Electricity for mining

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In Russia, thousands of landowners with gas connections are unaware that they possess an asset capable of generating stable profits. If you have a plot of land and access to a gas pipeline, you already have the starting conditions to launch your own source of electricity generation. We are talking about a modular mini-CHP plant based on MWM gas piston engines. Such a plant can not only provide your facility with cheap electricity and heat, but also generate income through its sale or the placement of energy-intensive industries, such as mining farms.

What is a mini-CHP plant and why a modular solution?

A modular mini-CHP plant is a compact power plant housed in five modular containers and completely ready for operation. At the heart of the plant is a reliable gas piston engine manufactured by MWM (Germany). MWM units have proven themselves to be economical and technologically advanced solutions for local power generation. In this design, mini-CHP plants do not need to be approved by government agencies, and there is no need to spend a lot of resources and time on construction. All modules are delivered to the site in the shortest possible time and, like a construction set, are assembled into a full-fledged mini-CHP plant in two weeks.

Advantages of a modular mini-CHP plant:

- Quick commissioning. Thanks to its modular design, the mini-CHP plant can be commissioned in two weeks;
- Operates on natural gas, the cheapest source of electricity in Russia;
- Possibility of parallel heat generation (cogeneration);
- Reliability: mean time between failures — tens of thousands of hours;
- Scalability: capacity from 400 kW to 25 MW.

Cheap electricity for mining

Digital currency mining has always been directly proportional to the cost of electricity. Even powerful mining farms can incur losses if the cost per kilowatt exceeds the

economically viable threshold. On average, if 1 kW exceeds 5 rubles in cost, mining breaks even or even incurs a loss. To ensure the profitability of cryptocurrency mining, it is extremely important to have access to a stable and cheap power source.

The optihttps://mks-group.ru/contacts?mining-sellmal solution for mining projects is local power generation using gas piston units as part of a modular mini-CHP plant. This significantly reduces the cost per kilowatt, minimizes dependence on external networks, and avoids tariff spikes.

We offer two implementation options:

1. Purchase of a ready-made mini-CHP plant

You become the owner of a fully assembled and ready-to-use energy complex. All infrastructure is supplied in a modular design, which allows you to launch the facility in the shortest possible time without the need for lengthy construction.

2. Energy service approach

If you do not plan to invest in the purchase of equipment, it is possible to install a mini-CHP plant based on an energy service model. In this case, the plant is located on your premises without any initial costs on your part. You only pay for the electricity you actually consume at an agreed price, which is significantly lower than the market rate.

This approach ensures a stable energy supply at a fixed cost, which means predictable economics and reduced operating costs. This is especially beneficial for owners of large farms, where every reduction in electricity costs directly increases the net profit from cryptocurrency mining.

Mini-CHP or power grids?

For mining farm owners, the key factors for profitability are:

- the price of electricity,
- the reliability of the power supply,
- the ability to scale capacity,
- the absence of downtime,
- the predictability of costs over the long term.
- These tasks are effectively solved by a private mini-CHP plant (mini-combined heat and power plant) running on natural gas. This is definitely the most profitable solution for mining.

The cost of electricity from a mini-CHP plant is 2–3 times lower than that of grid suppliers

Connection to power grids is often accompanied by tariffs of 6–9 rubles/kWh, especially in the commercial sector or remote areas.
When using a mini-CHP plant running on natural gas, the cost of electricity generated can range from 2.5 to 4.5 rubles/kWh, depending on gas prices, plant capacity, and operating mode.

Calculation example:

1 MW gas cogeneration plant, gas consumption — 250 m³/hour
Gas price — 5 rubles/m³
Cost of 1 kWh — about 3.5 rubles
This provides stable savings on every kilowatt. The higher the consumption, the greater the savings in absolute terms.

Uninterrupted power supply and independence from networks

Mining involves 24/7 operation of network equipment without reboots or shutdowns, 365 days a year. Even short-term power outages lead to:

- equipment shutdowns,
- loss of hashrate,
- decreased income,
- increased wear and tear on cooling systems,
- increased wear and tear on uninterruptible power supplies,
- increased wear and tear on video cards/ASICs,
- possible equipment failure.

Having your own mini-CHP plant for mining means:

independence from grid failures and overloads,
instant backup (in the case of two units),
control over your own power supply without intermediaries.

Scalability of mini-CHP plants for farm growth

Mining is developing — capacities are growing. The amount of electricity generated by mini-CHP plants can be easily scaled:

installation of a second or third gas piston unit,
increase in fuel supply,
adapting the cooling and heat removal system.

The MKS Group of Companies can expand the capacity of mini-CHP plants by adding additional power engines.

Heat utilization — an additional benefit

Mining equipment generates a huge amount of heat. Many owners of mining farms additionally install climate control systems or chillers for cooling.

Mini-CHP allows you to use:

heat from exhaust gases,
heat from the engine coolant,
steam or hot water from waste heat boilers.

This heat can be used for:

heating rooms (in winter),
maintaining temperature,
heating water (if there is a hotel, warehouse, or manufacturing facility nearby),
or even selling excess heat to neighbors.

Mini-CHP maintenance and management

When purchasing or concluding an energy service contract, we do not just install the equipment, but also provide further services:

- we design, supply, and commission the equipment,
- we cover all maintenance costs,
- we provide round-the-clock technical support,
- we conduct remote monitoring of parameters,

Who is this relevant for?

Owners of mining farms with consumption of 200 kW and above
Those who are dissatisfied with current network tariffs
Those who experience power outages
Those who plan to scale up their farms
Those looking for ways to reduce costs and increase profitability

Example of electricity savings with a mini-CHP plant for a 1.2 MW farm

Grid price: 5.2 rubles/kWh
Price from own CHP plant: 4 rubles/kWh
Savings: 1.2 rubles/kWh
Daily consumption: 1.2 MW × 24 hours = 28,800 kWh
Daily savings: 28,800 × 1.2 rubles = 34,560 rubles
Monthly savings (30 days): 34,560 × 30 = 1,036,800 rubles
Annual savings: over 12.4 million rubles

What do you need to do?

To launch the project, you need at least:

A gas connection;
Electricity consumption for mining of 200 kW or more.

From design and approvals to operation, the MKS Group of Companies will take care of everything.

Conclusion

An MWM-based mini-CHP plant is a real opportunity to make a profit.

Write to us, and we will prepare a mini-CHP project tailored to your needs and calculate your savings free of charge.