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2. Denomination
Improved efficiency of heat-and-water supply at industry and municipal service on the basis of secondary (recycled) and alternative power sources' combination
3. Specialty
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<p>The opportunity of use energy saving technologies for industrial and individual heat supply systems on base of secondary and alternative energy sources is proved. The analysis of world experience of use of secondary and alternative sources of energy for heat supply is executed, theoretical bases are developed. Methods and ways of increase of efficiency of combined heat supply systems on base of waste and subsoil waters are determinate, it was established, that use of combined heat supply systems on the basis of waste and subsoil waters is the rational way for efficiency and reliability increase. New method of heat supply on base of subsoil waters is offered. For combined alternative heat supply systems technique and algorithms of calculation are developed, the results of numerical modeling confirmed its efficiency and reliability.</p> <p>Energy efficiency of modern technologies of the combined production of heat and electricity is estimated and reserves of energy saving on base of recycling secondary energy raction of main installation with a contour of heat and hot water supply system are developed; mathematical models of temperature modes and the analysis of results of numerical modeling are executed. The technology of increase of energy efficiency of installations on base of recycling heat is offered. Increase of effectiveness of system is achieved due to full use of heat and reduction of losses to environment. It is established, that the combined production of heat and electric power allows increasing energy efficiency on 2 % that corresponds to economy of fuel 3 %.</p> <p>Techniques of exergy analyze exergy-economic expediency of alternative systems of energy supply and results of generalized analysis of traditional and alternative systems a heat supply are worked out. The estimation of economic and ecological effect is executed.</p> <p>Key words: combined system of heat supply, mathematical modeling, energy efficiency, exergy analyze</p>