THE INFLUENCE OF THE ENVIRONMENT AND HUMAN FACTOR IN THE FORMATION OF HEAT WASTE.

Akhmadaliyev Utkirbek Akramjonovich *Andijan Machine-Building Institute, Senior teacher of the "Alternative Energy Sources" Department.*
Panjiyev Umarbek Orol Ogly. *Andijan Machine-Building Institute, 4th year student of the "Energy Saving and Energy Audit" specialization.*

Abstract. This article analyzes the interaction of the environment and the human factor in heat waste. Heat waste resulting from inefficient use of energy resources leads to an increase in environmental problems, as well as an increase in economic losses. The article considers the main causes, solutions to the problem and measures to increase energy efficiency.

Keywords. Heat waste, environment, human factor, energy efficiency, environmental impact, resource use, heat loss, economic losses.

Introduction. Nowadays, as a result of globalization and technological development, the demand for energy is increasing. At the same time, heat losses arising from the limited availability of energy resources and their inefficient use are emerging as one of the urgent problems facing humanity.

The environment and the human factor are the main factors in the formation of heat losses. Outdated technologies in the construction and production sectors, poorly designed energy systems, environmental conditions leading to heat losses, as well as bad habits of people are contributing to the expansion of this problem.

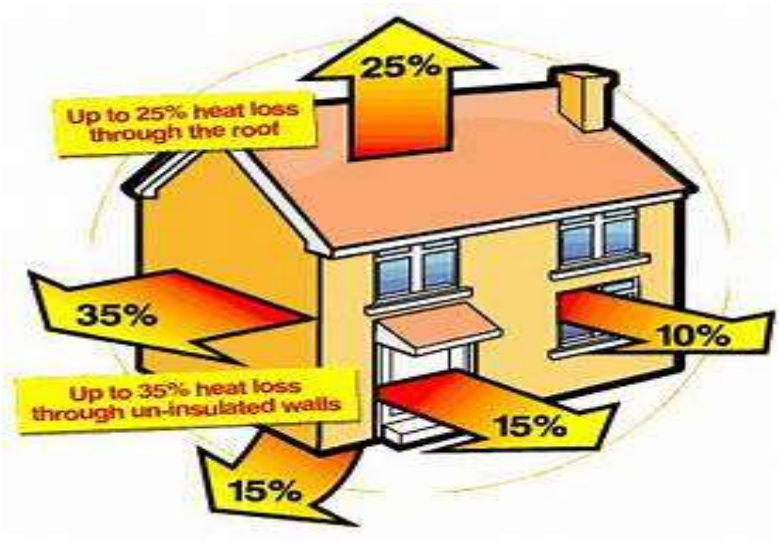
This article provides detailed information on the in-depth analysis of the causes of heat losses, the negative impact of these processes on the environment and the role of the human factor. It also provides recommendations for increasing energy efficiency and reducing heat losses.

Heat losses to the environment. Heat loss to the external environment depends on many factors and mainly depends on the design and dimensions of the boiler and furnace, the thickness and heat transfer coefficient of the external wall material, the heat generation capacity of the boiler unit, the external wall surface and ambient temperatures, etc.

Heat loss to the environment can be taken from the standards, taking into account the capacity of the boiler unit and the presence of additional surfaces (economizer). For steam boilers with a capacity of up to 2.78 kg / s, q5 = 2 or 4%, up to 16.7 kg / s, q5 = 1 or 2 %, more than 16.7 kg / c, q5 = 1 or 0.5 %.

We need to study not only the losses in the boiler unit, but also the ability of the building to interact with the environment. For example, a building may be made of

brick and not have additional insulation, or the wall may be thin, or the wall may be concrete. They have high heat transfer, and we need to prevent the room temperature from quickly interacting with the external environment, no matter how much we heat it.



Any warm surface covering that reduces heat loss to the environment is called thermal insulation.

As thermal insulation, asbestos, cork, mica, foam concrete, wool, glass wool and other similar materials with a low coefficient of thermal conductivity are used.

Human factor. The human factor also plays a big role in heat waste. For example, the proper use of devices, not wasting resources, depends on human activity, knowledge and skills. Of course, heat is generated in boilers depending on the fuel supplied, and water is converted into steam in a continuous manner with this heat energy. The human factor plays a big role in managing this energy.

It is also possible to get more heat by using less fuel. For this, we need to use convenient methods of burning fuel and energy-efficient boilers. Choosing these boilers, calculating how much heat energy is needed for the building, and choosing the right boiler depends on human knowledge and experience.

Insufficient technical maintenance. Since boilers operate with constant pressure and hot water or steam, malfunctions occur in transmission networks. For example, when pipes rust or the potential is not correct, pipes burst.

There may be a lack of specialists and manpower to control these. There are 2 main reasons for such situations. These are:

• Failure to repair equipment in a timely manner.

• Failure to monitor heat loss.

That is, technical inspections and audits of the equipment should be carried out, measures should be taken to identify the cause of changes in the equipment and eliminate them.

In addition, heat loss also depends on the behavioral factors of employees. For example, human inattention in places, improper closing of doors and windows, unnecessary use of heaters or air conditioners lead to heat loss.

Incorrect technological use. Many factories and production sites use old technologies. These technologies emit a large amount of heat into the external environment, while causing economic losses. In such cases, it is necessary to gradually upgrade the equipment in factories based on economic considerations.

Lack of control of technological processes. Failure to optimize the amount of energy used.

The pressure specified by the device will be the specified amount. That is, the capacity in terms of how many cubes of water it can circulate will be given in the passport. Before installing the device, an energy audit should be conducted in this system, how many cubes of water it will drain, and a suitable boiler should be selected. After that, it will be necessary to check whether the installed boiler is operating according to its technical specifications.

Conclusion

The problem of heat loss is one of the main environmental and economic problems of modern society. To solve this problem, attention should be paid to the following areas:

• Reducing heat loss through the modernization of technologies.

• Forming people's behavior to save energy.

• Further improving environmental and energy policy.

• Expanding the use of renewable energy sources.

If these measures are implemented, not only economic efficiency will increase, but also the negative impact on the environment will be significantly reduced. This will help achieve sustainable development.

References.

1. Axmadaliyev, U. A. (2024). Qishloq xo'jaligida Elektr energasiyadan samarali foydalanish va uning ahamiyati. Eng yaxshi intellektual tadqiqotlar , 21 (2), 76-80.
2. Azizjon ogli, A. A., & Axmadaliyev, U. A. (2024). O ‘zbekistonda qayta tiklanadigan energiya manbalaridan foydalanuvchilarga berilgan imkoniyatlar va biomassa. Лучшие интеллектуальные исследования, 14(2), 163-168.
3. Abdulhamid ogli, T. N., Axmadaliyev, U. A., & Botirjon ogli, A. M. (2024). Quyosh energiyasi qurilmalari uchun inverterlar va nazoratchilarni tanlash bo‘yicha qo‘llanma. Eng yaxshi intellektual tadqiqotlar , 14 (2), 142-148.
4. Abdulhamid ogli, T. N., & Axmadaliyev, U. A. (2024). 3-avlod quyosh elementlarini ishlab chiqish va qo'llanish. Eng yaxshi intellektual tadqiqotlar , 14 (2), 219-225.
5. Abdulhamid o‘g‘li, T. N. (2024). WASTE OF ELECTRICAL ENERGY IN LINES AND TRANSFORMERS. *Лучшие интеллектуальные исследования*, *21*(2), 153-159.
6. Abdulhamid o‘g‘li, T. N., & Husanboy, S. (2024). SMALL FROM HYDROELECTRIC POWER STATIONS IN USE THE WORLD EXPERIENCE. *Лучшие интеллектуальные исследования*, *21*(1), 110-114.
7. Abdulhamid o‘g‘li, T. N., & Husanboy, S. (2024). VILLAGE HOUSEHOLD FOR SMALL HPPS CURRENT TO DO CONDITION IN UZBEKISTAN. *Лучшие интеллектуальные исследования*, *21*(1), 115-119.
8. Abdulhamid o‘g‘li, T. N., & Botırjon o‘g‘li, A. M. (2024). FOTOELEKTRIK STANSIYALARNING TIZIMLARINI HISOBLASH TURLARI. *Oriental Journal of Academic and Multidisciplinary Research*, *2*(3), 49-54.
9. Abdulhamid o‘g‘li, T. N., & Botırjon o‘g‘li, A. M. (2024). FOTOELEKTRIK STANSIYALARDAGI INVERTORLARNI XISOBLASH. *Oriental Journal of Academic and Multidisciplinary Research*, *2*(3), 43-48.
10. Abdulhamid ogli, T. N., & Yuldashboyevich, X. J. (2024). SOLAR PANEL INSTALLATION REQUIREMENTS AND INSTALLATION PROCESS. *Лучшие интеллектуальные исследования*, *14*(2), 40-47.
11. Abdulhamid ogli, T. N., & Axmadaliyev, U. A. (2024). DEVELOPMENT AND APPLICATION OF 3rd GENERATION SOLAR ELEMENTS. *Лучшие интеллектуальные исследования*, *14*(2), 219-225.

12. Abdulhamid ogli, T. N., & Azamjon ogli, S. H. (2024). IMPLEMENTATION OF SMALL HYDROPOWER PLANTS IN AGRICULTURE. *Лучшие интеллектуальные исследования*, *14*(2), 182-186.
13. Abdulhamid ogli, T. N., Axmadaliyev, U. A., & Botirjon ogli, A. M. (2024). A GUIDE TO SELECTING INVERTERS AND CONTROLLERS FOR SOLAR ENERGY DEVICES. *Лучшие интеллектуальные исследования*, *14*(2), 142-148.
14. Abdulhamid ogli, T. N., & Yuldashboyevich, X. J. (2024). ENERGY-EFFICIENT HIGH-RISE RESIDENTIAL BUILDINGS. *Лучшие интеллектуальные исследования*, *14*(2), 93-99.
15. Topvoldiyev Nodirbek Abdulhamid o‘g‘li, & Soliyev Muzaffar Mominjan's son. (2024). WASTE OF ELECTRICAL ENERGY IN LINES AND TRANSFORMERS. *Лучшие интеллектуальные исследования*, *21*(2), 153–159. Retrieved from https://web-journal.ru/journal/article/view/5345
16. Topvoldiyev Nodirbek Abdulhamid o`g`li, Utkirbek Akramjonovich Axmadaliyev, & Karimberdiyev Khikmatillo Qahramonjon ugli. (2024). DEVELOPMENT AND APPLICATION OF 3rd GENERATION SOLAR ELEMENTS. *Лучшие интеллектуальные исследования*, *14*(2), 219–225. Retrieved from https://web-journal.ru/journal/article/view/2916
17. Topvoldiyev Nodirbek Abdulhamid o`g`li, Xolmirzayev Jasurbek Yuldashboyevich, & Tursunov Ro’zimuhammad Muhammadyunus ugli. (2024). ENERGY-EFFICIENT HIGH-RISE RESIDENTIAL BUILDINGS. *Лучшие интеллектуальные исследования*, *14*(2), 93–99. Retrieved from https://web-journal.ru/journal/article/view/2895
18. Topvoldiyev Nodirbek Abdulhamid o`g`li, Xolmirzayev Jasurbek Yuldashboyevich, & Najimov Abbosbek Mominjon ugli. (2024). SOLAR PANEL INSTALLATION REQUIREMENTS AND INSTALLATION PROCESS. *Лучшие интеллектуальные исследования*, *14*(2), 40–47. Retrieved from https://web-journal.ru/journal/article/view/2887
19. Topvoldiyev Nodirbek Abdulhamid o`g`li, Utkirbek Akramjonovich Axmadaliyev, & Abdullajonov Muhammadqodir Botirjon o`g`li. (2024). A GUIDE TO SELECTING INVERTERS AND CONTROLLERS FOR SOLAR ENERGY DEVICES. *Лучшие интеллектуальные исследования*, *14*(2), 142–148. Retrieved from https://web-journal.ru/journal/article/view/2903