

# **The Future Car: A hybrid Technology for Future**

The Department of Environmental Sciences developed an alternative technology i.e. 'The Future Car (A hybrid Technology for Future)' that would reduce reliance on non-renewable energy sources and decrease harmful emissions. It use a rechargeable energy storage system to supplement fossil fuel energy for vehicle propulsion. The hybrid technology employed here refers to a vehicle engine that uses a combination of renewable energy resources *viz.* solar, wind, sound and mechanical stress. The latter is based on the conversion of mechanical energy exerted by the weight of passing vehicles that occurs on bumpy roads into electrical energy. These four sources will generate electrical energy during the motion of the car. In addition, the system is equipped with Air Bumper System to build a crash-proof vehicle. The basic principle of the 'Future Car' is to use energy that is stored in the battery during and after charging it from different renewable sources. The charged batteries are used to drive the motor which serve here as an engine and moves the vehicle.

The car is devoid of any kind of heat engine to produce steam from combustion of fuels. The electrical energy is generated from the above four sources of energy, during the motion of car. Then, electrical energy is generated due to the working of dynamos and solar plates which are consistent part of these four sources of electrical energy. The electrical energy is stored in the two batteries one is already charged and the other is charged during the motion of the car. The rotation of the wheels is provided by the D.C motors in the back wheels of the car which act as engine.

The project team includes students from Department of Environmental Science Mr. Sunil Kumar, Mr. Ajay Thakur and Mr. Aneet Singh under the guidance of Dr. Mohini Singh. The Head of Department, Dr. Sarika Sharma also provided comprehensive support services in the completion of this project. The project team recently presented the aforementioned working model in SAVISHKAR, iFAST-2015 (Innovative and futuristic Approaches in Science and Technology) in National Exhibition and Symposium at Maulana Azad National

Institute of Technology, Bhopal, Madhya Pradesh (26-28<sup>th</sup> February 2014). The project details have also been sent for nomination to IIM Ahmedabad for discussing the 'Draft Policy for promoting innovations based entrepreneurship by students, youth and other individuals' and 'Innovation Scholars In-Residence Programme of Rashtrapati Bhawan' in New Delhi.

### **Importance of the work**

- Using 'Future Car' instead of conventional vehicles can help reduce reliance on petroleum and increase energy security.
- Achieve better fuel economy and have lower fuel costs than similar conventional vehicles
- Increase energy sustainability
- Provide significant reductions in greenhouse gas emissions that contribute to climate change.