

# SUSTABLE EFFCIENT TECHNOLOGY



# Your sustainable farming

Since 2006, New Holland has become established as the Clean Energy Leader for its active promotion and development of renewable fuels, emissions reduction systems and sustainable agricultural technology. New Holland offers the farmers of today and tomorrow the widest choice of accessible solutions that improve efficiency and productivity, while respecting the environment. Rooted in the belief that farmers can use technology to help them reduce their dependence on fossil fuels, the New Holland Clean Energy Leader strategy is based on four key pillars: Growing Energy, Efficient Productivity, Sustainable Farming and being a Committed Company.





# ONE STRATEGY, FOUR PILLARS.

# 01. GROWING ENERGY

BIODIESEL ETHANOL BIOMASS HYDROGEN - ENERGY INDEPENDENT FARM

# **02. EFFICIENT PRODUCTIVITY**

TIER 4 TECHNOLOGY
PRECISION LAND MANAGEMENT (PLM)
MECHANIZATION
INNOVATIONS

# 03. SUSTAINABLE FARMING

CARBON FOOTPRINTING ECOBRAUD CONSERVATION AGRICULTURE

# **04. COMMITTED COMPANY**

PLANT CERTIFICATION RECYCLING

01
GROWING ENERGY

# Fields of energy

We are all familiar with growing oilseed rape and sunflowers for biodiesel, or in even simpler terms, for energy. But how about transforming sugar beet and sugarcane into ethanol, or unlocking the energy potential inside wheat or corn to power your farm? Short rotation coppice and grasses such as miscanthus are also packed full of energy waiting to be released. How about rejuvenating sugarcane stover or even old straw bales to produce energy? New Holland is also at the forefront of research to create a methane/hydrogen hybrid tractor, as an intermediate step until 100% hydrogen powered machines are available. Moreover, methane powered tractors produce up to 80% lower emissions than their conventional diesel counterparts. What's more, methane can be produced on the farm, derived from biomass production. New Holland's advanced and efficient products will support you with production and handling in this virtuous, carbon neutral energy production cycle.





# **BIODIESEL**

# POWERING THE BIODIESEL REVOLUTION

New Holland was the first manufacturer to offer 100% biodiesel compatibility back in 2006. Its status as an efficient, reliable and productive alternative to standard diesel was confirmed by the 500-hour TM Extreme Endurance Trial, when a TM tractor worked non-stop for 500 hours while running on pure, 100% biodiesel. Today, New Holland has the industry's largest range of 100% biodiesel compatible products. Moreover, all Tier 4A products, which use ECOBlue™ SCR technology, can run on 20% B20 biodiesel as long as the biodiesel blend fully complies with EN14214:2009 regulations.



New Holland tractors run on 100% biodiesel transport visitors around the Eden Project's reclaimed site in the UK.

# **HELPING YOU GROW ENERGY**

New Holland combines efficiently harvest oil seed rape, which can be turned into biodiesel, so you are effectively harvesting the fuel, which could be used to power your combine. The rape seeds are pressed to produce biodiesel, which can be used either in its pure form, B100, or blended with conventional diesel to produce a biodiesel blend. A vast choice of tractors, planters and sprayers all compliment this energy harvest.



# ETHANOL BIOETHANOL: FUELING THE FUTURE

Have you ever considered that your crops could be more than food for animals and humans alike? Have you ever thought that they could be used to power not just your farm, but your local community and even public transport? Well, if you answered no, then it is time we introduced you to bioethanol production. Quite simply, the crops that you grow in your fields can be transformed through a straight forward process to create energy.

# **GROWING ENERGY. GROWING FARMS**

Why bioethanol? It's quite simple really, it burns cleaner than petroleum based products and it also reduces dependence on oil. However, it's important that bioethanol is included within an overarching sustainable agricultural plan to ensure that enough of the essential food products for the world as a whole, and your livestock remain.





# **GROW THE ENERGY THAT SUITS YOU**

New Holland is the premier equipment partner of Growth Energy and its 82 supported ethanol plants. Furthermore, the popular NASCAR® series cars in the United States, which run on a blend of E15, 15% ethanol, benefit from this alliance. A whole range of crops can be transformed from simple plants into essential energy. Sugar from sugarcane, sugar beet, cereal crops such as wheat, corn stover and miscanthus can all be converted into cellulosic energy and used to produce ethanol.



New Holland is actively involved in the promotion of bioethanol through its partnership with Growth Energy in North America. Customers are invited to attend conferences to find out more information on the benefits that bioethanol production can bring to their farm. Furthermore, New Holland offers a complete range of products to support bioethanol production.

# YOUR BIOETHANOL PARTNER

Whether you're growing, harvesting or managing your bioethanol crops, New Holland has the right product for you. From a complete range of tractors for performing a variety of tasks, to crop protection equipment such as sprayers, to the right combine or forage harvester.

# **SECOND GENERATION ETHANOL PRODUCTION**

Bioethanol production can be increased by up to 40% compared to standard production techniques for the same cultivated area. How? By using an enzymatic process to release ethanol from bagasse—the by-product of mill production or from the corn stover which remains in the field following harvest. This form of bioethanol production is linked to cellulose, hemicellulose or lignin as opposed to the traditional sucrose-focused methods.

# **GRANBIO: ENERGY FROM STRAW**

In North Eastern Brazil, sugar cane stover is collected from the fields, and using second generation cellulosic bioethanol production techniques, is transformed into useful ethanol. This process uses enzymes to break down the cellulosic fiber into simple sugar molecules which are subsequently fermented and turned into ethanol, producing 30-40% more ethanol than traditional first generation techniques.

# BIOMASS

# **BIOMASS: THE ULTIMATE RENEWABLE ENERGY SOURCE**

The never-ending cycle of sowing, growing and harvesting is as age old as farming itself, and means that agricultural biomass is the true embodiment of the term 'renewable energy.' Quite simply, it will exist as long as farmers continue to cultivate the land. No need to worry about dwindling resources or finite supplies. Biomass energy will be on tap today, tomorrow and for all future generations.



# **BIOMASS: FITS FARMERS LIKE A GLOVE**

What makes biomass and agriculture the perfect match?

**One**: farmers have the land to grow suitable crops.

Two: farmers have the machines to harvest and process these crops.

Three: farmers can provide for their own energy needs, and sell surplus

energy back to the national grid. Growing energy. As easy as 1-2-3.

# **CARBON NEUTRAL ENERGY**

Producing renewable energy has many benefits, but if your carbon footprint increases in size, you have simply shifted the problem from use to production. Agricultural biomass is a carbon neutral virtuous cycle. The carbon emitted during the utilization of these crops, for example in combustion, is absorbed by the crops the following season during growth. The result? Energy one. Carbon neutral.

# **FARMING TECHNOLOGY FOR BIOMASS**

Biomass is at the heart of New Holland's product development cycle and you can choose between a range of machines to help you harness the energy you have grown.







# **BIGBALER: BALES OF ENERGY**

Turn sometimes unwanted harvesting by-products into bales of energy with the BigBaler range. Select the CropCutter® system for a fine chop. Uniformly dense bales with an optimized combustion profile are produced using SmartFill™ technology.

# FR FORAGE HARVESTER: HARVESTING ENERGY

You'll harvest energy crops in a hurry with New Holland SP forage harvesters. Choose from a wide range of heads that allow you to harvest all types of biomass from standing trees to corn stover, and from switch grass to energy canes.

### THE PARTNER OF CHOICE FOR BIOMASS

The Centro de Tecnologia Canavieira (Sugar Cane Technology Center) in Brazil is the forefront of the Brazilian biomass industry, use New Holland's 360° product offering to transform energy rich sugarcane stover into bales that generate useful energy in specialist power plants.

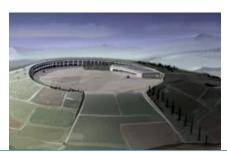
# **HYDROGEN - ENERGY INDEPENDENT FARM**

# TRUE ENERGY INDEPENDENCE WITH ZERO EMISSIONS

New Holland Agriculture is already imagining a zero emissions future, a world in which you will be able to meet all of your own energy needs. It might sound like a dream, but this is reality for New Holland. The logical progression from methane, methane-hydrogen hybrid machines, through to pure hydrogen tractors, encapsulated by the NH<sup>2TM</sup> tractor, is New Holland's blueprint for increasing agricultural energy independence. The NH<sup>2TM</sup> tractor runs on pure hydrogen, produced by you, the farmer, on your future 'Energy Independent Farm'. The NH<sup>2TM</sup> produces virtually zero emissions, just a little water. What's more, the second generation NH<sup>2TM</sup> tractor will soon be put to work in a field near you. New Holland always looks beyond the horizon to deliver you tomorrow's solutions today. Why? To improve the world we live in.



# THE PATH TO ENERGY INDEPENDENCE



### 2009

The world's first Energy Independent Farm concept featuring the NH<sup>2™</sup> zero emission tractors was unveiled at SIMA, France and promptly won a Gold Medal for innovation.



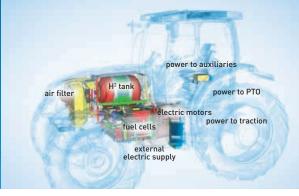
### 2010

Theory became reality, and the La Bellotta farm, just outside Turin, Italy, was chosen as the pilot Energy Independent Farm.

# **ENJOY AN ENERGY INDEPENDENT FUTURE**







True energy independence. Think about a world in which you did not have to worry about fluctuating energy prices and the negative impact they have on farm incomes. The Energy Independent Farm means you can cater for your own energy needs; a self-sufficient world that puts you in control.

Renewable energy. Imagine waking up every day and knowing you had energy on tap, not just for today but for tomorrow, and all of your children's tomorrows. The Energy Independent Farm uses renewable sources of energy that never run out including wind, solar, biomass and biogas. Low environmental impact and a never ending supply. **Zero emissions tractor.** The NH<sup>2TM</sup> hydrogen tractor is truly revolutionary. It uses a hydrogen tank and fuel cells that generate electricity to run the electric motors, which power the machine and any implements. It is extremely guiet and offers a zero emissions future producing just a little water. The world's cleanest tractor produced by the Clean Energy Leader.



# The second generation, NH<sup>2™</sup> tractor took center stage



# 2013

Working methane tractor launched, the first step along the road to a hybrid methane/hydrogen machine.



# **Future**

Keep your eyes peeled for a NH<sup>2TM</sup> machine working in a field near you!

02 EFFICIENT PRODUCTIVITY

# More productive farming. More efficient farming

Want to consign the age-old trade-off between environmentally friendly farming and productive agriculture to the history books? Then choose New Holland. If you are looking for tractors and harvesting products that are more productive while consuming less fuel, choose New Holland. If you want to reap the benefits of precision technologies which keeps your efficiency and productivity on track, choose New Holland. If you want productivity boosting features such as SuperSteer<sup>TM</sup> front axles, Auto Command<sup>TM</sup> continuously variable transmissions or IntelliCruise<sup>TM</sup> technology, choose New Holland. Or if you simply want to tread a little more lightly on the land where you farm, choose New Holland.





# **TIER 4 TECHNOLOGY**

# MORE PRODUCTIVE FARMS. MORE PRODUCTIVE FARMERS

New Holland is committed to providing easily accessible agricultural solutions which make farming more productive and efficient while respecting the environment. This means increasing your farm's productivity while reducing the emissions you create to achieve it. It also means going a step further: increasing agricultural automation, and training up the workforce while providing them with support to unlock the full potential of modern agricultural machinery.

# **INGENIOUS SOLUTIONS** FOR MORE EFFICIENT FARMING

Here at New Holland we never adopt a one size fits all approach to farming. Our machines are equipped with the appropriate emissions solutions for every product and every region of the globe. We established a clear road map that ensures all of our products comply with the latest emissions standards by integrating the best available engine technology in each machine. This means lower operating cost and higher productivity. A flexible approach that is not only providing sustainable solutions for preserving the environment, but also providing technologies that are improving overall operating efficiencies.



# This gives equal weight to NOx and PM reduction Tier 4A (2011): 100 Tier 4B (2013): 180 Tier 1 (1996): 1 Tier 2 (2002): 4 N<sub>0</sub>x

# **180 TIMES BETTER OFF THAN OVER FIFTEEN YEARS AGO**

New Holland has reduced emissions 180 times over the last fifteen years to improve the lives of farmers and their families. In real terms, this means you can run your Tier 4B compliant machine for 180 days, six months in fact, and produce the same amount of emissions as a Tier 1 machine would have in just one day.



# TIER 4 TECHNOLOGY RESPECTING OUR ENVIRONMENT

New Holland is committed to providing our customers with ingenious solutions that make agriculture more efficient, while respecting the environment. This is consistent with New Holland's Clean Energy Leader position. We pioneered the use of biodiesel in agricultural machinery back in 2006, and we are currently looking at the most advanced technologies. New Holland is constantly exploring ways to reach zero engine emissions.



# **EFFICIENT EMISSIONS SOLUTION**

The first Tier 1 emissions standards where set in 1996 by the Environmental Protection Agency (EPA) in the United States, (CEPA) in Canada and by the (EU) in Europe. The primary focus was the reduction of Nitrogen Oxide (NOx) and Particulate Matter (PM). Aggressive standards have continued to be implemented since this time to reduce the amount of these pollutants being released into the atmosphere. The latest emissions standards are known as Tier 4, which have been implemented in a two prong approach, Tier 4A and Tier 4B, which starts in 2014. Since the introduction of these stringent regulations in 1996, Nitrogen Oxide (NOx) and Particulate Matter (PM) have been reduced by 95%.

Traditionally there have been two different engine solutions for meeting the Tier 4 regulations, SCR, or Selective Catalytic Reduction, and CEGR, or Cooled Exhaust Gas Recirculation. The fundamental difference between SCR and CEGR is that SCR controls the PM internally by allowing the engine to run as efficiently as possible, then converting the NOx outside the engine to nitrogen and water by treating it with urea (or DEF). CEGR, on the other hand, reduces NOx inside the engine by reducing combustion temperatures. However, this reduction produces more PM, which must then be filtered out externally by a particulate filter.

SCR is an after-treatment system that is separate from the main engine function and does not compromise horsepower or torque. It does not interfere with engine's performance, but actually improves it. Exhaust gas is NOT recirculated through the engine and it does not require regeneration of particulate filters, which can compromise efficiency. SCR technology is the best approach for larger, higher-horsepower agricultural power products, especially when considering the importance of fuel efficiency and maintenance costs.

### POWERED BY FPT INDUSTRIAL

New Holland is not going it alone when it comes to Tier 4 technology. They can draw on the experience of their in-house engine development group: FPT Industrial.

**Pioneers**: Fiat invented Common Rail technology in the 1980s. They were the very first to introduce it on agricultural machines on the TS-A tractor. Pioneering. Always.

**Cleaner**: Fiat Industrial has topped the Dow Jones Sustainability World and Europe indexes for the Industrial Engineering sector for two consecutive years.

**Proven**: FPT Industrial has pioneered SCR technology since 1995 and has already produced over 350,000 SCR engines during the last six years for the agricultural, construction and trucking industries. The award-winning Hi-eSCR solution has been extensively tested and has clinched numerous awards.











### POWERED BY ECOBlue™ HI-eSCR ENGINE TECHNOLOGY

New Holland high horsepower tractors are powered by ECOBlue™ HI-eSCR, Selective Catalytic Reduction, engines, which are designed and developed in house by FPT Industrial. As part of the Clean Energy Leader strategy, our proven high efficiency SCR technology uses AdBlue® Diesel Exhaust Fluid (DEF) to transform the harmful nitrogen oxides contained in the exhaust gas into harmless water and nitrogen. This after-treatment system is separate from the main engine which means only clean, fresh air is fed into the engine. What does this mean? Clean-running power units that offer improved performance, greater reactivity and enhanced fuel efficiency.

These engines, which comply with the even more stringent Tier 4B emissions norms, offer you four key benefits:

**Performance**: Continues to provide industry leading power, torque, transient response and Engine Power Management. The ECOBlue™ Hi-eSCR after treatment system enables the engine to breath clean, fresh air, therefore optimizing it's combustion, power and torque density.

**Efficient operation**: ECOBlue™ HI-eSCR is an after treatment system that does not interfere, or restrict, the engine's performance, enabling it to maximize its efficiency and power. Total fluid consumption will be the same or better from equivalent Tier 4A machines, and our system enables New Holland to continue leading the industry with 600 hour service intervals.

**Simplicity**: A single system solution with less complexity. Since no exhaust gas is recirculated through the engine, no additional cooling requirements are needed, allowing the engine to operate at peak efficiency, while optimizing power and torque.

**Consistency**: Uses proven technology with more than 35,000 machines working around the world, and requires no change in tractor operation from Tier 4A.





# PRECISION LAND MANAGEMENT (PLM) FARM WITH PRECISION WITH NEW HOLLAND

Precision technologies are revolutionizing agriculture. These technologies are helping producers farm more efficiently with more productivity. New Holland's Precision Land Management (PLM™) is developing leading edge SMART solutions for managing the entire crop production cycle. We are integrating technologies into our machines that can help you reduce input cost, improve yield performance and increase overall productivity. PLM solutions are built on providing you with an open architecture that is easy to use, and offers the flexibility to work with mixed fleets of equipment and implements. We provide SMART technologies that can keep you connected with your machines in the field, optimizing fleet logistics and machine run times, while helping streamline field data into informed farm management decisions. New Holland is committed to providing solutions that can be tailored to your farm needs, helping improve efficiencies and yields.

OPEN | CONNECTED | SMART | SUPPORTED



# **CONTROLLING TRAFFIC IN YOUR FIELDS**

Use pre-set guidance paths to ensure the most efficient coverage of every field with the minimum number of passes. When harvesting you save fuel and reduce CO<sub>2</sub> emissions by quaranteeing your header is 100% full 100% of the time. When spraying you prevent wasteful over spraying, saving on inputs and also preventing potentially harmful run off. When fertilizing you reduce in-field runs and again save on inputs.







# PRECISE APPLICATION

Reduce your input cost, maximize your yields, and get the most of every square inch in your field using PLM™ crop management solutions. PLM™ IntelliRate™ Control eliminates double application of seed and fertilizer. It automatically shuts on and off individual planter sections, monitors and records planter population and controls rate and flow of materials in seeding, spraying and fertilizer applications to better manage variability across your entire field. It allows you to utilize as-applied mapping to track the performances of different varieties and hybrids, while placing the right amount of product in the right place for attaining the highest yields. You can also optimize water usage, control field erosion and remove excess water for better crop quality and improved yield performance with PLM™ water management solutions.

# STREAMLINE FIELD DATA INTO INFORMED DECISIONS

New Holland's yield monitoring systems give you real time yield and moisture data for on the go decisions. You can track the performance of specific varieties and hybrids during and after harvest, helping make critical decisions for improving bottom-line profits. This data can be easily transferred from your New Holland IntelliView™ IV display back to the farm office, or to a 3rd party agribusiness for analysis. You can use this data with PLM software to identify high and low yielding areas in your fields and create variable rate prescriptions for next years planting, helping better manage soil variabilities and optimize usage of inputs.

# MECHANIZATION MECHANIZING WORLD AGRICULTURE

New Holland's history is one of continuous innovation, pioneering firsts and education to make agriculture easier and more productive for the world's farmers, wherever and whatever they farm. Abe Zimmerman's very first corn grinder removed the drudgery from this laborious task. Henry Ford and Giovanni Agnelli are the true founding fathers of global agricultural mechanization, and Leon Claeys mechanized the harvesting process. Today, mechanized harvesting can reduce waste by up to 15 times when compared to traditional, manual harvesting techniques. New Holland has contributed to the freeing of millions of agricultural laborers from the back-breaking toil of tilling, sowing, cultivating and reaping by hand, and in the process contributed to massive gains in terms of productivity, efficiency and increasing the proficiency of the workforce.



# MECHANIZED HARVESTING BOOSTS PRODUCTIVITY

New Holland is dedicated to increasingly mechanizing the world's harvest with significant benefits. Losses can be reduced from 15%, typical of manual harvesting, to a mere 3% when using state-of-the-art machines. In real terms, that means more valuable grain is harvested to feed the world's ever growing population.



# **GROWING AGRICULTURAL KNOWLEDGE**

In order for local people to unlock the full potential of their New Holland machines they need on-the ground training. New Holland has undertaken an extensive grassroots training program, which covers both operator and service training in emerging countries to provide local people with the skills they require to operate and maintain their equipment.







**NEW PRODUCTIVITY AND EFFICIENCY SOURCES** 

**INNOVATIONS** 

# HARVESTING INNOVATIONS

New Holland has taken harvesting efficiency to a whole new level. The PowerCruise™ technology, available on the FR range of forage harvesters, optimizes engine and ground speed in relation to crop throughput, and can reduce fuel bills by up to 15%. SmartTrax™ rubber tracks, available on the CR and Elevation CX8000 combine lines, reduce soil compaction for enhanced yields.



New Holland has developed a range of agricultural solutions to enhance your productivity. Super tight turning from SuperSteer™ front axles can improve productivity by up to 10%. Renowned New Holland innovations such as Auto Command™ continuously variable transmissions and IntelliCruise™ technology enhances all-around productivity.

03
SUSTAINABLE FARMING

# Sustainable farming. Enhanced profits

The world's rapidly expanding population means that farmers are under intense pressure to produce more to feed an ever growing number of hungry mouths. However, if you want to continue maintaining high productivity rates then it is important that we keep the environment in top condition. By reducing the impact of farming on the agricultural environment, you ensure that it stays healthier for longer, and your children and their children will be able to farm the same land just as efficiently. Want more? Use advanced tools to calculate the impact your farm has and find ways to reduce it.





# **CARBON FOOTPRINTING**

# **HOW MUCH CARBON DO YOU PRODUCE?** FIND OUT WITH NEW HOLLAND

# **CALCULATE AND REDUCE** YOUR FARM'S CARBON FOOTPRINT

Consumers are increasingly demanding farm produce with a reduced carbon footprint. In an effort to support farmers in facing this new challenge, New Holland has developed a carbon foot printing method. Visit www.carbonid.newholland.com to discover the exact carbon emissions of your fleet and see just how much you could reduce your carbon footprint by replacing some of your equipment with ECOBlue™ machines.

# WHY REDUCE CARBON EMISSIONS?

As everyone knows, carbon emissions are one of the key contributors to the greenhouse effect and global warming. With the potential to disturb established weather patterns, which are important for productive farming, it is in all of our interests to reduce our carbon footprint to safeguard the climate for the future of our farms.





# **SAVING FUEL MEANS A REDUCED CARBON FOOTPRINT**

Emissions released from burning diesel are a significant contributor to farms' overall carbon footprints. ECOBlue™ SCR technology for Tier 4A compliance reduces NOx emissions and agribusinesses' fuel consumption by up to 10%, bringing about a substantial cut in their carbon emissions.



# **ECOBRAUD**

# NEW HOLLAND AND BRAUD. YOUR SUSTAINABLE FARMING PARTNERS

Wine adds a touch of luxury to any occasion, whether it is gracing the finest tables or if it is simply a glass shared with friends. Just take a moment to think, by buying and producing wine with a reduced carbon footprint, you can enjoy one of the finer things in life while reducing the impact it has on the environment. ECOBraud is New Holland's Sustainable Viticulture program and comprises the complete range of viticulture equipment, including Braud grape harvesters and specialty tractors. It is aimed at increasing productivity and profitability while reducing the environmental impact of viticulture. ECOBraud has three main pillars: Intelligent Management Systems, managing variable rate inputs and row tracing technology.







# **WELCOME TO INTELLIGENT HARVESTERS**

The Intelligent Management System enables the harvester to control hydraulic flow and engine speed based on the actual load on the machine. For example, at row ends, when maneuvering, the shaker system is automatically switched off. This can reduce fuel consumption by as much as 31%, and reduces its carbon footprint significantly.

# THE CLEAR PATH FOR SUCCESS

Row tracing technology uses guidance correction signals and a machine mounted antenna to ensure that each and every row is covered just once. This eliminates duplicated rows and wasted inputs, increasing harvesting productivity and efficiency as well as reducing the environmental impact of viticulture.

# MANAGING VARIABLE RATE INPUTS

Fertilizer production is a massively energy-intense process and any reduction in the energy required to produce it will significantly reduce the environmental impact of farming. The specialty spreader kit uses Field IQ™ technology to enable inch perfect fertilizer placement. The system reads pre-prepared yield maps, and only applies fertilizer where it is needed to reduce input costs while maximizing yields.



# **ECOBRAUD REDUCES YOUR CARBON FOOTPRINT**

Consumers are increasingly demanding farm produce with a reduced carbon footprint, and the ECOBraud strategy that encompasses the complete range of New Holland viticulture equipment, including Braud grape harvesters and specialty tractors will directly contribute to a 10% reduction in the overall carbon footprint of each and every bottle of wine produced. When fuel savings from IMS and fertilizer savings from spreader management are combined, a reduction in the carbon footprint of vineyards by up to 40% is achievable. This is composed of a 31% reduction thanks to fuel savings through IMS and spread management contributes a further 9% reduction, well ahead of the 2020 targets set by professional bodies, which mandate a 20% overall reduction.

# CONSERVATION AGRICULTURE WORKING WITH NATURE TO ENHANCE YOUR PROFITS

Conservation. Agriculture. These words have often been considered in direct opposition to each other. Thanks to state of the art farming techniques, however, they should be considered as perfect partners. By combining sustainable management of the soil, residue and inputs with advanced crop diversification techniques, the environmental impact of agriculture can be significantly reduced, while substantially enhancing your profitability and productivity. You no longer need to make a choice: from conservation or agriculture to conservation agriculture, New Holland has the tools to support you.



# MINIMUM SOIL DISTURBANCE

Excessive cultivation can lead to irreparable soil damage, fracturing layers of organic matter and destroying natural soil structure. The no-till approach leaves soil virtually undisturbed after the growing season, enabling it to lock in nutrients and moisture to benefit next season's crops, all while combating erosion. Moreover, water preservation substantially improves as the soil structure is maintained. Rain water is preserved within the soil as run off and evaporation losses are reduced.

A wide range of direct drilling and seeding equipment has been engineered by design to deal with the rigors of direct drilling. Controlled traffic also limits the amount of damaging compaction and ensures that tractors, combines and sprayers all toe the same line.







# **NO-TILL BENEFITS**

No-till farming delivers numerous benefits including the preservation of forested land, and in 2011 saved up to 36 billion trees! Fuel savings of up to 66% are possible, as each section of field is covered only once, which also reduces soil compaction. Yields can be up to 72% higher when compared with traditional cultivation techniques.

# **PRECISION MANAGE INPUTS**

A whole range of advanced farming technology is easy to access and available at your fingertips to precisely manage inputs to optimize both their application and usage. IntelliRate™ control eliminates double application of seed and fertilizer, and manages field variability by using prescription maps to control application rates for maximizing yields.

# **VARIETY IS THE SPICE OF LIFE**

Efficient and varied crop rotation is the key to maintaining soil vitality. By planting a variety of different crops the soil is never stripped of essential nutrients. Crop rotation has numerous benefits including nitrogen fixing, easier pest management and it can even lead to a reduction in pesticide application. Precision seeding can be managed using PLM® software that optimizes application.

04 COMMITTED COMPANY

# At the forefront of sustainable farming

The Clean Energy Leader strategy influences every decision we take here at New Holland. We have placed the Clean Energy Leader program at the heart of our business, and it characterizes what we do every day. From giving used parts a second lease on life, right through to reducing the environmental impact of our production, we are committed to safeguarding our planet to ensure that you can keep reaping the rewards of your hard work.





# PLANT CERTIFICATION

# PRODUCED NEAR YOUR FARM, FOR YOUR FARM

New Holland's global footprint spans all five continents and keeps it in touch with almost every agricultural reality in the world. By concentrating production, where possible, close to the end user, transport of products is reduced, saving valuable fossil fuels and reducing the carbon footprint. Local suppliers are contracted, where possible, to reduce the travel distance for parts that go into producing every machine. Finally, by using local suppliers and local factories that employ local people, New Holland is contributing to the local economy, not only through agriculture, but also through production.

# **CERTIFIED PRODUCTION PLANTS**

# 29 plants

have achieved OHSAS 18001 health and safety certification, keeping employees safe and well at work.

# 28 plants

have been awarded ISO 14001 environmental management certification, which rewards their continuous quest to reduce the environmental impact of production.

# 26 plants

are ISO 9001 certified for quality management systems, to ensure the highest build quality.

# 13 plants

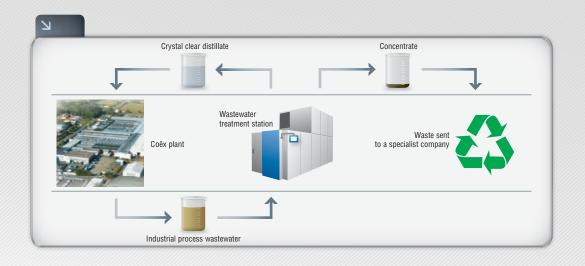
are ISO 50001/BS EN 16001 energy management compliant, which recognizes their substantial achievement in reducing emissions produced.

# RECYCLING GIVING USED PARTS A SECOND LIFE

When you visit any farm, it does not take long to realize that farmers are very inventive people, and above all else they hate throwing things away. A whole host of equipment is given a second life once its first lifespan has come to an end. Here at New Holland we've copied that principal from farmers and we remanufactured used components, restoring them to 'as new' quality, which means that they too, have a second life, ready to go back into tractors, combines and forage harvesters.

# INTELLIGENT WATER MANAGEMENT

New Holland is committed to conserving the most precious agricultural commodity: water. In Coex, France, water management techniques enable up to 90% water recovery. In Plock, Poland, a new water consumption monitoring system has reduced water consumption by 37% as well as reusing a high percentage of water within the production process. It even enables the plant to produce mineralized water following the painting cycle.





# **INCREASING THE QUALITY LIFESPAN OF PARTS**

Remanufactured parts are frequently cheaper than buying brand new replacements. This makes it especially attractive for farmers to choose New Holland quality guaranteed parts when replacing high cost items such as engines and turbo chargers.

Up to 80% of products can be recycled! When genuine parts are used machines run more efficiently and are more productive.



# MORE EFFICIENT TRANSPORT

New Holland always selects the most efficient and lowest emissions transport solutions possible, to reduce the impact of its products. This includes selecting modern, fuel efficient trucks, alongside using intermodal solutions for both component shipping and final product distribution.



# REDUCING THE IMPACT OF PRODUCTION

All plants participate in the stringent World Class Manufacturing program, which is focused on increasing the quality of production through ten key pillars. Energy reduction is a key requirement. To date, 13 plants have achieved the prestigious ISO 50001 certification in energy management. All New Holland plants are working towards the ambitious target of reducing energy consumption by 15% by 2014.

# **WORKING FOR A BETTER WORLD**

New Holland is committed to improving not only the working environment through ergonomic analysis, but also the environment, and is actively involved in biodiversity projects in Brazil and Canada. It is also at the cutting edge of greenhouse gas emissions reporting.



# SECTOR LEADER IN DOW JONES SUSTAINABILITY **WORLD AND EUROPE INDEXES**

For the second consecutive year, CNH Industrial has topped the Dow Jones Sustainability World and Europe indexes for the Industrial Engineering sector. The pillars of the New Holland Clean Energy Leader® strategy played a significant role in obtaining this position.







# Discover the virtual Clean Energy Leader world

The Clean Energy Leader website **www.thecleanenergyleader.com** is your open all hours, one stop shop to find out everything about sustainable agriculture. It has become the place to go for information on sustainable agriculture. Browse through exciting and interactive sections dedicated to sustainable farming, watch expert videos and hear what farmers themselves have to say about sustainable farming. Keep up to date with the latest comments from social media and keep your finger on the pulse and find out what is trending now with the continuously updating tag cloud. Finding out what environmentally friendly means in real terms, and what it could mean to you is just one click away.













# The road to becoming the Clean Energy Leader

May 2006	New Holland is the first manufacturer to approve the use of 20% biodiesel in all products and the TM Extreme endurance trial proves the feasibility of 100% biodiesel usage.
April 2007	New Holland is chosen as the official partner for Eden Project in Cornwall, UK, thanks to its eco-friendly image.
November 2007	△ All products with New Holland engines are compatible with 100% biodiesel.
February 2009	The world's first NH <sup>2™</sup> zero emissions, hydrogen powered tractor is unveiled within the Energy Independent Farm concept at SIMA, France, and wins a Gold Innovation Medal.
May 2010	New Holland embarks on a strategic collaboration with CTC biomass in Brazil.
September 2010	The La Bellotta farm outside of Turin, Italy, is chosen as the first pilot Energy Independent Farm. A clear roadmap for Tier 4B compliance, with SCR only for high horsepower tractors is announced.
November 2011	<sup>▶</sup> ECOBraud and sustainable viticulture wins a silver medal at Agritechnica, Germany. The second generation NH <sup>2™</sup> fully functional hydrogen tractor is unveiled. The Carbon Calculator and carbon footprinting program is launched.
January 2012	New Holland has the largest range Tier 4A compliant machines, with 34 tractors and 18 harvesting products.
September 2012	New Holland entered into strategic partnership with Growth Energy, to promote the production and use of ethanol in the United States of America.
August 2013	New Holland launches the first Tier 4B compliant high horsepower tractors at the Farm Progress show in the United States of America.
November 2013	≥ New Holland's methane tractor is launched.
Future	Pushing the boundaries of sustainable farming to enhance agricultural productivity and efficiency across the globe!



www.newholland.com/na www.thecleanenergyleader.com





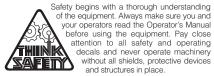


The data indicated in this folder are approximate. The models described here can be subjected to modifications without any notice by the manufacturer. The drawings and photos may refer to equipment that is either optional or intended for other countries. Please apply to our Sales Network for any further information. Published by New Holland Brand Communications.

# Learn more at www.newholland.com/na

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