

RESEARCH THEME: POWERTRAINS, FUELS & EMISSIONS

PLANNING FOR ELECTRIC VEHICLES IN AUSTRALIA

The project will lay the foundation for the introduction and use of electric vehicles in Australia. An important aspect of the project will be the preparation of an implementation plan, in conjunction with the industry partners, for conducting a full scale electric vehicle trial in Adelaide.

Project Leader	Michael Taylor. UniSA	Project Participants	DTED UniSA
-----------------------	--------------------------	-----------------------------	---------------

HEAVY TRUCK LPG CONVERSION PRODUCTIVITY SYSTEM

The scope of this project is to develop a commercial 100% LPG Heavy truck (B-double configuration) which is fully integrated with a CAN based fuel measurement and engine diagnostics system with server based engine performance and fuel reporting. The project will also aims to reduce LPG truck fuel consumption by 10%, optimise reliability through combustion and engine management improvements, reduce noxious emissions and reduce GHG by at least 10% and particulate matter by at least 90%

Project Leader	Chris Seeling VPAC	Project Participants	GM Holden
-----------------------	-----------------------	-----------------------------	-----------

AERODYNAMIC OPTIMISATION TO IMPROVE FUEL ECONOMY

The aim of the project is to develop a computational analysis process for evaluating and optimising the aerodynamic drag of vehicles. A key benefit of this will be improved fuel economy. The project will consider external, underbody and underhood areas of vehicle design. One key deliverable from the activity will be the documented and qualified steps a design engineer should follow to achieve an optimised aerodynamic result of future vehicle designs.

Project Leader	Chris Seeling VPAC	Project Participants	GM Holden VPAC
-----------------------	-----------------------	-----------------------------	-------------------

FORCED AERODYNAMIC CONTROL

This feasibility study will assess the utilisation of fans to improve fuel consumption in production passenger vehicles by reducing drag. This has the potential to decouple aerodynamic design from styling design. A scale model will be built and wind tunnel tested and energy and cost audited.

Project Leader	A/Prof Simon Watkins RMIT	Project Participants	GM Holden RMIT
-----------------------	---------------------------------	-----------------------------	-------------------

THE DUOLETA LIGHTWEIGHT VEHICLE

The project objective is to determine technical and commercial feasibility for the Australian production of an ultra lightweight vehicle. A preferred concept will be generated as part of the project addressing the primary objectives relating to weight, fuel consumption, performance, cost, safety, manufacturability and environmental impact. The study will produce strategies for detail design, development and testing, manufacture, assembly and distribution.

Project Leader	Robert Speedie UniSA	Project Participants	CSIRO DTED(SA) UniSA
-----------------------	-------------------------	-----------------------------	----------------------------