

**Amgen Seminar Series in Chemical Engineering**  
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**Radical improvement of energy and ecological indices of production  
and firing new composite liquid fuels with the use of the innovative hydrocavitation  
technology - VORTEXFIRE**

By

Dr. Oleg Kravechenko  
Deputy Director for Scientific Work  
The A. N. Podgorny Institute for Mechanical Engineering Problems  
of the National Academy of Sciences of Ukraine

In view of world oil reserve depletion the task of searching new fuel resources becomes issue of the day. Solid waste of coal production, waste from production of different oils, different waste of organic and inorganic origin, and also vegetable biomass, wood, agricultural production and processing waste, fast-growing forest cultures, can be considered as alternative resources. The noted list of resources raised the problem of creation on their basis the new types of composite liquid fuel oils (CLFO). Conventional technologies of creation and firing liquid fuels have insufficient efficiency, high resources consumption and excessive pollution of the environment. The radical upgrading composite liquid fuels and their effective firing requires developing new methods and devices which provide intensification of physical-chemical transformations of hydrocarbon raw material, that is the main problem to solve the VORTEXFIRE technology is timed. The purpose of the project is creation of multifunction hydrocavitation systems of energy transformation for producing the new qualitative composite liquid fuel oils (CLFO) with high power and ecological indices and their effective firing.

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