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<b>2. Denomination</b>
Industrial Polystructural Heat Pump supply system based at Stirling engine
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<p>The thesis is devoted to scientific and technical justification of the Polystructural Heat pump supply system based at Stirling engine aimed at improving the efficiency running on three different renewable sources of energy (solar, soil and biofuel).</p> <p>The Polystructural Heat pump supply system based at Stirling engine with the use of three heterogeneous renewable sources of energy (solar, soil and biofuel) which allows to provide heat and power supply from Stirling Engine (works at biogas) and heat supply from the Heat Pump with two evaporators (solar and soil energy) is offered. Part of energy from Stirling Engine goes to the compressor of the Heat Pump.</p> <p>The method of calculation of thermal processes in the elements of the Polystructural Heat Pump supply system which allows solving the tasks of its optimization is worked out.</p> <p>The method of calculation of thermal and structural configuration of Stirling engine for Polystructural Heat pump supply system which allows choosing rational regimes of work is offered.</p> <p>At the basis of comparison, analysis and synthesis of theoretical and experimental data a rational scheme of the Polystructural Heat Pump supply system at base of Stirling Engine for autonomous power and heat supply and for power supply of the compressor of the Heat Pump is worked out.</p> <p>The possibility of use of the Polystructural Heat Pump supply system without using reserve sources of energy both innovative and ecological advantages of the system are proved.</p> <p><b>Keywords:</b> Autonomous Polystructural Heat Supply System, Heat Pump, biofuel, efficiency, Stirling Engine, reserve source of energy and environment.</p>