CLASSIFICATION AND DIRECTIONS OF USE SECONDARY ENERGY RESOURCES

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Secondary energy resources are the energy potential of products, by-products and intermediate products that are formed in technological installations and are lost in the unit itself, but can be partially or completely used for energy supply. According to their characteristics, secondary energy resources are divided into fuel, heat and high pressure. Fuels Secondary energy resources have chemically bound energy. They can be used as fuel to ensure the flow of processes in other technological units. These include combustible gases from melting furnaces, combustible waste from the processes of chemical and thermo-chemical processing of carbon or hydrocarbon raw materials and alkaline solutions of pulp and paper production. Heat Secondary energy resources are the physical heat of flue gases, main, by-products and intermediate products and waste from various industries. Such VERs include water vapor and hot water, solid, liquid and gaseous products that occur transiently in technological installations. High-pressure secondary energy resources are the potential energy of gases coming out of technological units with excess pressure, which must be reduced before their further use or release into the atmosphere. These include station blast furnace gases from blast furnaces, steam used in power plants, gases from catalytic cracking and thermal contact coking. Secondary energy resources of low-potential heat. Low-potential thermal waste includes physical heat: flue gases of technological and power plants with a temperature below 400 °C; water that cools structural elements of technological equipment; ventilation emissions; secondary boiling water vapor, etc. Secondary energy resources make up about half of the total output of all types of Secondary energy resources. The relevance of the effective use of this type of secondary energy resources is connected with the need to improve technological processes and reduce high-potential heat losses. Utilization of secondary energy resources also helps protect the environment from thermal pollution. Carriers of Secondary energy resources are corrosively active, polluted, dusty liquids and gases. To solve the task of efficient use of secondary energy resources, special utilization equipment is required.