

SECONDARY ENERGY RESOURCES

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Secondary energy resources represent the energy potential of products, by-products and intermediate products that are formed in technological units and are lost in the unit itself, but can be partially or completely used for energy supply. Rational use of secondary energy resources is one of the biggest reserves for reducing the fuel and energy intensity of industrial products. Secondary energy resources can be used directly without changing the type of energy carrier or with a change in the type of energy carrier by the production of thermal and electrical energy, cold or mechanical work in recycling plants. Many branches of the national economy have at their disposal a large reserve of fuel and thermal Secondary energy resources, which occupy a significant place in their fuel and energy balance. The largest thermal Secondary energy resources are concentrated in enterprises of ferrous and non-ferrous metallurgy, chemical, oil refining and petrochemical industry, building materials industry, gas and heavy engineering, where heat of high, medium and low potentials is widely used. 90% of high-potential heat is spent: about 33% - for melting, 40% - for heating, and about 20% - for burning ores and mineral raw materials. A large part of high-potential heat is obtained by burning various types of fuel directly in technological installations. Heat of medium and low potentials is used for heat supply to consumers who need increased temperature and pressure values. More than 90% of its useful consumption is spent in industry and the residential and communal sector. The main energy carriers providing energy for medium and low temperature processes are water vapor and hot water. Enterprises of heavy, energy and transport engineering of Ukraine have at their disposal a huge potential Secondary energy resources in the form of physical heat of flue gases of March furnaces, heating and thermal furnaces, cupola furnaces, heat of evaporative cooling of furnaces, heat of spent steam of presses and hammers. Enterprises in other sectors of the economy also have secondary renewable energy resources. One of the most important tasks for the improvement of any industry is the identification of reserves of economic and ecological use of secondary energy resources for the purposes of production and meeting the needs of household consumption.