To realize all this requires the acceptance of a series of measures, both from the government and from the business, but the main role in the development of energy in JSC Crimea should take the state, as is done in many foreign countries. Policy-based energy saving must become the main socio-economic strategy for the coming years. All this requires a joint effort of international organizations, governments, the public, and a number of specialists, a huge time and material costs. It requires highly educated professionals who understand the environmental pollution problem, thinking globally, having special ecological culture and philosophy.

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## TRAVERSE ELECTRIC DRIVE OF TURNING LATHE

V.E. Kozlov, G.A. Nizkodubov
Tomsk Polytechnic University
Institute of Power Engineering, group number 5G54

The topic of my report is an electric drive of traverse of turning lathe. As science and technologies developed electricity started to take a special place in everyone's life. How can we live without domestic appliances, TV, radio and other everyday things? This list is endless because we use electricity everywhere and manufacture is not an exception to this rule. That's why I'd like to tell you about electric drive. It's clear that electric drive is something that can provide us with electricity but the certain definition is that it's a special controlled system which transforms electric energy to mechanical and vice versa. The aim of this report is to make a research on an electric drive of traverse of tuning lathe.

The lathe machining is to do metal cutting using turning lathe. Such machines are used to manufacture of solids of revolution. Processed detail is being hardened and given a high angular speed. After that cutter is moved to detail with the help of cross travers and travers. The most useful details for this work are shafts (radius is much bigger than the length), disks (length is much bigger than the radius) and sleeves (hollow center).

Now my speech will be devoted to traverse. If we want to realize it's meaning, firstly, we should divide it into parts. All parts are shown on the slide. But division is not enough to understanding. Let's discuss the kinematics. First of all, we start the engine, after the move goes to the headstock lathe using belt transmission. The headstock lathe brings the detail in action. Moreover, on this step we set settings for turning. After the move goes to speed gearbox through the "guitar". On this step we set a speed of cross travers and travers. Then move goes to saddle which slides on feed

shaft due to male stud. There are switchers of travers on the saddle. Moving saddle is named traverse.

The most important thing for turning lathe is to keep a certain speed in a certain period of time. Mostly stable capacity is needed when we work with high speed and stability of moment is needed when we work with low speeds. There is much to gain from variate speed arrange from the relation 80:1 to 100:1.

Let's speak about development of drives. Do you know when people began making lathe? The most people suggest that it's near about 2 centuries ago but it's false. The first reminder was made by ancient Egyptians. For sure, that lathe doesn't look like modern. Construction is primitive. One man turns the detail and another hold on cutter. After that people realize that it's not profitable when two people work on one lathe/ this way, people made the second lathe with pedal drive. The most serious drawback is that you can't use these lathes for metal details. The solution was made by Andrey Konstantinovich Nartov who made a lathe with saddle. It was the great step in inventions.

Three phase induction motor – is a machine for transforming energy from alternative current for mechanical energy. Two main parts of this machine are stator an rotor. Stator is fixed detail which is cylindrical shaped, there is winding inside it. Rotor is cylindrical too but winding is on it. There are two types of induction motors: with snorted out rotors and phasic. The first are used in small and middle power, the second are for big power. In my work I research induction motors with snorted out rotors. Another name is squirrel wheel because of its similar construction. Rotors of such kind of machines consist of rods, core and rings for limit. Why do people use it? It's easy to make, cheap, reliable, gives an opportunity to be plugged in without any transmissions. Shortages are small start moment and big start current, low power coefficient.

Taking everything into account, the future is based on using electricity. People will continue trying to make their lives easier, by means of creating robots to live with. Of course it will not be possible without such thing named electric drive.

## LATEST INVENTION TO PROTECT OUR ENVIRONMENT

Б.С. Дубиковская
Томский политехнический университет
ЭНИН, АТЭС, группа 5041

Nowadays technologies are developing, everyday we can see something new and there are some developments that even could help to protect our environment. The main object of this paper is to investigate and find out the possibilities of particular findings in the area of modern engineering. It's out of the question that up-to-date life is full of technologies and smart things making our life easier and more comfortable. In this work we made an attempt to present some current ideas which help to protect our environment from human damage. First of all, we distinguish the following inventions that are worth researching from our point of view:

- The safety truck;