

# CLOSE THE

## YARA CITIZENSHIP REVIEW 2010

Closing the global gap between food demand and crop yield by improving agricultural productivity

# GAPS



Knowledge grows

**GLOBAL GAPS** require innovation. Extensive knowledge is needed to feed 9.1 billion people by 2050. The answer lies in 🌽 **improved productivity** / *page 8*, increasing yields by applying crop nutrition and application knowledge. Engaging its 🌳 **core business** / *page 10*, Yara can contribute to closing critical gaps. On the global level, Yara is interacting with 🧑🍴 **key stakeholders** / *page 19*, linking the global challenges of food security and climate change to agriculture. Yara has also demonstrated the value of innovation in the production of mineral fertilizers, ☁️🌞 **reducing emissions** / *page 27* of greenhouse gases – strengthening agriculture’s contribution to solving the interconnected global *food and climate challenge*.

---

**READ MORE / YARA'S  
GLOBAL SETTING /**  
[yara.com/citizenship](http://yara.com/citizenship)

**READ MORE / YARA'S  
CARBON GUARANTEE /**  
[yara.com/climate](http://yara.com/climate)

**READ MORE / YARA'S  
GLOBAL SOLUTIONS /**  
[yara.com/gaps](http://yara.com/gaps)



# Report contents

## Overview

Who we are	4
How we performed	6

## Strategy

CEO message	8
Strategic approach	10

## MD&A

Business overview	12
Global environment	13
Global developments	13
Global gaps	14
Global contributions	15
Major issues – global solutions	15
Leadership ambition	16
Key initiatives	16
Knowledge development	17
Innovation culture	17
Research & development	17
People development	18
Knowledge transfer	18
Stakeholder engagement	19
Public affairs	19
Partnerships	21
Memberships	21
Sponsorships	22
Positions	22
Product stewardship	22
IFA program	23
REACH program	23
Certification	23
Ethics and compliance	24
Corporate processes	24
Citizenship commitments	25
Performance review	26
Economic performance	26
Environmental performance	27
Social performance	29



**YARA'S CITIZENSHIP REVIEW 2010** is the company's summary on citizenship initiatives, activities and performance. For complete reporting on Yara's performance, please refer to the Citizenship Reporting 2010 online. Reporting is based on the Global Reporting Initiative (GRI) G3 guidelines and reporting framework. [www.yara.com/citizenship](http://www.yara.com/citizenship)

# Who *we are*

---

**Yara International ASA** is a global company specializing in crop nutrition and industrial solutions. As the world's largest supplier of mineral fertilizer, we help provide food and renewable energy for a growing world population. Our environmental solutions are also used to cleanse the air and eliminate toxic gases.

## What *we do*

---

**UPSTREAM** is the back bone of Yara's manufacturing system. It includes large scale production of ammonia, urea, nitrates and other nitrogen based products, as well as phosphoric acid.

**DOWNSTREAM** provides a global presence through its worldwide marketing and distribution activities. It offers a comprehensive range of fertilizers, knowledge and tools to optimize application and yield.

**INDUSTRIAL** creates value by developing and selling chemical products and industrial gases to non fertilizer segments. It works closely with customers to tailor solutions and promote correct handling.

**SUPPLY & TRADE** is a global function responsible for optimization of energy and raw materials purchases, ammonia trade and shipping, maritime logistics, third party sourcing, and feed phosphates.

## What *we offer*

---



### MINERAL FERTILIZERS

We offer the industry's most complete range of crop nutrients, matching the needs of all major food and cash crops.



### INDUSTRIAL PRODUCTS

We offer a wide range of nitrogen and specialty chemicals, CO<sub>2</sub>, dry ice and civil explosives solutions.



### ENVIRONMENTAL SOLUTIONS

We offer a range of complete solutions for NO<sub>x</sub> abatement, odor control, water treatment and corrosion prevention.



## Where we are

As the industry's only global player, we have production on six continents, operations in more than 50 countries – and sales to about 150 countries.



## Our history

### Scandinavian pioneer

Our history started when Norsk Hydro, the world's first producer of chemical nitrogen fertilizer, was established on December 2, 1905. Regular production started at Notodden 1907, with several production plants constructed in Norway: Rjukan 1911; Notodden 1928; Porsgrunn 1929; Glomfjord 1949. Building on fertilizer production, industrial products were developed in the 1930s, including heavy water 1934 and CO<sub>2</sub> 1935. We moved abroad, first within Scandinavia, when we opened sales offices in Copenhagen 1919, Stockholm 1945.

### European position

Our strong position was established in the 1970s and 80s, acquiring NSM, Netherlands 1979; Supra, Sweden 1981; Fisons, UK 1982; Ruhr Stickstoff, Germany 1984; Windmill/Hamm Chemie, Netherlands/Germany and Cofaz, France, 1986, DMW Rostock, Germany, 1991; Enichem Agricoltura, Italy 1996; Phosyn, UK 1997/2006; Kemira GrowHow, Finland 2007; shares in Rossosh, Russia 2005. We acquired CO<sub>2</sub> plants in Norway 1972, Sweden 1976, Denmark 1978, and opened a new plant in Germany, 2004.

### Global presence

Our global presence grew with marketing in the USA 1949; a sales office in Rio 1977; a sales partnership in Thailand 1982; an office in Zimbabwe 1985. We expanded outside Europe through investments, including Qafco JV, Qatar 1969; Tringen, Trinidad 1991; Adubos Trevo, Brazil 2000; Olmeca, Mexico, 2006; Fertilbras, Brazil 2006/07; Saskeferco, Canada 2008; Lifeco JV, Libya, 2009; stakes in Kynoch, South Africa 1999; Burrup, Australia 2005; Balderton, Switzerland 2006/10.

### Corporate citizenship

Our citizenship history started in Norsk Hydro with its extensive engagement. In 2005, Yara's Africa program was initiated, part of which has been the Yara Prize, linked to the African Green Revolution Conference since 2006. The global corporate citizenship approach was presented with the first separate report in 2007, and in 2008 Yara launched its Agricultural Growth Corridor concept, brought into the WEF arena in 2009. In 2010, Yara initiated development of the Climate-Compatible Agricultural Growth initiative.

# How we performed

**Yara has adopted** ten strategic goals for long-term value creation, of which four are related to citizenship. For a full presentation of the ten goals, see the Financial Report 2010: [www.yara.com/2010](http://www.yara.com/2010). For complete reporting on Yara's performance, please refer to the Citizenship Reporting 2010 online: [www.yara.com/citizenship](http://www.yara.com/citizenship)

## ➤ CITIZENSHIP

Yara's goal is to positively address major global challenges, and to pursue industry leading standards in all our operations and activities.

*Performance 2010:* Yara's engagement in the African Agricultural Growth Corridors saw two investment blueprints launched, aiming to lift more than 3 million people out of poverty over a 20 year period.

## ➤ ENVIRONMENT

Yara's goal is to be among the most energy efficient companies in the industry, and to reduce greenhouse gas emissions by 45 percent from 2004 to 2013.

*Performance 2010:* Yara outperformed its goal, reducing GHG emissions by 45 percent from 2004 to 2010. In 2011, Yara will develop its sustainability strategy and revise its goal.

## ➤ SAFETY

Yara's goal is to be a leading performer in the area of worker safety, with a targeted accident rate as close to zero as possible.

*Performance 2010:* Yara achieved a TRI rate of 3.8, and a LTI rate of 1.6 which is one third of the average rate of European fertilizer producers. However, the company experienced three fatal accidents, leading to a total of four fatalities.

## ➤ HUMAN RESOURCE MANAGEMENT

Yara's goal is to optimize the management of its people, to ensure that it continues to have the skilled and engaged workforce it will need to meet future business challenges.

*Performance 2010:* A Global HR Function and a new strategy were launched. An increased number of standardized processes and policies were implemented. In addition, a global HR IT system was launched.

# What we did in 2010

## Main events

### Business development

In 2010, Yara initiated a sustainability strategy process. As part of its Africa program, Yara with partners unveiled the investment blueprint for the Beira Agricultural Growth Corridor in January. Connected to the Southern Agricultural Growth Corridor of Tanzania, Yara launched a USD 20 million investment in a fertilizer terminal in Dar es Salaam in January 2011. [READ MORE](#) / Strategy / Page 10

### Stakeholder engagement

Yara carried out extensive engagement with key stakeholders, locally, regionally and globally in 2010. Adopting the WEF as a primary arena for interaction, Yara participated in the annual meeting in Davos in January, and regional meetings in Africa in May, in Asia in June and November. Yara CEO participated in a meeting on climate issues with the Prince of Wales in September. Among a number of major events, Yara was represented at the first Food, Climate and Agriculture conference in The Hague in October. [READ MORE](#) / Stakeholder engagement / Page 19

### Operational activities

Yara continued to reduce its carbon footprint, which has been reduced by 45 percent between 2004 and 2010. Largely due to the installation of Yara's N<sub>2</sub>O catalyst technology, the company launched the world's first carbon footprint guarantee for fertilizers in the Nordic markets in April. Year-end safety results show an LTI rate of 1.6, one-third of the average of the European fertilizer industry. Regrettably, Yara experienced three fatal accidents, with four fatalities. In December, Yara Trinidad was certified to the international standards ISO 14001 and OHSAS 18001. [READ MORE](#) / Performance sectors / Page 26

**GLOBAL CHALLENGES** such as food security and climate change affects Yara's business environment, the market and end-users, in particular the world's farming community. Identifying and monitoring megatrends and challenges that influence on strategic direction and business performance, adds to the corporate awareness of risks as well as opportunities – and the role of the company in society. One major role for Yara, an important contribution, is to offer solutions to close global gaps, especially the one between growing food demand and stagnating crop yields.



## STRATEGY

**RESPONDING** to *global gaps*, Yara has founded its approach on the company's core business, developing solutions and *sharing knowledge*; engaging in extensive public-private partnerships.

CEO JØRGEN OLE HASLESTAD

# Contributing to *sustainable food security*



**In 2010, Yara** made important progress on its Citizenship priorities, addressing the issues of food security and climate change.

Throughout 2010, global attention was focused on agricultural development and food security. Drought, fires and flooding led to failed or weak harvests, and increases in food prices prompted memories of the food riots of 2008.

Even though grain prices were primarily driven by drought in the Former Soviet Union (FSU), the parallel increase in price levels of other agricultural commodities such as sugar, coffee and cotton indicate that there are broad challenges to the supply chain.

For the foreseeable future, land suitable for agricultural production will continue to be scarce. Areas with the greatest potential to become cropland are largely covered by forests. Cutting down forests to grow crops is not the most sustainable option, as it causes massive emissions of greenhouse gases.

Yara's 2010 Citizenship activities focused on the global challenges of food security and climate change. These are issues where Yara's core business and knowledge have contributed to the successful development of solutions. Our approach is to build partnerships, provide knowledge, and leverage our global position.

I was pleased to take part in launching the World Economic Forum's (WEF) "New Vision for Agriculture" in Davos in January 2011. Yara played a key role in developing this strategy, which targets three ambitious goals for the industry: reducing greenhouse gas emissions, reducing rural poverty and increasing agricultural productivity – by 20 percent each decade.

In presenting the strategy to UN Secretary General Ban Ki-Moon, President Kikwete of Tanzania together with other key players on the global arena, used the Southern Agricultural Growth Corridor in Tanzania (SAGCOT) initiative as a prime example of the public-private partnership approach, which brings scale to development efforts. Yara has played a key role in developing the concept.

In addition, President Kikwete and Yara launched an Investment Blueprint at the WEF, providing a 20 year investment plan to increase agricultural productivity in the entire region in Tanzania. USD 1.3 billion of public investment, mainly for infrastructural improvements, will in turn catalyze private sector investments of USD 2.1 billion more. The net impact is a projected tripling of the agricultural output.

As a result, this will improve the food security in the surrounding region. The initiative also has mechanisms to include smallholder farmers and to create jobs. Overall, the



partners in the SAGCOT aim to lift more than two million people out of poverty.

In the market place, Yara pursued the climate change issue, introducing the world's first fertilizer with a carbon footprint guarantee (CO<sub>2</sub> campaign) to the Nordic markets. Leveraging Yara's catalyst technology, the company gained third party endorsement of its low carbon footprint on a range of products from selected plants. This enables Swedish farmers using Yara products to brand their products with a carbon footprint guarantee. By drawing on Yara's fertilizer application knowledge, the carbon footprint of crop production can be cut in half.

An important key performance indicator (KPI) throughout the company is safety. Yara has a strict zero tolerance policy with regard to accidents, founded on the belief that every accident is preventable. Even though Yara statistically ranks as one of the leading among European fertilizer companies on safety management, in 2010 the company regrettably experienced three lethal accidents that caused four fatalities.

The company has stepped up its skills and training requirements for operators, engineers and leaders. Yara also continues to implement Behavior Based Safety in newly acquired plants and has introduced regular safety-focused Toolbox meetings for shifts and teams.

In 2009, Yara set a new, ambitious target for continued reduction of greenhouse gas (GHG) emissions, aiming to reduce the company's 2004 GHG emissions level by 45 percent by 2013. Yara achieved this goal, ahead of schedule, by the end of 2010.

I am confident that a leading position in environmental performance is beneficial in the short and long term for Yara. Future business and policies will need to adapt to a situation with limited resources, filling the gap between food demand and agricultural output.

To broaden Yara's scope and further develop its approach to these issues, the company embarked on a sustainability strategy process in 2010. The result of the process will be incorporated directly into Yara's future management processes and targets.



JØRGEN OLE HASLESTAD  
*President and CEO*

# Strategic *approach*

---

**Yara's corporate citizenship strategy is anchored in its business strategy – and its citizenship activities embedded into the core business.**

By identifying the key trends and issues influencing business and society, Yara approaches the global challenges which it is best positioned to help solve, as a leading global company specializing in crop nutrition and industrial solutions. The company applies its core business resources and knowledge, contributing solutions to global challenges such as food security and climate change.

Yara develops its corporate citizenship as an integrated part of business strategy and development. In Yara's view the business approach is the sustainable approach, creating shared value to shareholders and society.

Yara is committed to complying with the laws and regulations of the countries which it operates in, as well as the company's own Code of Conduct and stringent rules, not least with regard to safety and product stewardship.

## GLOBAL CHALLENGES

The trends of population growth, increased affluence driving dietary changes, globalization, climate change and resource scarcity are all direct drivers of Yara's business. However, they are also issues that society faces challenges with and needs solutions for.

In 2010, Yara focused on food security and climate change. On a different level, we also focused on the interconnectivity of these issues and their relation to the company's business, positioning and knowledge.

While fertilizers are vital for increasing yields, which helps the agriculture sector to supply the increasing demand for food, the industry is also a major emitter of greenhouse gases (GHG). Yara has responded on two fronts. First, by continuously improving its own performance, reducing GHG emissions per unit of output. Meanwhile, Yara is developing knowledge to provide agricultural production solutions that combine increasing yields while reducing agriculture's carbon footprint.

Adding to Yara's own performance, the company also engages with external stakeholders. Yara contributes to solutions through collaboration with governments, the World Economic Forum, global and local businesses, donors and other stakeholders. In Africa, where Yara has focused its external citizenship efforts, the company has engaged in former UN Secretary-General Kofi Annan's call for a uniquely African green revolution.

For Yara, the preferred instrument for implementing actions on the ground has been public-private partnerships (PPP). This tool involves public bodies entering business ventures with private companies to fund and develop projects.

The goal is to create added value and efficiency gains, which can be achieved when government and the private sector each focus on their areas of strength. Through PPPs, partners learn from each other how to prioritize and strategize in areas beyond their own core competence. The process has been especially useful in helping to increase Yara's understanding of many aspects of the public agenda.

## GOING FORWARD

While Yara's dedication to pursue its goals within these areas remains firm, the company also recognizes the need to continue its work on improving its operations and broadening the scope of its sustainability perspectives. In 2010, Yara began a renewed strategy process to revitalize and clarify its sustainability efforts. This process will help ensure that the company continues to improve its performance, not least relating to business risks and opportunities, and the needs and expectations of the public and Yara's entire set of stakeholders.

Sustainable business development lies at the heart of Yara's strategy. The company strongly believes that sustainable development must include profitable solutions. By creating shared value for its shareholders, customers and society as a whole, Yara's business can perform as a truly global corporate citizen.

**GLOBAL DEVELOPMENTS** in the fields of economic and political development, including environmental and social issues, affect Yara's business. They drive risks and create opportunities. The core of Yara's business is offering crop nutrition solutions that improve agricultural productivity. This positions Yara's business at the heart of a key global issue: increasing food production while battling climate change and improving agricultural management practices.



## MANAGEMENT DISCUSSION & ANALYSIS

**RESPONDING** to *global gaps*, Yara has offered its agronomic expertise and industrial experience, advocating knowledge-based use of crop nutrition, improving *cropland productivity*, reducing greenhouse gas emissions.

## MANAGEMENT DISCUSSION &amp; ANALYSIS

# Closing gaps – *increasing yields*

**Global business focus** has increasingly been directed towards global challenges, such as food security and climate change. Yara continues to provide thought leadership, advocating sustainable improvements to agricultural productivity.

In 2010, Yara maintained its business-driven global citizenship engagement and process-driven internal sustainability performance, also launching a strategy process to reinforce its combined focus on global issues and business development. **READ MORE** / *Strategic approach* / **Page 10**

On the external front, Yara in 2010 continued its strong support of an African green revolution, acting as a catalyst in establishing novel public-private partnerships and agricultural growth corridors. Yara also furthered its engagement in a global stakeholder dialogue connecting the food and climate issues, launching its new Climate-Compatible Agricultural Growth (CC-AG) initiative (*see separate story, page 13*).

On the internal front, Yara in 2010 advanced its efforts on compliance, continuing the roll-out of the human resources strategy and ethics program launched the previous year. The continuous focus on occupational health and safety was further intensified, and GHG emissions further reduced. The company's innovation platform was introduced, reinforcing its innovation culture and R&D activities.

## Business overview

Yara's global business activities range from phosphate mining and ammonia production, through commodity trading and energy arbitrage, to building local market knowledge. Delivering its knowledge and premium-branded products, Yara develops customer relationships by providing value-adding solutions. The company offers the industry's most comprehensive crop nutrient product portfolio, supported by large-scale sourcing, production and trade as well as a widespread presence in local markets.

During 2010, Yara retained its global position as the world's leading provider of nitrogen-based mineral fertilizers and industrial products, extending its unrivalled global presence with sales to about 150 countries and territories (*see map, page 5*).

In 2010, with the global economy recovering after the financial crises of 2008–2009, world fertilizer market conditions improved considerably. Yara's

## Business awards

### *Best Global Business in Africa*

Yara's achievements through its African projects and long-term presence on the continent were honored at the third annual African Business Awards.

### *International Business Leader of the Year*

Yara CEO Jørgen Ole Haslestad was honoured at the Africa investor 2010 Investment and Business Leader Awards ceremony in Washington DC.

## Safety awards

### *Peter J. Jackson Safety Award*

Yara Praxair was presented with the Peter J. Jackson Safety Award 2009 for the most improved safety performance over the past five years by the EIGA.

### *Road Safety Award*

Yara UK was presented with the Road Safety Award 2009 for the low accident rate in CO<sub>2</sub> distribution activities by the EIGA.

### *Yara Safety Award*

Yara Pocklington was presented with the Yara Safety Award 2009 for its efforts to improve safety performance at the site.

### *UK Factory of the Year Awards*

Yara Pocklington received two Highly Commended honors in the UK Factory of the Year Awards.

fertilizer volumes were up three percent on the previous year, at 17,195 tons produced. Yara's industrial products and environmental solutions also saw strong volume growth in 2010, partially driven by increased demand for Airl in Europe and the USA. **MORE ON THE COMPANY** / [www.yara.com](http://www.yara.com)

## Global environment

In 2010 the key role of agriculture in climate change mitigation – and the need for sustainable gains in agricultural productivity, increasing food production whilst avoiding land use change – received broad acceptance in scientific, political and business quarters alike.

Yara has acted as a catalyst on the global arena, making the case for the need to connect the food, climate and agricultural productivity issues. With its extensive agronomic knowledge and expansive market reach, Yara engages in global agendas to contribute relevant solutions, while also exploring emerging business opportunities.

### GLOBAL DEVELOPMENTS

Yara is directly or indirectly influenced by major trends that drive demand for both the company's fertilizer and industrial products. The megatrend most relevant is growth: population growth increasing food demand and economic growth driving affluence. By 2050, the world's population is estimated to reach 9.1 billion, driving demand for Yara's crop nutrients and agronomic solutions – reinforcing the food security issue. Economic growth stimulates dietary changes, increasing the demand for grain, which in turn requires crop nutrition.

The increasing demand for fiber and fuel, including bio-energy from agricultural feedstock, adds to the challenge facing world agriculture: By 2050, total output needs to double, compared to 2005/2007 levels.

#### *Economic development:*

In 2010, the global economy recovered after the financial crisis and recession of 2009. At the end of 2010, the IMF and the OECD both estimated continued growth in 2011. World real GDP growth reached 4.6 percent in 2010. On agriculture's response to the financial crisis, the OECD and the FAO, in their joint 'Agricultural Outlook 2010–2019' report noted that the sector showed "remarkable resilience", with strong supply response to high prices. With food prices remaining high, rising to a historic peak in January 2011, the two organizations anticipated that international commodity prices will on average be higher in the next decade, compared to the decade before the price spike of 2007–2008. **READ MORE** / *Economic performance 2010* / Page 26

#### *Environmental development:*

In 2010, the mitigating role of agriculture gained momentum on the climate change agenda. For the second time, an 'Agriculture & Rural Development Day' was included in the proceedings of the UN Climate Change Conference,

## Climate-compatible – agricultural growth

Through the novel concept of Climate-Compatible Agricultural Growth (CC-AG), Yara aims to promote sustainable agricultural intensification – improving cropland productivity while mitigating the climate change impact of global agriculture.

Yara argues that improved agricultural productivity is necessary for future food security, avoiding land use change driving global warming. Addressing global challenges, the initiative integrates the agriculture, food security and climate change agendas.

### Concept

In 2010, Yara presented the CC-AG concept around the world; at the African Green Revolution Forum in Accra, and at the Global Conference on Agriculture, Food Security and Climate Change, in The Hague, and at the WEF annual meeting in 2011, the concept presents an approach to agricultural growth that is compatible to global climate challenges, i.e. championing improved agricultural management, including a balanced application of crop nutrition.

### Cooperation

Responding to a session co-chaired by the Yara CEO at the WEF annual meeting in 2010, continued at the WEF on Africa, and with baseline data collected by McKinsey, Yara initiated an international dialogue, inviting potential partners to take part in the process. Among those joining, are the governments of Norway and Tanzania, the New Partnership for Africa's Development (Nepad), the Alliance for Green Revolution in Africa, and Syngenta from the private sector. Syngenta is also launching a joint R&D project with Yara in Tanzania as part of the SAGCOT.

the Sixteenth session of the Conference of the Parties (COP 16) in Cancún in December. Here, agricultural intensification was broadly accepted as a key strategy, linking agriculture to the REDD+ – the global scheme for Reducing Emissions from Deforestation and Forest Degradation and enhancement of forest carbon stocks in developing countries. Deforestation is a major cause of GHG emissions, largely driven by agriculture's need for land. Reducing land use change also helps preserve biodiversity. 2010 was the International Year of Biodiversity. The Biodiversity Summit convened in Nagoya in October, addressing deforestation and land degradation, among other issues. **READ MORE** / *Environmental performance 2010* / **Page 27**

#### *Social development:*

In 2010, the number of undernourished people in the world declined compared to the previous year. However, at 925 million, the number remained “unacceptably high”, the FAO noted when presenting the ‘State of Food Insecurity 2010’ report. High food prices challenge efforts to reach the UN Millennium Development Goal (MDG) Number 1: eradicate extreme poverty and hunger. The UN Summit on the MDGs in September focused on agriculture. Part of the plan adopted at the summit was strengthened support for smallholder farmers. The summit also called for effective public-private partnership. Here, and in the ‘2010 Global Hunger Index’, particular attention was paid to children, including the ‘hidden hunger’ related to lack of micronutrients, which was addressed at the first global conference on bio-fortification, held in Washington in November. **READ MORE** / *Social performance 2010* / **Page 29**

### **GLOBAL GAPS**

A number of ‘global gaps’ illustrate some of the major global challenges facing humanity – which are related to world agriculture and food production. These gaps are largely emerging as a result of rapidly increasing demand for agricultural products, in contrast to the scarce resources available for farming in a time of climate change.

#### *Resource gap*

There is an increasing resource gap – between the demand for food and other agricultural produce, and the amount of land and water available for farming, as well as the amount of crop nutrients needed. Relatively less farmland and fresh water will be available per capita as the world's population increases. While production must double by 2050, only about five per cent more land is expected to be used for farming.

#### *Yield gap*

There is a substantial yield gap – between actual and potential yield. In order to satisfy anticipated demand using the limited resources available, efficiency and yields must increase. Alarming, yield growth is currently declining in developed countries, and there is a significant gap between existing and required agricultural productivity growth rates. To double agricultural output by 2050, the annual productivity growth rate must rise to 1.75 percent from the current level of 1.4 percent.

## **Vital resources – increased efficiency**

Considering the vital importance of scarce resources in closing global gaps and feeding the future, Yara is determined to use its knowledge and concepts to improve cropland productivity and increase food production.

Land and water scarcity are determining factors in food production, calling for increased resource efficiency. Crop nutrients are another vital input, while energy is a key resource in both fertilizer production and farming.

### *Land*

Land is vital, but future agriculture will have to do without more of it. Although abundant, expanding farmland usage causes global warming. Increased farm output has to come from improved productivity on essentially the same amount of crop land, with only about five percent added by 2050.

### *Water*

Water is vital; future agriculture will have to do with less. Agriculture consumes about 70 percent of fresh water withdrawals. Water stress will increase especially through food consumption, urbanization and climate change. Achieving food security requires agriculture to use water much more efficiently.

### *Nutrients*

Nutrients are vital; future agriculture will need more. Nitrogen and other crop nutrients are essential for increasing yields. Balanced, precise fertilization plays a key role in future production of sufficient food and fiber, while limiting land and water usage, and mitigating climate change.

### *Energy*

Energy is vital; future agriculture will need more. Agricultural production uses about four percent of global fossil-fuel energy, of which about half is used in fertilizer production; largely natural gas. However, agriculture also produces energy: growing feedstock for bio-energy, providing calories.



## Global contributions

In 2010, Yara continued its global engagement in two ways; by engaging on the global arena, catalyzing action, and through developing and offering knowledge-based solutions. Internally, Yara improved its operational performance on GHG emissions.

### MAJOR ISSUES – GLOBAL SOLUTIONS

Yara has developed technologies as well as products and solutions that are highly relevant for some of the most pressing global challenges and issues, particularly those of food security, climate change and resource scarcity.

#### *Food security issue*

Yara's business is directly related to food production. With its agronomic solutions, Yara contributes to improving food security mainly by enhancing cropland productivity – increasing yields. Also, by increasing farm output, Yara helps to improve the profitability of farming, a prerequisite for sustainable agricultural development.

#### *Climate change issue*

Yara's operations depend heavily on the use of fossil energy, causing emission of GHGs. But with its technology solutions, Yara has reduced its emissions and improved its energy efficiency. Furthermore, by improving agricultural productivity, Yara also helps to eliminate land use change for agriculture; a key driver of climate change.

#### *Resource scarcity issue*

In 2010, Yara addressed land scarcity with its work on improving land use efficiency through improved management methods to improve cropland productivity. The company tackled water scarcity by intensified innovation and an aim of developing a corporate approach to water use efficiency and to improve its fertigation offerings. Finally, it helped solve nutrient shortages by pursuing its dissemination of knowledge to growers, particularly through its Crop Nutrition Concept (see page 22) and tailored offerings.

#### *Crop nutrition solutions*

Yara promotes the position that global food security depends on increasing agricultural productivity. This implies utilizing existing cropland to its full potential through improved farm management, rather than expanding acreage at the expense of forests and other habitats. With this approach, pressure on remaining forests is eased, reducing land use change, which is a major driver of global warming. **MORE ON FERTILIZER PRODUCTS** / [www.yara.com](http://www.yara.com)

#### *Industrial solutions*

Yara has employed its knowledge of nitrogen chemicals, derived from the production of fertilizers, to develop complete solutions for abatement of nitrogen oxides (NO<sub>x</sub>) and hydrogen sulfide (H<sub>2</sub>S). Through 2010, Yara continued to explore opportunities and offer solutions that satisfy the demand for environmental products in industrial growth markets. **MORE ON INDUSTRIAL PRODUCTS** / [www.yara.com](http://www.yara.com)

## Africa program – green revolution

Responding to a call for action by the then Secretary-General of the UN, Kofi Annan Yara established its Africa program in conjunction with its centenary in 2005. Five years into the program, Yara products tangible support for the African Green Revolution.

In 2004, Kofi Annan challenged the public and private sector alike to support what he defined as a genuine African green revolution. From its initial response, supporting the Millennium Villages and establishing the Yara Prize, Yara has engaged in creating a platform for public-private partnership (PPP) in support of the African Green Revolution:

### *Agricultural platform*

In 2006–08, Yara hosted the Oslo series of African Green Revolution conferences, subsequently supporting its transformation to the African Green Revolution Forum, co-sponsored in Accra, 2010. Promoting productivity increase and income growth for African farmers, the forum looked into actions, citing the Yara-initiated Agricultural Growth Corridors (see separate story, page 16) as a prime example.

### *Value chain partnerships*

Based on the PPP approach, and in addition to the two corridors, Yara has played a key catalyst role in launching three value chain projects on the continent: the Malawi Agricultural Project (MAP); the Ghana Grains Partnership (GGP); and the Tanzanian Agricultural Partnership (TAP), developing replicable partnership models.

### *Fertilizer terminal*

Responding to a request by the Government of Tanzania, In 2010, Yara launched a USD 20 million investment into a new fertilizer terminal by the port in Dar es Salaam, strengthening the company's long-term commitment to the country's agricultural sector. The terminal will have a revolving storage capacity of 45,000 tons.

## LEADERSHIP AMBITION

Yara's vision is to be an Industry Shaper – to develop and share industry standards that stretch to corporate citizenship and sustainability. Contributing towards the vision, Yara in 2009 established its Leadership Agenda designed to support the company's strategic ambitions, and to inspire innovation.

### *Leadership agenda*

Yara's Leadership Agenda aims to inspire innovation and a consistent drive to explore new business opportunities driven by global developments, the company's knowledge base and market-oriented R&D activities. The agenda covers five focus areas, in the quest for industry shaping performance: Yara needs to grow steadily and profitably; lead global agricultural development; drive strong performance and positioning in environmental solutions; drive perfect operations; and apply best practice corporate governance throughout the organization.

In 2010, Yara continued to act on all aspects of its Leadership Agenda: innovation was re-organized, operational performance was improved, environmental solutions strengthened its market position, and the leadership position in global agricultural development was manifested through several key initiatives.

### *Change catalyst – thought leadership*

Yara plays a thought leadership and change catalyst role, within and beyond the agricultural industry. The company contributes solutions to global challenges such as sustainable agricultural development, which impacts both food security and climate change.

Yara has opted to use the World Economic Forum as the main platform for its global engagement. Since joining as an Industry Partner in 2009, Yara has helped define the scope of agriculture and agribusiness within the forum's framework, engaging in processes and participating at periodic meetings, using these as a venue for introducing its Agricultural Growth Corridor concept (*see right*).

While adopting a global approach, Yara has chosen to focus in particular on Africa south of the Sahara, advocating public-private partnerships to improve the productivity of African agriculture, catalyzing change through innovative concepts and international initiatives. Looking towards Asia, Yara in 2010 initiated a Coffee Partnership in Vietnam (*see page 20*).

## KEY INITIATIVES

In 2010, Yara was involved in three key initiatives related to its core business and citizenship commitment:

### *Carbon Guarantee*

In 2010, Yara unveiled the market's first fertilizers with a Carbon Footprint Guarantee, contributing to climate-smart agriculture and climate change mitigation, helping the agricultural sector to minimize GHG emissions from farming.

## Agricultural corridors – *economic growth*

Developing the innovative concept of Agricultural Growth Corridors (AGC), Yara has contributed a replicable and scalable partnership model to support the African Green Revolution and Africa's economic and social development, thus improving food security.

Announced at the UN General Assembly in 2008, and developed within the context of regional partnerships, with the World Economic Forum (WEF) as a main arena for international endorsement, the corridor concept has become one of the most cited examples of contributions to the African Green Revolution.

### *Concept*

The concept is based on public-private partnership and a value chain approach, engaging key stakeholders from authorities and agriculture, with infrastructure providers and produce processors, to distributors and retailers. Creating hubs within areas of great agricultural potential, the corridors draw on synergies from existing infrastructure and economic activities, adding vital services for agriculture. Targeting both large- and small-scale agriculture, the corridors have a potential to improve food security, create jobs and spur economic development.

### *Corridors*

Since the idea was conceived in 2008, two corridors have been launched, with investment blueprints presented at the WEF in 2010 and 2011, respectively, for the Beira Agricultural Growth Corridor (BAGC) and the Southern Agricultural Growth Corridor of Tanzania (SAGCOT). Yara's role has mainly been that of a catalyst. In 2010, the company contributed to the SAGCOT value chain by investing in a fertilizer terminal in Dar es Salaam.



### *Agricultural Growth Corridors*

In 2010, Yara and its partners secured international endorsement for the Agricultural Growth Corridors concept. The investment blueprint for the Beira corridor in Mozambique was launched at WEF, Davos, in January 2010. The Tanzanian growth corridor, SAGCOT, followed suit one year later.

### *Climate Compatible Agricultural Growth*

In 2010, Yara launched its new Climate Compatible Agricultural Growth initiative, integrating the agriculture, food and climate agendas by supporting improved cropland productivity, which increases food production while adapting to and mitigating climate change.

## **Knowledge development**

Building on its culture of agronomic and technological innovation and supported by a unique research and development (R&D) structure, Yara emphasizes the value of knowledge – internally in driving business, and externally in contributing to global solutions.

### **INNOVATION CULTURE**

In 2010, Yara intensified its innovation approach by developing a new innovation road map, designing an innovation platform, and creating an Innovation Hub – preparing to face future market demands and societal trends. The new function of Chief Technical Officer (CTO), established in 2009, became operational, and an innovation team was established. This revamp is aligned with the launch of a Yara Global Innovation process, tackling the issue from idea generation to commercialization and selecting market arenas for growth.

Building on its culture of agronomic and technological innovation and supported by a unique research and development (R&D) structure, Yara emphasizes the value of knowledge – internally in driving business, and externally in contributing to global solutions.

### **RESEARCH & DEVELOPMENT**

Yara's R&D activities are unparalleled in the industry. The company has retained its own R&D structure, which carries out agronomic R&D on plant nutrition and innovative solution for agriculture, as well as technological R&D focusing on production processes and industrial applications.

In the agronomic field, Yara continued to develop and improve decision-making tools for growers in 2010, including a set of fertigation tools. Ongoing work also includes a tool to calculate the on-farm carbon footprint of crop production and a project to investigate nutrition strategies for algae (*see box*). Yara's R&D organization has been instrumental in the development of the carbon footprint certificates launched in 2010 and is also proceeding on research to better understand and mitigate nitrous oxide (N<sub>2</sub>O) emissions from agriculture. In 2010,

## **N<sub>2</sub>O catalyst**

Yara's catalyst technology can reduce emissions of N<sub>2</sub>O – which has about 300 times the effect of CO<sub>2</sub> on climate change – from nitric acid production by up to 90 percent. It does so by breaking down N<sub>2</sub>O into harmless nitrogen and oxygen in the first stage of a nitric acid plant. Building on over 15 years of research and a NOK 200 million investment, the catalyst technology has made a significant impact on GHG emissions from nitric acid production, both within Yara and in the industry as a whole.

## **GHG savings**

Yara's N<sub>2</sub>O catalyst technology contributes to annual reductions of about 30 million tons of CO<sub>2</sub> equivalents. If implemented in all nitric acid plants worldwide, it could contribute to a global reduction of nearly 100 million tons of CO<sub>2</sub> equivalents a year.

## **Air<sub>i</sub> milestone**

In 2010, Yara passed the million ton mark in annual sales of its Air<sub>i</sub> solution for reducing NO<sub>x</sub> emissions from heavy-duty vehicles. This equals a reduction of about 650,000 tons of NO<sub>x</sub> emissions from our customers' applications. Based on Selective Catalytic Reduction (SCR) technologies, the Air<sub>i</sub> solution converts harmful NO<sub>x</sub> emissions from combustion into harmless nitrogen and water. Yara also offers a similar solution, NO<sub>x</sub>Care, for stationary applications and vessels.

## **Growing algae**

Algae has been touted as an ideal future fuel. It multiplies quickly and can be harvested year-round. This means higher productivity and CO<sub>2</sub> fixation potential, compared to conventional crops for biofuel. Increasing interest in algae has spurred a new R&D project in which Yara aims to optimize nutrition strategies for algae growing in so-called photo-bioreactors. Yara is cooperating with the University of Duisburg to refine the bioreactor, and with E.ON AG to conduct large-scale testing in their pilot plants.

Yara joined the scientific advisory board of the Global Agricultural Climate Assessment. Yara's technology centers continued their work towards improving production efficiency and reliability, product quality and market support. This included improvement of the company's N<sub>2</sub>O catalyst technology, and leadership of an EU-funded project to investigate a new catalyst technology for nitric acid production.

## PEOPLE DEVELOPMENT

In 2010, Yara implemented a new human resource (HR) strategy, built upon three interdependent priorities: optimizing workforce performance; building a "candidate pipeline"; creating a highly valued work culture. The latter means an increased focus on talent retention, teamwork, and processes. Integrating diversity and mobility with these objectives is high on the management agenda.

Yara believes that focusing on workforce diversity will attract and retain top talent, and encourage all employees to reach their own full potential. To ensure that we retain and attract the right talent, Yara has launched a Talent Management Framework. This framework provides a consistent and repeatable approach to identifying, supporting and nurturing talent and performance across the business. It also supports Yara's business strategies and plans by ensuring that the company has the right talent in the right position.

## KNOWLEDGE TRANSFER

Yara contributes to knowledge development and dissemination through global initiatives and partnership projects, such as the one on Climate-Compatible Agricultural Growth, launched in 2010 (*see page 13*). Through these efforts, we are helping to close the 'knowledge gaps' in agriculture mitigation and adaptation, highlighted at the COP 16 in Cancún.

Yara builds its crop knowledge in close collaboration with the market. Cooperating with Yara, local growers, sales representatives and agronomist raise questions, address problems and promote ideas to growers worldwide. Backed by the industry's most complete range of plant nutrition products, Yara is able to provide sound advice that aims not just for optimal yields but also aids growers in achieving the crop quality required by the market. Yara's Plantmaster series is a key element in this knowledge transfer, offering easy-to-use advice on plant growth and fertilizer application for most cash crops.

## Carbon footprint – reduction guaranteed

Contributing to a climate-smart agriculture, Yara in 2010 launched the world's first carbon footprint certificates for mineral fertilizers. It helps farmers, retailers and others with interests in agriculture to minimize GHG emissions from farming.

Using Yara's proven low-carbon fertilizers and best practice application tools, the carbon footprint from crop production can be halved or more while maintaining yields.

### *GHG savings*

The spark for the campaign was the new Swedish Climate Certification program for food. Products with at least 25 percent GHG savings will be marked in each food category, introducing a ceiling level for GHG emissions from fertilizers. Answering this new requirement, Yara guarantee emissions below four kilograms of CO<sub>2</sub>-equivalents per kilogram nitrogen from fertilizers sold in Scandinavia. Proving its success in this region, the climate guarantee campaign is being adapted and expanded to international markets.

### *LCA approach*

The Carbon Footprint Guarantee is a manifest of the company's work to reduce emissions of GHGs throughout the life cycle of fertilizers. Yara has pinpointed emission hotspots by the use of life cycle assessments (LCA), and has made significant investments in catalyst technology to reduce N<sub>2</sub>O emissions from the production of nitric acid. Low-carbon fertilizers are the starting point for sustainable intensification, making agriculture part of the solution to climate change.

## Stakeholder *engagement*

Yara continuously engages with key stakeholders, including its shareholders, partners and customers, national and regional authorities, as well as global and local organizations. In addition, the company is engaged in a number of partnerships and networks, industry associations, special interest organizations and initiatives.

### PUBLIC AFFAIRS

During 2010, Yara was involved in international dialogue related to key global issues, with priority given to food security and climate change, particularly from the perspective of African agriculture:

#### *Global issues*

Yara engaged in a dialogue with the United Kingdom's Prince of Wales on climate change financing. Cooperating with the Prince's Rainforest Project (PRP), Yara attended a regional workshop in Ghana and a private sector workshop in London. The Yara CEO was among a select group of industry leaders meeting with HRH at his home, discussing climate change financing, outlining several actions involving the private sector. Yara committed itself to work on identifying ready-to-go low carbon projects in developing countries. The projects will bring together the public and private sector actors, and serve as demonstration projects, for example for fast-start finance.

Leading up to the Cancún conference, Yara participated in parallel processes to reinforce the role of agriculture in global mitigation of climate change. The company presented its Climate-Compatible Agricultural Growth initiative at the Global Conference on Agriculture, Food Security and Climate Change in The Hague. This conference initiated the 'Roadmap for Action: Agriculture, Food Security and Climate Change'. The roadmap links agriculture-related investments, food security and climate change. It was presented at the Cancún conference by several global leaders, including the President of the World Bank Group, Robert B. Zoellick. Preparing for the WEF annual meeting in Davos 2011, Yara participated in a high-level roundtable hosted by Zoellick.

The dual challenge of food security and climate change was featured prominently at the WEF annual meetings in 2010 and 2011, during which Yara took a representative position for the agricultural business sector. Yara co-hosted private sessions on rural economy and agricultural development, took part in launching the "New Vision for Agriculture" strategy and presented the "Financing sustainable land use" analysis. Yara CEO, Jørgen Ole Haslestad served as Co-Chair of the 2010 WEF Africa regional meeting in Dar es Salaam, where key issues included sustainable growth and agricultural growth corridors. Yara also participated in WEF regional meetings in Asia, in Ho Chi Minh City and New Delhi.

Yara was represented on the board and the working groups of the WEF 'New Vision for Agriculture' project, as well as on the board of the 'Financing Sustainable Land Use' project.

### BRAZIL:

## Knowledge *approach*

In the Brazilian market, Yara has used its knowledge approach and product portfolio to strengthen its position. In field trials, conducted in close cooperation with external scientists as well as Yara personnel, Yara demonstrated how its Crop Nutrition concept added value for farmers, increasing yields while reducing the amount of fertilizers needed. Maize yields increased by 14.5 percent, while the amount of phosphates supplied were reduced by 50 percent. This was achieved by applying the right amount of the right fertilizer, at the right time.

## Visions *for agriculture*

Yara played a key role in the 18-month long process leading up to the launch of the ambitious "New Vision for Agriculture" roadmap at the 2011 World Economic Forum in Davos. This new roadmap aims to unleash the power of agriculture to drive food security, environmental sustainability and economic opportunity. Championed by Yara along with 16 other global companies in the fertilizer, agricultural and food sectors, it calls for concerted and better coordinated actions between the public and private sectors, and civil society.

Additionally, Yara took part in a number of international events related to food security and climate change in 2010, i.e. at the International Zinc Conference, Scottsdale, on ZnO-based fertilizer delivery systems; Commonwealth Business Council Africa Investment Forum, Accra, on accelerating intra-African trade and investment; the Joining up Africa conference, London, on regional economic integration; the G8 African Business Forum, London, on African success stories and partnerships; the IFA Africa Forum, Paris, on agricultural growth corridors; the World Food Prize Borlaug Dialogue, Des Moines, on reaching the world's smallholders; the KfW Financial Sector Development Symposium, Frankfurt, on financing for agriculture; the Brussels Development Briefings, Brussels, and the ACP Regional Briefing, Lilongwe, on innovative public-private partnerships; the Global Conference on Agriculture, Food Security and Climate Change, the Hague, on Climate-Compatible Agricultural Growth; and the Annual Conference of the IFS, London, on best management principles and techniques to optimize nutrient use efficiency.

Yara has also made note of the ongoing process of revising the EU Common Agricultural Policy. As a business stakeholder in the agricultural value chain, Yara prepares to engage in the process based on our extensive agricultural knowledge. Yara's key position is to maintain focus on increasing yields while improving resource use efficiency through the value chain, which is the only viable solution to sustainable agricultural development.

#### *Industrial issues*

Yara is Europe's largest industrial consumer of natural gas and has strengthened its role as key stakeholder in the processes leading to liberalization of the European gas market. Yara has valuably contributed to several political initiatives that have been proposed at the pan-European level, based on the company's European position, experience and technical knowledge. Processes leading to increased transparency for the benefit of gas customers, more efficient balancing and better regulation of the European gas market are political efforts in which Yara is currently strongly involved. Moreover, the European Commission, Energy Regulators and the European Parliament rely upon expert information being communicated to them by Yara, as a result of Yara's significant level of gas consumption and key role as a pan-European industrial actor. Yara has also opened dialogue and cooperation with relevant authorities from a number of EU member states, in order to improve their understanding regarding the future implementation of new legislation.

The fertilizer industry is energy-intensive and a considerable source of GHG emissions. However, there are significant differences in energy-efficiency and emissions levels between regions, with European producers representing the most efficient part of the industry. From 2013, all European ammonia and nitric acid plants will be regulated under the European Emission Trading Scheme (ETS). This will lead to added production costs for Yara and other European producers, especially in the ammonia sector. The European industry is deeply concerned that this will lead to competitive distortion relative to non-European producers. This would result in increased imports from less

#### **VIETNAM:** **Profitable** *coffee*

Coffee is a major cash crop in Vietnam. Within just a few years the country has risen to the top echelon of world coffee exporters, surpassing Colombia to claim second place behind global leader Brazil. While extensive fertilizers use has yielded results in Vietnam, Yara has advised local growers to lower their application rates because unnecessarily high application is costly for the farmer, and has negative impacts on the environment. Employing its crop knowledge, Yara has recommended the use of a combination of products in order to achieve balanced nutrition. The result is improved plants with a reduced fruit drop rate, more uniform ripening and bigger berries with heavier beans – all of which improve farmers' profits.

#### **ETS**

The EU Emissions Trading System (ETS) is the world's largest international scheme for the trading of GHG emission allowances. A cornerstone of the EU's policy to combat climate change, the ETS covers about 11,000 power stations and industrial plants in 30 countries.

efficient producers outside the EU, while producing carbon leakages and more GHG emissions globally. Yara expects to meet the new requirements for its nitric acid plants by having installed the company's N<sub>2</sub>O reduction technology and is examining the possibility for further technical improvements in some of the ammonia plants.

In January 2010, Yara reached an agreement to sell its shares in the Brazilian company Fosfertil to Vale, along with its stake in the Anitápolis phosphate rock project in southeastern Brazil. The latter was held through Yara's joint venture company, Indústria de Fosfatados Catarinense. The project of developing the phosphate mine, still at an early stage, caused some contention the previous year, due to environmental concerns and some local opposition. Yara's interest in the project resulted from its acquisition of Adubos Trevo in 2000.

#### *Other issues*

In February 2010, the CEO participated in the Baltic Sea Action Summit, in Helsinki, Finland. The summit was a multi-stakeholder platform for heads of state, companies, business leaders, non-governmental organizations as well as individual citizens, aiming to find ways to rescue the area. The CEO presented the research project TraP (*see right*), in which Yara and its partners have developed a solution that significantly reduces phosphorous leakage from fields into waterways. It uses gypsum to better trap phosphorous in fields, and midway results are very encouraging. Erosion has been reduced by 30–70 percent, and nutrient uptake improved.

### **PARTNERSHIPS**

Yara engages in private-public partnerships in support of an African green revolution. Yara has been involved in three local partnerships; one each in Ghana, Malawi, and Tanzania, plus two regional agricultural growth corridors located in Mozambique and Tanzania (*see page 16*). The growth corridor in Malawi was terminated in 2010. In 2010, Yara partnered with Syngenta AG to introduce climate-compatible farming as an additional layer to the Tanzanian growth corridor.

Yara's initial partners in developing a high-impact program related to Climate-Compatible Agricultural Growth (*see page 13*), are the Government of Norway, the New Partnership for Africa's Development (Nepad), and the Alliance for a Green Revolution in Africa (AGRA). Yara continued its partnership with the environmental organization Bellona to address key environmental challenges.

### **MEMBERSHIPS**

Yara is a corporate member of the two leading fertilizer industry associations, the International Fertilizer Industry Association (IFA), and Fertilizers Europe, as well as the International Fertiliser Society (IFS); European Industrial Gases Association (EIGA); the European Chemical Industry Council (CEFIC), Sector Group Inorganic Feed Phosphates; and the Fertilizer Institute (TFI).

## **Warm CO<sub>2</sub>**

In the Netherlands, Yara Sluiskil delivers waste heat and CO<sub>2</sub> to local greenhouses. Replacing gas burners previously used to provide heat and CO<sub>2</sub> supporting plant growth in the greenhouse, the WarmCO<sub>2</sub> project reduces GHG emissions and local environmental impacts from discharges of excess process heat. In 2010, Yara delivered 355 TJ of heat and 11,000 tons of CO<sub>2</sub> through WarmCO<sub>2</sub>, which is a joint project with the port authority Zeeland Seaports and infrastructure specialist Visser & Smit Hanab. Combined reductions from deliveries of heat and CO<sub>2</sub> amounted to an estimated 25,500 tons CO<sub>2</sub>. Large-scale testing in their pilot plants.

## **Baltic trapping**

Yara's TraP research program is a key element in the company's commitment to contribute to a cleaner Baltic Sea. Using gypsum to trap phosphorus in the fields, it offers a solution that significantly reduces leakage into waterways, thus reducing eutrophication. TraP testing has been being carried out in laboratories, on fields, in catchments and on a number of pilot farms in Finland. Studies have concluded that gypsum has the potential to reduce discharges of particle-bound phosphorus by 60 percent, with no effects on land use or cultivation practices.

## **Greener orange juice**

In 2010, Yara began a joint project with Pepsico, aiming to reduce the carbon footprint of Pepsico's Tropicana orange juice brand. Yara brings its low-carbon fertilizer and expertise in plant nutrition into the five-year trial project, which eventually could reduce the carbon footprint of Tropicana orange juice by up to 20 percent, while increasing grower's profitability.



Yara is a member of Business Action for Africa (BAA), and a signatory to Business Action Against Corruption (BAAC), to the UN Global Compact (UNGC), and the UNGC Caring for Climate initiative. Yara has joined Transparency International (TI), Norway and Ghana, and is an Industry Partner of the World Economic Forum (WEF). Through IFA, Yara is part of the multi-stakeholder Farming First coalition, and the Zinc Nutrient Initiative.

## **SPONSORSHIPS**

Yara has a defined set of sponsoring guidelines, for all levels of the organization. First and foremost, the company supports activities and organization with the common ambition of contributing to solutions for major global challenges related to energy, climate, food and health. In line with this, Yara has developed its Africa Program. Yara also partners with leading NGOs and supports R&D projects that target environmental improvements, such as the TraP project for reduced leaching of nutrients into the Baltic Sea (*see page 21*). Additionally, Yara's operations worldwide are engaged in and support a wide variety of community projects and local initiatives for the benefit of the public.

In 2010, Yara supported the Corporate Leadership Coalition for Smallholder Farmer Livelihoods, Boston; the Development Policy Forum (DPF), Brussels; and the Zero Emission Resource Organisation (Zero), Oslo.

## **POSITIONS**

Yara executives hold a number of industry and related positions, promoting the company's positions and pursuing its vision, goals and agenda.

In 2010, the Head of Yara's Upstream segment, Tor Holba held the position of Vice President at FE; Director of Technical Services Yara Pocklington, Kevin Moran was President of the International Fertiliser Society (IFS); Head of Yara energy sourcing, Steinar Solheim was Chairman of the International Federation of Industrial Consumers (IFIEC) Working Party Oil and Gas; Yara's Vice President for HESQ, Tore Jenssen was Vice Chairman of IFA's Technical Committee; Yara's Vice President Global Business Development and Public Affairs, Sean de Cleene served as member of the respective boards of the World Economic Forum (WEF) projects 'New Vision for Agriculture' and 'Financing Sustainable Land Use', as well as member of the technical committee of the Africa Progress Panel Business Action Group, and as Vice Chair of the Tanzania Kilimo Kwanza Growth Corridor Executive Committee.

## **Product stewardship**

Yara's activities are all guided by the principles of product stewardship as set out by Fertilizers Europe. They ensure that proper care is taken along the entire value chain, from product development and sourcing of raw materials, through production, storage and distribution to sales, delivery and usage.

## **Crop nutrition concept**

Yara's Crop Nutrition Concept is designed to tailor fertilizer application to the specific crop and growing conditions, for maximum efficiency and optimal yields. Bringing local answers to global challenges, it offers growers a unique package of products and services:

### **CROP KNOWLEDGE**

Yara has unrivalled knowledge in crop nutrition and uses it to create win-win situations with successful growers.

### **PORTFOLIO COMBINATIONS**

Yara offers a comprehensive product portfolio that meets the needs of all crops, different growing conditions and application methods.

### **APPLICATION COMPETENCE**

Yara applies a just-in-time approach to application that matches the exact needs of crops, supported by an array of decision-making tools.

## **Plantmaster**

Yara's Plantmaster nutrition management programs are a series of crop nutrition guides. They combine the results of research and development with the practical experience of Yara's specialist from around the world. The Plantmaster guides are available for 12 major cash crops, in several languages.

## IFA PROGRAM

In early 2011, the International Fertilizer Industry Association (IFA) launched an industry-wide product stewardship initiative. Through 2010, Yara was involved in the development of the initiative, drawing on its experience and helping to establish the framework and contents of IFA's product stewardship program. As a first mover participant in the program, Yara is reviewing its existing stewardship management procedures and preparing for the certification process to become recognized as an IFA Product Steward.

## REACH PROGRAM

After completing the first phase of REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) in 2008, Yara forged ahead with preparations for next registration deadline in December 2010. This work has included assessments of uses for Yara's products, contacting suppliers to gather information on purchased substances and the launch of an online tool to assure customers that their use of substances would be included in Yara's registration. Yara successfully registered all substances ahead of the 2010 deadline.

To ensure future compliance with the REACH and similar legislation coming into force in other regions, Yara has established a permanent REACH unit and is implementing new processes and IT tools.

## CERTIFICATION

Yara aims for all plants to be certified to several international standards: ISO 9001 Quality Management Systems, ISO 14001 Environmental Management Systems, and OHSAS 18001 Occupational Health and Safety Management Systems. This process is progressing rapidly toward completion (*see table page 24*), with certification being carried out by Det Norske Veritas. In addition, certification in accordance to other standards is also in place, such as for energy management and food quality systems.

- More information on Fertilizer Europe's product stewardship program: [www.fertilizerseurope.com](http://www.fertilizerseurope.com)
- More information on IFA's product stewardship initiative: [www.protectandsustain.org](http://www.protectandsustain.org)

## Reaching REACH

The EU REACH regulation targets improved control and knowledge of chemical substances to help safeguard human health and the environment. It requires classification, testing and registration of all substances in the European chemical industry.

Yara's REACH program is tackling the regulation in four ways:

**Get compliant:** Registration of substances according to deadlines, defining business process changes and preparing the organization

**Stay compliant:** Daily execution of the revised work processes and managing of future changes

**Support compliance:** Development of IT tools to manage data flow, and continuous updates of work procedures and steering documents

**Report compliance:** Implementation of new product labeling and provision of extended safety data sheets

### Certifications at Yara plants

Plant	ISO 9001	ISO 14001	OHSAS 18001
Ambès	•	•	•
Belle Plaine	<i>In progress</i>	<i>In progress</i>	<i>In progress</i>
Brunsbüttel	•	•	•
Ferrara	•	•	<i>In progress</i>
Glomfjord	•	•	•
Harjavalta	•	•	•
Kokkola	•	•	•
Köping	•	•	•
Le Havre	•	•	•
Montoir	•	•	•
Pardies	•	<i>In progress</i>	<i>In progress</i>
Pocklington	•	<i>In progress</i>	<i>In progress</i>
Porsgrunn	•	•	•
Ravenna	•	•	<i>In progress</i>
Rio Grande	•	•	•
Rostock	•	•	•
Siilinjärvi	•	•	•
Sluiskil	•	•	•
Tertre	•	•	•
Trinidad	•	•	•
Uusikaupunki	•	•	•

## Ethics and compliance

In accordance with the CEO's Leadership Agenda, Yara established an Ethics and Compliance Department in March 2009. Led by the newly appointed Global Head of Compliance, the department is responsible for coordinating and overseeing ethics and compliance work. In February 2010, Yara launched a company-wide Ethics Program, based on the fundamental principles of the company's Code of Conduct, structured around its core values of ambition, teamwork, trust and accountability. During the year, the program was rolled out throughout the organization and an array of ethics tools were provided to Yara employees, including a handbook, telephone hotline, videos materials and web-based portal. So far approximately 80 percent of Yara employees have participated in ethics training, which will continue in 2011, and there is currently a high level of awareness of the Ethics Program within the organization.

### CORPORATE PROCESSES

During 2010, the Yara Ethics Program was implemented. The program includes the Ethics Handbook, which is based upon the fundamental principles of Yara's Code of Conduct, and structured around Yara's core values: ambition, teamwork, trust, and accountability. The program, which was ready for roll-out by the end of 2009, provides a comprehensive set of ethical



guidelines and tools to assist managers and employees in making the right decisions when facing ethical dilemmas.

### **CITIZENSHIP COMMITMENTS**

During 2010, the Ethics and Compliance Department followed up on several actions related to Yara's corporate citizenship commitments. Yara has been a signatory to and active supporter of the UN Global Compact since 2006. In 2010, Yara participated in one UN GC Nordic Conference.

Yara continues to report according to the Global Reporting Initiative (GRI) and is committed to improving the application of this framework. In 2010, an internal process was carried out to improve the quality and completeness of the company's non-financial reporting.

Yara did not identify non-compliance with laws or regulations regarding human rights, anti-competitive behavior, corruption, marketing, customer privacy or the provision and use of products, including their health and safety impacts in 2010.

# Performance *review*

**Yara's Citizenship Review 2010** is the company's summary on citizenship initiatives, activities and performance. For complete reporting on all of Yara's performance indicators, please refer to the Citizenship Reporting 2010 online. Reporting is based on the Global Reporting Initiative (GRI) G3 guidelines and reporting framework, covering Yara's performance on economy, environment, labor practices and decent work, human rights, society, and product responsibility. See [www.yara.com/citizenship](http://www.yara.com/citizenship)

## Economic *performance*

Yara performed well in 2010, as fertilizer demand and prices rose from the year before. The 2010 financial results were the company's best ever.

### FINANCIAL PERFORMANCE

In 2010, Yara recorded revenues and other income of NOK 65.4 billion, up from NOK 61.4 billion in 2009. Net income after non-controlling interests increased by 131 percent to NOK 8,729 million. Corresponding earnings per share were a record high NOK 30.24, mainly reflecting higher margins for the majority of the company's products. This in turn was largely a result of significant improvements in the world fertilizer market, which rebounded from the global financial crises in 2008/2009. As prices for most agricultural commodities soared, demand for plant nutrients increased, resulting in higher demand and prices for Yara's fertilizer products. Meanwhile, the market for environmental applications gained momentum, and production picked up in the process industry, strengthening demand for Yara's environmental solutions and nitrogen chemicals.

### ECONOMIC IMPACTS

As the world's leading producer of mineral fertilizers, Yara is a key player in improving agricultural productivity and

securing a profitable existence for farmers around the world. A large number of farmers worldwide are still engaged in subsistence agriculture, largely detached from commercial markets, which prevents them from generating revenues of any significance. Developing subsistence farms into viable small-scale businesses is crucial for generating growth and reducing poverty in agriculturally-driven economies.

Yara has demonstrated its willingness to assist the farming community in becoming more profitable and sustainable, through a number of projects. For years, the company has supported development programs in Africa, with the novel Agricultural Growth Corridor concept (*see page 16*) being a prime example of the manner in which Yara employs its knowledge and engages with other stakeholders to create shared value. Another example is the "New Vision for Agriculture" roadmap (*see page 19*) presented early 2011.

Yara's worldwide operations support and engage in a variety of community projects and local activities, largely for the benefit of the public. In 2010, Yara's local operations reported spending of approximately NOK 15 million on community involvement programs.

#### ECONOMIC PERFORMANCE ASPECTS COVERED ONLINE:

- Value creation and economic impacts
- Risks and opportunities due to climate change
- Local impacts and infrastructure investments

Yara's Financial Report 2010 provides a full account of the company's financial performance in 2010.

To see more of the company's economic performance data, see Citizenship Reporting 2010 online: [www.yara.com/citizenship](http://www.yara.com/citizenship)

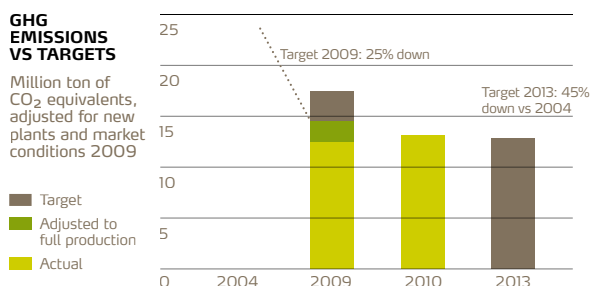
## Environmental performance overview

This section presents a summary of Yara's environmental performance in 2010. To see more of the company's environmental performance data, see Citizenship Reporting 2010 online:

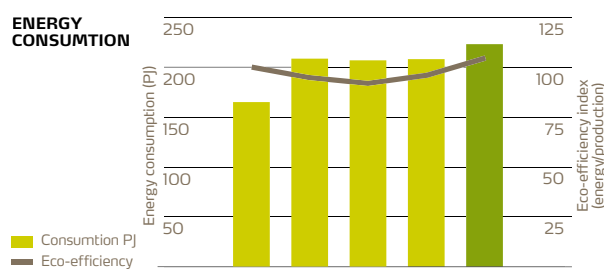
[www.yara.com/citizenship](http://www.yara.com/citizenship)

### GHG EMISSIONS VS TARGETS

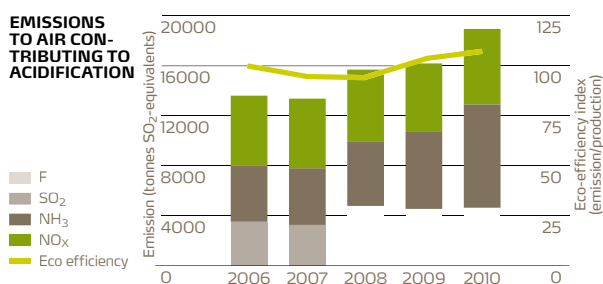
Million ton of CO<sub>2</sub> equivalents, adjusted for new plants and market conditions 2009



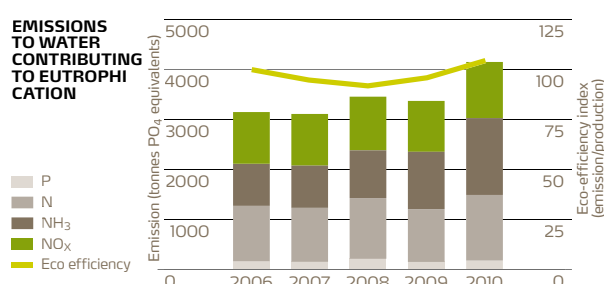
### ENERGY CONSUMPTION



### EMISSIONS TO AIR CONTRIBUTING TO ACIDIFICATION



### EMISSIONS TO WATER CONTRIBUTING TO EUTROPHICATION



### ENVIRONMENTAL PERFORMANCE ASPECTS COVERED ONLINE:

- Energy consumption and efficiency
- Greenhouse gas emissions
- Other emissions to air and water
- Water withdrawals
- Materials, packaging and waste
- Biodiversity
- Compliance

Individual Health, safety & environment facts sheets are available for each plant in the Sustainability section on Yara's website:

[www.yara.com/sustainability/reports\\_and\\_tools/reports/index.aspx](http://www.yara.com/sustainability/reports_and_tools/reports/index.aspx)

## Environmental performance

In 2010, Yara reached its ambitious GHG emission target of reducing emissions by 45 percent. Although total energy consumption rose, driven by growth in production levels, Yara continued to increase its energy efficiency.

### GHG EMISSIONS

In 2010, Yara continued its efforts to reduce the carbon footprint of its production plants worldwide. Yara reached its 2013 target for GHG emissions well ahead of time, recording a 45 percent reduction between 2004 and 2010 after adjusting for plants acquired and closed within the period. A new target for GHG reductions will be established during 2011.

In 2010, Yara's GHG emissions totaled 13.1 million tons of CO<sub>2</sub> equivalents, up from 12.5 million tons in 2009. The 2010 result includes emissions from the JV plant in Libya, which had previously not been included in the reporting. In terms of emissions per ton of finished product, the carbon footprint has been reduced from 1.6 tons of CO<sub>2</sub> equivalents in 2004, to 0.9 tons in 2010.

Yara's most significant contribution by far to cutting GHG emissions has been the company's N<sub>2</sub>O catalyst technology (see page 17), which can reduce emissions of N<sub>2</sub>O from nitric acid plants by up to 90 percent. By the end of 2010, this technology had been installed in 22 of Yara's 24 nitric acid plants. The two remaining plants have other cleaning technologies installed that result in very low emissions of N<sub>2</sub>O. Most of Yara's nitric acid plants are now covered by the EU ETS or by the UN Joint Implementation Mechanism.

### ENERGY CONSUMPTION

In 2010, Yara's total energy consumption in production was 223 million GJ. This is a seven percent increase from 2009, reflecting a higher production volume in 2010. However, the increase in production levels meant that Yara's plants ran at a more optimal level energy-wise in 2010. This resulted in a four percent drop in energy consumption per unit of finished product, from 15.2 GJ in 2009 to 14.6 GJ in 2010.

Energy efficiency has high priority in the Upstream segment, which is the backbone of Yara's manufacturing

system. This segment implemented its Systematic Energy Management initiative in 2008, targeting energy savings through improved management, reporting and analysis of energy consumption. Local Energy Hunters have been appointed at all Yara's major production plants, to drive improvements and establish energy saving projects. Two of Yara's plants have been certified according to the DIN EN 16001 standard on energy management, and certification is being planned for several other plants. Yara also pays great attention to plant reliability. Apart from being a smart investment in productivity, high plant reliability contributes to energy efficiency and reduced emissions from production.

Yara has initiated a number of energy saving projects, some with governmental support. Two projects of this type are underway, targeting energy savings at the Yara's Glomfjord and Porsgrunn production sites in Norway. Yara cooperates with the Norwegian public enterprise Enova on these projects, in what is the largest agreement of its kind to date. The project at Yara Porsgrunn aims to reduce the plant's annual energy consumption by 300 GWh by 2011.

In the Netherlands, Yara Sluiskil continued deliveries of surplus heat and CO<sub>2</sub> to local greenhouses in the WarmCO<sub>2</sub> project (see page 21). During 2010, Yara Sluiskil deliveries are estimated to have reduced GHG emissions from the greenhouse complexes by 25,500 tons of CO<sub>2</sub> equivalents. In Sweden, Yara Köping delivered 126 GWh of surplus heat to the local district heating system. Yara Glomfjord, Norway delivered roughly 240 GWh of surplus heat to local fish farming activities.

### OTHER IMPACTS

In 2010, Yara saw an increase in emissions to air and water, largely due to increased production volumes. Total emissions to air amounted to 18,960 tons of SO<sub>2</sub> equivalents, while emissions to water totaled 4,154 tons of PO<sub>4</sub> equivalents.

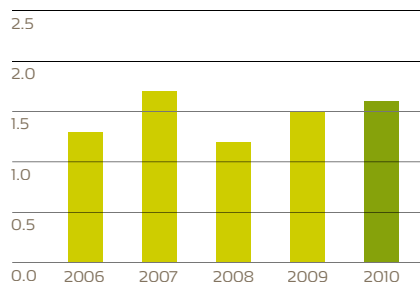
All hazardous waste is managed by waste management specialists. Yara recorded no significant spills or material permit breaches in 2010. In cases where emissions exceeded permitted levels, Yara has agreed on improvement plans with local authorities.

## Social performance overview

This section presents a summary of Yara's social performance in 2010. To see more of the company's social performance data, see Citizenship Reporting 2010 online: [www.yara.com/citizenship](http://www.yara.com/citizenship)

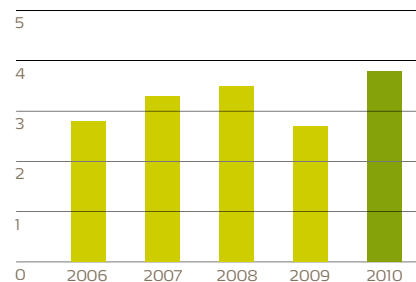
### LTI RATE

Number of lost-time injuries per million hours worked, 2006-2010



### TRI RATE

Total recordable injuries per million hours worked, 2006-2010

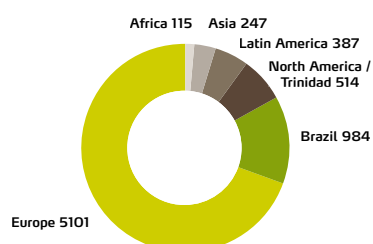


### Yara's workforce

	Africa	Asia	Brazil	Europa	Latin America	N. America/Trinidad	All regions
Permanent employees	115	247	984	5101	387	514	7348
Temporary contracts	0	0	447	282	33	34	796
Consultants	0	3	87	403	5	14	512
Contractors	2	0	0	367	13	17	399

### YARAS WORKFORCE

Permanent employees, 2010



### SOCIAL PERFORMANCE ASPECTS COVERED ONLINE:

- Labor practices and decent work
- Human rights
- Society
- Product responsibility

Individual Health, safety & environment facts sheets are available for each plant in the Sustainability section on Yara's website:

[www.yara.com/sustainability/reports\\_and\\_tools/reports/index.aspx](http://www.yara.com/sustainability/reports_and_tools/reports/index.aspx)

## Social performance

Despite its strong safety commitment and track record, Yara experienced three fatal accidents in 2010. The company continued its systematic and focused safety program.

### HEALTH AND SAFETY

Yara views all accidents as preventable and has implemented a focused safety program to follow up on this belief. In 2010, Yara achieved an LTI rate (lost-time injuries per million hours worked) of 1.6 for employees and contractors combined, a slight increase from the rate of 1.5 in 2009. 2010 was the eighth consecutive year with accident LTI rates below two, placing Yara among the industry leaders in worker safety. The company's accident rate is a third of the average LTI rate for European fertilizer producers.

The TRI rate (total recordable injuries per million hour worked) for Yara employees and contractors combined was 3.8 in 2010. Apart from lost-time injuries, the TRI rate also includes restricted work case where the employee was allowed to carry out work different from his or her normal duties, and medical treatment cases. Yara is increasingly using the TRI rate as a key measure of safety performance, as it provides a broader picture of the company's safety performance and allows for easier comparison to industry peers. Absence due to sickness at Yara's production plants was 3.5 percent in 2010, down from 4.3 percent in 2009.

Regrettably, and despite its continued efforts in safety, Yara experienced three fatal accidents in 2010, resulting in four fatalities. Two contractors died following an explosion during the turnaround of an ammonia tank at the joint venture Lifeco, in Libya. In South Africa, a supervisor died after being hit by a truck at the feed phosphate plant. In Ghana, a contractor died from electrocution at a Yara warehouse. Yara recognizes both the severity of such incidents and the fact that they should not occur. The three incidents have been investigated to prevent similar accidents in the future.

These and previous incidents have further strengthened Yara's focus on worker safety. In 2010, the company continued to implement its Behavior Based Safety (BBS) program in newly acquired plants and expand it across all production sites. The BBS program is a driver of safety awareness, as it involves employees in observation, identifications of risks

and finding solutions. At the current implementation level, Yara's BBS program facilitates more than 30,000 observations and feedback situations each year. In 2010, Yara also introduced regular safety-focused Toolbox meetings for shifts and team, strengthened skills and training requirements for operators, engineers and leaders, and established stronger follow-up procedures for the downstream activities. The company continued to instill and strictly enforce its Golden Rules, which were established in 2009 and cover the most accident-prone activities.

### HUMAN RESOURCES

At the end of 2010, Yara had 7,348 employees worldwide. This represents a net reduction of 281 from the 7,629 employees in 2009, despite the company's continued global growth. The reduction was largely due to the closure of the retail business in South Africa, and synergies in Brazil, Finland and France. Staff turnover continued to decrease, from 14 percent in 2009 to about 10 percent in 2010. As was the case in previous years, staff turnover was highest in Brazil. About 23 percent of Yara's employees were female, which reflects the industry's historical male dominance. In addition to its permanent employees, Yara also had 1,707 contractors, consultants and temporary employees working for the company in 2010.

In 2010, Yara implemented a new human resources (HR) strategy, transformed the company's HR organization into a global function, and launched a Talent Management Framework (*see page 18*). The latter was created to get the right talent for the right positions, while guiding and encouraging employees who seek rewarding work and personal development. In 2010, nearly 90 percent of Yara's employees received performance appraisals and close to 40 percent participated in programs for skills and career management. Globally, Yara spent approximately NOK 24 million on external training, equaling about NOK 3,360 per employee. On the internal front, a standardized training program for the Ethics program (*see page 24*) was rolled out throughout the organization. All employees are required to complete at least 1.5 hours of ethics training and review ten video programs focusing on ethics training. About 83 percent of all employees received training in this program in 2010.



**UN Global Compact:** Yara has decided to embrace, support and enact the United Nations Global Compact initiative. The UNGC is a strategic policy initiative for businesses committed to ten universally accepted principles on human rights, labor environment and anti-corruption.

For more information, please visit [www.unglobalcompact.org](http://www.unglobalcompact.org)



**FTSE4Good:** FTSE Group confirms that Yara International ASA has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index company FTSE Group, FTSE4Good is an equity index series that is designed to facilitate investment in companies that meet globally recognised corporate responsibility standards. Companies in the FTSE4Good Index Series have met stringent social and environmental criteria, and are positioned to capitalise on the benefits of responsible business practice.

For more information, please visit [www.ftse4good.com](http://www.ftse4good.com)



Text: Yara, Styrkr  
Design: Creuna  
Photo: Yara

Oslo, April 2011



**Yara International ASA**

Bygdøy allé 2  
P. O. Box 2464, Solli  
NO-0202 Oslo  
Norway

[www.yara.com](http://www.yara.com)

**CITIZENSHIP REPORTS:** This is the fourth consecutive year Yara has reported upon its Corporate Citizenship performance, principles and initiatives. Citizenship reporting is an integral part of Yara's annual reporting. [www.yara.com/citizenship](http://www.yara.com/citizenship)

GLOBAL CHALLENGES   GLOBAL OPPORTUNITIES   GLOBAL CONTRIBUTIONS