

Current News

Green Transport taking off in SA

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The South African National Energy Research Institute (SANERI) is hosting a Green Transport Programme. The programme is aimed at showcasing green transport technology options during the 2010 Football World Cup and beyond.

To date, five projects have been identified under this programme.

- Liquefied petroleum gas (LPG) refueling demonstration.

This project includes the impact of LPG on the environment compared to petrol. Positive attributes of LPG include engines run quieter and cleaner; LPG is a clean-burning fuel and has lower green-house gas (GHG) emissions than other fossil fuels and LPG burns cleanly with no soot and very few sulphur emissions.

- Biofuels refueling demonstration

This project includes the impact of biodiesel on the environment compared to normal petroleum diesel. Positive attributes include: total unburned hydrocarbons emissions drop by 20-67 per cent; carbon monoxide emissions drop by 12-48 per cent; particulate matter emissions drop by 12-47 per cent; sulphate emissions drop between 20-100 per cent and biodiesel is biodegradable.

- The impact of bio-ethanol on the environment compared to normal petrol

Ethanol is a particulate-free burning fuel source that combusts with oxygen to form carbon dioxide, water and aldehydes (alcohol dehydrogenates). Bio-ethanol GHG savings compared to petrol amount to 87-96 per cent for sugar cane and 10-20 per cent for maize/corn. Hydrogen refueling demonstration Environmental impact of hydrogen vehicles: no harmful emissions as the chemical reaction results in the production of water.

- Electric vehicle charging demonstration

Electric vehicles produce no carbon emissions. According to national statistics, there are 12 600 MW available off-peak.

- Compressed natural gas (CNG) refueling demonstration

CNG is a clean-burning alternative; it has a lower cost of production and storage compared to liquefied natural gas (LNG) as it does not require an expensive cooling process and cryogenic tank. Thus, harmful greenhouse gas emissions are considerably reduced.

Focusing on green transport The South African Government is playing a leading role in preparing for the showcasing of green transport technology options during the 2010 Football World Cup. In South Africa, transport fuels make up to 30 per cent of energy consumption (by energy content) and 70 per cent by value. (Biofuels Industrial Strategy, DME, 2007.) This makes the transport sector an important energy sector to consider. By demonstrating the use of environmentally friendly transport fuels, South Africa could add impetus to global efforts to decouple the environmental impacts of transport from economic growth. "Demonstrations will take place as early as October this year, leading up to the 2010 Soccer World Cup in June 2010," comments Dr. Zwanani Mathe, Programme Manager: Green Transport Technologies. Beyond 2010, the demonstration stations and vehicles will be used as a model for national roll-out.

SANERI green transport plan will comprise a tri-pronged focus: on- and off-site projects and public participation. The proposed Work Streams include Electric Vehicles, CNG Refueling, LPG Refueling, Biofuels Refueling, CNG Refueling in Johannesburg, Green Cab Demon in Cape Town and Biodiesel Refueling in Cape Town. Quarterly newsletters, promotional material, exhibitions, training/workshops are part of the public participation leg. CNG takes the lead to date. The CNG refueling demonstration is planned to be deployed and demonstrated by the end of this year. "Whilst petrol fuels are satisfactory, and we will plan for these, alternate fuels are needed to combat a liquid fuels shortage" Dr. Mathe adds. In the short term, sources of fuel supply could include direct tapping from existing gas networks. In the long term, however, it is desirable to use biogas and/or hythane for the refueling of vehicles.