

Support for the greenhouse – KRI S.A. is your partner in development!

KRI S.A. activities includes support and help in solving power engineering problems in greenhouse gardening, just like Dutch power companies.

KRI was created as an independent company in 2001, and started its operation as part of PBG SA, who has been operating in various trades, including gas market.

The company is represented by a team of consultants and sales specialists with vast knowledge, rich experience, who stay in touch with research centres and companies developing latest greenhouse technologies. KRI S.A. offers complex solutions for greenhouse gardening market, including connecting boiler systems with other energy supply sources (heating, cooling and electrical energy) based on natural gas resources.

An advantage of KRI is that the company can deliver natural gas even to places where there has been no gas before and the gas infrastructure is not planned.

Taking into consideration the specificity of this market – high demand for heat, fertilisers, plant feeding, appropriate assimilation lighting and complex climatic requirements, KRI representatives offer comprehensive solutions of greenhouse heat, electrical energy and CO<sub>2</sub> supply, which enables proper production processes in gardening farms, increase in yield and lower production cost.

KRI S.A. engages proper capital in supporting and developing innovative gas, energy and greenhouse technologies. For several-hectare greenhouses complexes owned by one person, a manufacturing group or several independent owners, the company can build a heat and power plant, which will provide heat, electrical energy as well as acquire carbon dioxide for gardening purposes.

KRI offers several benefits:

- a possibility of providing the plants with CO<sub>2</sub> recovered from burning natural gas to heat the greenhouse – estimated increase in crops of 10-20%. Approx. 1.8 kg CO<sub>2</sub> can be recovered from 1 cubic metre of natural gas;
- no dust is produced during natural gas burning - there is no need for frequent cleaning - 1 mm layer of residue decreases the crops by 6-7%;
- no sulphuric compounds are produced during natural gas burning – sulphuric compounds react with greenhouse elements and cause damage;
- low inertia of natural gas burning process – it ensures heat production is suited to current demand, which guarantees lowest possible cost of energy production, dynamic process and lack of permanent and unreliable servicing. There is no need to

turn the boiler off or after-burn the fuel when no heat is needed;

- no need to store the fuel on consumer's premises - natural gas is supplied to the boiler room by pipelines installed underground. The area currently utilised to store solid fuels can be used to build additional greenhouses or distribution warehouse;
- stable fuel quality - no need for frequent burner adjustments, which considerably lowers the cost of repairs and maintenance as compared to other fuels, such as carbolic and heavy oils, as well as solid fuels;
- co-generating systems (joint production of electricity and heat with possible CO<sub>2</sub> recovery) or tri-generating (electricity, heat and cooling) - modern technologies of natural gas burning allow for lowering the cost of electricity purchase and give much freedom in introducing innovative cultivation technologies. Electricity from co-generating systems can be used for lighting the plants (additional 1000 lx of light can increase yield by as much as 10%, e.g. in case of roses);
- low cost of building a gas boiler room - cost of building a new gas boiler room is approx. 50% lower than building a new solid fuel boiler room;
- especially low level of NOx emission when burning natural gas - when using special multiflame burners, the guaranteed NOx level does not exceed 60 mg/kWh. Low level of NOx, combined with specialised control equipment, appropriate devices and properly assembled installations ensure safety to both people and crops.