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Data Centres, Energy Security and Grid Stability Drive New Demand for CHP Systems

10–13 November 2026 in Hanover, Germany – EnergyDecentral trade fair highlights the growing role of combined heat and power systems – Expansion of data centres creates new opportunities for decentralised generation – Energy security and grid resilience shape investment decisions – energy-decentral.com

Combined heat and power (CHP) systems are taking on a new role in Germany's energy transition. While CHP plants have traditionally been valued for their high efficiency and simultaneous production of electricity and heat, growing demand for energy security, grid stability and flexible power generation is creating new opportunities for the technology. These developments will be a key topic at EnergyDecentral 2026, the leading trade fair for decentralized energy supply, taking place from 10 to 13 November in Hanover, Germany, alongside EuroTier and Inhouse Farming – Feed & Food Show.

Data Centres Create New Demand

One of the strongest growth drivers for decentralised power generation is the rapid expansion of data centres. Germany's National Data Centre Strategy aims to significantly increase computing capacity over the coming years. At many locations, however, new facilities face a practical challenge: grid connections may take several years to complete.

As a result, on-site power generation is increasingly becoming part of the solution.

"Discussions around CHP systems are no longer focused solely on efficiency," says Gerd Krieger, Deputy Managing Director of VDMA Power Systems. "Energy security, island-mode operation and the energy supply of growing data centre capacities are becoming increasingly important."

From Efficiency to Resilience

The changing energy landscape is also transforming the role of CHP technologies. Modern systems not only generate electricity and heat efficiently; they are increasingly being used to support critical infrastructure and improve energy resilience. One of the most important developments is the growing ability of CHP plants to operate independently from the public grid. Thanks to advanced control systems and powerful generators, modern installations can continue supplying electricity during grid disruptions and contribute to stabilising local power networks.

This capability is becoming increasingly important not only for agricultural operations but also for hospitals, industrial sites and data centres.

For many operators, the ability to maintain power supply independently of the public grid is becoming an increasingly important investment criterion.

CHP Systems Support Grid Stability

With nearly 50,000 decentralised CHP installations and an electrical capacity exceeding 10 gigawatts, CHP already represents an important segment of Germany's energy system. At the same time, the function of these systems is evolving. Beyond producing electricity and heat, CHP plants are increasingly being viewed as flexible energy assets capable of supporting grid stability and strengthening security of supply.

As electricity demand continues to rise across industry, agriculture and digital infrastructure, the importance of decentralised energy generation is expected to grow further.

Technology Continues to Advance

Manufacturers are continuing to improve the efficiency and environmental performance of CHP systems. Modern selective catalytic reduction (SCR) technologies significantly reduce nitrogen oxide emissions and help operators comply with increasingly demanding environmental regulations. Electrical efficiencies above 45 percent are becoming more common, while fuel-cell technologies are opening up additional opportunities for highly efficient decentralised power generation.

Regulatory Developments Influence Investment Decisions

Policy developments are expected to play an important role in shaping future market growth. The German Combined Heat and Power Act (KWKG) remains a key framework for investment in CHP technologies. Following the summer recess, a new legislative proposal is expected that could further develop support mechanisms and regulatory requirements. Industry experts anticipate increased attention on innovative and low-emission technologies, as well as systems capable of supporting grid resilience through island-mode operation.

"The coming political decisions in Germany will have a significant impact on investment planning across the sector," says Krieger. "Long-term planning certainty will be crucial for operators and investors."

EnergyDecentral 2026: A Platform for the Future of Decentralised Energy

EnergyDecentral 2026, which takes place alongside EuroTier, the leading exhibition for livestock professionals, will provide a comprehensive overview of the latest developments in CHP systems, decentralised energy generation and energy management. EnergyDecentral is organized by the DLG, a non-profit organization dedicated to promote knowledge sharing across the agricultural sector.

Leading manufacturers, technology providers and industry experts will present solutions for efficient energy production, grid stability and resilient energy supply concepts. Alongside technical innovations, visitors will gain insights into emerging market opportunities, regulatory developments and the growing role of decentralised generation in supporting critical infrastructure and expanding digital economies.

For professionals looking to understand the future of CHP and decentralised energy systems, EnergyDecentral 2026 will offer valuable market insights and practical solutions for the years ahead.

More information:

www.energy-decentral.com

For a detailed overview of current AI applications in livestock farming — including animal monitoring, disease detection, welfare assessment and regulatory compliance — read the background article: <https://www.eurotier.com/en/news/ai-in-livestock-farming-improved-animal-welfare-smarter-decisions-and-more-efficient-processes>

Further information:

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About DLG

With more than 30,000 members, DLG is a politically independent and non-profit organisation. DLG draws on an international network of some 3,000 food and agricultural experts. DLG operates with subsidiaries in 10 countries and also organizes over 30 regional agricultural and livestock exhibitions worldwide. DLG's leading international exhibitions, EuroTier for livestock farming and Agritechnica for agricultural machinery, which are held every two years in Hanover, Germany, provide international impetus for the local trade fairs.

Headquartered in Frankfurt, Germany, DLG conducts practical trials and tests to keep its members informed of the latest developments. DLG's sites include DLG's International Crop Production Centre, a 600-hectare test site in Bernburg-Strenzfeld, Germany, and the DLG Test Centre, Europe's largest agricultural machinery test centre for Technology and Farm Inputs, located in Gross-Umstadt, Germany.

DLG bridges the gap between theory and practice, as evidenced by more than 40 working groups of farmers, academics, agricultural equipment companies and organisations that continually compare advances in knowledge in specific areas such as irrigation and precision farming.

www.dlg.org