World’s largest heat pump being built in Mannheim

- **MVV commissions STRABAG to construct second river-source heat pump at Grosskraftwerk Mannheim power plant site**
- **Total investment of around € 200 million in a climate-friendly district heating future**
- **Heating for up to 40,000 households in the Rhine-Neckar metropolitan region**

Mannheim-based energy company MVV Energie AG (MVV) is driving forward the transformation of the energy system in the Rhine-Neckar region. The company has commissioned STRABAG Umwelttechnik GmbH to construct a second river-source heat pump at the site of Grosskraftwerk Mannheim AG (GKM). The works are part of a project representing a total investment of up to € 200 million. Following an EU-wide tender, the project is receiving funding from the federal funding scheme for efficient heating networks (BEW). The general planning and preliminary design were undertaken by INP Deutschland GmbH, which also took part in the tendering process. The planned installation will deliver a thermal output of up to 165 megawatts, making it, by current standards, the largest heat pump of its kind in the world.

“With this new river-source heat pump, we are investing in the energy future of Mannheim and the Rhine-Neckar metropolitan region. It marks another milestone on our path to achieving full decarbonisation of the district heating supply in Mannheim and the surrounding area by 2030,” said Dr. Gabriël Clemens, Chief Executive Officer of MVV.

The large-scale heat pump will comprise two individual modules, each with an output of 82.5 megawatts. They will use Rhine water as a heat source, generating district heat with temperatures of up to 130 °C by means of the natural refrigerant isobutane. Construction work is scheduled to begin in mid-2026.

“Thanks to energy from thermal waste treatment, our biomass combined heat and power plant, and the first river-source heat pump, we are already able to cover nearly 50 percent of our district heating needs from renewable sources. The new river-source heat pump is scheduled to go into operation in winter 2028, providing climate-friendly heat for up to another 40,000 households. To achieve full decarbonisation, we are also planning an additional river-source heat pump and the use of the region’s geothermal potential,” said Dr. Hansjörg Roll, Chief Technical Officer of MVV.

“The Mannheim contract strengthens our position as a partner for future-oriented, climate-neutral water and energy infrastructure. We are proud to be working with MVV to make an active contribution to the decarbonisation of urban heating and energy supply. Our combination of technical expertise and sustainable innovation makes STRABAG a reliable partner for the energy transition,” said Stefan Kratochwill, CEO of STRABAG SE.

Drawing on the expertise of various Group companies, STRABAG brings comprehensive design-and-build capability in plant engineering to the project. The innovative technology is based on the HEAT PUMP ALLIANCE® concept – a strategic partnership between STRABAG and Atlas Copco Energas in the field of industrial and high-performance heat pumps. The core components of the installation are Atlas Copco’s proven turbo compressors, which have been successfully deployed in more than 7,000 applications worldwide over the past 40 years. Last year, STRABAG received a similar contract in Gothenburg, Sweden, to replace two older heat pump modules with a new 50 MW high-performance unit.

“Building the second river-source heat pump at the Grosskraftwerk Mannheim site is a clear commitment to maintaining the location’s role as an energy hub. GKM is part of the transformation towards a climate-friendly and future-proof energy supply for the region. Making use of existing infrastructure for new energy technologies and our technical project management are prime examples of sustainable joint planning,” said Thomas Hörtinger, Chief Technical Officer at GKM. MVV is also planning to build a hydrogen-ready district heating post-heater at the GKM site. This unit will be used to heat the district heating water to the required network temperatures during the heating season. Both installations will be operated by GKM, as is already the case for the first river-source heat pump. Construction of both projects is scheduled to begin next year.

MVV at a glance

With more than 6,600 employees and annual sales of around Euro 7.2 billion in the 2024 financial year, MVV is one of Germany’s leading energy companies. Our activities focus on providing a reliable, economical and environmentally-friendly supply of energy to our industrial, commercial and private household customers. Here, we cover all stages of the energy value chain: from energy generation, energy trading and energy distribution to operating distribution grids through to our sales activities and environmental energy and energy-related service businesses. We are also investing in our future grid capability, modernising our generation plants and innovative green technologies.
We are pioneers of the energy transition. With our Mannheim Model, we have committed to a strategic course that will make us #climatepositive by 2035 – as one of the first energy companies in Germany. We are consistently promoting the heat transition, the electricity transition and the associated expansion in renewable generation methods, as well as green solutions for our customers. As certified by the international “Science Based Targets initiative” (SBTi), our climate targets and initiatives make us the first German energy company to be net zero compatible and a global leader in climate protection. According to prestigious rating agencies such as ISS ESG and Ecovadis, we are also one of the world’s best

energy companies when it comes to sustainability. In all our activities, we can count on the mature competence and expertise of our employees. They stand to benefit from secure and attractive jobs in future as well.
MVV is a company in the Rhine-Neckar Metropolitan Region. The MVV Group has operations worldwide.

About STRABAG

STRABAG SE is a European-based technology group for construction services, a leader in innovation and financial strength. Our activities span all areas of the construction industry and cover the entire construction value chain. We create added value for our clients by taking an end-to-end view of construction over the entire life cycle – from planning and design to construction, operation and facility management to redevelopment or demolition. In all of our work, we accept responsibility for people and the environment: We are shaping the future of construction and are making significant investments in our portfolio of more than 250 innovation and 400 sustainability projects. Through the hard work and dedication of our approximately 86,000 employees, we generate an annual output volume of around € 19 billion.

Our dense network of subsidiaries in various European countries and on other continents extends our area of operation far beyond the borders of Austria and Germany. Working together with strong partners, we are pursuing a clear goal: to design, build and operate construction projects in a way that protects the climate and conserves resources. More information is available www.strabag.com.

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