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## To Whom It May Concern

<u>Subject of consideration:</u> Boost of mechanical power of mobile combustion engines by adding process generated hydrogen to the combustion chamber.

The German Company **Hybrid Motor Conversion Ltd. (HCM) claims** a protection right which describes a hydrogen generating system consisting of electrolysis mainly. The special technical features are high reliability, simplicity and fitted to environmental demands. The main attractiveness of this electrolysis device derives from the low space requirement which leads to an easy application in a considerable big range of vehicles.

The idea to influence the combustion of fossile fuels by high calorific additives as hydrogen to increase the reactivity of the educts is not new and is not the subject of the protection right claim. The claim is partly the business case itself, partly the protection right of the system integration of the electrolysis in a easily feasible mode to generate high burn out and less hazardous flue gas compounds as NOX-es and hydrocarbons along with the improvement of the engine efficiency and correspondingly the reduction of fuel consume. The feed of electrical energy to decompose the water is evidently compensated by the in total save to fuel. The expert got no information about the origin of feed water. The experts assume is that the source is fuel drived.

From the experts point of view the effects having proved by different well reputed and internationally accredited institutions are plausible and could be proved independently of tests based on equilibrium thermodynamic calculations only and in addition based on Computational Fluid Dynamics. The latter would clearly demonstrate the situation in combustion chambers with and without additive hydrogen combustion modeling the application cases.

This technical approach has different positive aspects which effect economically and hygienically:

- Low costs due to simplicity and durability,
- Decreasing the fuel consume, consequently carbon emissions
- Lowering of hazardous flue gas emissions
- Good adaptability to numerous engines
- Transitions to other energetic systems dealing with hydrogen fuel.

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