Environment Friendly Combustion System for Sawdust – Eko Plamen 3

Name	Environment Friendly Combustion System for Sawdust – Eko Plamen 3
Company / institution:	Pero Savicic
Website:	www.banat.rs
Country:	Serbia
Segment:	Waste management, Environmentally friendly systems

Description of eco-technology / Summary of the offer	Eco-innovative product in area of space heating. This ecoinnovative technology is developed in response to the issue of utilization of waste materials in woodworking and, as such, represents an environmentally acceptable solution for space heating. Comparing to other similar devices this one has improved the flow of raw material and its burning efficiency which results with more uniform burning without spontaneous smaller explosions. Specific waste that is being generated in woodworking (eg. lumbering or furniture industry) could be used as a raw material on various ways. Some of them its use as raw material for space heating devices. Moreover, there are also different technologies of burning this raw material in various devices. Most of these technologies processing the sawdust or wood chips which results with higher costs. Initial researches show that serious savings could be achieved by implementing Environment Friendly Combustion System for Sawdust In Function of Space Heating. This is particularly interesting for those who are able to acquire raw material for free or at site where it is considered as waste. Wood is a widespread renewable energy source. It can be found at many places in the nature excluding those with extreme climate conditions like deserts, high mountains etc. Wood is widely used in different industries like furniture, construction, energetics etc. Mostly, just one part of the wood as a plant is used, and it is timber. Other parts of it like leaves and branches are insufficiently exploited. If wood is considered as energy source, except timber and branches, bushes also should be taken into the consideration. On the other side, considering space heating, particularly where man resides is old problem lasting for centuries. Wood as a heating material from prehistoric times to the present has its important place in solving this problem. With the development of science and technology, as well as environmental standards, wood continues to hold its position among other heating materials. There are various solutions/devices/products are developed throughout history that convert chemical energy from wood into the heat, by its burning. In modern days the main issue in this type of heating is energy efficiency of the product as well as stable burning process without explosions. From the side of the raw material – wood, the main issue is still, the price what is related to its quality in wider sense (thermal power, handling, grime, …). Moving a step forward the innovator focused on wood remains generated in wood and furniture industry as well as on that, which is generated by maintaining road sides, parks etc. These remains are mostly considered as waste that should be managed so it is additional work and additional cost for the operators. Bearing this idea that sawdust and wood chips could be used as a heating material, innovator started to thinking how to improve existing devices available on the market. First of all most of them are relatively expensive and adjusted for burning just one or very narrow sort of heating materials which are also with significant share in total price of space heating. The main technical problem that has been found during the research is unstable burning process. Innovatormain objectives: Develop improved design of existing sawdust/wood chips based boilers relating the stability of burning, Find the solution for rearranging existing devices for various types of wood (logs, briquettes, pellets) or coil burning in order to use sawdust and wood chips, Promote eco-innovative product to the professional and academic community The solution is based on renewable energy sources and more precisely it is based on wood processing waste such as sawdust and wood chips. With minor rearrangements the traditional wood based boilers could use these kinds of waste.

Forms of cooperation looking for	Development from prototype to final product and sale to the end-user
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Additional information:	Technology is available for use on the (day/month/year): 10.10.2018.