of energy trading transactions**

Our presentation of these key audit matters has been structured in each case as follows:

① Matter and issue
② Audit approach and findings
③ Reference to further information

Hereinafter we present the key audit matters:

❶ **Recoverability of goodwill**

① Goodwill amounting in total to € 226.2 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. The impairment test is carried out on the level of the groups of cash-generating units to which the relevant goodwill is allocated. The carrying amount of the relevant cash-generating units, including goodwill, is compared with the corresponding recoverable amount in the context of the impairment test. The recoverable amount is generally determined as 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 adopted medium-term business plan of the Group forms the starting point which is extrapolated based on assumptions about long-term rates of growth. Expectations relating to future market developments and assumptions about the impact of macroeconomic and geopolitical factors are also taken into account. The discount rate used is the weighted average cost of capital for the respective group of cash-generating units. Based on the results of the regular impairment tests, no impairment losses were recognised in the current financial year.

The outcome of this valuation exercise is dependent to a large extent on the estimates made by the executive directors with respect to future cash flows at 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. In view of this, and given the complex nature of the valuation, this matter was of particular significance during our audit.

② As part of our audit, we assessed the methodology used for the purposes of performing the impairment test, among other aspects. Having compared the future cash flows used for the calculation with the medium-term business plan adopted by the Group, we assessed the appropriateness of the calculation, in particular by reconciling it with general and sector-specific market expectations. In addition, we assessed the appropriate consideration of the costs of Group functions. Aware that even relatively minor 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 on the parameters used to determine the discount rate applied and assessed the calculation model. To reflect the uncertainty inherent in the projections, we evaluated the sensitivity analyses performed by the company. Overall, the valuation parameters and assumptions used by the executive directors are in line with our expectations and also within the ranges we consider reasonable.

③ The company's goodwill disclosures are contained in the "Intangible assets" section of the notes to the 2023 consolidated financial statements of MVV Energie AG.

❷ Accounting treatment of energy trading transactions

① 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 and Energieversorgung Offenbach AG. To this end, MVV Trading GmbH trades on the spot and futures markets, mainly for electricity, gas and emission rights on energy exchanges and the over-the-counter market. The hedging measures take due account of factors such as the expected implications of macroeconomic and geopolitical factors. The contracts thereby concluded constitute derivative instruments in accordance with IFRS 9; these are accounted for either at fair value through profit or loss (classified as financial assets or liabilities measured at fair value through profit or loss) or as pending transactions if the underlying for the derivative financial instrument will be received or delivered in future as part of the company's own expected purchase, sale or use 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 are measured at fair value through profit or loss. These derivative financial instruments for electricity, gas and emission rights are in some cases included as hedging instruments in IFRS 9 hedge accounting, in this case as cash flow hedges. The underlying transactions are the purchase and sale of electricity, gas and emission rights at variable prices within a maximum of five years. The energy trading operations are supported by energy trading systems. These handle 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.

Given the high trading volumes, the complexity of accounting for derivatives in accordance with IFRS 9 and IFRS 13, the increased uncertainty due to the expected implications of macroeconomic and geopolitical factors and the significant effects on the assets, liabilities, financial position and financial performance, this business area is of particular significance for the consolidated financial statements and the conduct of our audit.

② One aspect of our audit involved assessing the appropriateness of the internal control system established for the purpose of entering into and settling energy trading transactions, including the trading systems used to this end. As part of our audit of the internal control system, we also evaluated the effectiveness of the controls established by the company on a sample basis. We analysed the methodology for determining the fair values of the derivative financial instruments with respect to IFRS 13 compliance and conducted an appraisal using our own valuations on a sample basis. With respect to the accounting treatment of the derivatives in accordance with IFRS 9, 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 data by MVV Trading GmbH – and satisfied ourselves that the own use exemption is applied correctly. We assessed the recognition of cash flow hedges and their accounting. Among other aspects, we evaluated the process used to assess the necessary effectiveness of the cash flow hedges and the correctness of the corresponding amounts recognised in equity and of the reclassified amounts within the consolidated income statement, as well as the expected implications of macroeconomic and geopolitical factors. In our view, the accounting policies applied by the executive directors and the methodology for accounting for energy trading transactions are appropriate overall.

③ The company's disclosures relating to energy trading and its effects on the consolidated financial statements are contained in the "Financial instruments" section of the notes to MVV's 2023 consolidated financial statements.

Other information

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the group management report:

- the disclosures marked in italics as unaudited in the "Explanation of the internal control system" and "Explanation of the risk management system" sections of the group management report
- the non-financial declaration contained in the "Combined Non-Financial Declaration" section of the group management report provided to meet the requirements of § 289b to § 289e HGB and § 315b to § 315c HGB

The other information further comprises:

- the Corporate Governance Statement pursuant to § 289f HGB and §315d HGB
- all remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information listed above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the audited contents of the group management report or our knowledge obtained in the audit, or

- otherwise appears to be materially misstated.

Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal controls as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e. manipulations of accounting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able 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 of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are 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 an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with German legal requirements and appropriately 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 on 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 and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW), and with supplementary consideration of the ISA, 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 the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional scepticism throughout the audit. We also

- Identify and assess the risks of material misstatement of the consolidated financial statements and of 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 controls.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures 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 these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' 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 the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. 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 be able 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 present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e (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 on 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 the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, 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 the relevant independence requirements, and communicated with them all relationships and other matters that may reasonably be thought to bear on our independence and, where applicable, the actions taken to eliminate identified threats to our independence or safeguards applied.

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 Other Regulatory Requirements

Report on the assurance review of the electronic reproductions of the consolidated financial statements and of the group management report prepared for disclosure purposes in accordance with § 317 Abs. 3a HGB

Audit opinion
In accordance with § 317 Abs. 3a HGB, we have performed a reasonable assurance review to determine whether the reproductions of the consolidated financial statements and of the group management report contained in the file "MVV_AG_KA_LB_ESEF_2023-09-30" (hereinafter also referred to as "ESEF documents") and prepared for disclosure purposes comply in all material respects with the electronic reporting format requirements of § 328 Abs. 1 HGB ("ESEF format"). In accordance with German legal requirements, this audit extends only to the conversion of the information contained in the consolidated financial statements and the group management report into ESEF format and therefore neither to the information contained in these reproductions nor to any other information contained in the above-mentioned file.

In our opinion, the reproductions of the consolidated financial statements and of the group management report contained in the above-mentioned file and prepared for disclosure purposes comply, in all material respects, with the electronic reporting format requirements of § 328 Abs. 1 HGB. Other than this opinion and our opinions on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 October 2022 to 30 September 2023 included in the "Report on the audit of the consolidated financial statements and of the group management report" above, we do not express any opinion on the information included in these reproductions or on any of the other information included in the above-mentioned file.

Basis for the reasonable assurance conclusion
We conducted our assurance review of the reproduction of the consolidated financial statements and of the group management report contained in the above-mentioned electronic file in accordance with § 317 Abs. 3a HGB, taking due account of the IDW Assurance Standard: Audit for the Purpose of Disclosure of Electronic Reproductions pursuant to § 317 Abs. 3a HGB (IDW AsS 410 (06.2022)) and of the International Standard on Assurance Engagements 3000 (Revised). Accordingly, our responsibilities are further described under "Group auditor's responsibilities for the assurance review of the ESEF documents". Our audit firm has applied the quality management requirements of the IDW Quality Management Standard: Requirements for Quality Management in the Audit Firm (IDW QMS 1 (09.2022)).

Responsibilities of executive directors and supervisory board for the ESEF documents
The executive directors of the company are responsible for the preparation of the ESEF documents including the electronic reproduction of the consolidated financial statements and the group management report in accordance with § 328 Abs. 1 Sentence 4 Nr. [Number] 1 HGB and for tagging the consolidated financial statements in accordance with § 328 Abs. 1 Satz 4 Nr. 2 HGB.

In addition, the executive directors of the company are responsible for such internal controls as they have considered necessary to enable the preparation of ESEF documents free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The supervisory board is responsible for overseeing the preparation of the ESEF documents as part of the financial reporting process.

Group auditor's responsibilities for the assurance review of the ESEF documents
Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional scepticism throughout the assurance review. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance conclusion.

- Obtain an understanding of the internal control relevant to the assurance engagement on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance conclusion on the effectiveness of these controls.

- Evaluate the technical validity of the ESEF documents, i.e. whether the file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version applicable as of the balance sheet date on the technical specification for this electronic file.

- Evaluate whether the ESEF documents enable an XHTML reproduction with content equivalent to the audited consolidated financial statements and the audited group management report.

- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) pursuant to Articles 4 and 6 of the Delegated Regulation (EU) 2019/815 in the version applicable as of the balance sheet date enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on 10 March 2023. We were engaged by the supervisory board on 4 August 2023. We have been the group auditor of MVV Energie AG, Mannheim, without interruption since the 2008/2009 financial year.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

Reference to Further Matter – Utilisation of Auditor's Report

Our auditor's report should always be read in conjunction with the audited consolidated financial statements and the audited group management report, as well as the audited ESEF documents. The consolidated financial statements and group management report converted into ESEF format – also in the versions to be submitted to the Companies Register – are merely electronic reproductions of the audited consolidated financial statements and the audited group management report and do not substitute for such. In particular, the "Report on the assurance review of the electronic reproductions of the consolidated financial statements and of the group management report prepared for disclosure purposes in accordance with § 317 Abs. 3a HGB" and the reasonable assurance opinion contained therein may only be utilised in conjunction with the audited ESEF documents made available in electronic form.

German Public Auditor Responsible for Engagement

The German Public Auditor responsible for the engagement is Andrea Ehrenmann.

Essen, 14 November 2023

PricewaterhouseCoopers GmbH

Wirtschaftsprüfungsgesellschaft

Ralph Welter	Andrea Ehrenmann
Wirtschaftsprüfer [German Public Auditor]	Wirtschaftsprüferin [German Public Auditor]