

New Holland Agriculture's NH2 hydrogen powered tractors



New Holland Agriculture's NH2 hydrogen powered tractors were showcased in Durban recently at the United Nation's 17th Conference of the Parties (COP17).

“These new hydrogen powered tractors, which are the world's first tractors to be powered by hydrogen, have been designed to help farmers cope with the increasing costs of fuel,” says Peter Askew, managing director of New Holland Agriculture South Africa. “These tractors form part of New Holland's ‘Energy Independent Farm’ concept that enables farmers to produce electricity from natural, environmentally-friendly sources and to then re-use that electricity in a practical way.

“We believe hydrogen technology will give farmers an independent supply of energy, which can be used in a wide variety of vehicles and applications, giving them greater control over the future of their businesses. The new hydrogen powered NH2 tractor replaces the traditional combustion engine with hydrogen fuel cells to generate electricity.

“These tractors are able to perform the same tasks as New Holland's T6000 series, while operating virtually silently and emitting only heat, vapour and water.”

Compressed hydrogen drawn from the tank on the tractor reacts in the fuel cell with oxygen drawn from the air, to produce water and electrons. These electrons are harnessed in the form of an electric current, which drives electric motors to power the tractor's drivetrain and auxiliary systems.

The fuel cell of these tractors generates less heat than an internal combustion engine. There is a consistent output of power and no polluting nitrogen oxides, soot particles or carbon dioxide are produced. The clean operation of these new tractors has added health benefits when working in confined spaces like animal sheds or in greenhouses.

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New Holland's EasyDrive™ transmission system offers quieter operation, improved power transmission and great fuel efficiency. This flexible transmission gives the operator high levels of control and features useful driver aids for maximum productivity. An anti-stall facility can disengage the drive before the engine stalls, which is ideal when pushing a loader into heavy material, or to overcome a particularly high working load.

The New Holland Intelligent User Interface, which is a fully automated combine optimisation system, also received a special mention at the SIMA Innovation Awards. This system enables the operator to quickly and easily optimise the combine settings for every crop and working condition. Unlike conventional control systems, this technology actively suggests and implements adjustments for each specific crop.

Through its 'Energy Independent Farm' concept, New Holland Agriculture strives to revolutionise the agriculture sector by enabling farmers to produce their own compressed hydrogen from water and to store this hydrogen on the farm.

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