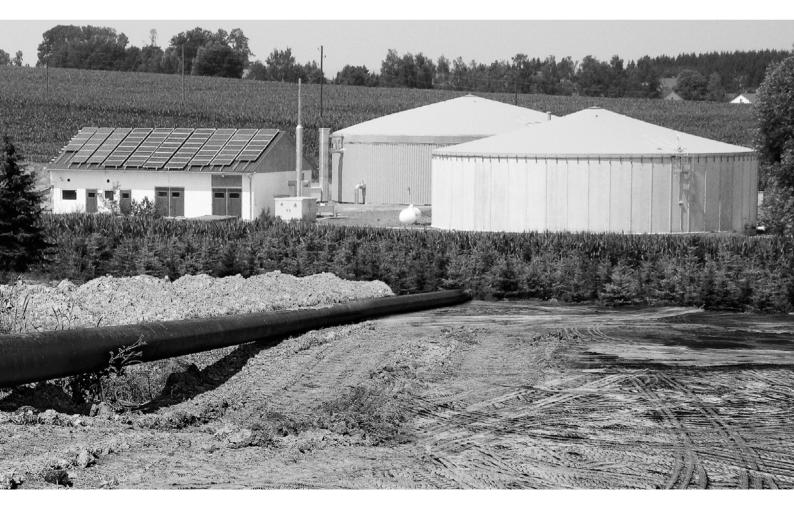


HEAT FROM NEAR AND FAR

Combined heat and power production with GP JOULE

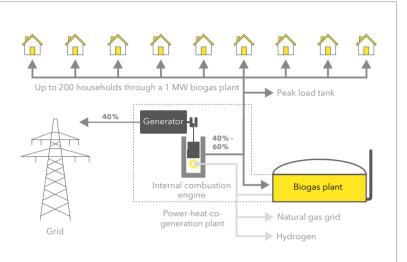
The hottest topic of the future: With energy concepts based on decentralized CHPs local authorities can use regional resources in an optimal way, both economically and environmentally. As an experienced and far-sighted partner GP JOULE focuses in particular on the efficient combination of heat production and electricity generation.



DOUBLE PROFITS

Expansion of heating networks

The future of heat supply plays an important role in our society. Because currently more than half of our primary energy consumption serves the production of space heating and process heat. The devastating: almost 90% of the required energy is produced by using fossil fuels.



Breaking new ground: The development of the renewable energy market has fortunately brought decentralized power plants (e. g. biogas plants) with it and therefore allows new heating concepts. In Germany alone, nearly 9000 biogas plants with their unexploited CHP waste heat have enormous potential to make a major contribution to the future heat supply. Specifically heating networks in rural areas are ideal for this.

They transport the excess heat from the biogas plants directly to the citizens - everyone involved will benefit.

Win-win: For operators of CHPs and other heat generation plants commitment is the thing, because ...

- the profitability of the own system can be optimized through the efficient use of waste heat,
- on top of the compensation for the heat there are additional bonuses at the feed-in tariff through the EEG,
- legal obligations for heat use are met,
- the operation pays off the entire year through alternative utilization concepts e. g. wood or crops drying.

For citizens a district heating system is very advantageous, because ...

- regional resources are used to generate heat. These are independent of world politics and inflationary spirals on the global markets, so that lasting stable prices are ensured.
- the capital remains in the community instead of flowing off abroad. This way it encourages local investment and strengthens the added value.
- the public budget also benefits from the new economic stimuli.

THE RIGHT PARTNER

GP JOULE at your side

From the creation of integrated heat concepts, via system and plant layout and construction of turnkey heating networks, to the technical and commercial management - GP JOULE offers the full service. Our range of services covers all the important steps on the way to an economically and ecologically efficient district heating project.

With us, you have an experienced partner at your side, which has already realized numerous projects in the field of renewable energies.

- 1. Project development
- 2. Concept and layout
- 3. Financing
- 4. Construction
- 5. Service and monitoring

1. Project development

This is something new: We realize heating grids on our own or with partners such as municipalities, farmers and investors. During this, our goal is always to use the existing local heat potential in the best way, both economically and ecologically. For that matter useful extensions can also be a decisive step. Therefore we analyze and plan each project down to the last item. So not only all stakeholders benefit, but also future generations.



2. Concept and layout

with foresight and prudence: The challenge in the field of heat systems in the future will be to combine electricity generation and heat demand efficiently. Because with our future energy mix the importance of flexibility and balancing power markets increases. Therefore well-thought-out and approved concepts are of enormous importance. Finally, also at a primarily on power generation focused operation, in particular a biogas CHP, one thing must be ensured: the heat supply.

The best way for it is the most efficient use of existing surplus heat. Therefore, in the stage of planning, GP JOULE considers always different technologies, fuels and modes of operation for the systems. This is the only way to create an optimal balance between heat production and acceptance. This is decisive for all clients, whether heat suppliers, local authorities or investors. Therefore we always create individually tailored concepts, that are 100% based on the local conditions. With many years of experience in biogas plants and heating systems, we find solutions, that have proven themselves not only on the drawing board, but also in practice.

Your advantage: Instead of having to hire a large number of contracting partners, you have one competent partner in us, which takes care of all concerns when planning your heating network. Among them:

- **2** Permits
- 2 Network hydraulics and statics
- Production sites and production plants
- 2 Public relations
- Contract and consumption law
- 2 as well as business start-up

3. Financin

The right devices: Together with clients GP JOULE has realized already several projects in the area of renewable energies. Thus we have learned what it takes to convince regional banks and investors of the feasibility and efficiency of heating networks. But we do not only ensure the successful development of your project - even after completion GP JOULE is there for you. Because our commercial management ensures permanent gains.

4. Construction

Strong foundation: Also plant construction is one of our expertise: GP JOULE constructs turnkey heating networks. We care about the entire periphery, such as generation plants, production sites, house service connections, control and regulation technology. From the invitation to tender, over the award of all trades to the coordination of subcontractors - we ensure that you get the best quality and can take your plant into operation on time.

5. Service and Monitoring

Control is better: The safe and economical operation of heating networks is inconceivable without network controlling and monitoring. Therefore GP JOULE provides even here the full service. Our control room guarantees a permanent network monitoring. So operators have at any time the opportunity to query all important information and to respond quickly in case of interference. This allows an optimal safeguarding of the heat supply. In addition, a long-term monitoring of network parameters is useful. Here, factors such as temperature, flow rates and environmental conditions are collected and analyzed. If the results show that long-term changes exist in the net, it can be readjusted. So GP JOULE can guarantee the optimum efficiency and supply guarantee for your plant.



GP JOULE - THE COMPANY.

GP JOULE is the universal, innovative, authentic and successful partner for all areas of renewable energy.

Thanks to its unique history, the company GP JOULE has a deeply rooted attitude to the environment, which is dominated by respect and an awareness of its responsibility. This is the basis for and also what drives GP JOULE to use the connection between humans and nature in a lucrative manner for both sides.

In GP JOULE you will find a long-term partner with far-sighted vision. GP JOULE aims to ensure that 100% of global energy consumption is produced using renewable energy in the future. This is why it makes renewable energy accessible and economically attractive for you and for everyone.

In the energy segments solar, wind and biogas, GP JOULE will be at your side in all project phases, from the first idea to its realization, and it also manages plants after they have been switched on as part of its professional operational management service. GP JOULE stands for innovation and constantly researches cutting-edge technology and develops comprehensive future-oriented concepts.

Whether as a land owner, project developer, EPC, investor, bank, company, institution, engineer, architect, local authority or end customer - within the service categories of Products and Services, Projects, Think and Consumer, you can find your partial or complete energy solution by GP JOULE.

