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## **The Usage of Modern Energy Saving Technologies in Belarus**

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Energy is one of the key sectors of the economy. It is the sector that provides energy and thus labour productivity, creating prerequisites for the high welfare of the country's population and strengthening the country's international prestige and influence. Energy saving is now becoming one of the policy priorities of any company operating in the production or service sector. This is due to the fact that specific energy consumption for the production of major products in Belarus is much higher than in Western European countries. One of the main reasons for this situation is obsolete energy wasting technologies, equipment and appliances.

Energy savings that is organizational, scientific, practical and informational activities of state bodies, legal entities and individuals are aimed at reducing costs and losses of fuel and energy resources during their extraction, processing, transportation, storage, production, use and utilization. Energy resources (ER) expenditure of a modern industrial enterprise is one of the fundamental items. Its size depends on the nomenclature of manufactured products, equipment, and on the organization of interaction between energy sources and consumers. The heat and power system of an industrial enterprise is a complex entity designed to provide consumers with all the required types of energy.

Energy supply of enterprises provides a set of means and methods designed for the development and application of

installations and systems that produce, transform, distribute and consume heat, electricity and other types of energy that ensure the operation of industrial enterprises.

In order to optimize production processes, the modern technologies are to be used. This can represent an energy saving potential of 30-50% due to the flexibility of their speed to match the load.

The most important energy saving measure in buildings will also be the installation of automatically regulated heating batteries. Ventilation systems with heat recovery functions can save even more energy.

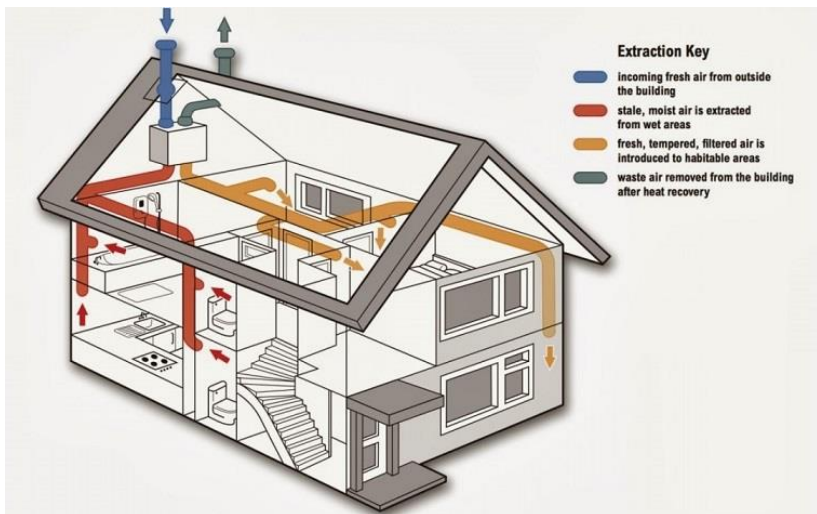


Fig. 1 – Ventilation Systems with Heat Recovery Functions

Rotary pulse generators for heating and hot water heat water by initiating high-speed rotor rotation (5,000 rpm) to produce physico-chemical processes in the water, accompanied by large release of heat energy. The rotor of the device is driven by an electric motor. These heat generators have a high efficiency; the energy conversion efficiency is around 100%. Moreover, the higher the power of the unit, the higher its

efficiency due to the increased specific surface area of the rotor. The essence of processes consists of creation and collapse of bubbles containing steam or gas by adiabatic heating up to 10000 C. Heat is generated by the fluid itself, and the absence of heat transfer surfaces makes for a very efficient heating process. The efficiency of a hydrothermal heater (ratio of heat generated to electrical energy consumed) is close to one.

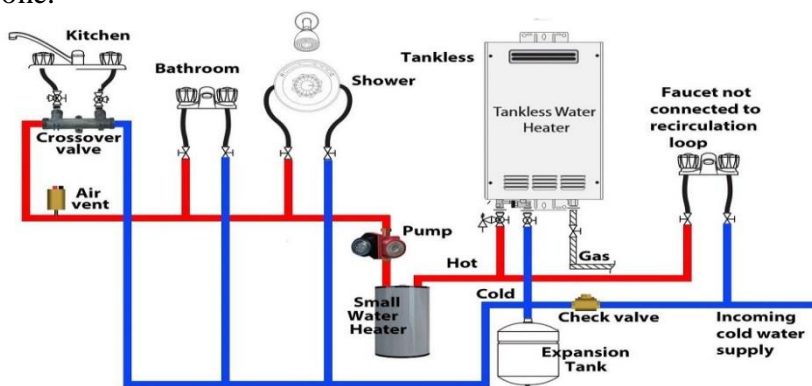


Fig. 2 – Rotary Pulse Generators for Heating and Hot Water

The usage of the above mentioned methods and ways of energy saving will help to reduce costs.

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