



# **My world. My energy.**

**Magazine 2018**

**We inspire  
with energy.**

# Focusing the customer

**We inspire  
with energy.**

**We are committed to building a sustainable society and are helping to make the future worth living in – by inspiring our customers. We firmly believe in a modern, green energy world in which everyone can participate in the energy turnaround.**

The view from on top – MVV's wind power



## **A fresh breeze in the country**

CEE Group, a customer of ours, bought Sylfa II Windfarm from our Windwärts subsidiary in 2015. As a solutions-driven partner, we not only plan and build turbines but also offer operations management. So it made absolute sense for CEE Group to continue relying on Windwärts.

› **Page 28**

Title photo: Stefan Pfeil, Managing Director of Pfeil Projektentwicklung GmbH, with model of TENon5.  
Project description › **Page 31**

# g on omer.

Energy data at a glance –  
also for retail customers

## Smart energy packages

Whether in small steps or large strides – we make sure our customers can actively take part in the energy system of the future. We offer homeowners modular solutions that range from rooftop photovoltaics systems to storage solutions through to electric cars. > **Page 23**



## Energy from waste

We are currently building a state-of-the-art waste-fired CHP plant in the Scottish city of Dundee. When it is completed, we will be operating it for 25 more years. This way, we are providing Dundee and Angus Council with a sustainable waste management solution. > **Page 26**



What our new plant  
in Dundee should look like

# Financial year 2018

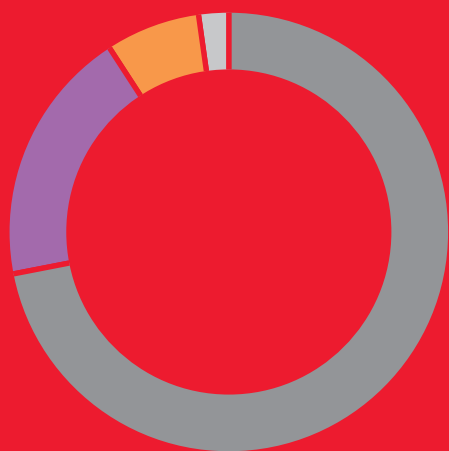
Sales

3.9

Euro billion



Sales by reporting segment  
Shares in %



72

Customer  
Solutions

19

New  
Energies

7

Supply  
Reliability

2

Strategic  
Investments

Adjusted EBIT

228

Euro million



EBIT by reporting segment  
Euro million

Customer Solutions

47

New Energies

90

Supply Reliability

62

Strategic Investments

25

Other Activities

4



# My world. My energy.

## Using smart solutions to build the energy system of the future.

We are transforming the energy world. And we are doing that for our customers and together with them. After all, our customers are our key focus – and they are interested in an environmentally-friendly energy supply and wish to manage their generation and consumption smartly. With us as their partner, they can do that. Our innovative and forward-looking products and services even make it possible today already. And that is just as true for our retail customers as for our corporate customers. Our employees are channelling all their enthusiasm into the challenge facing this and the next generation – building the “energy system of the future”.

4 **Perspectives**

6 **My energy.  
Innovative paths.**

**A fundamentally different energy world.**

**1**

16 **My energy.  
Smart solutions.**

**Where the new energy system  
is already up and running.**

18 MVV – partner to the energy turnaround

20 Select customer projects





# 2

**32 My energy.  
Clear responsibility.**

**Why acting sustainably and succeeding  
in business go hand in hand.**

34 Who we are

36 We are rethinking energy

38 What we achieved in 2018

# 3

**40 My energy.  
Absolute  
commitment.**

**Why it nearly all depends  
on smart minds.**

42 Guarantors of success

44 Energy that inspires

# Perspectives: Why the customer is so important to MVV.

**The customer is the measure of all things in the energy system of the future.** Our Executive Board members offer their perspectives:



**Dr. Georg Müller**  
CEO, Commercial  
Director and  
Labour Director

**You are rebuilding the energy world from scratch. So what role do your customers play in this process?**

**Dr. Georg Müller:** It will take generations to complete the energy turnaround. As a process, it is relevant not only to energy companies, but also on the demand side, i.e. to all customers from private households to SMEs through to large industrial players. And it is about far more than just saving a bit of CO<sub>2</sub> here and there. After all, we are building the energy system of the future. On the one hand, we are investing in renewable energies, highly efficient combined heat and power generation, and the future capacity of our plants and grids. On the other hand – and here our customers play a key role – we are continually developing innovative, customer-based products and services. Our customers have requirements in the new energy world and these drive us to solve complex tasks on their behalf. That is why customers are so important to us. Put simply, they motivate us to make more progress each day.

**And how do customers benefit?**

**Dr. Georg Müller:** In all sorts of ways. We enable them to implement their own energy turnarounds. To do this, we are expanding renewable energies, working with cutting-edge infrastructure and digital energy data management and enhancing energy efficiency. This way, we are cutting CO<sub>2</sub> emissions. Our customers benefit from the fact that we can offer them energy industry expertise, software intelligence and great experience, and all that from a single source. We have built up a comprehensive range of solutions, not least by joining partnerships and buying shareholdings.

**And what is the greatest challenge?**

**Dr. Georg Müller:** Inspiring customers with our enthusiasm and convincing them about the new energy world. We have succeeded here in numerous cases, as can be seen, for example, in the projects reported in the “Smart Solutions” chapter. And in some cases we have accompanied customers in a variety of projects for many years now.





**Dr. Hansjörg Roll**  
Technology Director

Two vital factors in the heating market are boosting efficiency and interlinking the heat and electricity markets. That is what combined power and heat generation does together with district heating. And it also saves resources. There is great demand for this, as we see whenever we lay pipelines in new areas.

**But not all of your customers are exactly around the corner...**

**Dr. Hansjörg Roll:** That's right. We also operate successfully abroad. After all, the energy system of the future is a topic that is being tackled worldwide. We already built two large plants in Plymouth and Rīdham Dock, and last year we came out on top in a pan-European tender process in the UK. In the Scottish city of Dundee we will now be building one of the most modern waste-fired CHP plants of its kind in Europe. Not only that, our Juwi subsidiary manages numerous international projects. That means we have customers all round the world.

**And electro-mobility. What role does that play in the new energy world?**

**Ralf Klöpfer:** A very important one. The ways we get around are set to change entirely in future. They will be inter-modal and have ever lower emissions. At some point, they may not involve any emissions at all. Today, we already provide our customers with end-to-end packages enabling them to charge their electric vehicles with electricity they themselves generate. This way, they can get from A to B in the greenest way possible. But we are also working on the mobility of the future, on the one hand as dedicated participants in research projects and on the other hand with new business models. One example here is our role as shareholder in Blue Village FRANKLIN mobil GmbH, which is working on green mobility concepts for the FRANKLIN conversion space here in Mannheim.

**What do your customers expect from you as their energy services provider?**

**Ralf Klöpfer:** In short, electro-mobility is still stuck in a minor traffic jam, but will soon accelerate and move into the fast lane. We are convinced that the right way ahead is a systematic solution with high-performance infrastructure and high-performance vehicles. And that is also what our customers expect from us – an easy and affordable way of getting started with electro-mobility.

**And what is it that makes customers so important for you?**

**Ralf Klöpfer:** I can nail that one on the head. Customers motivate us, and that day in, day out. They make us look out for new solutions to help them improve their own energy worlds. Satisfied customers – that's the name of the game.

**Which of your investments do your customers benefit from most?**

**Dr. Hansjörg Roll:** Basically, all our investments benefit our customers. For people in Mannheim and the surrounding metropolitan region, the project to connect our waste-fired CHP plant to our district heating grid is certainly a major step. This way, we are making district heating more reliable, flexible and above all ecological. And that benefits our customers and the environment.

**So what role does district heating play in the energy turnaround?**

**Dr. Hansjörg Roll:** As well as generating electricity from renewables and then integrating this into the existing system, we need to include the heating energy and transport sectors in the energy turnaround. Without their contribution, the energy turnaround cannot succeed.

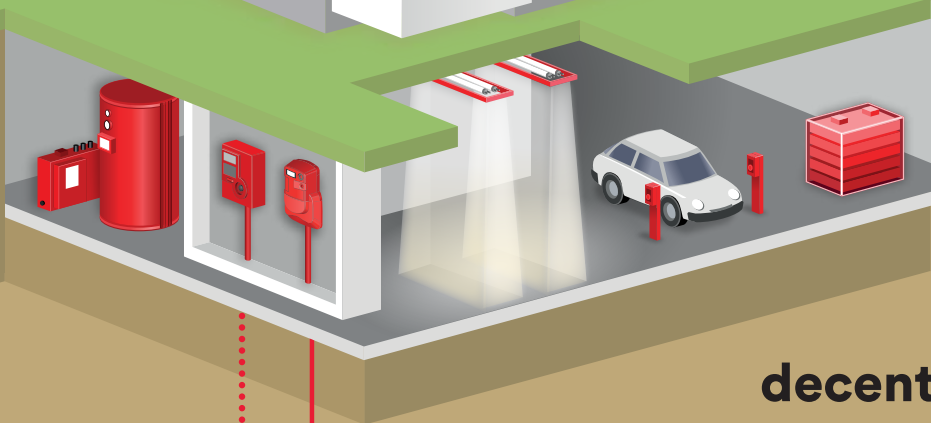
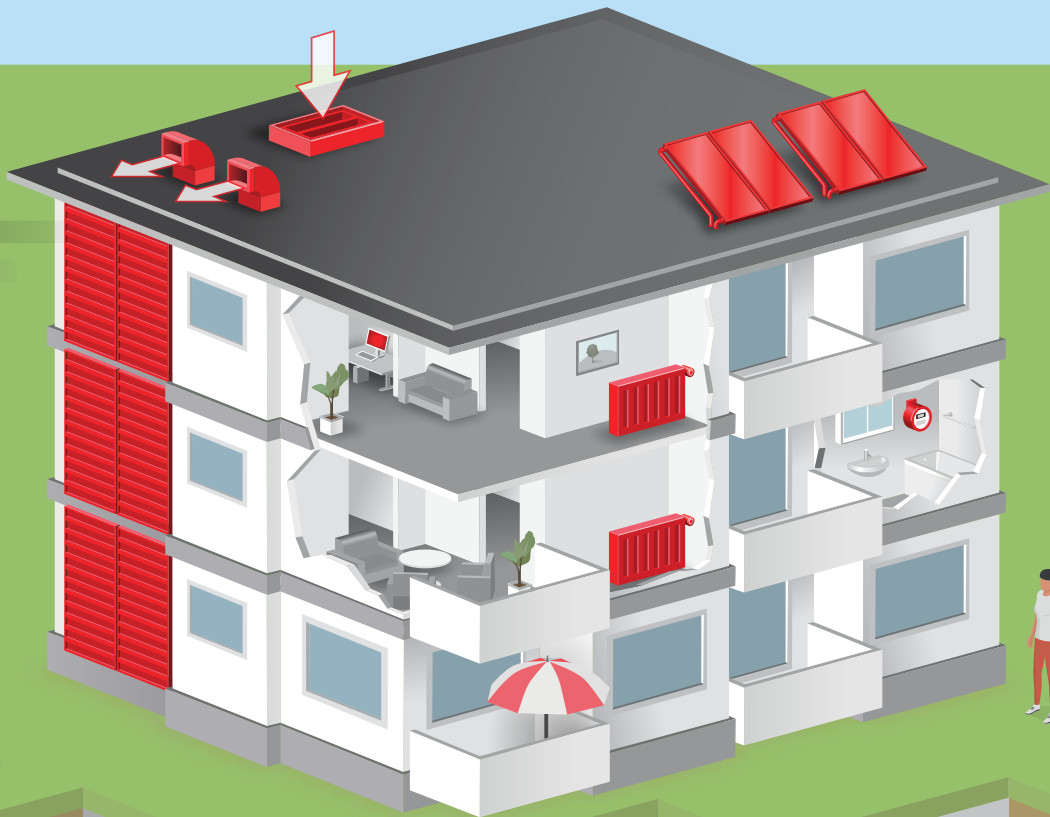
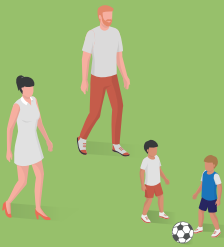
**Ralf Klöpfer**  
Sales Director



# My energy. Innovative paths.



**digital**

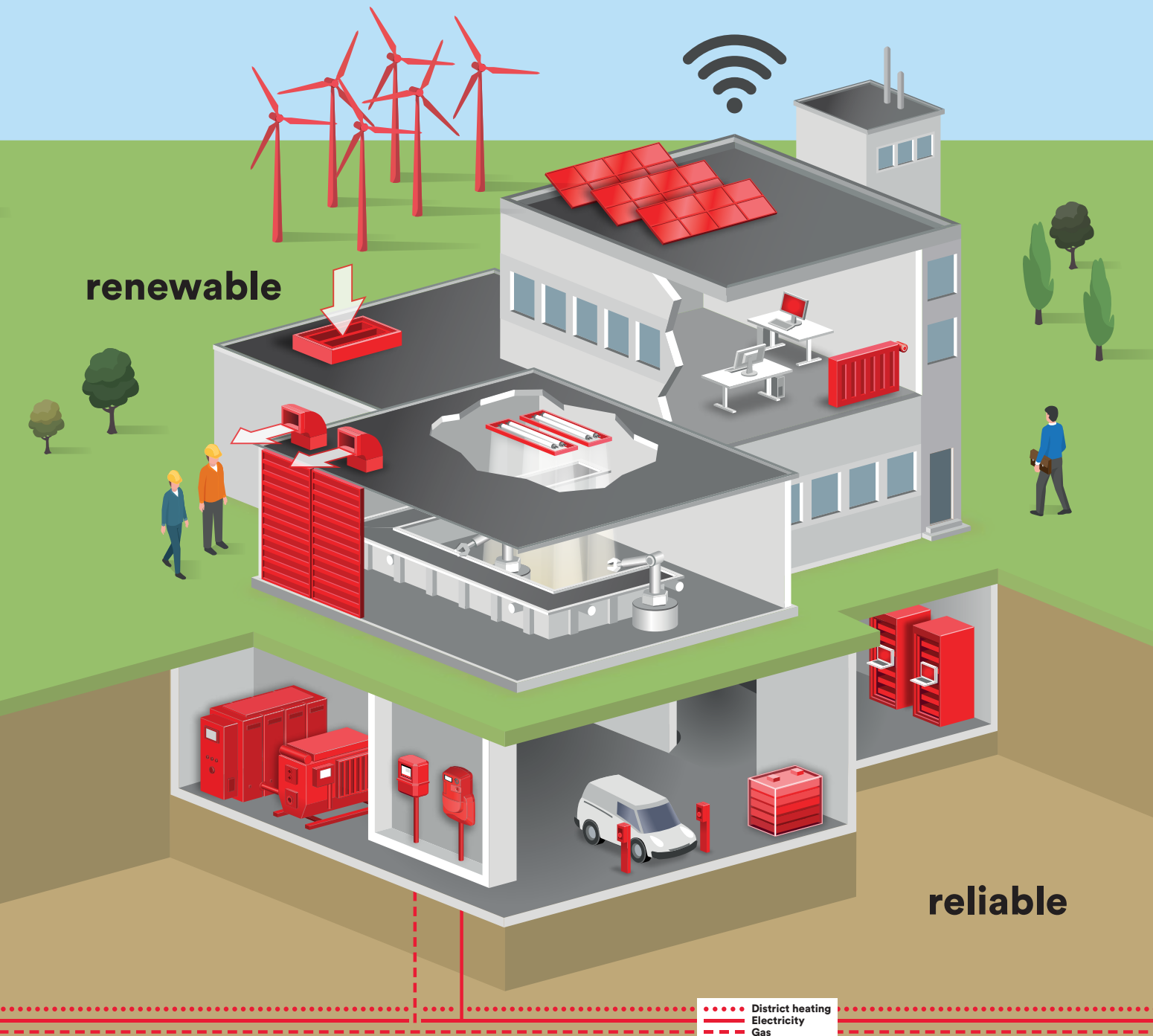


**decentralised**

# A fundamentally different energy world.

In the old days, energy was channelled through a kind of one-way system from a small number of generation sites to where it was needed. That has changed fundamentally. These days, electricity is already flowing in all directions as ever more consumers also generate their own electricity. But renewables are not the only component of the new energy world. Decentralisation and digitalisa-

tion are also playing ever greater roles. And that is just as true for electricity as it is for gas and district heating – and applies to all utilities whether used in consumers' homes or at large commercial sites. Building the energy system of the future is a challenge we have long been tackling. We have already come a long way, even though we still have quite some way to go.



## What will the energy world look like in future?



Renewable energies are gradually taking over the lead role in the energy mix

A great deal has to be done by 2050. The targets are clearly laid down in the Federal Government's "2050 Climate Protection Plan". By the middle of our century, greenhouse gas emissions have to be cut by 80 % to 95 %, and that compared with 1990 values. That will not happen overnight and will not happen at all if we view the complex system too narrowly.

Generating, storing and distributing electricity generated from renewables will play a key role, as will smartly interlinking this with the transport and heating energy sectors – and that for all customers from private households through to large industrial players.

That means we have to turn the existing electricity turnaround into a genuine energy turnaround. On the way there, we have to combine renewable and conventional generation in ways that make sense. However great our commitment to expanding renewable energies may be, to guarantee a reliable energy supply in Germany we will still need conventional generation for a limited period. Wind and solar power cannot provide a consistent supply of energy. And distribution grids in particular will have to satisfy ever new requirements. Flexibility is the key to the future.

• **INNOVATIVE PATHS.**

Smart solutions.  
Clear responsibility.  
Absolute commitment.

With that in mind, we need to dovetail production and demand more closely, develop storage systems and cleverly coordinate all energy carriers and grids. Here, we have to make both generation and consumption measurable, and that in real time. Pooling the measurements will enable us to manage energy smartly. The insights provided by the data will help to make the new decentralised and digital energy world ever more efficient. Analysis will give rise to new solutions, products and developments that invite consumers to participate actively in the energy turnaround. That process has already begun and is gaining ever more momentum.

We want to inspire our customers to step into the complex world of energy and find their own personal space here. Everyone can take part in his or her own individual way and, yes, benefit in the process. After all, climate protection and economic viability are not mutually exclusive.

We provide services and solutions for the new energy world today already. That is reflected in the award we received from “brandeins”. In recognition of our commitment, we were awarded the title “Innovator of the Year” in 2017. We are delighted! We see it as further proof that we are on the right track.

 [www.mvv.de/innovator](http://www.mvv.de/innovator)

More than  
**61%**

targeted reduction in CO<sub>2</sub> emissions  
in energy sector by 2030

More than  
**66%**

targeted reduction in emissions  
in building heating

More than  
**40%**

targeted reduction in emissions  
in transport sector



We have been working on the energy system of the future for years

# The new energy world lets me take part.

**Helping to shape the energy turnaround is easier than you might think. The solutions you need are already available.**

Just imagine! You can use your household appliances with a good conscience because they work with smart energy management and only use electricity when plenty is available. And you can get around without emissions and be electronically mobile without having to pay a fortune and then cope with all manner of charging restrictions? And if you are a business customer who needs to light your buildings and outdoor sites – what impact would simply converting to LED and noticing the energy and cost savings straight away have on your competitiveness?

You can already have all that with MVV as your partner. After all, the energy system of the future is being built with numerous innovative products and solutions that offer great customer benefits, save costs and are even fun to use. Playing your part in the energy turnaround is not like going to the dentist or taking your car for its MOT. It is exciting and inspiring and something everyone can experience. More than anything, by taking part with countless others you will be taking a major step towards saving resources, protecting the climate and building a sustainable economy.

We can look forward to an exciting future with an energy world very different to the one we know today. And that future is closer than you think.

• **INNOVATIVE PATHS.**

Smart solutions.  
Clear responsibility.  
Absolute commitment.



## Heading for the Smart City – Blue Village FRANKLIN

There is a lot more than just house building going on at FRANKLIN, the former US military site in Mannheim. This is a project in which the energy supply and mobility in the housing industry are being completely rethought – and that in ways that are unique within Germany. > **Pages 20 to 21**



## Energy turnaround for homeowners

We are actively involving private households as well in the energy system of the future. With our modular solutions, we help homeowners to implement their own energy turnarounds. > **Page 23**



## From project development through to plant operation

As a competent, solutions-driven partner, we take care of planning, building and financing wind turbines. Not only that, we also provide professional operations management to make sure the turbines are economically viable. And we succeed in this, as is apparent from the great trust our customers place in our work. One example is Sylva II Windfarm at CEE Group. > **Page 28**



## Solar power for the Great Barrier Reef

The sun smiles on Heron Island, a 29 hectare coral cove on the Great Barrier Reef. The Heron Island Research Station (HIRS) operated by The University of Queensland now aims to use the sunshine to significantly cut back its diesel consumption. The solution offered by our subsidiary Juwi, which is building a photovoltaics hybrid plant on location, will make a success of that. > **Page 29**



## Saving costs with LED

The figures show how great the impact of what is basically a simple conversion to modern lighting can be. Since working together with Luminatis, our customer Augustinum has enjoyed substantial cost savings. > **Page 30**



## Greater efficiency due to longstanding energy partnership

When customers generate dynamic growth, they need a partner who can keep up with them and be one step ahead in its own specialist areas. We began our journey with DRK-Landesverband Rheinland-Pfalz back in 2010 already – and we still have a long way to go together. Several MVV group companies have also taken part as partners – further proof that our broad-based alignment is one of our key success factors. > **Page 22**



## New heat and power plant for Dundee

In the Scottish city of Dundee, we are currently building what is one of the most modern waste-fired power plants of its kind in Europe. Not only that, once the plant is complete we will be operating it for the next 25 years. That shows the degree of trust placed in our competence for projects of this scale as well. Starting in 2020, we will be turning 110,000 tonnes of waste a year into valuable energy. > **Page 26**



## Green district heating from waste

Stadtwerke Merseburg is a good example of the way other municipal utility players can benefit from our experience. We know what we need to change in the flue gas cleaning process to be able to feed waste heat into the district heating grid. It was this expertise that sealed the partnership between Mannheim and Merseburg. > **Page 27**



## Modern living with innovative energy concept

New ways in which living and architecture can be sustainably aligned in terms of energy use are now emerging in inner-city Mannheim: In the TENon5 project, green district heating is not the only utility when we are the energy partners. We are also involving prospective residents in the energy system of the future – benefiting the environment and their pockets. > **Page 31**





• **INNOVATIVE PATHS.**

Smart solutions.  
Clear responsibility.  
Absolute commitment.

# The new energy world is efficient.

## Customers want ways to combine economic efficiency with protecting resources.

Today's customers think closely about their own behaviour and its impact on their surroundings. They weigh up the consequences of their decisions not only for themselves, but also for future generations. They therefore focus on long-term efficiency. Anyone buying a car today looks very closely into the consumption they can expect in future. Tradespeople look for ways to protect resources. Large industry is following new paths to cut emissions.

All these developments impact on the new energy world. Having said that, efficiency is about much more than saving resources. And that is a good thing. Saving always sounds a bit like having to do without something – but that is not what counts here. It is about obtaining the same, or maybe even better results while placing a smaller burden on the environment and your pocket. When it comes to energy efficiency, the best products,

solutions and services are those that do justice to individual requirements.

Specifically, that means that anyone who is interested can work with us to shift their patterns of consumption. We can support them with all-round advice, regardless of the scale involved. What counts for us is that our customers should see MVV as a competent and experienced partner in all matters relating to energy efficiency. Anyone interested in improving their ecological footprint by reducing their CO<sub>2</sub> emissions is at the right address with us, as is anyone who needs a state-of-the-art, efficient power plant that can also supply the surrounding area with green heating energy.

# The new energy world is reliable.

## Customers need to feel secure in the energy system of the future.

We are used to a reliable flow of electricity, warmth at all times and industrial processes running safely. Even though we are completely rebuilding the energy system we knew in the past – to make it more climate-friendly and innovative – we have to maintain the level of reliability to which we are accustomed. The volumes of electricity generated by wind and solar power are more difficult to plan, so we need flexible supply and demand, further development of storage options, a cutting-edge and well-coordinated infrastructure and control instruments that make smart use of the digital opportunities now available.

We make existing power plants more efficient by improving their capacity utilisation or investing in their efficiency. Alternatively, we build new plants and use highly efficient, innovative technologies. We provide smart digital platforms that enable

municipal utility companies to benefit from our synergies in terms of procurement and portfolio management. And that is all subject to the proviso that everything has to work reliably. We continue to make sure that is the case once the actual project is complete. We do that with operations management provided, for example, once we have built the wind turbines or introduced new lighting concepts.

When it comes to supply reliability, one topic is crucially important – high-performance grids. These form the basis for reliably distributing energy and water. That is why we are consistently investing in expanding and maintaining our grids. Energy generation is becoming increasingly decentralised, so even more will need to be done here in future. All that in the interests of keeping the energy world reliable.

• **INNOVATIVE PATHS.**

Smart solutions.  
Clear responsibility.  
Absolute commitment.



## Municipal utility companies rely on MVV's digital portfolio management

We were dealing with digitalisation even before everyone began talking about it. The energy market in particular, with its numerous changes and requirements, involves countless points of contact which show how we will have to digitally network and manage the energy system of the future. We were one of the first to develop digital portfolio management, a field where other municipal utility companies are now also benefiting from our experience. One example is Stadtwerke Itzehoe. > **Page 23**



## Sustainable recycling-based economy in Mannheim

We will be investing Euro 100 million in the years ahead in our CHP plant on Friesenheimer Insel in Mannheim. This investment, which opens up a new chapter in our district heating success story, will connect the power plant to our existing district heating grid, which supplies green energy to neighbouring industry and households in the region. The investment also involves recovering phosphorous from sewage in such a way that it can be used as valuable manure in agriculture. > **Pages 24 to 25**



## Forward-looking lighting concept for Schriesheim

Let there be light! Converting to LED is the future of lighting. With its extremely low malfunction rate and long durability, LED lighting is a key tool for generating energy and cost savings. Not only that, LED offers better illumination. From 2019, residents of Schriesheim will see the night in a new light. > **Page 30**

# 1

# My energy. Smart solutions.

**Where the new energy system  
is already up and running.**



INNOVATIVE PATHS.

- **Smart solutions.**  
Clear responsibility.  
Absolute commitment.



**Dr. Robert Thomann**

MVV, Customer Experience & Innovation



Together, we are  
building the energy  
system of the future

# Energy turnaround for everyone.

We are doing everything possible to help our customers experience the energy turnaround. New ways of thinking enable us to create forward-looking solutions.

When we say “Energy turnaround for everyone”, we do not mean “one size fits all”. We rather develop individual approaches enabling us to do justice to an extremely wide variety of needs. That is just as true for our business customers as for our retail customers. To do that, we have a suitably broad-based approach – and a solid network of partners able to shoulder this great responsibility with us. With this strategy we really have adopted a pioneering approach and played a key role in promoting the energy turnaround in Germany. And this motivates us to become even better and enable absolutely everyone to implement their own individual energy turnaround.

- **Smart solutions.**

Clear responsibility.  
Absolute commitment.

## What is it that makes MVV a genuine partner?

Here, of course, we could just list our innovative products and services, highlight our expertise and experience or praise our dedicated employees. But what is it that really counts for our customers? To answer that, we can look at some examples of projects we initiated, progressed and implemented in the past year.

For some customers it is a small photovoltaics system, for others we are building an entire power plant. Regardless of the scale of the project, customer satisfaction is the standard by which we judge our actions. We aim to make it as easy as possible for our customers to get started in the energy system of the future. To this end, we offer advice and solutions – always with a view to offering the best possible solution in technical and economic terms.

We focus on long-term solutions rather than short-sighted actions. We are conscious of that approach and this awareness plays its part in each individual project.



“Shaping the future with new ideas – based on our innovations, we work with customers to find the best solution.”

*Dr. Robert Thomann,  
MVV, Customer Experience & Innovation*



*Karl-Heinz Frings, Managing Director, GBG –  
Mannheimer Wohnungsbaugesellschaft mbH*



### Urban development at its most innovative

“At FRANKLIN, the former US Army location in Mannheim, a beacon project that could hardly be more complex or innovative is now being implemented. A concept – ‘Blue Village FRANKLIN’ – has been developed that is of exemplary sustainability in terms of its energy supply and mobility features. One core component is SQUARE – which stands for smart quarter and urban area reducing emissions. With this unique demonstration object, we are working with partners to realise urban climate protection targets. How can we optimise the energy efficiency of existing buildings at FRANKLIN in such a way that they meet the passive house standard currently only achieved in new construction projects? We will find out the answer to that in the near future when we refurbish two buildings, each with 24 residential units, in different highly innovative ways. A three-year monitoring programme will show the specific effects we achieved and the extent to which we managed to reduce CO<sub>2</sub> emissions.

By working with photovoltaics systems, we produce renewable energy that will also be available for smart home appliances in one of the two properties. Surplus energy is channelled directly on location within the district into electro-mobility. This is set to enter a new dimension at FRANKLIN. After all, the ways in which people get around in future will have a major impact on climate protection. Use the car only at weekends, use a delivery bicycle for shopping, get to work with emissions-free local transport? All that will be possible at FRANKLIN and will set new standards in the process.

MVV, which has been involved in FRANKLIN and SQUARE from very early on, has acted as a competent partner for all energy-related matters from the very outset. As well as linking up the whole quarter to district heating, MVV is also part of the mobility company and is dealing with optimising energy flows and integrating smart meter systems. The right partners have joined forces for this project, which involves creating something entirely unprecedented at FRANKLIN, and that in ways which will benefit many people in future.”

Around

# 9,000

people will live in  
the Smart City



- **Smart solutions.**  
Clear responsibility.  
Absolute commitment.

Expert interview with Dr. Robert Thomann

## “FRANKLIN will be a district with smart infrastructure.”



FRANKLIN:  
an area of  
1.4 million  
square metres

**Dr. Thomann, you plan to use LoRa at FRANKLIN. What exactly is that?**

**Dr. Robert Thomann:** Yes, it sounds like a name you would give to your pet, but it is actually an innovative technology intended to make the infrastructure of the future even smarter. It stands for “Long Range Wide Area Network” and is a wireless technology that enables things to be networked easily. It is battery-operated and can therefore be used anywhere. Wherever LoRa is installed, it transmits information at regular intervals. Numerous different kinds of sensor are equipped with LoRa technology and these are able to collect a correspondingly wide variety of data.

**Why all this networking?**

The data is cleverly combined on a platform using IoT, i.e. the Internet of Things. Suitable apps then make various things possible that are still visionary but will soon be reality. One example: Your smartphone will show you the next available electric charging station. Seamless mobility will also be possible, as the optimal trajectory will be calculated based on your location, your desired form of mobility and the current traffic situation. You will spend less time waiting for buses and finding a parking space will also be easier.

**What benefits will that create for FRANKLIN residents?**

Public space, and the ways it is used, will gain an entirely new quality at FRANKLIN. It will be quieter, safer and more climate-friendly. In short, more livable, and that all thanks to its digitalised infrastructure.

*Dr. Robert Thomann, MVV, Customer Experience & Innovation*



## Any long journey always begins with a first step



Energy partnership in Kaiserslautern – senior citizens centre run by DRK-Landesverband Rheinland-Pfalz

Any organisation developing as dynamically as the Kaiserslautern location of DRK-Landesverband Rheinland-Pfalz e. V., and that over such a short space of time, has very specific needs in the partners who accompany it.

Since the senior citizens centre was built in 2004, the location has developed into a major healthcare campus and now includes three additional supervised living facilities, two mother and child facilities and a dementia care unit. The journey with MVV began back in 2010, when DRK-Landesverband opted to procure electricity and gas for several locations from MVV. Anke Marzi, CEO of DRK-Landesverband Rheinland-Pfalz, views a critical assessment of energy consumption as a key task – and that irrespective of the statutory obligations applicable to large companies since 2015. “It is the high-quality network of expertise available at a group with such a broad range of activities that makes MVV such a competent and reliable partner”, comments Marzi with regard to the relationship with her energy

services provider. She particularly highlights the positive experience gained in the ever closer cooperation between the two partners. “MVV does not just supply us with energy. It also advises us on how to save it. If that is not a sign of trust, then I don’t know what is...”

MVV’s subsidiary BFE performs regular energy audits to identify potential savings, while MVV’s shareholding Luminatis converted the lighting to LED and Econ Solutions, another MVV company, sees to peak load management. In autumn 2018, MVV Enamic built a CHP plant and a new condensing boiler. It also regulates and optimises the heating on a remote basis. DRK and MVV can already look back on an exciting journey. They have achieved a great deal together in terms of energy efficiency and CO<sub>2</sub> savings. “But our energy journey is far from over”, stresses Marzi. “After all, we want to see further improvements in our energy balance sheet in future as well.”



## Energy turnaround for homeowners

INNOVATIVE PATHS.

- **Smart solutions.**  
Clear responsibility.  
Absolute commitment.

# “We’ve got sun in the tank...”

...and that comes from the roof over our heads. We have had our own PV system since February 2018 and can now cover 80 % of our needs. Since the system was installed, our approach to electricity and using energy has changed completely. It is great fun! As a general rule, we only switch on energy guzzlers like the washing machine or dryer when the sun is shining. But there is actually no need to do that, as we have an additional battery storage facility to make us independent of when we generate most of the energy.

We also use our home-grown electricity to charge our hybrid car. It feels very different driving into town and knowing that we are also helping the environment. We have become real energy experts in our family and regularly monitor our consumption and all key figures online. What really surprised us was how little sunshine you need to generate electricity. Having said that, the permanent monitoring is also unnecessary as the system is fully automatic. So why did we opt for MVV? Easy! We wanted a partner who could offer us security and reliability in the long term. That was particularly important to us for this investment. Incidentally, the investment will pay off in less than ten years.”



Heidi Gaulke



## Municipal utility companies rely on MVV’s digital portfolio management

### Regional and digital

Digital portfolio management benefits all companies that have to deal with energy procurement and fluctuating price structures on the energy market. That is a 24/7 job, and one that is also highly complex. Business customers of municipal utility companies expect their regional energy providers to offer them solutions that maintain or even boost their competitiveness. The digital platform “MVV Stadtwärts” enables municipal utility companies to do just that: to execute procurement and portfolio management processes for their customers and exploit synergies regardless of the time of day and office hours. Not only that, the platform can be

used as a calculation tool, enabling municipal utility companies to provide their customers with all-round advice. Gregor Gülpen, Managing Director of Stadtwerke Itzehoe in Schleswig-Holstein, has used “Stadtwärts” since 2017 and explains his decision as follows: “We looked into digitalisation at an early stage of developments. We soon realised that we did not have to do everything ourselves but could rather draw on tried-and-tested solutions. Having checked out the market, we opted for MVV’s smart platform. MVV has invested a great deal and has a convincing track record in terms of sustainability. And the chemistry is also good.”



# Don't throw it away – use it!

In the years ahead, MVV will be investing around Euro 100 million in its CHP plant on Friesenheimer Insel. This location in the north of Mannheim is set to become a valuable component in the energy turnaround and in building a sustainable recycling-based economy. Here, MVV will be promoting two outstanding developments at the same time. On the one hand, it will be linking up its CHP plant to the existing district heating grid. In future, the plant will be able to supply not only neighbouring industry with process steam, but also the surrounding region with green district heating – while simultaneously reducing its primary energy factor. By then, one quarter of the heating energy used by households and public organisations in Mannheim, Heidelberg, Schwetzingen, Brühl and Speyer will come from waste incineration.

On the other hand, MVV is investing in a sewage treatment facility that will enable the phosphorous contained in the sewage to be recovered. Phosphorous counts as an important form of manure for use in agriculture.



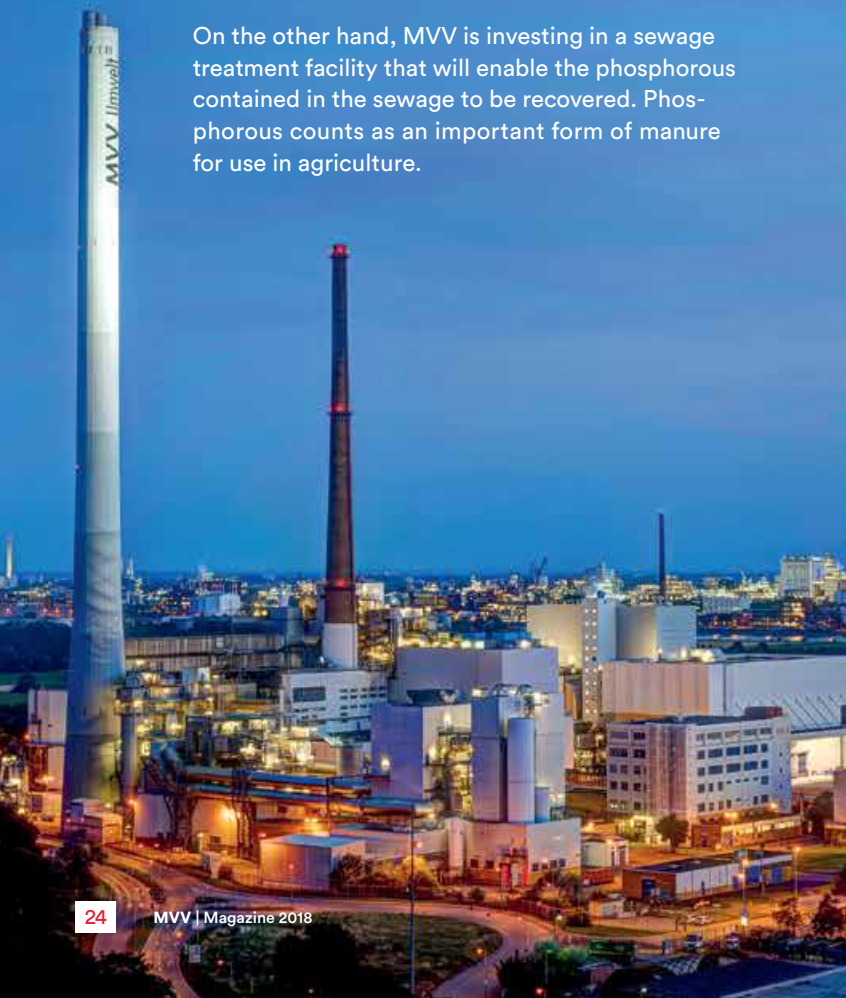
Preparations for the link are underway ...



... and are progressing at full steam

## Making connections for the future

District heating from waste, phosphorous from sewage – both solutions really help to protect the climate and save resources. Before that is possible, the heavy machinery will first have to do its job. MVV is building a reinforced concrete tunnel under the Old Rhine. This 400-metre tunnel will have a diameter of 3.4 metres and go as far as 27 metres under the ground. This amazing construction feat will mean that Friesenheimer Insel is no longer an island – at least not in energy terms. The pipelines for the new power plant connection will be placed in this tunnel – the culvert. This will also contain the links necessary to supply the neighbouring works of the Roche pharmaceutical group with steam. With these forward-looking investments, MVV will be successfully expanding its existing energy partnership with Roche on a long-term basis.



• **Smart solutions.**

Clear responsibility.

Absolute commitment.

“It’s actually only five kilometres, but it feels like a giant leap forward.”



*Jürgen Waller, Roche Real Estate Services Mannheim GmbH, Head of Energy Management*

“700,000 tonnes of non-recyclable waste cover all of our hot steam requirements at our Mannheim location – an outstanding example of sustainability.

What people in Mannheim throw into their bins may end up as hot steam used for heating, cooling and production processes at our works. Since September 2018, the hot steam has been transported more than five kilometres from Friesenheimer Insel to Waldhof district and has made our existing gas power plant redundant. Only one part of that plant will be retained as a substitute for emergencies. Previously, MVV supplied us with 15,000 megawatt hours. Today, that figure has risen seven-fold to 105,000 megawatt hours, equivalent to the needs of 7,500 households. This way, we have reached a milestone in the energy turnaround in and on behalf of Mannheim. Greater energy efficiency and a 65,000 tonne reduction in CO<sub>2</sub> a year – those are certainly respectable results.

This has made our partnership with MVV even closer. We have taken our cooperation, which was already strong, to a new level and contractually agreed this for the next ten years. Not only that, we are working together to promote local and regional developments – and showing what active, measurable climate protection can actually look like in Mannheim.”



## Welcome to Scotland!

“A project on this scale requires great preparation. After five years of intensive talks and detailed planning, we are delighted by the successful launch of the partnership between Dundee City Council, Angus Council and MVV. Specifically, the partnership involves building a new waste-fired power plant. In terms of its energy efficiency and technical standards, it will be one of the most modern plants of its kind in Europe. MVV already took over the existing waste treatment plant here in Dundee last year. Now, it is building a highly efficient new combined heat and power plant. When it is completed, MVV will be operating the plant for 25 years.

For Dundee, this investment marks another major step towards the new energy world. The new plant will convert 110,000 tonnes of waste a year into energy. That will take us a long way towards reaching our target of phasing out non-recyclable waste storage at landfill sites by 2020.

This is MVV’s third major project in the UK. It was MVV’s achievements in Plymouth and Ridham in Kent that convinced us. By coming to Dundee, the company is now putting down roots in Scotland as well. We will benefit from the company’s experience and competence. After all, these were key motivations for our decision. Unbridled innovation, an entrepreneurial spirit and a top-performing team – these factors make MVV what it is and make it the right partner for us.”

*John Alexander,  
Leader Dundee City Council*



## Putting waste heat to innovative use

Only four kilometres separate TREA Leuna, the plant which generates electricity and process steam from waste, and Stadtwerke Merseburg with its 40 kilometres of district heating grid. The idea of forging an alliance between the two was just as close. Together, MVV and the municipal utility company drew up a concept showing how previously unused waste heat from incineration could be used and fed into the district heating grid. Innovative changes in flue gas cleaning make it possible to feed in larger volumes of waste heat. From late 2020, the TREA plant will supply around half of the heating energy needed by Stadtwerke Merseburg for its district heating grid.

“Satisfying our customers, offering clean energy and shrinking our environmental footprint – these are our priorities. We have a clear focus on energy efficiency”, comments Guido Langer, Managing Director of Stadtwerke Merseburg. To date, the municipal utility company has covered more than

50 % of its district heating needs with climate-friendly combined power and heat generation. “This cooperation will improve our primary energy factor to around 0.3 and save about 12,000 tonnes of CO<sub>2</sub> a year. Not only that, it will make us more independent of highly volatile energy markets, as we will be generating less district heating with gas-powered CHP plants. Our customers stand to benefit from greater price stability and a secure supply. The project will help us to reach an energy and environmental policy milestone as we move towards a green district heating supply with low CO<sub>2</sub> emissions.”

Before that, nearly four kilometres of district heating pipelines will have to be laid. Several rail crossings and shared use of numerous areas of private land still have to be prepared and agreed. This will require the consent of those affected. Here too, the plan has met with great acceptance and a willingness to actively support the innovative project.



## Assuming responsibility means choosing the right partners

CEE Group, a Hamburg-based asset manager, is very much involved in the world of renewable energies. So it is no surprise that Windwärts and the investment specialists have already cooperated on several windfarm projects. Sylva II is already the fifth project in which the two partners have joined forces. Frank Grafe, Director at CEE, explains what matters most to him: “We bear a great responsibility, and that not only to our investors but also to the consumers our projects provide with a reliable supply of green electricity. In Windwärts, we have found a partner we can absolutely trust. After all, we are talking about projects with very long terms. That can only work with fairness, competence and security. By the way, we are already planning our next cooperation.”



*Frank Grafe, Director at CEE Group*

## Construction and long-term management

It is no exaggeration to refer to MVV's subsidiary Windwärts as a pioneer of the wind power industry. For more than two decades now, the company has been generating valuable, resource-efficient energy out of thin air. With its great expertise in building and operating onshore wind turbines, it is successfully supporting MVV in consistently implementing its group strategy, namely in expanding renewable energies and thus transforming the energy system. In 2015, Windwärts implemented a windfarm with five turbines in Saxony-Anhalt:

Sylva II. Today, 8,400 households benefit from 25.9 million kilowatt hours of environmentally-friendly electricity. To reach that point, Windwärts first dealt with all aspects of project development, financing and implementation. Alongside turbine construction, the windfarm specialist is also an expert in technical operations management. It therefore made perfect sense for Windwärts to retain long-term responsibility for making sure that the windfarm runs reliably, and that even after the sale of Sylva II to CEE Group.





- **Smart solutions.**  
Clear responsibility.  
Absolute commitment.

## Using innovative solutions to protect natural wonders

It is one of the most beautiful corners of the world, if “corner” is the right word to describe the scale of this World Natural Heritage site. The Great Barrier Reef off the coast of Queensland in north-eastern Australia stretches over 2,600 kilometres. At the southern end of the reef lies Heron Island, a 29-hectare coral cay which is at times home to more than 100,000 birds and is also an important nesting site for sea turtles.

Among the island’s few inhabitants are the employees of the Heron Island Research Station (HIRS) of The University of Queensland, the oldest and largest maritime research station on the Great Barrier Reef. Internationally recognised for its research into coral reefs, the Research Station is dedicated to preserving this wonder of the natural world. Coral reefs are sensitive ecosystems that react to any changes. For them too, climate change presents an existential threat. Locations as remote as Heron Island still generate the electricity they need using diesel generators, but there is an alternative. Danielle Esterhuysen, Energy and Sustainability Project Manager at The University of Queensland, comments on the solution now at hand: “The HIRS Standalone Power System will enable us to supply

more than 80 % of the Station’s electricity from renewable sources and minimise our diesel consumption, while also ensuring a reliable supply. While the plant will reduce our electricity costs on the island, more importantly it will be forging a pathway for other remote islands to undertake a similar clean energy transition. We look forward to implementing this project together with Juwi.”

Specifically, the plant involves a solar battery hybrid electricity solution comprising a photovoltaics plant with 460 kW capacity and a 150 kW/600 kWh vanadium flow battery storage facility. These will be integrated into a microgrid control system together with a diesel generator. The plant is scheduled to take over the electricity supply from mid-2019.

This project, important from a conservation and environmental protection perspective, can draw on work performed in the past. Three years ago, MVV’s subsidiary Juwi implemented a photovoltaics storage hybrid system for DeGrussa Mine in Western Australia. Since then, the mine has saved more than five million litres of diesel a year.



## Saving costs with LED

# Employees and residents benefit

Converting to LED can produce very good economic and ecological results for light-intensive companies. And Augustinum – a premium provider of senior citizens services with 23 residential locations nationwide – can confirm that. It launched its own project in this area in Heidelberg in 2015. Since then, MVV EnergySolutions has successfully converted nine locations to LED in cooperation with Luminatis, another MVV shareholding. Further sites are currently being analysed. Overall, more than 17,000 lights have been installed. All of these were selected for the application in hand, i.e. individually and without being bound to any specific manufacturer.

Paul Mohlberg from Central Purchasing at Augustinum is convinced that this was the right business decision: “We attach high priority to quality and professionalism in all aspects of our residential locations. With the conversion to LED lights begun in 2015, we are taking a sustainable and innovative approach in this area as well. The higher quality of lighting in the various building sections has been very warmly received by employees and residents alike. From a financial perspective, we have saved up to 67% of the previous energy costs in some cases. Luminatis has provided us with competent, solution-driven support. We opted for ‘Smart Light Efficiency’, an all-round carefree package that covers everything from analysis through to financing and implementation.”



## Forward-looking lighting concept for Schriesheim

# Small lights – great impact

When Schriesheim retendered the operations management for its road lights in 2012, MVV Netze came out on top. A convincing maintenance and repair concept and good value for money – those were the arguments that gave rise to a close partnership. Since 1 January 2013, we have taken care of the 1,849 lamp-posts providing the total of around 15,000 inhabitants with a reliable supply of light. To date, the lamp-posts have mostly worked with traditional lights. Working together with Schriesheim Town Council, MVV therefore compiled an action plan to make the lighting concept fit for the future. By converting to LED, the town will benefit from substantial energy savings, reduce the malfunction rate to 10% and quintuple the durability of the lights from 20,000 to 100,000 hours. Markus Schäfer, Director of Schriesheim Building and Town Development Office, supports the plans and their rapid implementation. He sees the overall concept as offering potential savings while also improving the quality of life in Schriesheim: “It will enable us to have new, better lighting and this will also enhance the safety of people living in Schriesheim.” The funding requests will be submitted in spring 2019 and the gradual process of exchanging the lights will then begin – and the partnership-driven cooperation with MVV will be upheld on a long-term basis.





- **Smart solutions.**  
Clear responsibility.  
Absolute commitment.

# “Architecture and energy make TENon5 a futuristic construction project!”



*Stefan Pfeil, Property Developer and Architect,  
Pfeil Projektentwicklung GmbH*



on the lookout for an energy partner that thinks, works and ticks just as innovatively as we do and is able to sustainably and reliably supply individual concepts.

We quickly found ourselves in talks with MVV and received answers to our questions. The results are ideal in both economic and technical terms – with environmentally-friendly and inexpensive district heating and decentralised hot water production. New residents will no doubt also be excited about the chance to monitor their consumption habits and, if they wish, to adapt these. Having the meter read once a year – that is a thing of the past for us.

“At T5, a block in inner-city Mannheim, we are building ten town houses with a total of 147 residential units and underground parking. A café, fitness area and concierge service will turn this address into a home that leaves nothing to be desired for its new residents. We build for the future. So we were

We are all part of the energy system. We would like to enable everyone to play an active part, and that right now. We will already succeed in doing just that at TENon5.”

[www.pfeilpro.de](http://www.pfeilpro.de) [www.tenon5.de](http://www.tenon5.de)

# 2

**Dr. Mathias Onischka**  
MVV, Head of  
Sustainability Programme



INNOVATIVE PATHS.

Smart solutions.

- **Clear responsibility.**  
Absolute commitment.

# My energy. Clear responsibility.

**Why acting sustainably  
and succeeding in business  
go hand in hand.**

# Modern energy service provider with municipal roots

Right in the heart of Mannheim, our “MVV Tower” can be seen from far away. And the view we have covers all points of the compass. It also symbolises the farsightedness with which we have long been promoting the energy system of the future. We use this 360° perspective to work on innovations focusing on efficiency and climate protection. Solutions that also take account of the responsibility we bear to ensure economic efficiency and a secure supply for everyone. After all, our mandate to supply the region is something we take seriously.

As a listed energy company in which the City of Mannheim holds a 50.1% stake, we have adopted a broad-based approach – with a company structure and shareholdings that enable us to address the “whole picture”.



INNOVATIVE PATHS.

Smart solutions.

- **Clear responsibility.**
- Absolute commitment.

Turning waste into energy, here at MVV's plant in Mannheim



We put the wind and the sun to good use – for us and our customers



Digital portfolio management makes energy procurement easy



Typical MVV: Generating green electricity and using it for mobility



Grids form the backbone of our reliable supply



## The A to Z of the new energy world

Our employees have made us one of Germany's leading energy companies. When people ask what they do each day, there is no short answer. That is because our areas of activity are so diverse and challenging. As an energy supplier, we supply electricity, gas, heating energy and water – and that reliably. To make sure we can still do so in future as well, and that despite ever growing challenges, we are modernising and continually expanding our grid infrastructure.

MVV Trading is active on the electricity and gas wholesale markets – and that both on and off the energy exchange. Our colleagues at MVV Enamic address the needs of our business customers operating in the industrial, retail, commercial and real estate sectors. By offering smart energy products, we provide innovative solutions helping private customers and companies to implement their own energy turnarounds.

Our energy from waste plants and biomass power plants generate ever more energy from renewable sources and aim for the utmost energy efficiency, as do our wind turbines and our biomethane and biogas plants. We act as a long-term partner for our customers in the field of renewable energies and cover all stages from project development through to operations management.

Around

**6,000**  
employees  
work at MVV

# For us there is only one way: forwards!

## **We are implementing our strategy with absolute energy and focus.**

The energy of the future will be good for the environment and the climate, reliable and economical. We acted early to align MVV towards this future. And we are continually working to develop our company further. We will invest Euro 3 billion in the years ahead and focus here on further expanding renewable energies, boosting energy efficiency and developing innovative services and products for smart, decentralised energy management. This way, we are creating the energy system of the future and enabling our customers to implement their own private energy turnarounds.

We focus our growth investments on wind power, biomass and biomethane, on our environmental energy business and on customer solutions. We aim to invest more closely in photovoltaics-based electricity generation in future. All in all, our generation portfolio will continue to evolve and is set to become far greener and more diversified.

Making sure that our customers are bright, warm and cosy is only part of the story. We also want to increase the share of renewable energies in our generation activities. To this end, at the beginning of the 2017 financial year we set targets for ourselves and our customers. By 2026, we will be doubling our proprietary renewables generation capacity to 850 megawatts. For our customers, we aim to connect 10,000 megawatts of new capacity to the grid by the same time. But it is not only our electricity generation that should become more renewable. We also aim to reduce the CO<sub>2</sub> emissions in our heating energy and make progress towards

reaching climate neutrality, for example by combining highly efficient CHP generation with expanding environmentally-friendly district heating. To put that in figures: By 2026, we will triple our annual CO<sub>2</sub> savings to one million tonnes.

## **We are a one-stop source of new ideas.**

We do not just talk about the energy system of the future, we also back up our words with actions – in the form of innovative products and services which stand to benefit our industrial, retail, real estate, commercial and retail customers. We are making smart decentralised energy management available and offering all solutions from a single source. We have also aligned our business to the future by forging strategic partnerships and acquiring shareholdings that can contribute new ideas.

## **Many changes have both external and internal implications.**

The energy system of the future is arising on the back of exciting developments. On the one hand, there is the further growth in renewable energies and the ongoing associated process of decentralisation. On the other hand, there is the digitalisation of the energy industry, a technological transformation that is affecting all stages of the value chain and making new solutions possible. Our corporate culture is also keeping up with this: By enhancing our ability and willingness to accept and shape change, we are laying foundations for successful further development. As we head towards the new energy world, we are combining our strategy, our brand and our corporate culture to form a strong unity – open, energetic, reliable and self-confident.



**“We intend to remain one of the leading players in the energy turnaround.”**



**How significantly is MVV set to change in the next ten years?**

**Dr. Christoph Helle:** With our growth investments in and around the energy turnaround, we are consistently developing our business and product portfolio. Having said that, the traditional business, such as the district heating supply, also has a strong outlook. By decarbonising and modernising this area, while at the same time ensuring supply reliability, we will maintain our ground even as competition from decentralised heating energy solutions intensifies.

**When can we expect MVV’s high pace of innovation to be reflected in its business performance?**

We are convinced that our investments will pay off in the long term. Not only that, we are pressing ahead with our innovation activities to ready ourselves for the new energy world. Ultimately, the specific products end customers select in the medium to long term will be decided in the market, but will also be significantly influenced by political decisions. To account for this, we are actively contributing to the energy policy debate surrounding the energy turnaround, for example in the further development of the renewable energies framework.

**How dependent is the corporate strategy on political decisions?**

The Federal Government’s Climate Protection Plan requires the energy industry to halve its greenhouse gas emissions by 2030. The accelerated expansion in renewable energies and the exit from coal-based electricity generation are already mapped out. As a regulated industry, we are of course directly affected by specific political decisions. Not least in view of that, we believe that a diversified portfolio covering all stages of the energy industry value chain, and that with a clear focus on the energy turnaround, will remain a key success factor for our business. That also makes it possible to offset uncertainties resulting from political factors, as well as technological and market uncertainties, across our various companies.

*Dr. Christoph Helle, MVV, Plenipotentiary,  
Head of Group Strategy, Energy Industry and M&A Department*

INNOVATIVE PATHS.

Smart solutions.

- **Clear responsibility.**  
Absolute commitment.

**3**

**Euro billion**

amount we will invest in the energy turnaround by 2026. The energy system of the future will remain our key investment focus.

**65%**

new Federal Government target for share of electricity generation at renewable energies plants by 2030.

# Economic and ecological

Keeping at it is the way to succeed. And we can offer proof that we have consistently done that with our own targets. Our growth has been equally profitable and sustainable for years now, and that is thanks to our strategy with which we acted early to prepare for the energy system of the future. Our flexibility and our willingness and ability to change – these are firmly anchored in our strategy. We believe that is the only right way to successfully master the challenges presented by the energy turnaround. With our solutions, we are building an increasingly green and efficient energy world, one in which healthy long-term growth is possible and goes hand in hand with environmental benefits.

## Financial key figures

**228**

**Euro million**

**Adjusted EBIT**

**290**

**Euro million**

**Investments**

**331**

**Euro million**

**Cash flow from  
operating activities**

**94**

**Euro million**

**Annual net income  
after minority interests**

- **Clear responsibility.**  
Absolute commitment.

“Long-term economic success results from sustainable action, not the other way round.”



*Dr. Mathias Onischka,  
MVV, Head of  
Sustainability Programme*

## Non-financial key figures

**485**

**000 tonnes**

**Net CO<sub>2</sub> savings**

**63**

**percent**

**Share of renewable energies  
in own electricity generation**

**1,011**

**megawatts**

**New renewable  
energies plants developed**

**467**

**megawatts**

**Proprietary installed  
renewable energies capacities**

# 3



**Johanna Isenhuth**  
MVV, Personnel and  
Cultural Development

# My energy. Absolute commitment.

Why it nearly all depends  
on smart minds.

INNOVATIVE PATHS.  
Smart solutions.  
Clear responsibility.  
• Absolute commitment.



# MVV accompanies change actively

We are an attractive employer. All companies say that but for us it is not just lip service. We are implementing numerous measures. Our aim is to create a basis for motivating our employees to be the movers and shakers in the energy system of the future.



Working to achieve the energy turnaround – that is what MVV stands for

To master the rapid changes in the energy market we will need forward-looking technologies, a sustainable strategy and financial strength. More than anything, we will need top-performing employees – they are the key to our success.

We view our employees not just in terms of their competencies and performance but also look beyond their working hours. To account for that, we have coined the term “work-life competence”. For us, that means new ways of dovetailing work and private commitments in a world that is rapidly changing both within and outside the workplace. Everyone, regardless of their position and function, should have the opportunity to successfully develop their skills – and that without having to accept any social, cultural or health-related drawbacks. That is important to us. It is also how we see our role as an employer aware of its responsibilities. After all, we aim to grow together and – within a partnership of equals – to succeed in making change happen.

# “Helping shape the future of energy and work, you can do that at MVV!”



*Johanna Isenhuth, MVV,  
Personnel and Cultural Development*

## Lived energy

Our employees work each day on making a reality of the energy turnaround. They are building the energy system of the future, which will be ever more decentralised, diverse and digital. Our world of work is changing along exactly the same lines. That makes it all the more important to have a forward-looking corporate culture, one that reflects our energy and enhances our sense of belonging. This is a crucial factor for the future. To account for this, back in 2015 we introduced the “Lived Energy” cultural programme together with our employees. Our aim is for each and every employee to make their own active contribution and help shape our corporate culture. By holding regular dialogue forums, we have created platforms at which employees can share their ideas with each other – and that across individual departments, companies and divisions.

Our values of “Community”, “Responsibility”, “Appreciation” and “Courage” provide us with a clear profile. They were imposed not from “on high”, but rather reflect the living values with which our employees can identify in the long term.

### These values shape our work together:

- » **Community:** We build on diversity, learn from each other and work together to reach our common goals.
- » **Responsibility:** We think and act with foresight, reach rapid decisions and work to boost trust.
- » **Appreciation:** We offer praise and constructive criticism and treat each other with respect.
- » **Courage:** We are dynamic in setting out in new directions, see change as an opportunity and take the initiative for our future.

# “The creative power on hand in an innovative team really motivates!”



*Nicole Chappell, Department Head at MVV Umwelt Ressourcen GmbH*

“When people ask me what I do all day, I tell them I deal with endless rubbish. That mostly makes them laugh. But when I tell them more about my work, they all find it pretty interesting. What we do is make sure that large volumes of waste – and biomass – arrive at our power plants and are turned into electricity, heating energy and steam. For me, waste is an important resource, one that is absolutely crucial for the energy turnaround and the energy system of the future. And we are growing ever further, a sign that this topic is important and will remain so in future. I have worked at MVV since 2003 already. And that is because I have the feeling that what I do each day is really worthwhile.

Not only that, it is also because people here take my ideas seriously. In ‘Take-Off’, a large-scale innovation project, for example, we worked in teams to develop new ideas for future products. We received fantastic support and learned some interesting brainstorming methods. I was really impressed by the creative power available in a team like ours. I think it is important for us to contribute our ideas and work together to promote the energy system of the future.”

## “Entrusting employees with ever new tasks is a great responsibility.”

“Even though I have worked at the same company for nearly four decades now, I still have the feeling that I have changed jobs many times. That is surely because I have experienced a great deal here. I started out in the Personnel department, then I became a member of the Works Council – at first in parallel to my other work and then even full-time – and now I am back on the employer side of things again. But it is not only the variety of tasks that gives me this feeling and also involves lifelong learning. It is the fact that we have long been working on the energy system of the future. That is no longer a new phenomenon. We look for innovative solutions – and also find them. For the workforce, that means that they are in a permanent change process. The requirements in employees are becoming ever more diverse, and that applies both to specialist competencies and to personal skills. My responsibility as an HR man is to help employees keep up with developments and even enjoy going along with changes. After all, the employees are the driving force when it comes to fundamentally changing the energy world.”



*Peter Dinges, MVV, Head of Labour Relations Department*





*Volker Glätzer,  
Managing Director of  
MVV Netze GmbH*

## “The energy system will be ever more decentralised. And we are well prepared.”

“Our grids will make a huge contribution to the energy turnaround and thus to the energy system of the future. As well as decentralised plants, such as those generating energy from wind, sunshine or biogas at a very wide variety of locations, battery storage is another topic that is set to become ever more important. Not only that, we face changes in the mobility sector that will also give rise to new challenges for our grids. Our range of tasks will become more complex, new technologies will emerge and everything will become more digital.

We ourselves are actively tackling and promoting these changes. And we can draw on a wealth of experience here. As a learning organisation, we are also preparing to solve tomorrow’s challenges with entirely new ideas. This process is being supported by a new organisational structure which our employees themselves helped to develop. What this is ultimately about is our future world of work. And we are channeling all our energy and all our enthusiasm into finding innovative solutions for tomorrow’s energy system.”

- INNOVATIVE PATHS.  
Smart solutions.  
Clear responsibility.
- **Absolute commitment.**

“You never hear ‘That’s not my job’ here. I noticed that on my very first day. And that is what makes the atmosphere so intimate at EVO, the subsidiary of MVV where I trained as an operations technology electrician. Everyone helps out – even if it is not their area of responsibility. Just like one large family. Apart from the great atmosphere, what really motivates me is my area of work – providing households with a safe supply of electricity, which at our company comes from up to 50 % renewable resources. We have made enormous progress in terms of sustainability in recent years. And because the energy system is developing so quickly, I am preparing for fresh challenges by combining my work with a study programme. I am studying electrical engineering and IT for energy, electronics and environmental applications and am sure that this will really boost my skills. After all, I want to play an active part in building the new energy world. Being part of the energy system of the future – that is something I did not even dream of when I was a child reaching for my favourite toy, my electronics kit. So I am really looking forward to the tasks that await me in the many years of work ahead.”

## “I can grow together with my ‘energy family’.”

*Riccardo Rogoll, previously  
operations technology  
electronics trainee at  
Energieversorgung  
Offenbach AG, now in  
dual study programme  
at Darmstadt University  
of Applied Sciences*



## “What inspires me is to think well ahead and to work together to develop shared strategies for a sustainable future.”

“To draw on a musical comparison, I like to think of our actions as a major chord. What we are aiming for is a harmonious triad of equals. All our activities should be in balance in economic, social and ecological terms, and that across all our locations. Sustainability, environmental and climate protection and business responsibility – those are the topics we have to think about and manage on a long-term basis. We are not talking about three or five years. It is about the next decades! As part of MVV, it is important for us at Stadtwerke Kiel to regularly share views within the Group, develop strategies and draw up suitable measures to address these areas. Who does what particularly well and at which location? What contribution can and should each location make to future CO<sub>2</sub> savings, for

example? Those are questions to which I try to find answers with my colleagues in the Sustainability Programme. This way, we not only learn from each other within the Group. More than anything, we can synchronise our activities very closely. Here in Kiel, we have already achieved a great deal. In 2019, for example, our ultra-flexible gas-powered CHP plant ‘Küstenkraftwerk K.I.E.L.’ will be connected to the grid. This will set new standards, not only for the district heating supply in the state capital of Kiel, but also as a project showing how smartly conventional energy generation can be linked with renewables. And electro-mobility is an ever more important topic for us here in the North as well and we are actively tackling this as a key focus on location. We are ready for the future!”



*Patrik Stellmacher,  
Stadtwerke Kiel AG,  
Location Coordinator  
for Sustainability*



*Adrienne Franzheld,  
MVV, Lawyer in Labour  
Relations Department*

## “I love my work. And MVV helps me combine that really well with my family life.”

“Keeping all the various balls in the air is not always easy. So help in maintaining a good balance between my work and family is something I really appreciate. MVV offers ideal conditions to do just that. I have flexible working hours. Not only that, the company took my wishes seriously and respected them when I wanted to return to work after my maternity leave. I perform my tasks with the same level of respect. I deal with a variety of personnel topics involving labour law. I look into company agreements, contract structures and provide in-house advice on fundamental matters of labour law. I help to create a framework with which my colleagues throughout the Group can feel comfortable – and thus remain at the company in the long term as well. At the end of the day, we need competent, creative minds to implement the energy system of the future.”

# Imprint

## Published by

MVV Energie AG  
Luisenring 49  
D-68159 Mannheim

Postal address  
D-68142 Mannheim  
T +49 621 290 0  
F +49 621 290 23 24  
www.mvv.de  
kontakt@mvv.de

## Investor Relations Contact

Philipp Riemen  
Head of Department  
Finance and Investor Relations  
T +49 621 290 31 88  
philipp.riemen@mvv.de

## Text and editing

In cooperation with:  
xmedias GmbH, Mannheim

## Concept, design and implementation

HGB Hamburger Geschäftsberichte  
GmbH & Co. KG, Hamburg

## Photography

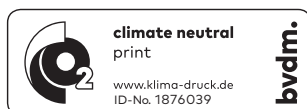
CEE Operations GmbH, Hamburg, Page 28  
DRK-Landesverband Rheinland-Pfalz e. V., Mainz, Page 22  
Dundee City Council, Dundee, Page 26  
Thommy Mardo, Mannheim, Cover and Pages  
4, 5, 16/17, 19, 31, 32/33, 39, 40/41, 43, 44 (above), 46 (below)  
sinai/MWSP 2016, Page 21  
STUDIO2050, haascookzemmrch, Stuttgart, Page 31  
Timo Volz, Mannheim, Page 20  
Other photos: MVV


## Print

Beisner Druck GmbH & Co. KG, Buchholz/Nordheide

All of MVV's financial reports can be downloaded from our websites.  
[www.mvv.de/investors](http://www.mvv.de/investors)

In producing this report, MVV has promoted sustainable environmental protection. We have exclusively used 100 % recycled paper with FSC® (Forest Stewardship Council®) certification for responsible forest management. The report was printed in a climate-neutral manner in accordance with the guidelines issued by the Climate Initiative of the Printing and Media Industries Federations. All CO<sub>2</sub> emissions either directly or indirectly caused by printing this report have been calculated and offset by investments in renowned climate protection projects.





MVV Energie AG  
Luisenring 49  
D-68159 Mannheim