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# Choosing optimal parameters of the thermodynamic cycle of gas microturbine with cogeneration

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*The study tested the thermodynamic cycle of a simple and regenerative gas turbine engine. The research showed that when designing power plants based on microturbine, it is necessary to take calculated pressure ratio in the range of 3.5 to 5. It provides high efficiency value of the turbine setting and large heat output of microturbine when operating in cogeneration mode. Renewable energy plant established on the basis of the microturbine will be optimal in terms of achieving maximum efficiency and comparable in efficiency with gas piston power plants.*

**Keywords:** microturbine; cogeneration; simple cycle; regenerative cycle.

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