Ukraine should work with businesses introducing energy efficiency programs for commercial and municipal enterprises. Clear energy policy has to be introduced and controlled.

Scientists should make their contribution into finding solutions for energy efficiency. They have developed some practical ways of renewable energy sources usage. It is also necessary to turn to sustainable energy use in transport industry (electric vehicles, alternative fuel stations, etc.)Companies implementing green technologies should have some tax benefits. Ukraine Energy Efficiency Program (UKEEP) was created by the European Bank for Reconstruction and Development (EBRD), it helps Ukrainian private companies find money in order to invest in energy efficiency or renewable energy projects [3].

Aid from the **world organizations** should be used properly and wisely. Both Ukrainian government and international organizations should grant financing of projects on energy efficiency, and provide low-percent bank loans on them.

Businesses and companies have to change old energy consuming equipment on the modern energy efficient one. They have to produce energy efficient home appliances and devices with proper marking (giving their customers all information about the energy consumed). They must also work on reducing the number of wastes and building recycling plants.

Citizens of the country have to be encouraged to sort the rubbish in order to provide paper, glass, metals, plastic etc. for recycling. In order to use less energy for heating thermal isolation of buildings must be done by individuals and companies. Ukrainians can cut energy consumption at home by using energy efficient home appliances and devices.

Providing consulting services on energy efficiency is also very important. Universities, schools and other **educational institutions** should include energy efficiency courses in their curriculum in order to develop the new thinking in the young generation.

As a conclusion, energy efficiency is a key to saving the Earth for future generations as well as promoting economic development of Ukraine. This can bring multiple benefits: development of the national economy, reducing energy costs, saving money and enhancing quality of life, reduction of greenhouse gas emissions, improving national security etc.

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COMBINED POWER SUPPLY SYSTEM CONVERTING UNIT WITH RENEWABLE SOURCES

In the conditions of rapid development of alternative energy, the combined power supply systems with renewable energy sources for local facilities (housing, small businesses, shopping centers), connected to the centralized network along with own energy supply, generate excess energy in centralized network. Stimulating factor to this is the introduction of "green tariffs". Wide implementation of renewable energy sources in local electrical systems (solar battery, wind turbines) creates opportunities for their parallel operation with a centralized network.

The power connection between the sources and the coordination of their operating modes is provided by a semiconductor converting unit, the main element of which is autonomous inverter voltage, which provides the transmission of energy from solar panels and wind turbine.

The use of existing worn-out and congested central networks is a topical issue of their unloading for the reactive power consumed and higher harmonics which are generated by the users. The improvement and wide spread of the sources of distributed generation renewable energy sources is one of the ways to improve the energy security of the country. Electricity production using solar power is well agreed with the concept of distributed energy production. Serial devices are usually based on the use of two-level autonomous voltage inverter: single phase with capacity up to 10 kW and three phase with more power.

The majority of domestic consumers use a single-phase power supply for a small power plant. So, it is reasonable to use single-phase inverter if you use the most common solution – solar battery, which consists of solar panels, whose power is about 250 W. At coupling the solar panel group, which form several isolated DC sources, it is possible to use the cascade scheme of the serial connection of inverters for providing multilevel formation of output voltage with harmonious composition of standards of the International Electrotechnical Commission with minimal output filters. Analyzing today's achievements in the field of power electronics in the sphere of autonomous voltage inverters, we can conclude the following. The introduction of multi-level cascade voltage inverters is one of the promising directions of electronics development in the field of alternative power sources, namely, the improvement of solar power stations of low power.

It should be noted that the use of network converters as a source of sinusoidal voltage for combinational power supply systems is insufficient, because it does not solve the problem of nonlinear consumers, generating higher harmonics that affect the voltage of the network. The issue of unloading networks by reactive power remains unresolved. The use of additional filter-compensating devices requires significant capital investment and is economically impractical. Efficiency combinations system power supply can be significantly improved when combined with power active filter function of a network inverter. It allows you to offload the network from being consumed by the object of reactive power and higher-harmonic single-phase bridge autonomous voltage inverter.

The proposed principles of controlling a single-phase bridge in the mode of the current source enable the operation of the combined power supply system in relation to the central network both in the case of linear and nonlinear load with simultaneous generation of electricity into the central network.

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PROBLEMS OF INCREASING OIL PRODUCTION

The problem of increasing oil recovery is quite severe in the conditions of continuous deterioration of the resource base and a small increase in oil reserves due to the opening of new deposits, mainly from high-viscosity oil and low permeability collectors.

Most of the oil fields have entered the stage of solving the problems of reducing reservoir pressure and reducing oil production. As a result, the vast majority of wells switched to mechanized and periodic exploitation.

Accordingly, all stocks introduced into development, as a rule, are stocks that are difficult to obtain. Therefore, at present, the recovery of many oil fields is ineffective and requires changes in the early development system.