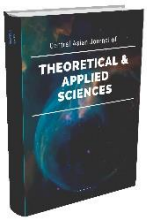

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Heat Supply System Efficiency Increase Ways

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Abstract: *Current at the time In Uzbekistan, the whole in the world that it was like energy savings and from fuel use issues point to do for economic requirements increased is going In the article heat supply system efficiency indicators sure justification necessity discussion done and increase main methods shown. Efficiency theory concepts analysis done energy save main indicators given. ITT work efficiency increase methods and ways studied.*

Keywords: *Energy efficiency, energy savings, efficiency increase, indicators, optimization, method.*

Introduction.

Economical development and of the population growth with depends energy consumption significant is increasing. This is energy consumption has been download to gain and from energy efficient to use attention increased. Energy of resources existence economic of development and population marriage quality to improve main is a factor. Modern in the world energy efficiency in the field studies important important have _ People of consumption different in the field of transport, industry and of course in construction energy to consumerism movement they do

Europe countries energy shortage from the CIS to the problem much before came _ July 2023 At the end of Europe Union (EU) energy efficiency according to updated directive acceptance did to him according to EU countries by 2030 energy spending together by 11.7% reduce needed (the previous one was 9%). So and EU countries in 2024-2030 in the interval average yearly energy savings level by 1.5% achieve it is necessary present almost from the norm (0.8%). two equal to a lot of buildings energy efficiency according to of the directive (ERVD) is new see the edit coming out. To him according to house owners until 2030 at least E, until 2033 while at least D energy consumption to the certificate have to be Demand will be done. of buildings energy efficiency according to directive from 2001 since exists, but that's it from time since a lot times again seeing developed _ This to legislation eligible EU countries construction their tandarts they increased and and buildings for energy efficiency certification current they did EU climate and environment _ _ when it comes to the construction sector separately attention will give. Of this main the reason is 2020 account - to the books according to energy of consumption about 40% i and carbon 36% of waste to buildings right will come.

Europe and whole the world across greenhouse gases reduction is a global goal. EU 2030 - year came (to 1990). relative) to the atmosphere waste by 55% reduce with the intention of 2050 go Europe the first carbon neutral _ to the continent rotation to the plan have _ This in the field in Uzbekistan one series

important documents acceptance done. In 2009, " Re recoverable energy from sources use about ” gi and " Public - private partnership about ” gi laws, in 2020 " Energy reasonable use about ” gi new in tahrir the law acceptance done. Uzbekistan Paris agreement ratification did and this about things in order puter one train legal decisions acceptance done. The goal is 2026 go Republic according to energy efficiency by 20% by 2030 go and 1.5 times to is to increase. Also, by 2026 come greenhouse gases into the atmosphere waste by 25 % shorten and until 2030 new again recoverable energy capacity to 14 GWT deliver planned. Modern heat supply systems (ITT) are different functional to goals have has been very complicated technical systems is complex. Theirs to himself special characteristic, organic fuel turn on during separated energy because of in the boiler room Hot water or generate steam is to issue. This is the activity of ITT efficiency in assessment only their of work final the results the heat to consumers delivered to give account to take possibility will give. Theirs value determiner main factors - heat work release and external expenses is considered

Efficiency - ITT apply of the results complex are indicators. Efficiency concept very a lot is edged. That's why for him mutually depends separation into concepts to the goal appropriate : purposeful efficiency, technical, economic, social, management efficiency.

ITT activities efficiency indicator as,, ITT main purpose perform level quantitative in terms of descriptive sizes is understood. Efficiency criterion this comparison (choice) done to be increased rules. General in case of criteria each one the following to classes belongs to to be possible : compatibility, optimality, superiority.

That's it to emphasize should be economic efficiency indicators by choice is still common point of view look no. They are useful effect ", " benefit ", " production issued product price ", " delivered or prevention received damage ” bva others to be can _ But ITT _ economic to the goal determination of compliance in order to economic the analysis each how even in case increase need _ of ITT activities different stages different spend account is taken. Exploitation stage the following spend in the eye held :

- Material - technical supply
- of energy all types (fuel, electricity energy)
- Raw material _ or spend materials (water, steam, chemical reagents)
- Equipment repair
- to ITT service pointer of employees monthly fund

Economical indicators as cost (savings) indicators is used. Most of the time such indicators as yearly current expenses is taken. If designed, prepared and exploitation economic ITT stage efficiency evaluation for exploitation expenses get can _

Energy savings indicators when you say work developed or done increased energy savings of events quality and quantitative indicators is understood. Energy savings fields the following indicators with is described.

- fuel - energy resources in practice to save
- fuel - energy of resources to be lost reduction, that's it including energy consumption parameters optimization through ;
- product work release energy consumption reduce _

Energy consumption efficiency indicators absolute or comparison in indicators expression can _ Absolutely shape fuel energy of resources defined in the circumstances to be spent represents _

Har different kind of fuels one of time in itself consumption indicators determination need _ Exploitation spend yearly analysis that's it shows that the fuel expenses let's share 70-80% capacity in boilers 50-60% in less organize does _ Heating of boilers exploitation expenses defined fuel prices significant effect does _ Fuel oil with in comparison natural gas cost usually much lower. Electric energy and water for costs up to 15-20%, higher values small to boiler rooms belongs to Service pointer employees for the work right costs are 5-8% in boiler houses small 15-20% in boilers organize does _ Depreciation and repair for deductions by 6-12% of initial capital costs equal to

ITT _ energy efficiency right analysis to do for, ITT ni one whole heat energy complex as will be built. This of the complex all structural elements (heat sources, heat networks, heat consumption systems, management systems) functional connected and mutually to each other effect does _ for ITT of technical-efficiency-time known one between defined quality heat the amount work is to issue. Technician efficiency that it has not decreased ITT energy for efficiency in general high will be

of ITT work energy efficiency below methods with increase can :

- heat losses reduce enable giver construction-constructive events work exit and current reach _
- ITT ventilation and air conditioner systems and their elements quality increase _
- technology and automatic management system improvement ;
- ventilation and the air conditioning in their systems waste from the heat use _

ITT development main modern trends of the following prayer

- there is boilers reconstruction to do and technical again equipment ;
- new modern boilers build _
- heat supply centralization ;

General in case of ITT work efficiency coefficient the following from the formula determination can _

$e_{ITT} = a_1 e_1 + a_2 e_2 + a_3 e_3$ (1)

this on the ground

e_{ITT} - ITT's efficiency coefficient

e_1 - heat energy work release efficiency coefficient ;

e_2 -from the source to the consumer heat energy transport efficiency coefficient heat of energy ;

e_3 - thermal energy of the consumer efficiency coefficient ;

a_1 a_2 a_3 - each _ efficiency of the coefficient salmoini account receiver coefficient.

of ITT received efficiency coefficient $э_{ITT}$ efficiency coefficient in ideal condition $Э_{MAX}^{ITT}$ with compared to :

$$e = \frac{э_{ITT}}{Э_{MAX}^{ITT}} \quad (2)$$

this on the ground e - of ITT conditional efficiency. For existing ITT three in case separate possible ;

- if $e \leq 25\%$-ITT work efficiency is low;
- if $25\% < э \leq 75\%$ —ITT work efficiency is average

- if e ⩾75%-ITT case efficiency high _

Studies as a result consumers heat with of provision economic efficiency evaluation methods work released _ The next direction of research enterprises heat with of provision organizational and economic mechanism from forming consists of

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