YOUR HANDY GUIDE TO
GREEN CARS IN
SOUTH AFRICA

Leading the drive towards zero emissions

environmental affairs
Department: Environmental Affairs
REPUBLIC OF SOUTH AFRICA
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Introduction

Imagine a future where you can drive to a green office with your colleagues, in a zero emission, green car. That future is about to become a reality as the Department of Environmental Affairs leads the way for government and the public sector to follow.

In February 2013, the Minister of Water and Environmental Affairs, Hon Edna Molewa, together with Nissan South Africa, launched a ground breaking, zero emission electric vehicle programme. The launch was the first of its kind for South Africa’s government, and will see the introduction of a fleet of zero emission electric vehicles servicing the transport needs of the national department. The department will soon be housing the vehicles in its green building, from June 2014.

The introduction of the Zero Emission Electric vehicles, which are also referred to as green cars, seeks to ensure that South Africa contributes to the reduction of environmentally harmful gases, by promoting the use of cleaner sources of fuel by the automotive industry.
What is a zero emission vehicle or green car?

A zero emission vehicle is an automobile that does not have tailpipes which release carbon dioxide and create pollutants. Electrical cars can be charged from any power outlet or any solar panel source. A unique feature of DEA’s fleet of zero mission Electric Vehicles is that they are fully powered by solar energy, from a high-tech assembly of solar tracking panels housed at the department’s head office, rather than power from the national grid.

The solar panels powering the vehicles generate enough electricity to power the fleet back into the national grid, further incentivizing the move for other government departments and ordinary citizens to consider travelling green. As part of this programme, four Nissan LEAF test cars will be at the DEA’s disposal for usage and testing in the initial phase of the project, to be run over three years.

Powered by high-performance lithium-ion batteries that retain up to 80% of their initial capacity after five years of use, the batteries have a second lease of life as energy storage devices. This opens doors to secondary-use local business opportunities for used EV batteries. NISSAN LEAF drivers will have the option of home-charging or using power outlets to be established at selected Nissan dealerships and other locations in the future. Full charging will take about seven hours while a 10-minute charge on the move via a quick charger will provide an additional range of 50 km.
The emissions from oil-powered cars are not only a cause of the diminishing of the ozone layer, but also a frequent cause of lung disease. This, in addition to waning fuel supplies and increased petrol prices, has led automobile manufacturers to begin making zero emission vehicles.

In the very early days, cars were electric but their inefficient batteries gave them too small of a range to be practical. This led to the introduction of the modern internal combustion engine. This in turn led to the creation of global demand for fossil fuels. This has resulted in staggering prices, worldwide pollution, climate change, political disagreements and annual global conventions to address the negative impacts of the sector. This traditional economic growth, with its premise of plentiful but high carbon-emitting energy, comes at a big cost to the environment.
The South African government, ably assisted by its private sector, now faces the challenge of establishing new types of production mechanisms. In addition, the public and private sector are working together to find new ways to produce goods in a manner which reduces our economy’s reliance on fossil fuels for energy. This will require a smooth transition into a green economy.

To start the process of addressing these challenges, Minister Edna Molewa says, “Concerns about the impact of the global carbon emissions on the environment, energy security as well as the rising oil and fuel prices are key drivers of the technological innovation currently witnessed in the global automotive industry. The development of fuel efficient and environmentally friendly vehicles will play an important role in tackling these global challenges going forward, and our partnership with Nissan South Africa was driven by that realisation.”

Minister Molewa has reaffirmed government’s commitment to partner with the private sector, to ensure that a transition to the green economy, recognises that ours is a country which faces a myriad of challenges like unemployment and poverty.

Globally electric vehicles have been on the rise with China, USA, Japan, Korea and Europe leading the race by launching strategies to increase the share of Electric Vehicles in their overall fleets. Leading automotive industry experts forecast 10% of total vehicles on the road will be EVs by 2020. The global fleet has been growing at a rate of about 16 million vehicles per year since 1970 and by 2025 is expected to reach 1 billion vehicles on the road. Projections indicate that emissions from vehicles will grow significantly in line with the increasing global vehicle demand.

NISSAN LEAF MISSION

The Nissan LEAF mission is designed to demonstrate Nissan’s leadership and holistic vision to contribute to environmental improvement; specifically the reduction of CO2 emissions. In addition, Nissan is working to achieve market readiness by convincing key stakeholders, including consumers, influencers, government, utilities and partners, that the electric vehicle is the mobility solution of the future.
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**FUTURE BENEFITS**

Evs and environment-friendly towns

The increasing use of EVs will transform lifestyles for the better. While EVs will routinely be charged at the home, drivers will also be able to take advantage of fast chargers at shopping centres and other busy areas, topping up their charge while they go about their business. The wider use of clean energy will see the construction of infrastructure such as park-and-ride lots and non-contact charging stations, making cities and towns and the lives of people living in them, cleaner and more attractive.
The launch of the DEA Zero Emission Electric Vehicles programme is a multi-stakeholder partnership aimed at programme sustainability for many decades to come. It includes the Departments of Trade and Industry, Transport, Energy, Science and Technology, the South African Revenue Service (SARS), Eskom, municipalities, as well as Nissan and other car makers, amongst others.

The landmark partnership stems from the 2011 United Nations Framework Convention on Climate Change (UNFCCC) in Durban, commonly referred to as the Conference of the Parties or COP 17, where efforts to address global warming saw the establishment of a treaty to limit carbon emissions.

One of the key areas of priority for the Climate Change Response Policy is to make a fair contribution to the global efforts to stabilise greenhouse gas concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.
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