Rain acid means all types of precipitation (rain, hail, snow), in which the pH<5.6. This is due to the formation of HCl, nitric and sulfuric acids in air as a result of the interaction of water vapor with NO_2, SO_2, SO_3 gases contained in the gas emissions of enterprises and transport. Such rain is dangerous for the inhabitants of water bodies and land: the number and species diversity of hydrobionts is declining, the growth of forests is decreasing. Potassium, aluminum and other elements are washed out from the soils; the mobility of heavy metals increases.

The rational use of energy in chemical production means the application of methods that increase the coefficient of energy use.

These methods can be reduced to two groups:

3) the development of energy-saving technologies;
4) the improvement of energy use in production processes.

The first group includes:

- development of new energy-efficient technological schemes;
- increased activity of the catalysts;
- replacement of existing methods for separating production products into less energy-intensive ones (for example, rectifications for extraction, etc.);
- creation of the combined power technological schemes uniting the technological operations proceeding with allocation and absorption of energy (heat).

The second group of energy saving measures include:

- reduction of heat losses due to effective thermal insulation and reduction of the radiating surface of the equipment;
- reduction of resistance losses in electrochemical industries;
- use of secondary energy resources (SER).

Raw materials are natural materials (initial substances) which are used in industrial production. The profitability of production, the choice of technology and the equipment and quality of the made products substantially depend on raw materials.

The raw materials for chemical production are the products of the oil, gas, coal, coke-chemical, pulp and paper, mining industries, ferrous and non-ferrous metallurgy, etc.

Chemical raw materials are classified:

- by origin: mineral, animal, vegetable, water, air;
- by chemical composition: organic, inorganic;
- by types of stocks: renewable, non-renewable;
- on the state of aggregation.

Mineral raw materials are divided into ore, non-metallic and fuel.

Raw materials are also classified as primary (natural sources) and secondary (intermediate and by-products of industrial production and consumption, waste); natural and artificial (obtained as a result of industrial processing of natural raw materials).

A number of requirements are imposed to raw materials, which should provide:

- minimum of process stages;
- minimum energy consumption;
- the minimum dissipation of the input energy;
- minimum energy loss with products;
- reduction of process parameters (temperature, pressure) and energy consumption to change the state of aggregation of reagents;
- a large yield of the target product.

Raw materials reserves are divided into identified (studied) and potential resources.

According to the degree of knowledge and serviceability of the reserves of raw materials are divided into three categories:

1) *A* - reserves, explored in detail and prepared for development;
2) *B* - reserves established as a result of geological exploration;
3) *C* - reserves determined by the results of exploration and study on natural discoveries.