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ENERGY EFFICIENCY MEASURES

Abstract. In recent years, energy efficiency has occupied a significant place in every society. No energy efficiency can be achieved efficiently unless adequate measures for its implementation and development are implemented.

This implies that a number of measures should be taken continuously to reduce the consumption of available energy and all energy sources as important resources for energy generation, with the aim not to undermine the working and living conditions of people.

Clarification of the concept of energy efficiency, it is best to be implemented through two meanings: one refers to technical devices, the other relates to certain measures and behaviors. This, devices are said to be energy efficient if they have a high degree of useful effect, ie, small losses when transforming one form of energy into another.

The rationality of achieving energy efficiency is the ultimate goal when energy consumption needs to be minimized without compromising: in the first place, the quality of life is retained or even increased, then the competitiveness of the economy, energy security at the highest level, economic policy of business, protection environment as well as the overall social significance.

Key words: *Energy efficiency, consumption and increase measures, energy culture, society.*

Introduction. The essence of research and development of energy efficiency in every society is the reduction of the most rational measures for saving all resources involved in energy consumption processes.

There is an important paradigm in the world that:

Effective use of energy directly leads to an increase in the quality of life, which implies that the results of increased efficiency are significant for saving not only in financial terms, but also in the sense of preserving the environment.

In each society, the rulebook on energy efficiency of various devices, buildings, entities is being drafted.

This rulebook foresees the acquisition of an "energy certificate" without which, virtually no technical device, or a newly built facility can obtain a usable permit, which indicates that this will ensure the implementation of an energy efficient business policy.

Energy efficiency measures. The greatest effect of energy efficiency is the implementation of adequate measures that include: adequate organizational behavior that is applied in order to reduce energy consumption.

All measures should give a higher level of realized balance of use of the required standards regardless of whether they are technical or non-technical measures.

The most common measures undertaken in order to reduce energy losses and increase energy efficiency are related[1]:

1. Efficient replacement of non-renewable energy sources with renewable energy
2. Efficient replacement of energy-inefficient consumers more efficient
3. Isolation of space that is heated or cooled
4. Replacement of worn technical or electrical installations
5. Quality and efficiency of installation of measuring and control devices
6. Efficient replacement or installation of heating, cooling or ventilation systems.

Within energy-efficient devices as foreseen in the EU, devices are considered capable of achieving a high degree of beneficial effect, that is, minimizing small losses when transforming one type of energy into another. [2]

For example, a "bulb" bulb turns a large part of the electricity into heat energy, and only a small part of the energy in useful light energy, and in this sense such (bulb) is an energy-inefficient device [3].



The goal of implementing energy efficiency measures. The importance of the application and development of energy efficiency measures is reflected in the achievement of several significant goals, as follows: [4] [5]

1. The main goal is to build technologies that reduce energy consumption (for example, in housing sector through the approach of green energy transition) [6].

2. The existence of a household consumption culture that needs to become more energy efficient and which will reduce emissions of harmful gases with greenhouse gases, thereby reducing the impact on environment.

3. Reducing the dependence on imported energy resources, while increasing the use renewable energy.

4. Conduct reengineering and revitalization of the electricity sector, etc.[7]

The importance of achieving energy efficiency. Energy efficiency research covers broad topics ranging from energy savings to its consumption in all areas of the world [8].

The first step is to restore the system, then Another measure is energy efficiency, and finally. The third measure is the application of renewable energy sources.

"In the case of Serbia, energy sources have been consumed in large part, so they have to introduce renewable energy sources in the industry from their own sources or to achieve greater energy efficiency".

At present, there is a so-called eco-revolution in the world, which means that humanity begins to take action to prevent climate change [9].

According to the data, the World Oil Reserves are very small and they can last for thirty years, and a similar situation is with gas.

Some experts believe that the reserves of oil and gas will still be sufficient by the end of the 21st century, but only with the use of renewable energy sources [10].

Conclusion

Energy efficiency is of great importance today and represents the imperative of future changes related to the provision of energy sources needed for normal life and work of the world's population.

First of all, it refers to changes related to energy savings, energy consumption, energy and energy transitions in all sectors around the world. The Strategic Plan for the implementation of energy efficiency measures encompasses the objectives and business policy of energy efficiency at all levels of governance that enable social, organizational and economic factors of operations.

This includes: a desirable organizational culture of effective behavior and making important decisions; analysis and modeling of energy efficiency performance, measures, policies, outcomes and impacts; energy management systems and energy services; the role of energy efficiency and demand management in energy planning, energy markets and risk assessment; local sustainable energy planning; energy behavior; the acceptability of policy,

technology and new energy systems; then new technologies and approaches to improve energy efficiency, etc.

It is necessary to investigate and apply:

- Evaluation and modeling of energy efficiency plan and demand management program
- Efficiency of energy efficiency at different levels of management
- What is the contribution of energy efficiency to mitigate climate change
- Have they achieved their own benefits or multiple advantages of energy efficiency and energy savings and productivity
- Whether energy efficiency incentives and demand management programs in the future markets have been achieved, for example, electricity with a high share of renewable sources
- Are Innovative approaches to improving energy use by using modern business models and the latest achievements in digital information and communication technology
- What are the effects of behavioral approaches and social practices on demand and energy efficiency?
- What is an effective form of corporate energy efficiency strategies and energy savings management through investment decisions made, financing; energy efficiency and energy saving as a corporate social responsibility today
- Effectiveness and quality of energy efficiency in transport, buildings and communities that show the benefits of an integrated approach
- Importance and role of energy efficiency and response to demand in energy transition, etc.

References

1. Energy Research Journal, (2017), Energy Efficiency ISSN: 1570-646X (Print), 1570-6478 (Online) impact Factor 1.186, pp.75, U.S.A
2. [http:// efficiency.rs/ energy efficiency / definition-energy-efficiency](http://efficiency.rs/energy-efficiency/definition-energy-efficiency)
3. EU - energy efficiency
4. prof. dr Simeon Oka, President of the Scientific Board for Energy Efficiency, lectures at the Faculty of Mechanical Engineering in Kragujevac, Serbia 2010.
5. [http://glass bell.rs/2010/05/energy-efficiency-i-renewable-sources-energy/](http://glassbell.rs/2010/05/energy-efficiency-i-renewable-sources-energy/)
6. <https://link.springer.com/journal/12053>
7. <http://thescipub.com/journals/erj/>
8. <https://www.energyportal.rs/belgrad-dedicated-to-raising-energy-efficiency/>
9. "Energy Week 2017" in Belgrade as part of a wider concept of "Weekly Sustainable."energy of the EU"
10. <http://energy-efficiency.rs/>