

PRODUCTION OF ELECTRICITY FROM GRASS

A.G. Khalizeva – *group KM-91*

L.A. Denisova – *E L Adviser*

Today the problem of pollution of our environment is very important. That's why there are a lot of different sources of alternative energy. For example: solar energy, the energy of wind and water.

Production of electricity from grass is one of them. A lot of us have not even ever thought that electricity could be accumulated from the grass.

The use of microturbines plays the important role in this area of accumulation of energy. Microturbine is a small modular unit that produces electricity and heat that works on all types of fuel gas, including diesel fuel.

Nowadays not only microturbines are used. The pumps, engines, compressors, and other basic engineering objects are widely diffused in very peculiar branches of human life too. It includes medical sphere (micropumps), ecology (microturbines), etc.

Leaves and plants are solar natural batteries. The first step in the process of photosynthesis is the ability to convert sunlight into a small amount of electricity, as in the vital processes.

"Mango" is the invention of A.Miklosi – a vivid example of remarkable ingenuity. The tops of the leaves have solar cells for sunny days. Meanwhile when it rains, the shape of the leaves sends water to a water turbine, and it can gather energy from the moving water.

The other way of accumulation of energy is burning the biomass. For example, burning of elephant grass. Elephant grass is a plant that vaguely resembles sugarcane. It's easier on the soil: it grows on earth that's not rich in nutrients and it's not nearly as demanding as eucalyptus in terms of water.

One of the limitations is the process of producing electricity from elephant grass. This process still relies only on the thermal technology, burning the biomass, thus generating significant carbon emissions. Other alternatives for elephant grass are in early development stages, like the use of its bagasse, the fibrous residue that remains after the juice is extracted, to produce ethanol.^[1]

Next years will be decisive for the understating of its full potential as a renewable fuel source, be it positive or negative.

This kind of production of electricity is a huge step up for our civilization.

[1] – www.psfk.com