

NEW HOLLAND NH²™ HYDROGEN POWERED TRACTOR

EASY / SAFE / CLEAN

The basis

A current T6000 tractor.

What is inside

- A Hydrogen tank
- Fuel Cells System perfectly integrated into production tractor, with standard components
- Electric motor n° 1 - Power to traction
- Electric motor n° 2 - Power to PTO and auxiliaries

What is not

- No diesel tank
- No combustion engine
- No exhaust pipe
- No gear box

How it works

- Fuel Cells System transforms Hydrogen into electricity that runs the two motors. The tractor has zero emissions. Only a little amount of water, in the form of steam, is produced by the Fuel Cells System.

Product specification

- Power: 75 kW (106 hp)
- Transmission: CVT through electrical motor
- PTO : CVT through electrical motor

Product Benefits

- No Noise - Greater operator's comfort
- No Emissions
- No gears, no power losses
- Power delivered only as needed

Improvement Opportunities

- Fewer design and architecture constraints - A new tractor design
- Less weight and components - Greater reliability due to fewer moving parts
- Replace hydraulic system and mechanical drives with electrical ones: electrical driven implements (planters, fertilizer spreaders, etc)



NH²™ HYDROGEN POWERED TRACTOR

AND ENERGY INDEPENDENT FARM

AN EASIER / SAFER / CLEANER FUTURE / WITHIN REACH



Why H² can work for tractors

H ² issues in automotive applications	Tractor/Farm application
Distribution Network	Production and consumption on site: Energy Independent Farm
Fuel storage space	Space available on farms
H ² tank integration into vehicle	Tractor size facilitates integration
Fuel cell cost relative to vehicle cost	Tractor price facilitates cost absorption
Autonomy	Tractor stays near farm: no problem to refuel

The data indicated in this folder are approximate. The models described here can be subjected to modifications without any notice by the manufacturer. The drawings and photos may refer to equipment that is either optional or intended for other countries. Please apply to our Sales Network for any further information. Published by New Holland Brand Communications. Bts Adv. - 90014/INB - Printed in Italy - 02/09 - TP01 - (Turin)

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YOUR SUCCESS - OUR SPECIALTY



PIONEERING THE FUTURE, ONCE MORE.

From its origins, New Holland is characterized for making farming activity easier and more efficient, through innovative and affordable products, aimed to simplify people's life and to allow them to do more with less. This pioneering spirit had led us to look always further, anticipating the evolution of farming by designing effective and viable solutions for our customers, enabling them to stay productive even in an ever changing scenario. The growing importance of environmental issues, their close connection to the agricultural business and the uncertainty linked to the price and availability of fossil fuels, were the basis to develop our Clean Energy Leader initiative: a project that made us the brand with the deepest commitment to bio-fuels and the broadest range of products running on 100% biodiesel. We are moving ahead into the future: the future of farming, the future of our customers.

THE ENERGY INDEPENDENT FARM. THE FUTURE WITHIN REACH.

The current situation.

Fuel and energy represent a large amount of the farmers input costs. Farmers are scattered and dispersed around the country. Therefore, the costs of bringing fuel and energy are also very high.

What do the farmers need?

Farmers need to minimize their risks and keep their operating costs low. They need stability and independence to better control their business operation.

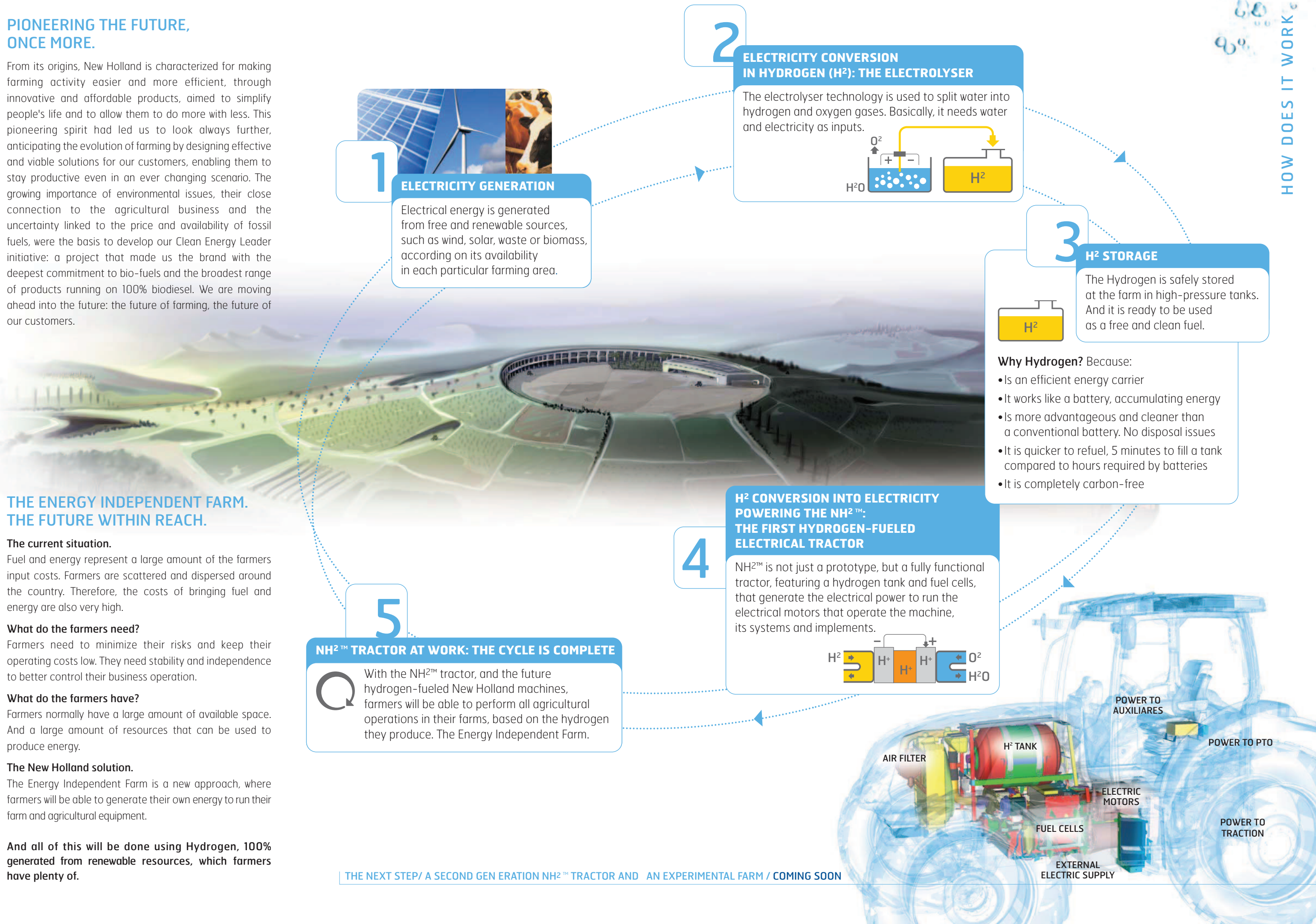
What do the farmers have?

Farmers normally have a large amount of available space. And a large amount of resources that can be used to produce energy.

The New Holland solution.

The Energy Independent Farm is a new approach, where farmers will be able to generate their own energy to run their farm and agricultural equipment.

And all of this will be done using Hydrogen, 100% generated from renewable resources, which farmers have plenty of.



1

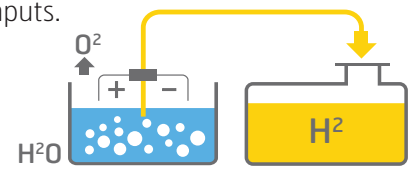
ELECTRICITY GENERATION

Electrical energy is generated from free and renewable sources, such as wind, solar, waste or biomass, according on its availability in each particular farming area.

2

ELECTRICITY CONVERSION IN HYDROGEN (H²): THE ELECTROLYSER

The electrolyser technology is used to split water into hydrogen and oxygen gases. Basically, it needs water and electricity as inputs.



3

H² STORAGE

The Hydrogen is safely stored at the farm in high-pressure tanks. And it is ready to be used as a free and clean fuel.

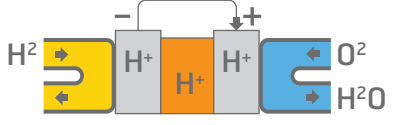


- Why Hydrogen? Because:**
- Is an efficient energy carrier
 - It works like a battery, accumulating energy
 - Is more advantageous and cleaner than a conventional battery. No disposal issues
 - It is quicker to refuel, 5 minutes to fill a tank compared to hours required by batteries
 - It is completely carbon-free

4

H² CONVERSION INTO ELECTRICITY POWERING THE NH²™: THE FIRST HYDROGEN-FUELED ELECTRICAL TRACTOR

NH²™ is not just a prototype, but a fully functional tractor, featuring a hydrogen tank and fuel cells, that generate the electrical power to run the electrical motors that operate the machine, its systems and implements.



5

NH²™ TRACTOR AT WORK: THE CYCLE IS COMPLETE

With the NH²™ tractor, and the future hydrogen-fueled New Holland machines, farmers will be able to perform all agricultural operations in their farms, based on the hydrogen they produce. The Energy Independent Farm.

THE NEXT STEP/ A SECOND GEN ERATION NH²™ TRACTOR AND AN EXPERIMENTAL FARM / COMING SOON

HOW DOES IT WORK

