

The advantage of gas power plants using is reflected in lower primary energy consumption, as well as in reducing carbon dioxide emissions. Comparative analysis of potential sites is necessary in terms of meeting the criteria for the location choice. PE "Srbijagas" already made the wide scope analysis on the construction of gas power plants according to the technical characteristics, natural resources and energy consumption. Construction of the gas facilities is seen as one of the strategic goals for overcoming possible energy crisis. Changes in the structure of energy sources for electricity generation were planned according to the adopted "Serbia National Energy Development Strategy Draft until 2025th", with projections to 2030th, which involves the use of the gas pipeline system in the Serbia power system.

The main problems of electricity production from renewable resources are limited capacities conditioned by the weather conditions changing. Gas-steam units are most appropriate capacities for balancing uneven electricity production from renewable sources. The advantages of using gas power plants are reflected in lower primary energy consumption, as well as in reducing carbon dioxide emissions.

The construction of a gas power plant at selected location means the basic energy infrastructure that includes access to the gas transportation system, the access field to the power transmission network and the connection to the district heating network. Other infrastructure at the selected location is: a supply system by cooling water, system for the storm water collection, system for treatment and discharge of process water, access to water supply network, road infrastructure, hydrant network and others.

The procedure of selecting the right location for the construction of a gas power plant is a complex task that requires a detailed soil analysis, the ability of cooling water supply, thermal consumption analysis, the natural gas supply near the center of the analysis of consumption and connection to the power grid. Based on the researches, the authors conclude that the optimal location for the construction of a gas power plant has a base of thermal consumption above 200 MW, the ability to supply sufficient quantities of natural gas, which is located near the energy center in the immediate vicinity of the river with a sufficient cooling water flow, and which has provided electricity transmission.

Source; Serbia Energy