

METHODS FOR REDUCING COSTS FOR CIVIL AVIATION FLIGHT

Aircraft builders around the world are striving to create the most effective aircraft, because this also determines the continued popularity of air assets. To date, almost no one can be surprised by the power on board, which is noted by many aircraft manufacturers, since in this case the efficiency of multi-seat aircraft is slightly higher than that of 200-300 local aircraft, while the cost and price of service are many times higher.

Aircraft manufacturers are paying close attention to the creation of really effective aircraft in terms of their service, since in this case, future operators will be able to reduce aircraft maintenance costs and thereby provide their customers with lower prices, which in turn will increase the basic activity indicators carriers and will ensure the maximum deployment of aircraft.

A typical example of this can serve as aircraft operating on electric power, which is much more economical, however, these aircraft are still being designed and not massively operated. Nevertheless, Chinese experts have moved much further, and have improved the capabilities of the aircraft by refilling it with used vegetable oil. Previously, similar attempts have already been made, however, it is important to take into account the fact that the current experiment used a passenger liner Boeing 787 Dreamliner, which was able to fly over the Pacific Ocean, breaking more than 11 thousand 290 kilometers. According to some sources, this approach proved to be quite effective, since at the fueling of the aircraft it was possible to save about 15%, while the amount of harmful emissions into the atmosphere significantly decreased.

Will Chinese air carriers continue to use used vegetable oil as fuel, and will this trend spread to other airlines, for the time being it remains unknown.

Experts believe that in the near future, scientists will continue to work on the creation of unique engines that allow to abandon conventional aviation fuel, since this will significantly reduce the cost of operating aircraft, and will reduce the cost of a flight from one point of the globe to another.

Similarly, Chinese scientists said that they are completing the test tests of their demonstrator, which in its essence is a multifunctional convertiplane. It would seem that to date, these aircraft are not only expensive, but also do not provide sufficient efficiency, however, Chinese scientists and aircraft designers of the Tianjin Helicopter Plant managed to create a truly unique project that in the near future will take a worthy place in both civil and military aviation.

The Chinese convertiplane, called "Bobtail", is a unique flying machine that, having an unusual design, can take off and land in a vertical plane, but in the process of making a flight, it can develop a cruising speed of up to 550 km / h, moving at distances up to 4000 kilometers. In fact, the Chinese convertiplane is already at its initial stage bypassing the vaunted American V-280 Valor, which, incidentally, was designed far more than one decade, but, which is much more important, the cost of producing one device does not exceed \$ 60 million, which by the most conservative estimates, is twice cheaper than the production of one Bell V-280 Valor.

When developing their convertoplan, Chinese engineers and scientists originally planned that the aircraft could be used both in the civilian and military spheres, so that it could be not about dozens of produced air assets, but about hundreds.

Experts do not exclude that the Chinese "Bobtail" convertible will pass its first flight tests by 2021, and by 2023 will begin to be actively used, that is, within only 5 next years, another type of flying can be actively used in the world apparatus.

*Scientific supervisor: Yashchuk O.P.,
Lecturer*

UDC 338:504(100) (043.2)

Panchoshna T.M.
National Aviation University, Kyiv

ENVIRONMENTAL ECONOMICS AND ITS IMPLEMENTATION IN THE WORLD

Modern society does not often contemplate about the rational using of natural resources. But, first of all, everyone should think about preserving natural resources. There is an environmental economics for this. Unfortunately it is seldom remembered about nowadays.

Why are we really not able to save natural resources? The most important reason is that it is necessary for us. We must protect the nature in order to continue to use its resources as long as possible to save them for future generations.

Firstly, I guess that we have to minimize the using of natural resources. To do this, we need to find or create artificial substitutes of them that are suited for application in the society's life in the best way. It will save natural mineral resources, without changing the welfare of people.

Secondly, each of us should keep an eye on the rational use of resources that we remove from the environment. At present people very often take the depths of nature, but then destroy them even without usage. Is this an economy of nature?

Now people can't save resources that are received from nature. They infinitely use them, with misunderstanding that everyone can always get more and more. If we do not follow the paradigms of the environmental economics, we will bring to the brink of extinction or even exhaust all natural resources, which is already left in a small amount, because nature does not have time to meet the needs of people.

The American economist L. Raff wrote: "Pollution is primarily an economic problem that should be defined by economic terms." It is impossible to disagree, because due to the foolish using of natural resources, people suffer significant economic losses, and nature is going through the huge ecological catastrophes.

To my mind, we should change the environmental economics into an economy that would pay more attention not to the utilization of the environment, but to preserve and protect it. Then it would be possible to specify the goals of this science, to devote more effort to their achievement and to determine their own economic value of the environment.

It should be noted that when a person uses natural resources inefficiently, he spends