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Practice Concerning Alternative Fuel Application in Terms of “Poltavski Gok” Ltd

Currently every project to for gas replacement in our country is implemented according to Orders of the Cabinet of Ministers. Experts believe that nonavailability of uniform law which would control the field results in the lack of maximally effective cooperation between authorities and business as well as absolute demotivation of utilities in terms of gas displacement projects. As a result, heads of enterprises having proper utilities should find the ways to economize both thermal and electric power; they make decisions to replace coal, gas or fuel oil used as fuel with chip low-heating-value fuel types and different industrial waste products. However, the problem to converse energy sources to solid low-heating-value combustion is rather complicated. Its solution involves application of innovative techniques which should meet current environmental requirements, be more cost-effective and less sensitive to a quality of fuel being combusted.

“Poltavski GOK” is the demonstrative example of conversion to alternative fuel. During eight months of 2016 “Poltavski GOK” (PMPIW, being a part of Ferrexpo Group and located in a town of Horisni Plavni) consumed 98.9mln cubic meters of natural gas. The figure is 22% less than similar figure for the year of 2015 (126.6mln cubic meters). Cost cutting is more than UAH 100mln.

The enterprise has achieved such results owing to conversion to alternative fuel – sunflower shell. Since the 1st of August 2016 all lines in the shop manufacturing steel pellets have been converted to the use of such biological fuel. Moreover, “Poltavski GOK” installs thermal boilers very close to energy consumption objects which makes it possible to reduce losses of heating energy in the process of its transportation. The use of alternative fuel in August 2016 to comparison with similar period of 2015 gave a chance to save 3.5mln cubic meters of natural gas; at the average the index is 5mln cubic meters of gas every month.

According to the results of the year such economy will be up to 60mln cubic meters. A group of Ukrainian companies proposed the idea to burn end product with the help of combustion of sunflower shell. The same experts installed required processing facilities for to use such fuel. Despite apparent simplicity of the idea to use domestic raw materials as fuel it brings about serious problems. Attempts to combust them in standard boilers which furnace arrangements have been designed for certain type of solid fuel result in chemical loss and combustible loss. As a consequence, efficiency of the boilers weakens, and permissible rates of noxious emissions of CO, NOx, and the number of solid particles are in large excess over.