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IMPLEMENTATION OF ECOLOGICAL AND ECONOMIC MANAGEMENT SYSTEM OF HANDLING WITH WOOD WASTE AT SE «EMILCHIN FORESTRY»

Wood waste is an important ecological problem of forest enterprises. SE «Emilchin forestry» is engaged in forestry and logging, hunting, as well as industrial, social, innovative, foreign trade, trade in retail, wholesale trade and agricultural activities.

SE «Emilchin forestry» is mainly a producer of raw materials and products of primary processing. The largest amount of forest waste, about 18.5 tons per m^3 , is generated in the process of production of finished products. It includes branches, leaves, needles and bark. Wood processing and sawmilling waste amounts to 10 tons per m^3 (lump wood waste, sawdust, shavings and grinding dust).

The main disadvantage of technological processes of production is the formation of a large number of wood waste. Close utilization of wood waste is very important problem today. The use of non-waste technologies, and the production of finished products can help solving this problem.

The amount of waste generated during wood processing at all technological stages is the following:

- 13% - during harvesting of wood (as a rule, it remains in the forest and is not taken into account when determining the gross amount of harvested wood);
- 30% - during sawing logs (is sold to the population for use as solid fuel);
- 35% - during the manufacture of finished products from lumber;
- 60% - of the generated wood waste is used by other sectors of the economy (the production of wood-fiber boards, paper industry).

The widespread problem for woodworking enterprises is the use and disposal of sawdust, which is due to the large amount of waste generated. At present, sawdust waste is transported to landfills and stored in the open air. Besides transportation costs, the enterprise pays monetary compensation to agricultural enterprises.

Part of the waste, such as sawdust, shavings and bark, is not used for technological purposes and can be used as fuel. At SE «Emilchin forestry» sawdust is used for own needs of the enterprise (feedstock for boiler-houses for heating administrative premises, and for drying chambers). Their increased production is hampered by the low transport capability and complexity during dosing and storage. The process of waste granulating can improve the situation. Biomass today replaces approximately 1200 million tons of conventional fuel. It accounts for about 15% of primary energy resources in the world. The advantage of biomass as a fuel is in its renewable nature, low ash content, insignificant amount of emissions and maintaining the balance of carbon dioxide in the atmosphere. Energy products of biomass processing can be used in conventional power plants as a traditional fuel. One of the most common types of biomass of organic origin is wood. The disintegration of wood into the main

energy elements gives about 50% of carbon, 6% of hydrogen and 44% of oxygen. The heat capacity of wood is about 14 to 17 MJ / kg.

Prospects for expanding the assortment at the enterprises in the forestry complex are being opened at the complex processing of wood raw materials, while organizing waste management and waste treatment operations for sawmilling and wood processing, which can provide growth of commodity output by at least 10-15%. The accumulation of huge stocks of secondary raw materials requires solving the problem of their integrated use. Therefore, it is extremely important to modernize existing production, to organize deep chemical-mechanical and wood-chemical processing of secondary raw materials while simultaneously producing products of a low volume and high cost at the site, as well as with the full use of low-quality raw materials.

There are several ways to solve the problem of using wood waste:

- Recycling wastes into the energy carrier of different compositions, purpose and properties (pellets, briquettes, alcohols, ethers).
- production of consumer goods (various composite materials, furniture, decorative elements for the arrangement of premises of different purposes).
- use of wood waste in the production of construction materials with the addition of cement mortars (arbolite, fibrolite, wood-concrete).

The creation of energy pellets production on the basis of the state enterprise «Emilchin forestry»can become an effective solution to the problem of using waste wood. The necessary condition for the technological processes of waste processing is their ecological and economic efficiency.