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Energy Saving At Home And Abroad In Production Facilities

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Annotation. This article is dedicated toIt is devoted to the analysis of energy consumption in everyday life and in industrial enterprises, as well as energy audit and methods of ensuring energy conservation. Calculations and developed measures on energy saving issues in industrial and industrial enterprises are also presented.

Keywords: electricity, gas, heato, water, consumer, power supply, quality, pressuree, temperaturea, humidityъ

Introduction.

Every year, an increasing share of electricity, gas, heat, and water is spent on household needs; the use of electrified household appliances is growing on a huge scale. Therefore, it is energy conservation that becomes the most important source of production growth. Calculations have shown, and practice has confirmed, that each unit of money spent on measures related to saving electricity has the same effect as twice the amount spent on increasing its production.

Energy saving in everyday life.

Today, the municipal sector is a major consumer of fuel and energy: it accounts for about 20% of fuel and energy resources.Electricity consumption in the residential sector now reaches more than 50 billion kWh, or 8% of the country's total electricity; of these, about 40% of electricity consumption is spent on household appliances, 30% is spent on lighting and more than 12% is spent on cooking.

The largest consumers of electricity in the municipal sector are residential buildings. They consume an average of 200 kWh per person annually, of which approximately 140 kWh is consumed inside the apartment for lighting and household appliances for various purposes, and 60 kWh-in installations of engineering equipment and lighting of common premises. Intra-apartment electricity consumption is approximately 450 kWh per year, based on the "average" urban apartment with a gas stove and 1000 kWh – with an electric stove.

Household electrical appliances have become an integral part of modern life. Manufacturers of electrical appliances are working to improve the quality and characteristics of their products, including energy products. Marking of the level of energy consumption of electrical appliances has been introduced. The energy marking system includes 7 classes from "A"(the most efficient devices) to"G" (the least energy efficient). When purchasing electrical appliances, you should pay attention to the energy efficiency class: a higher class (A or B) means that electricity costs will be lower compared to the same device of a lower class (C, D, E, F, G). In some cases, additional levels A+ and A++are allocated for devices with particularly high energy saving parameters within the class A.

Based on these considerations, this article provides some examples of energy saving in everyday life. Compliance with these standards provides significant savings in electrical energy and increases the duration of operation of household electrical appliances.

Energy saving in industrial enterprises.

Industrial and manufacturing enterprises are the largest consumers of energy resources: they account for up to 50% of the country's energy consumption. The average energy utilization rate in industry is about 30%.

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This indicates a great potential for energy saving. Therefore, energy saving programs should also be developed for each enterprise. These programs should be compiled for 4-5 years with a breakdown of activities by year. At the end of each year, based on the analysis of energy saving activities in the past year, the program for the next year is adjusted.

At large enterprises that have their own energy saving specialists, energy audit programs are drawn up on their own, with the involvement of experts from regional energy saving centers. In small and medium-sized enterprises, energy audit programs are developed by specialists from regional or national energy saving centers.

Thus, the organization of control over the consumption of energy resources is the first and most important step towards their rational management.:

- identification of workshops and sites within the enterprise that overspend energy resources;
- detailed verification of invoices issued to the enterprise by energy supply organizations;
- identifying the most energy-efficient modes of operation of the equipment and maintaining these modes for as long as possible;
- strict quantitative assessment of the effectiveness of various energy-saving measures in physical (GJ, kW / h, etc.) and monetary terms.

This article presents the developed measures on energy saving in industrial and industrial enterprises. The main ones are:

1. *The right choice of energy carriers.* Each process requires an energy carrier that provides the greatest energy and economic effect. For example, direct fuel use and electric heating should be compared for furnaces and heating installationsэлектронагрев; for forging and pressing equipment, electricity, compressed air and steam (if available at the enterprise) should be compared. The type of energy carrier is chosen by comparing options and comprehensively analyzing the following factors::

a) technology requirements (changes in product quality, raw material consumption, etc.);
b) economic differences in the design and operating conditions of the equipment;
c) costs of compared energy carriers;
d) availability of the necessary equipment;
e) the required period of time for equipment replacement;
e) economic effect of using VER, costs of environmental measures.

Costs for the considered options are determined by the expression

$$Z=EK_p + I_p + E_{ud}PZ_{ud.\,e} - \Sigma\Delta Z_i \qquad (1)$$

where K_p – capital costs for this technological installation without taking into account the costs of VER installations; I_p – operating costs without the energy component; E_{ud} – specific energy consumption. P – annual output; $Z_{ud.\,e}$ – given specific energy $\Sigma\Delta Z_i$ – effect of using VER.

For existing enterprises, it is allowed to evaluate the compared options according to the current energy tariffs, if the costs of activities are covered from the enterprise's fund.

2. *Reducing the number of energy conversions.* Since each transformation of energy is associated with losses, the fewer successive transformations the energy undergoes, the higher the overall efficiency. Economically, for example, it is advisable to replace compressed air with electricity wherever it is possible due to technological conditions.

3. *Development of rational energy saving schemes.* The energy saving scheme of a plant is a complex complex in which individual energy carriers are interdependent and often interchangeable. The development of a comprehensive energy supply scheme linked to technology and taking into account the technologically necessary parameters of all energy carriers will reveal the savings reserves and show the order of their implementation.

4. *Automation of power supply installations.* This includes such measures as automation of heating units, boiler installations, substations and the introduction of remote control and automatic control of energy parameters of various engines and units.

5. *Improving the quality of energy resources.* Any change in the parameters of energy resources (pressure, temperature, humidity, power quality, etc.) leads to a deterioration in the quality of products and an overspend of energy resources.

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Conclusion

The most difficult problem in saving energy resources, in our opinion, is precisely in the person, or in other words, energy saving in energy consumption, savings with reasonable self-restriction can amount to very decent amounts: up to half of the funds for paying for utilities.

References

1. D.H. Khamdamov, & Kh.T. Yuldashev. (2022). USING MODERN AUTOMATION IN THE GREENHOUSE. International Journal of Advance Scientific Research, 2(05), 28–37.
2. А.А.Рахимов, & Д.Р.Отамирзаев. (2022). Состояние и перспективы развития солнечной энергетики в Узбекистане. EURASIAN JOURNAL OF ACADEMIC RESEARCH, 2(5), 170–173.
3. Тожибоев А.К., Султонов Ш.Д. Измерение, регистрация и обработка результатов основных характеристик гелиотехнических установок // Universum: технические науки : электрон. научн. журн. 2021. 11(92).
4. Хакимов М. Ф., Тожибоев А. К., Сайитов Ш. С. Способы повышения энергетической эффективности автоматизированной солнечной установки //Актуальная наука. – 2019. – №. 11. – С. 29-33.
5. Тожибоев А. К., Немадалиева Ф. М. Комбинированные солнечные установки для теплоснабжения технологических процессов промышленных предприятий. результаты разработки и испытаний //Современные технологии в нефтегазовом деле-2018. – 2018. – С. 253-256.
6. Эргашев С. Ф., Тожибоев А. К. Расчёт установленной и расчётной мощности бытовых электроприборов для инвертора с ограниченной выходной мощностью //Инженерные решения. – 2019. – №. 1. – С. 11-16.
7. Тожибоев А.К., Мирзаев С.А. Применение комбинированной солнечной установки при сушке сельскохозяйственных продуктов // Universum: технические науки : электрон. научн. журн. 2021. 10(91).
8. Тожибоев, А. К., and А. Р. Боймирзаев. "Исследование использования энергосберегающих инверторов в комбинированных источниках энергии." Экономика и социум 12 (2020): 230-235.
9. Тожибоев А.К., Хошимжонов А.Т. Применение фотоэлектрического мобильного резервного источника электропитания в телекоммуникации // Universum: технические науки : электрон. научн. журн. 2021. 12(93).
10. Davlyatovich, S. S. ., & Kakhorovich, A. T. . (2021). Recombination Processes of Multi-Charge Ions of a Laser Plasma. Middle European Scientific Bulletin, 18, 405-409.