



His Majesty King Mohammed VI May God Glorify Him



O1
Interview
with the Chairman & CEO

03

**OCP, committed** to resilient and sustainable agriculture

Leveraging strengths to achieve results

Focusing on African agricultural

transformation

A Group mobilized for the climate

Enduring value through responsible performance

#### INTERVIEW WITH MOSTAFA TERRAB CHAIRMAN & CHIEF EXECUTIVE OFFICER



Our strong resilience through cycles enabled a virtuous path towards growth and innovation for our Group.

#### How do you assess OCP Group's performance in 2016?

The Group reported positive performance for all our business activities. 2016 was full of challenges for OCP, characterized by our strong resilience in a highly volatile market and by the success of our strategy mainly focused on product portfolio value optimization. This approach enabled us to achieve our objectives and maintain the path towards growth, innovation and product diversification.

Thanks to our leadership position, we were able to report profitability levels as planned despite the difficult market environment. While consolidated revenues recorded a slight drop, our end-year EBITDA margin reached 30%, remaining among the best in the industry. Facing a gloomy market and seasonality effects. OCP Group has been able to build on its fundamental assets and respond effectively to a constantly changing market. Our continued growth is supported by our operational excellence, our cost reduction policy and the new capacities that we have developed,

in line with our investment program started in 2008 which aims to double our mining capacity and triple our processing capacity by

#### 2016 marks a crucial milestone in the progress of OCP Group's industrial transformation program. What conclusions can vou draw?

2016 marked the end of Phase I in our industrial development program, completed in line with our planned goals. Operational investment was 13,3 billion dirhams at year end 2016. This investment resulted in tangible results with an increase in our capacities, which will reach 12 million metric tons by the end of 2017 as planned. The optimized use of our facilities in Jorf Lasfar has further improved our fertilizer production capacity. The opening of Jorf Fertilizer Company II, the second integrated fertilizer plant in the Jorf Phosphate Hub, is effective since the second half of 2016 and is expected to gain momentum in 2017.

#### **OCP** continues to increase innovation and diversification. Is the development of specialty products with high added value intended to serve the Group's ambitions for Africa?

Strongly committed to South-South cooperation development, we put Africa at the heart of our growth plan using a personalized approach, which led to the creation of OCP Africa. The newly created subsidiary aims at meeting the challenge of a structured, efficient and sustainable agriculture. We already opened nine offices to supply the continent with sufficient quantities of fertilizers and provide producers with all the means to succeed access to adapted and affordable products, services and support, as well as logistical and financial solutions. We also implemented key partnerships in the most profitable markets, as in Ethiopia where we signed a project with the government to build a world-class fertilizer plant by 2022, with a capacity of 2.5 million metric tons per year, to reach 3.8 million metric tons in the near future. Other projects implemented this year include those in Nigeria with significant potential in the short

#### COP22, the 22<sup>nd</sup> United Nations Framework Conference on Climate Change, was held in Marrakesh in November 2016. What role did OCP play in COP22?

Climate change is one of the most critical global challenges of our times. This issue is of immense importance for every global citizen and institution. As a historical player fully committed to environmental preservation, we embraced the climate change issue through a finely defined environmental strategy and that we continue to implement throughout the years. The slurry pipeline construction is of the best examples in terms of reducing greenhouse gas emissions.

The organization of the COP22 in November in Marrakesh represented an excellent opportunity for exchanging about new models of positive economics. This occasion allowed us to show how our Group combines economic performance and protection of resources through tangible achievements. We presented seven innovative COP22 labeled projects which affect the entire Group's value chain, from mining to processing all the way to transportation.

I am also thinking of the interactive and innovative «Climate-Smart Agriculture,» developed to better address climate change. This initiative originates from a partnership between the Mohammed VI Polytechnic University and the Climate Interactive NGO which aims to strengthen the capacity of African leaders to combat climate change and to prepare them to take part in climate negotiations. It also aims to help develop a decision-making tool integrating the Climate-smart Agriculture approach to reduce greenhouse gas emissions (the agricultural sector produces nearly 25% of global emissions) and identify the most urgent issues in Africa. Since the launch of the project in May 2016, many training workshops were held in Morocco, Ethiopia, Ghana, Côte d'Ivoire, Nigeria and Kenya.

#### Do you have anything to say about the Group's ambitions for the future?

The current outlook ensures adequate and positive profitability levels for the Group. Although the phosphate market approached its lowest point in 2016, we have seen increased prices in the first guarter of 2016, thanks to increased demand in key import markets. The market will therefore continue to be affected by the supply. Industry trends also affect this

reality, specifically the growth in world population, the reduction of arable land and the growing need for fertilizers. All of them are indicators that encourage us to expect a sustained demand thanks to a stable agricultural activity and reduced raw material prices.

Due to our new capacities and the expansion of our product range, with packages tailored to the needs of farmers, our export volumes increased significantly in 2016: the recovery of demand from Latin America, and more specifically from Argentina and Brazil, led to an increase in our exports with volumes growing by 0.9 million metric tons in 2016, while our exports to Africa rose by 70%, up to 1.7 million metric tons.

We are aiming today to pursue our path towards growth and innovation, through a co-construction approach, in every aspect of our business, along with our partners and all of our stakeholders. This ambition is what we are bringing forth today as part of the inauguration of Phase II of our industrial transformation program. Its success, which will be shared by all our employees, will enable us to go a step further in our desire to rally all stakeholders in the agricultural sector that share OCP's vision for resilient, responsible and ethical agriculture.



2016 illustrates a year of growth for OCP, characterized by technological advances, new contracts, consolidated partnerships, new subsidiaries and continued awareness and training programs for farmers. A year during which OCP continued its Industrial Development Plan in Morocco and internationally, strengthening its presence in Africa and its strategic agility in a context marked by the slowdown in global growth.



INAUGURATIO **SEAWATER DESALINATION PLANT** 

ROYAL INAUGURATION // His Majesty King Mohammed VI inaugurated the Africa Fertilizer Complex, a fertilizer production plant which will support the growth of African markets by providing a continuous and regular supply of fertilizer. Fully integrated, the plant has a sulfuric acid unit with a capacity of 1.4 million metric tons per year, a phosphoric acid unit with a capacity of 450, 000 metric tons per year, a fertilizer unit which can produce one million metric tons of DAP equivalent per year, a 62 MW thermoelectric plant and different storage infrastructures that can accommodate 200,000 metric tons of fertilizer, providing more than two months of autonomy

ROYAL INAUGURATION // His Majesty King Mohammed VI inaugurated the desalination plant in Jorf Lasfar: the Group relies on the use of non-conventional resources to meet its water needs for the Jorf Lasfar platform. Planned in three phases, the commissioning of the first desalination unit was effective during the first half of 2016.







program was launched by His Majesty King Mohammed VI, and covers the entire phosphate value chain with the implementation of an integrated fertilizer production platform with an annual capacity of one million metric tons and capacity building in treatment and port logistics.



#### FERTILIZER **COMPANY II**

**DEVELOPMENT //** The operational launch of the second integrated unit at Jorf Lasfar (JFC II) is effective from the second half of 2016, following the launch of the first fertilizer production plant for Africa in 2015 and inaugurated in 2016, with an additional capacity of one million metric tons of fertilizer annually. This second unit is fully integrated and also has a phosphoric acid manufacturing unit producing 450,000 metric tons of  $P_2O_5$  per year and a 1.4 million metric ton sulfuric acid unit. This new plant has a 62 MW thermoelectric plant and storage infrastructure.



**DEVELOPMENT //** OCP launched drying operations at Jorf Lasfar, designed to treat the rock coming from the Slurry Pipeline and commissioned the first drying line. The Downstream project linked to the adaptation of production processes for the new Slurry Pipeline mode of transport consists in building a filtration, drying and pelletizing plant at the Jorf Lasfar site, for the packaging of phosphate pulp transported from Khouribga by pipeline with the aim of producing 10.5 million metric tons of dry



per year

phosphate intended for export.



**REGIONS\*** 





**ETHIOPIAN GOVERNMENT** 

A capacity of **2.5**Mt of fertilizer per year by 2022

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COOPERATION // OCP and the Ethiopian Ministry of Public Industry signed a strategic partnership for the construction of a worldclass fertilizer plant in Ethiopia in November 2016. This platform will produce ammonia, urea and fertilizer using local Ethiopian gas and Moroccan phosphate. Production should begin in 2022, with a capacity of 2.5 million metric tons of fertilizer per year to reach 3.8 million metric tons in the near future.

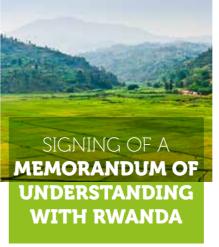


INVESTMENT // OCP Group and Kribhco. the largest Indian cooperative, finalized a 50/50 joint venture dedicated to the construction of an NPK fertilizer production unit at Krishnapatnam in Andhra Pradesh for an annual production capacity of 1.2 million metric tons. This alliance will enable a continuous supply of high-quality NPK fertilizer to Indian farmers.

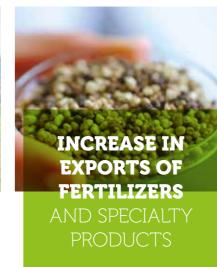




**COOPERATION** // Under the chairmanship of His Majesty King Mohammed VI and the President of Nigeria Muhammadu Buhari, two phosphate and fertilizer agreements were signed on Friday, December 2 in Abuja. The first relates to a strategic agreement with Dangote to build a fertilizer production platform, supplied by Moroccan phosphate and Nigerian natural gas. The second is a protocol agreement with the Fertilizer Producers and Suppliers Association of Nigeria (FEPSAN). This agreement aims to achieve a production volume of 1 million metric tons of NPK per year by 2019 and secure a supply of phosphate fertilizer for Nigerian farmers.



COOPERATION // In October 2016, the Rwandan Ministry of Agriculture and Animal Resources and OCP signed a memorandum of understanding on an industrial investment in local blending units for the production of fertilizers suited to crops and soil. By strengthening Rwanda's blending capacity, this «win-win» partnership will provide added value for the local population and local farmers and improve crop yields.



MARKETS // OCP has had good results in the volume of fertilizer exports totalling 6.6 Mt of products, up by 55% compared to the previous year (4.3 Mt). OCP Group's differentiation strategy, through an increasingly diversified and tailored specialty product portfolio (fertilizers and livestock supplies), boosted the volume of specialty product (NPS, NPK, DCP, and MCP) sales, which jumped by nearly 50%, from 1.2 million metric tons in 2015 to nearly 1.7 million metric tons in 2016. The main areas in which in fertilizer exports increased are Latin America, Africa and North America.



of fertilizer produced in 2016



increase in fertilizer exports to Africa



OUTREACH // The launch of OCP Africa, a wholly-owned subsidiary of OCP Group, will contribute to the development and transformation of African agriculture and greater outreach to the continent's small farmers. OCP Africa intends to use African raw materials and to process them on the continent in order to provide the right fertilizer at the right place, at the right time and at the right price. This strategy has four main components : agronomy, production, logistics, and marketing & distribution. 2016 was marked by the opening of nine OCP Africa subsidiaries for a greater outreach with its African clients.





PRODUCTS // The Group signed a strategic agreement with Shell for the acquisition of its Shell technology, Thiogro. Implemented on the OCP Jorf Lasfar platform, it will enable sulfur-enriched fertilizer production which promotes sustainable agriculture. In addition to supporting the diversification of the Group's products portfolio, this agreement will provide end-users with the opportunity to increase their crop yields while protecting soil health.



INNOVATION // OCP Group presented seven innovative projects that have obtained the «COP 22» endorsement during the world event which took place from November 7 to 18, 2016 in Marrakech. These projects cover the Group's entire value chain, from extraction to processing to transport. Beyond the industrial process, they also drive development in terms of the capacity-building of local territories and populations. The Group also provided a platform for discussion and debate about Climate topics and issues, including future challenges such as smart agriculture, the 4.0 industry and climate justice.



CERTIFICATION // After Safi and Gantour in 2014, the Khouribga, Jorf Lasfar and Phosboucraa sites obtained the "PROTECT & SUSTAIN" certification issued by the International Fertilizer Industry Association (IFA). This international recognition allows the Group to join the circle of 22 P&S certified industrial companies. As part of this certification, six fields of activity were examined: management system, product development and planning, sourcing and contractor management, production, customer supply chains and marketing & commercial aspects. By adopting the 12 P&S principles, the entire phosphate value chain is affected by requirements for product quality and facility safety and security.



INTERNATIONAL DEVELOPMENT // OCP sets up in North America, represented by OCP Research Services LLC. The new subsidiary will strengthen contacts with current and potential clients and will enable strategic monitoring of the phosphate market and world prices. In Beijing, opening the office through OCP S.A Beijing Representative Office aims to better identify the needs of the Chinese market. Finally, international expansion continued with the creation of SAFTCO in Geneva for trading activities and OCP Support Services Private Limited in the State of Haryana in India.



MEDIATION // To maintain good relations with its business environment, the Group launched the Office of the Ombudsman, an impartial body representing neither the Group nor involved stakeholders and designed to provide amicable resolutions to disputes, while strictly respecting principles of confidentiality and impartiality. The work of the Ombudsman conforms to international standards in the matter and enables file investigation following a careful examination of the different parties while respecting the realities of a given situation.

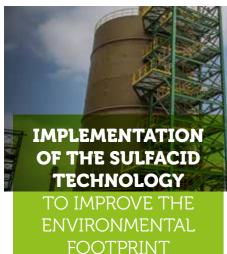


bond worth 5 billion dirhams on the domestic market, in the form of perpetual subordinated bonds divided into three installments, to fund its Industrial Development Program. The offering was twice oversubscribed and represents the largest bond issue to date on the Moroccan market.





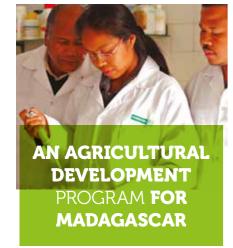




96% reduction in SO<sub>2</sub> emissions

ENVIRONMENT // OCP began the implementation of the SULFACID technology on a second sulfuric acid production line at Jorf Lasfar, among the five lines planned. In addition, the deployment of this technology also started on the Safi site. This process is an innovative solution to reduce the environmental footprint and significantly reduce sulfur dioxide emissions. It marks a historic turning point where emissions went from values above 600 ppm to values below 15 ppm. In addition to its significant environmental impact, this project improves productivity as stack gases are converted to acid and recovered in production.





**COOPERATION //** The Group through its foundation organized a cycle of technical training for the 11 Madagascan agronomist executives within the framework of OCP Foundation's Agricultural Development Program. The latter is an integral part of the agricultural cooperation program launched with the Republic of Madagascar's Ministry of Agriculture, Livestock and Fisheries. The training, which focused on soil fertilization, geographic information systems and monitoring of fertilizer quality, provided Madagascan agronomists with the scientific and technical capacities required to deploy the cooperation program, which includes organizing an agricultural caravan and elaborating a fertility map in Madagascar.



**ENTREPRENEURSHIP** // OCP Group and the Morocco Entrepreneurship Network signed a partnership agreement to provide technical and financial support for 440 project developers and create 2,200 jobs by 2018. This partnership is backed by the OCP Entrepreneurship Network and is part of efforts by the OCP Foundation to support the development of the Moroccan entrepreneurial ecosystem.



SUPPORT FOR FARMERS // The OCP Agricultural Caravan took place for the fifth consecutive year and visited seven cereal- and legume-producing regions over two months, with each leg lasting two days. A campaign of 4,900 soil analyses was launched and nearly 5,800 farmers received training in best agricultural practices.

4,900 soil samples analyzed



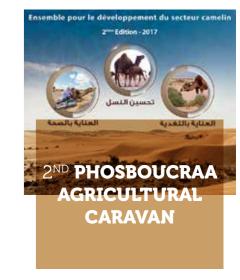


IN MOROCCO

agricultural development pilot program was launched in Côte d'Ivoire in partnership with the National Centre for Agricultural Research, the Rural Development Council and the Coffee-Cocoa Board. With the aim of increasing yields and income of small farmers in strategic African crops, the OCP School Lab visited 16 villages and reached nearly 1,000 farmers. The latter benefited from a package of agricultural services including training in good agricultural practices and a mobile laboratory giving farmers access to the latest soil analysis technologies.

1,000
farmers
were beneficiaries

16
villages involved



The 2016 Phosboucraa Agricultural Caravan, organized by the Phosboucraa Foundation, reached 700 small livestock raisers and farmers in the Es Smara and Birgandouz regions. It is part of OCP and its Foundations' continued support for the Green Morocco Plan. For its second edition, this outreach work aims to disseminate effective agricultural production techniques and develop the camel breeding sector through its four phases: genetics, nutrition, health and development & marketing.

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#### **KEY FIGURES**

#### PHOSPHATE ROCK



PRODUCTION 26.9Mt\*

MARKET SHARE \*\* 30%

MARKET SHARE \*\*

47%

EXPORTS

7.9Mt

EMPLOYEE BREAKDOWN

20,980







**57.3%**Workers
and employees

**31.7%**Technicians, supervisors and administrative managers

11% Managers



**PHOSPHORIC ACID** 

PRODUCTION 4.9Mt (P205)

EXPORTS

1.8Mt (P205)

Revenues were boosted by a **50%** increase in **fertilizer sales**.

#### **PHOSPHATE FERTILIZERS**



PRODUCTION

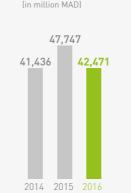
MARKET SHARE \*\* 20%

**EXPORTS** 

6.6Mt

42,471 million MAD

EBITDA\*\*\*



CONSOLIDATED REVENUES\*\*\*





NET PROFIT GROUP SHARE\*\*\*

(in million MAD)



INVESTMENT\*\*\*

The Group recorded strong performance and good profitability levels despite difficult conditions.

\* Millions of metric tons

\*\* IFA 2016

#### 2016 REVENUE BREAKDOWN BY CATEGORY

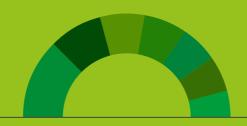


Phosphate rock

Phosphoric acid

- 50% Phosphate fertilizer

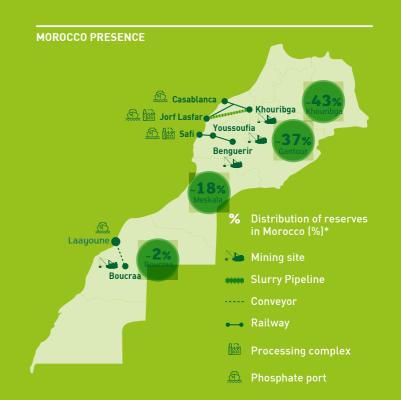
#### 2016 REVENUE BREAKDOWN BY REGION



- Africa
- Latin America
- Southern Europe India
- North America
- Other
- Western Europe

#### An **integrated** Group throughout the value chain

- 4 mining sites
- 2 processing platforms
- 4 phosphate ports

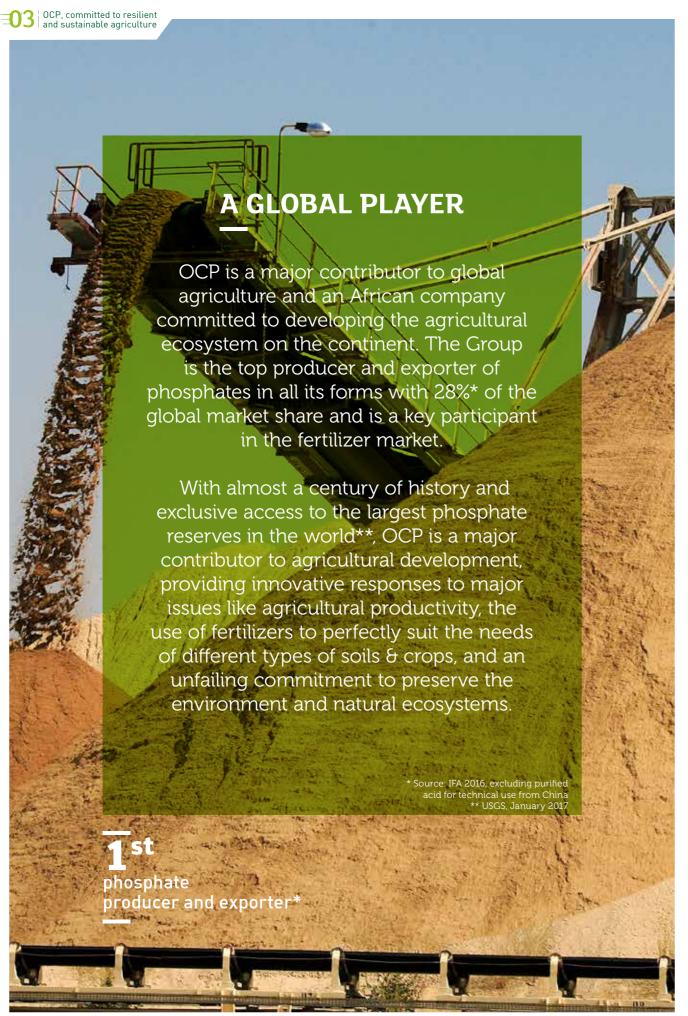




The Group benefits from its geographical diversification and commercial agility with significant market

**Exports to Africa** increased by 70% this





## Industry leader committed to developing global agriculture

OCP Group is a key player in the phosphate and phosphate derivatives market. It is the main supplier of this mineral essential to the agricultural fertilizer industry and an agriculture that is capable of feeding the planet, while respecting lands and communities. Because of this responsibility, the Group is committed to a proactive strategy based on anticipation, adaptability and knowledge of its clients and their need for customized services. Also, based on experience stretching over nearly a century and the largest phosphate reserves in the world\*, OCP Group works actively to make progress and growth sustainable and continue to create value for its clients, employees, partners and the communities surrounding it. This strategic approach enables the Group to be present throughout the value chain: it extracts, processes and markets phosphate and its derivatives in a historic commitment to support small farmers, protect the environment and energize the market.

## **OCP** fertilizers for precision agriculture

Increasing agricultural productivity and the potential of farmers is not limited only to distributing fertilizers. It also involves creatingintegrated solutions that respond to the challenges faced by the small farmers in the world. In addition to technological solutions for precision agriculture, optimizing the management of plots by adjusting intake to be closest to the plant's needs, reducing the impact of agriculture on the environment, and R&D initiatives to develop fertilizers adapted to different specific needs, the Group's action also includes support measures for farmers (Fertility Maps, OCP Caravans, School labs, etc.).

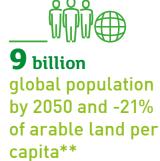
OCP is the privileged partner of Moroccan agriculture and exports its model internationally. The Group works increasingly to apply its know-how and expertise, within the framework of a participatory approach, and through several mechanisms and highperformance programs to develop agricultural activities and promote entrepreneurship and innovation among farmers, both in Morocco and throughout the African continent.

> OCP contributes to feeding a growing global population in a cost-effective and sustainable manner.

#### Supporting global food security

contributes to feeding a growing consumption. Fertilizer production is











## **Competitive advantages**

Exclusive access to the largest phosphate reserves in the world, i.e. approximately **73% of total reserves** according to the USGS\*.

**Vertical integration** across the entire value chain and leading industrial & technological facilities, including transport of the rock by Slurry Pipeline.

One of the best production cost structures in the phosphate and phosphate derivatives industry.

A **diversified product portfolio** and a strategic international presence.

An agile and flexible industrial & commercial strategy, allowing the Group to gear its production and sales towards **products offering the highest added value**.

**Almost one century of expertise and know-how** in the phosphate industry.

## An agile and flexible industrial & commercial strategy

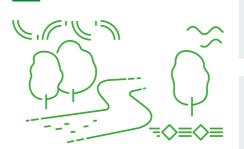
Vertical integration, reduction of operational costs, economies of scale, etc. OCP has a unique position in the industry through a significant presence in the three segments of the value chain (rock, acid and fertilizer). An ambitious and modular investment program of nearly 200 billion dirhams for upstream and downstream activities adopted by the Group for the 2008 to 2027 period, to respond to a growing global food demand. OCP aims at expanding operations in Morocco through increasing its mining and processing capacities and consolidating its positionning in the fertilizer industry.

The ability to quickly adapt its product mix to produce different volumes of minerals, acids and fertilizers and to adapt to market volatility and seasonality represents a real competitive advantage. Diversification of the product portfolio/region/client, the Group's strong industrial presence and sales force allow for maximum agility and flexibility while strengthening its leadership.

OCP has therefore developed business models that are more appropriate to the specific needs of certain regions, such as in Africa where, through its dedicated subsidiary, «OCP Africa», the Group is expanding its presence in the downstream value chain to be closer to African farmers.

OCP enjoys robust competitive benefits that address a cyclical market while drawing maximum benefit from the the agricultural industry's sound fundamentals.

## **Key figures**



Revenues 42.5 billion MAD

margin 30%

CAPEX of nearly
200
billion MAD
(2008-2027)

Market share\*\*
28%

\* Known to date according to USGS, January 2017.

\*\* Share of the world phosphate market in all its forms, IFA 2016 - excluding purified acid and acid for technical use coming from China More than 160 clients worldwide

30 Subsidiaries & Joint Ventures

## **Fundamentals** that guarantee long-term growth

Given the volatility of the economy and its rapid changes, OCP capitalizes on fundamentals to effectively respond to a constantly changing market. OCP's sustainable growth occurs through several drivers. When combined, they promote synergy and help create value throughout the value chain.



#### **Financial**

The Group's robust financial position facilitates access to diversified sources of funding and helps support the investment program for years to come, as well as a progressive and effective rollout of resources and capital.



#### Social

The Group's operational activities serve as catalysts to make positive and sustainable contributions within communities where OCP operates, while working in partnership with NGOs, civil society and other partners. The Group acts with full integrity and seeks to maintain partnerships with its stakeholders, prioritizing respect and dialogue.



#### Linked to activity

OCP is the largest phosphate\* producer and exporter and is a major contributor to agricultural development, providing innovative responses to major issues like agricultural productivity, the use of appropriate fertilizers for soil & crops, and above all, to the relentless quest for solutions that preserve the environment and natural ecosystem. The global challenge of food security encourages our R&D efforts to achieve major advances in specialty products and promote sustainable agricultural practices.



#### **Natural**

The Group has a portfolio of varied, high-quality reserves and resources. According to the USGS study, Morocco has the largest phosphate deposits in the world with nearly 50 billion metric tons, i.e. more than 73%. The estimated commercial deposits represent several hundred years of global phosphate consumption. The average P<sub>2</sub>O<sub>5</sub> content of the rock currently mined by the Group is estimated at approximately 31%, based on IFA estimates.



#### Manpower

OCP Group employees are a pool of talent with technical and very specialized expertise in all areas related to the mining and processing business. Nearly 21,000 OCP employees work in Morocco every day and across the world for resilient and sustainable



#### Linked to governance

OCP'S goal is to become the industry leader, with long-term performance and responsible action. The principles of effective and transparent governance are essential to ensure stakeholder confidence in the supervision, management and operations of the Group.

## Appropriate responses to the planet's major challenges —



#### **Population growth**

The world population quickly reached 7 billion people and will exceed 9 billion by 2050. Being able to feed a growing world population is therefore one of the main challenges facing the world. But this challenge is compounded by the threat of climate change, an increasing shortage of water, reduced arable land, etc. In this context, the Group works every day to improve soil fertility using appropriate fertilizers and helping farmers increase their yields. A fair balance between better crop productivity and social and environmental objectives is now a prerequisite for a lasting response to global demand.



#### **Productivity of the land**

Intensive agricultural practices have a direct impact on soil fertility. Soil erosion and loss of topsoil effectively lower the nutrient content of soils. In this context, only the balanced use of fertilizers, based on the principle of proper nutrient dosage, or the appropriate product at the right time and place, is able to improve soil fertility to reach the crop system productivity, profitability and sustainability goals and maintain a productive biophysical environment. Another major challenge, the demand for agricultural water in most countries should increase to over 70% of the current level if land productivity and water use are not improved.



#### **Price volatility**

Continued population growth during the coming decades will lead to an increased demand for food. Climate change and the depletion of natural resources will dampen the supply in terms of average production and production volatility. Increasing prices could be the main problem for global food markets. Given these challenges, the use of more appropriate and effective fertilizers while implementing tools for management and precision agriculture helps reduce doses, and therefore costs, and improve productivity while minimizing the environmental footprint.



#### Changing consumption habits

The demand for food will continue to increase not only due to population growth, but also to rising incomes and different eating habits for the more prosperous, with increased consumption of meat, meat derivatives and dairy products.



#### **Development** of bioenergy

Combating climate change encourages research for new sources of renewable energy that emit less greenhouse gas. Demand for biomass energy is growing and its recuperation for non-food uses creates tension relating to their environmental footprint. The development of bioenergy leads to changes in soil use and has an impact on fertilizer demand.



#### **Climate change**

Climate change increases the pressure on the agricultural production system. There is a stark increase in the frequency and intensity of droughts and floods in certain regions of the world. This has an impact on the scale and productivity of irrigated and non-irrigated crops and , in turn, food prices and price volatility.

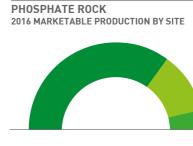




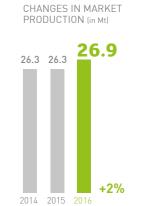
### **Targeted** industrial performance

2016 was a challenging year for all OCP Group activities: production levels were perfectly aligned with operational forecasts for mining and processing and the launch of the Group's new projects. The focus was put on the development of specialty products for high added-value markets. The growth of production volumes in 2016 compared to the previous year boosted the Group's business agility in a context characterized by a strong demand for niche products.

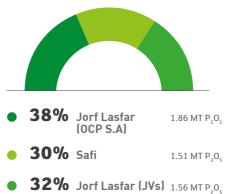
This performance was reflected on the business and financial levels as the Group completed yet another year of steady growth with some of the best margins in the industry and profitability that met all expectations, despite a slight drop in sales.



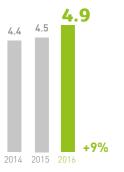




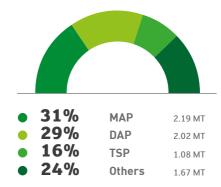




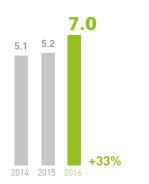




#### FERTILIZER 2016 PRODUCTION BY PRODUCT







**FERTILIZER - JORF LASFAR** 2016 PRODUCTION BY PRODUCT

41%	MAP	1.91 MT
<b>25</b> %	DAP	1.14 MT
34%	Others	1.58 MT

FERTILIZER - SAFI 2016 PRODUCTION BY PRODUCT

90%
<b>10</b> %

**TSP** 0.83 MT **Others** 0.09 MT

MAP: Mono-Ammonium Phosphate, binary fertilizer composed of two fertilizer agents - phosphorus and nitrogen
 TSP: Triple Super Phosphate, concentrated phosphate fertilizer, highly water-soluble.

## Khouribga





In 2016, record-breaking **production** was achieved in Khouribga in extraction tonnages, destoning and beneficiation volumes, as well as in sales volumes.

#### Remarkable operational Performance in Khouribga



60% of additional volume transported by **Slurry Pipeline** 

#### The new Beni Amir washing plant on stream

2015. It was designed to supply the Slurry Pipeline's head station with a treatment capacity of 12 million metric tons. The commissioning of facilities continued in 2016 with operations starting on the Beni Amir TSM1 destoning-screening tremie and

100,000 trees planted

on the mining site

As part of the mining rehabilitation program, over 200 people representing the entire population of the Khouribga site planted 110,000 trees on an area of 300 ha.



Objective to reduce fuel consumption by

**50%** 

As part of the Energy Program, the gradual abandonment of drying resulted in a 50% reduction in fuel consumption.

→ Positive impact on the carbon footprint



Positive impact on the carbon footprint with a reduction of approximately 300,000

metric tons of CO, eq. 2016 results for greenhouse gas emissions (GHG) were 880,000 metric tons of  $\mathrm{CO_2}$ 

equivalent. Efforts to roll out the GHG emissions policy continued with the implementation of CO, analyzers installed in drying ovens.



IFA Protect & Sustain certification with a

95%

New reward for efforts in operational excellence and management of the quality of industrial assets, with the IFA Protect & Sustain certificate of excellence obtained with a score of 95%.



2016 COMPARED TO 6.5 MILLION METRIC TONS TRANSPORTED IN 2015



## Gantour

7.4Mt
Phosphate extracted in Gantour

The record-setting trend in Khouribga also carried over to the **extraction activity at the Gantour site**, which includes the Benguerir and Youssoufia mines: a total of 7.4 million metric tons were extracted in 2016, up from 7.3 million metric tons the previous year. Local shipments of G10 phosphate totaled 4.2 million metric tons of dry & marketable phosphate, setting a record compared to 2015.

\_\_\_\_\_\_ L **1**км

link between the Mzinda mine and the washing plant

Initiated in 2015, constuction works of 11-km system of conveyors to link the Mzinda mine and the washing plant in Youssoufia continued in 2016. The project is 75% complete, in line with progress projections.

LOCAL SHIPMENTS SET A NEW RECORD IN 2016.

#### Continuation of Mine Rehabilitation Work

In addition to the deployment of environmental standards and the actions undertaken as part of the Environmental Excellence Program, other advances took place at the Gantour site, including:

Soil survey and study of appropriate species for **400 ha** of former mining sites at the Youssoufia mining site.

- Development and rehabilitation of 400 ha of former mining sites at the Youssoufia mines.
- Launch of operation to plant fruit trees, forest trees and fodder shrubs.
- Continuation of work to rehabilitate the Benguerir mining site: **240** ha developed and **67,000 trees** planted.

Phosboucraa ——

1.9 Mt
Tonnage extracted

1.8 Mt
Phosphate rock
marketable production



31%
Increase in shipments of rock phosphate

The **Phosboucraa site's production activities** have maintained a steady extraction rhythm, reaching 1.9 million metric tons of extracted phosphate up from 1.6 in 2015. Marketable production increased by 30% to reach 1.8 million metric tons at year end 2016.

## Continued exploration work

Exploration work continued with the completion of several wells in the areas bordering the former mines at the Phosboucraa site. At mine A, the box cut was successfully carried out in the interest of resuming operations, with 80,000 metric tons of dry and marketable phosphate projected in the medium-term.

## Several improvement projects initiated

These achievements took place in parallel to the work carried out to prepare the site for the industrial projects that will be commissioned in accordance with the Industrial Development Plan.

PROGRESS IN
COMPLIANCE WITH
THE DIFFERENT
FEASIBILITY, PROCESS
AND ENVIRONMENTAL
IMPACT STUDIES.

#### Maintenance work on industrial equipment and facilities

Improved reliability of machines and dragline excavators, reinforced electrical installations, new control systems, new heap leach conveyor line, etc. In addition, the washing plant was inaugurated by His Majesty King Mohammed VI in February 2016, and work continued on the project to restore the wharf in anticipation of future increased production capacities.



IFA «Protect & Sustain»
Certification with

97% score

A new reward for operational excellence efforts, the Group earned the IFA Protect & Sustain certificate of excellence with a score of 97%



## Jorf Lasfar

1.86Mt P<sub>2</sub>O<sub>5</sub>
Phosphoric acid production\*

1.91Mt
MAP production\*\*

1.14mt
DAP production\*\*

#### In 2016, production in Jorf Lasfar registered several records.

## Increased production volumes

- Annual production of fertilizer reached 4.63 Mt, up from 3.91 Mt produced in 2015.
- NPK production volume rose to 0.78 Mt, up from 0.56 in 2015.
- Liquid sulfur production reached 3.22 Mt, up from 2.97 Mt in 2015.
- Production of phosphoric acid at the PMP plant rose to 443 Kt  $P_2O_5$ , up from 427 Kt in 2015.

## New formulas of adapted fertilizers

The year 2016 marked the culmination of OCP's efforts to develop new formulas tailored to each region's specific needs. These 30 different fertilizer grades, including 3 new formulas of NPK, marked processing operations. Production of NPK grades saw a 30% rise in productivity.

#### Reinforced capacities

- Royal inauguration of the Africa Fertilizer Complex in February 2016.
- Start of JFC II production units in July 2016.
- Africa Fertilizer Complex production units reached nominal pace.

## Committed to the highest standards

The structuring project involving the construction of a new Environmental Management System for the entire Jorf Lasfar platform was launched in accordance with the new ISO 14001: 2015

#### Airborne emissions

By modifying two other phosphoric acid production lines to use pulp in July 2016, stack fluorine emissions dropped below 5 mg/Nm³. Discontinuing dry milling of phosphate has eliminated dust emissions completely.



plant with a capacity of

25Mm³/year

Inaugurated in February 2016, the new seawater desalination plant has a processing capacity of 25 million m<sup>3</sup> in its first phase.





WERE DEVELOPED IN 2016.

Companies).

\*\* Excluding Joint Ventures and Jorf Fertilizer Companies.

<sup>\*</sup> Production of phosphoric acid from Maroc Phosphore III and IV (excluding Joint Ventures and Jorf Fertilizer

## Safi



832.6<sub>Kt</sub> Production of TSP fertilizer

#### Increase in volumes produced

- Phosphoric acid production reached 1.5 Mt P<sub>2</sub>O<sub>5</sub>, beating the previous record set in 2015 of 1.4 Mt P<sub>2</sub>O<sub>5</sub>.
- Production volumes of sulfuric acid reached 4.6 Mt, up from 4.4 Mt in 2015.
- Production of sulfuric acid on Line H at Maroc Phosphore I reached 1.23 Mt TMH, up from 1.18 Mt TMH in 2015.
- Maroc Phosphore I broke a 25-year record for phosphoric acid production, with 591.1 Kt P<sub>2</sub>O<sub>5</sub>.
- Maroc Phosphore II produced 516 Kt  $P_2O_5$ , up from 514 Kt  $P_2O_5$  in 2015.

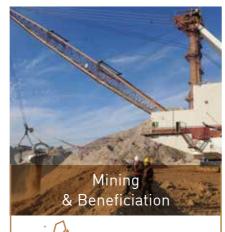


## The industrial program: in line with **OCP Group's** objectives

In 2016, the Group continued the implementation of its Industrial transformation program launched in 2008, this strategy involves an investment of nearly 200 billion dirhams and aims to promote sustainable agriculture - from extracting the rock to transporting it to processing it into fertilizer - by doubling the Group's mining capacity and tripling its processing capacity by 2027, while mitigating its environmental impact.

A number of flagship projects were commissioned in 2016, and the ongoing development projects advanced according to plan.

Overview of the industrial plan for 2008 - 2027



Khouribga - Jorf lasfar

**Doubling** capacities

2 new mines

2 new washing plants

Adaptation of 2 existing washing plants for the Slurry Pipeline

1 new downstream phosphate rock drying plant at the Jorf Lasfar site (exportation)

Gantour - Safi

Increased mining capacity in Gantour Beneficiation unit in Benguerir

Adaptation of the **Youssoufia washing** plant for the Slurry Pipeline

Boucraa - Laayoune

New storage and handling capacities

New washing plant with integrated flotation unit

New drying plant dedicated to





**Increased** industrial efficiency

Khouribga-Jorf Lasfar Slurry Pipeline: → 38 Mt/year capacity

Gantour-Safi Slurry Pipeline





capacities

4 new plants (1 Mt DAP each), including Africa Fertilizer Complex

2 new phosphoric acid (JFC eq.)





Port of Jorf Lasfar: → New docks 1.5 km in length

2 new granulation units (0.85 Mt DAP

3 new granulation units (1Mt DAP each)

2 new sulfuric acid (JFC eq.)

New integrated processing platform

#### New port at safi :

→ Construction of new docks with 8 loading berths

→ Installation of new loading/unloading areas

Port

infrastructures

→ Rehabilitation and deepening of

→ Installation of new loading/unloading

existing docks

**Enhanced** 

logistics

capacities

#### New processing platform:

→ New fertilizer plant (1Mt equivalent)

#### Laayoune Wharf:

→ New port for processing operations

**Doubling mining** capacity

**Pipeline** 

Slurry

**World class** processing platforms

**Expansion** of port infrastructures 43

#### 2016 key achievements



Inaugurated by H.M. King Mohammed VI in February 2016





Inaugurated by H.M. King Mohammed VI in February 2016

Desalination capacity [1st phase]

25 Mm³/year



Commissioned in 2016

Capacity of

Mt fertilizer/year



Commissioned in July 2016

**Capacity 2** Mt P<sub>2</sub>O<sub>5</sub>/year in the medium term



Commissioned in 2016

Capacity

10 Mt/year



Commissioned in 2016

Capacity of 35 Mt/year in term

2016 was marked by several commissioned projects and achievements including :

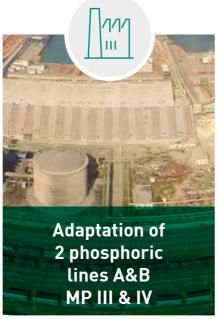
additional 1 Mt/year of fertilizer, 25 Mm³/year of water desalinated, and 10 Mt/year of ore packaged for export...

# Major projects planned in 2017



Commissioning planned in 2017





Revamping and adaptation work on lines AB and ZU planned in 2017

**Capacity 2** Mt P<sub>2</sub>O<sub>5</sub>/year in the medium term



Commissioning planned in 2017

Capacity

Mt/year



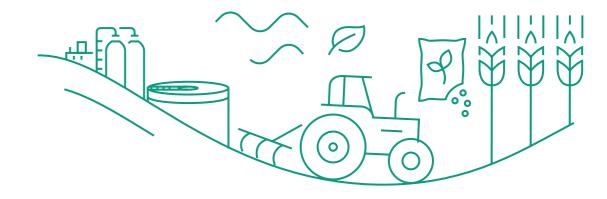
Commissioning planned in 2017

Capacity

35 Mt/year



2017 will be



## Solid business performance in 2016

Despite difficult market conditions characterized by over-supply, OCP Group was able to capitalize on its competitive strengths combining industrial flexibility, reduced operational costs and business agility to achieve strong results, particularly by strengthening its market positions for finished and specialty products with higher added value.

#### Strengthening of the Group's market positions for finished fertilizers

In 2016, surplus supply on the fertilizer market put a damper on international prices, despite growing demand and stabilized grain prices compared to 2015. On the macroeconomic front, all commodities were less volatile, including agricultural commodities. Furthermore, currency stability in the major emerging economies including Brazil, India and China, minimal weather disturbances and an improving political climate in nations like Argentina and Brazil resulted in renewed confidence in the agricultural sector. Grain prices were stable, with a slight increase in the price of soy (agricultural production) and a slight decrease in the price of corn (grain supplies) compared to 2015.

However, the eased Chinese export tax, which led to increased export opportunities and an abundance of supply from stockpiles built at the end of 2015, particularly in India, resulted in a strong decline in phosphate fertilizer prices from October 2015, with the decline worsening from January 2016 on. The DAP prices dropped from \$480 to a range of between \$330 and \$340. In this context, the least competitive Chinese producers were forced to significantly reduce their exports.

On the demand side, the lower prices of inputs, combined with a series of reforms in favor of the agricultural sector in some countries such as Turkey, Argentina and Romania, boosted phosphate fertilizer consumption, particularly in India, Pakistan, Brazil and Europe.

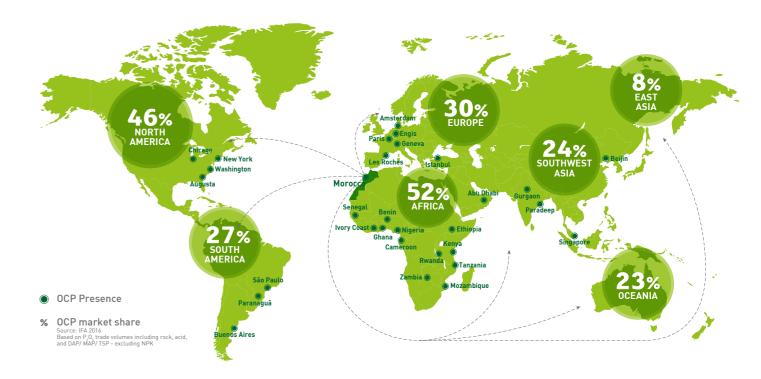
In this context, the Group continued its strategy focused on optimizing the value of its portfolio to achieve solid results, particularly by strengthening its market positions for finished fertilizer. OCP continues to develop higher added value products, allowing it to diversify and enter new markets, particularly the African and American markets.

In addition to «product» diversification, the Group's business agility is also a major asset for geographical diversification and to strengthen its market shares: 52% in Africa, 27% in Latin America, 24% in Southwest Asia, 46% in North America, etc.

increase in specialty product sales

increase in fertilizer exports in Africa

**OCP** continues to develop higher added value products, allowing it to diversify and strengthen its position in its markets, particularly in Africa and Latin America.

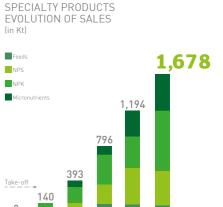


#### **A** diversification strategy that produces results

The Group achieved excellent results in 2016 in fertilizer export volumes : 6.5 million metric tons of products in total. OCP met its commitment to sustainable African agriculture by supplying the continent with sufficient and appropriate quantities of fertilizer, enabling farmers to improve their yields and protect their soils. Fertilizer exports in Africa have increased by nearly 70%: a total of 1.7 million metric tons, up from 1 million in 2015. Similarly, growth recovery in Latin America led to increased export volumes in that region. Finally, with an increasingly diversified and adapted fertilizer portfolio, OCP's differentiation strategy has enabled the Group to grow its specialty product (NPS, NPK, DCP, MCP) sales volumes by more than 40%, increasing from 1.2 million metric tons in 2015 to nearly 1.7 million metric tons in 2016.

OCP's international presence upheld its robust performance in 2016. The Group's achievements are increasingly diversified across different regions including Africa, Latin America and North America where OCP holds significant market shares.

2016 was therefore characterized by OCP Group's continued approach to develop finished and innovative products to meet the needs of farmers. OCP's commitment to high added value specialty products was achieved through the production and exportation of more than 34 formulas. Other sulfurenriched specialty products will eventually strengthen the Group's portfolio, in part thanks to a partnership between OCP and Shell for the acquisition of the Shell Thiogro



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7011 2012 2013 2014 2015 **2016** 



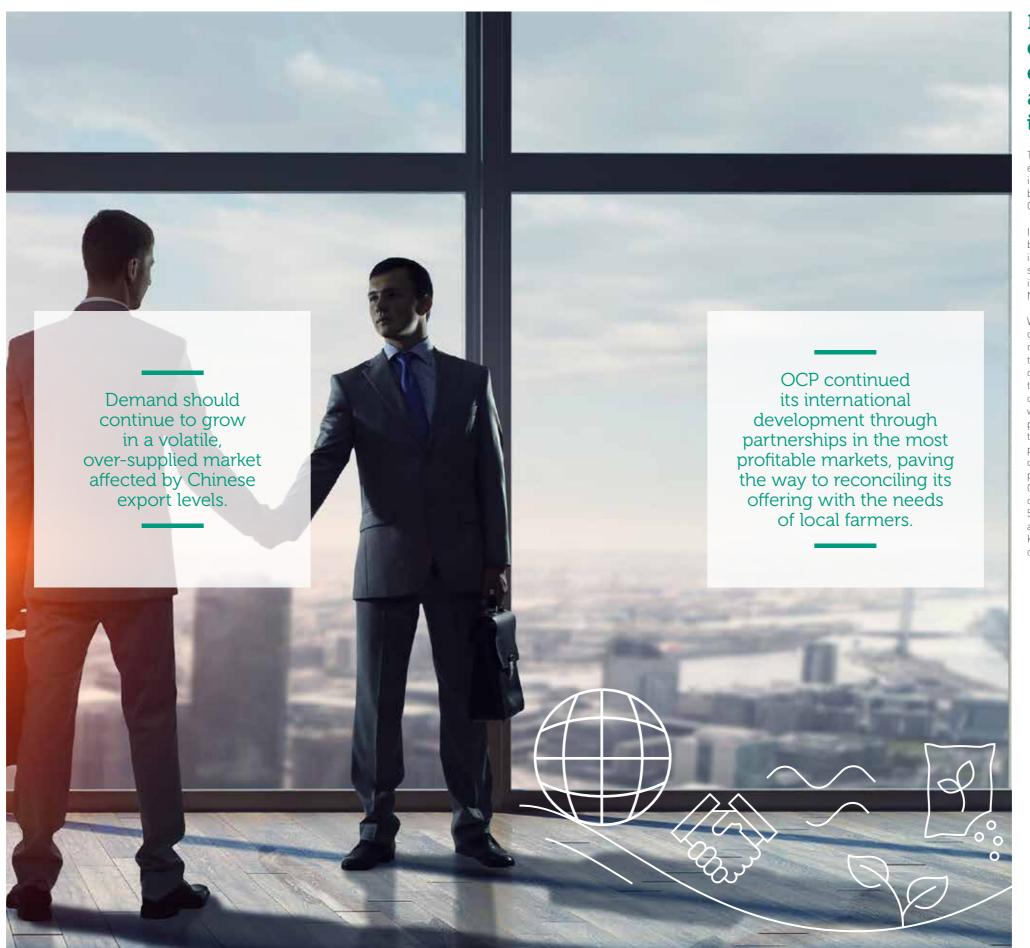
 <sup>→</sup> NPS : phosphate and sulfur-enriched nitrogen based fertilizer.
 → NPK : ternary fertilizers composed of three elements: phosphorus, nitrogen, and potassium.
 → DCP / MCP: Dicalcium Phosphate / Monocalcium Phosphate: phosphorous and calcium-based nutrient supplements used to manufacture mixed feed for farm animals.

# Positive growth outlook in a volatile context

The phosphate market should remain saturated in 2017 with the improved competitiveness of Chinese products, linked to the abolition of the export tax, the likely devaluation of the yuanband the impact of new capacities in Saudi Arabia, China, and Morocco

Nevertheless, some less competitive, old capacities could be closed for economic and/or environmental reasons, while the availability of products for export from the second quarter 2017 will be the main factor affecting prices. Demand should also continue to increase, encouraged by low input prices. In India, the reinstatement of the Indian Government's grant policy for 2017/2018 bodes well for strong growth in demand.

Furthermore, the stability of the dollar compared to the currencies of emerging economies, mainly Brazil and India, should also encourage African imports. Growth should continue in these countries, constituting another growth driver for the Group.



# International development: opening new offices and consolidation in Africa

The Group continued its international expansion by opening a representative office in Beijing with the aim of strengthening business intelligence and knowledge of the Chinese market.

In addition, OCP realized its strategic vision by securing the cornerstones of development in Africa and opening 14 new African subsidiaries, including nine created to date in Côte d'Ivoire, Senegal, Cameroon, Benin, Nigeria, Tanzania, Zambia, Ghana and Kenya.

What's more, OCP continued its international development through partnerships in the most profitable markets, paving the way to reconciling its offering with the needs of local farmers. Thus, the Group and the Ethiopian government invested in the construction of a fertilizer plant (by 2022), with a capacity of 2.5 million metric tons per year and ultimately 3.8 million metric tons per year. OCP Group also signed partnership agreements for the construction of blending units in Rwanda and a fertilizer production platform in Nigeria. In India, OCP and Kribhco, a major local agricultural cooperative, completed the creation of a 50/50 joint venture dedicated to building an NPK fertilizer production unit in Krishnapatnam, with a production capacity of 1.2 million metric tons per year.

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### OCP, driving an agricultural challenge of vision for Africa

OCP is convinced that Africa has the potential to ensure its own food security if the continent adopts effective agricultural development strategies. It is for this reason that OCP actively strives to increase fertilizer use while ensuring the long-term stability of the African market's phosphate fertilizer supply. This in turn makes it possible for African farmers to count on getting the right fertilizers for their soils and crops and leads to bigger yields.

In order to illustrate this commitment, OCP Group has seamlessly integrated an ambitious project into our 2008-2027 industrial development plan. This initiative includes new integrated fertilizer production units in the context of our Industrial Development Program. These new units are essential for attaining the critical size that allows OCP to create value for clients and stakeholders while effectively serving our supply network.

The stable supply of fertilizers dedicated to African farmers and the establishment solid partnerships with the continent's fertilizer stakeholders will also provide support for OCP Group's continued growth in Africa. This expansion will require progressive deployment of resources and capital.

OCP Africa was launched after the inauguration of the first new fertilizer production unit (Africa Fertilizer Complex). By establishing an integrated presence in many African countries, OCP is looking to expand the industrial program for sub-Saharan Africa through the establishment of similar structures built in proximity to consumer markets. These major agricultural development projects also drive African economies by creating local jobs and value during the construction and operational phases.

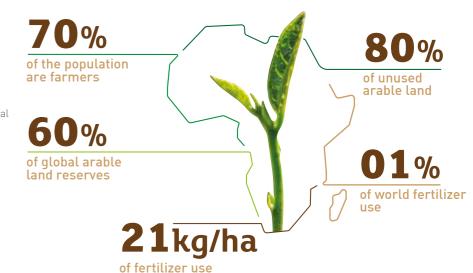
## Meeting the sustainable development with OCP Africa

Supporting the development of the African continent is one of OCP Group's strategic priorities. To this end, OCP is striving to develop a sustainable agricultural ecosystem that enables farmers to move from traditional agriculture to modern farming methods that generate greater value. OCP Group's approach makes use of locally processed African raw materials to provide the appropriate fertilizers at the right time, place, and price. This in turn increases crop yields and contributes to the responsible use of resources.

#### **Boosting the** phosphate fertilizer demand

OCP Africa is working to remove constraints and boost the demand for phosphate fertilizers on the African continent across the entire agricultural value chain. This comprehensive approach is reinforced by a sector-specific approach. As a result, OCP Africa's activities are not limited to fertilizer distribution only; they also involve the provision of comprehensive solutions for farmers, including training and funding. This long-term commitment is supported by a large network of local, pan-African, and international partners who share OCP Africa's vision for agricultural development in Africa.

#### **KEY FIGURES OF AFRICAN AGRICULTURE**



(world average: 120 kg/ha)

# A wealth of projects for 2016

#### Promoting growth in Africa through a stable supply of fertilizers

In February 2016, His Majesty the King Mohammed VI inaugurated the Africa Fertilizer Complex, a fertilizer production plant for African production aimed at supporting the growth of the continent's markets though a continuous and regular supply of fertilizers. The plant includes a sulfuric acid unit (1.4 million metric tons/ year), a phosphoric acid unit (450,000 metric tons/year), a fertilizer unit (1 million metric tons DAP equivalent/year), a 62 MW thermoelectric power plant, and storage infrastructure with a capacity of 200,000 metric tons. The Africa Fertilizer Complex, which generated 1.35 million person-days of work during its construction phase, will create 380 jobs during its operational phase.



#### Building fertilizer blending units in Rwanda

In October 2016, the Rwandan Ministry of Agriculture and Animal Resources and OCP Group signed a memorandum of understanding on industrial investment in local blending units designed for producing fertilizers specially adapted to soils and crops. As part of OCP Africa's development strategy, this agreement aims to combine the efforts of both parties in order to improve local productivity while respecting sustainable development concerns throughout the agricultural value chain. By strengthening Rwanda's blending capacity, this «win-win» partnership will provide added value to the local population and farmers through specific fertilizers adapted to their soil and crops.

## Contributing to Ethiopia's fertilizer self-sufficiency

On November 19, 2016, OCP Group and the Ethiopian Ministry of Public Industry signed a strategic partnership to build a fertilizer plant in Ethiopia. This investment is part of OCP Group's continued commitment to developing a concrete South-South partnership model.

The agreement is based on the two countries' shared vision for the development of sustainable agriculture in Africa and stronger economic ties between Morocco and Ethiopia. The first phase of the investment will involve the production of 2.5 million metric tons of fertilizer per year by 2022 and 3.8 million metric tons per year upon completion of the project. Ultimately, the initiative will enable Ethiopia to be fertilizer self-sufficient while also creating export opportunities.

The fertilizer production platform, which has been named the Dire Dawa Fertilizer Complex, will produce fertilizers with Ethiopia's potash and gas and OCP Group's phosphoric acid, thus taking advantage of the complementary nature of the two countries' natural resources. The fully integrated facility will also include all the necessary infrastructure and access to inputs, in addition to the requisite logistical, storage, and transportation framework, allowing the complex to provide appropriate fertilizers to local farmers at competitive prices.



**1Mt**annual fertilizer production capacity in Nigeria

## Serving fertilizer professionals in Nigeria

On December 2, 2016, OCP Group signed two phosphate and fertilizer agreements in Abuja. The first involves a strategic partnership with the Dangote Group to build a fertilizer production platform supplied by Moroccan phosphate and Nigerian natural gas. In its first phase, the agreement will result in the sharing of complementary production units already under construction at Jorf Lasfar in Morocco and in Nigeria's Lekki Free Zone. These units will be merged into a new structure with ownership shared by OCP Group and Dangote Industries. In its second phase, an additional fertilizer plant in Nigeria with an initial annual capacity of 1 million metric tons (by 2018) will be added to the new shared structure. The complex's production capacity could eventually reach 2 million metric tons.

The second is an agreement protocol signed with the Fertilizer Producers & Suppliers Association of Nigeria (FEPSAN) to implement fertilizer solutions tailored to Nigerian soils and crops, boost fertilizer availability on the local market, and provide support to local farmers. The agreement involves: the stabilization of local fertilizer market supply at competitive prices; the exchange of expertise for the development of local blending units; the promotion of innovation and R&D; the strengthening of local distribution networks; and the development of existing agricultural systems.

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# A four-pillared community-based approach





## Supporting African agronomy

In order to provide African farmers with fertilizers specifically adapted to local conditions, OCP is implementing programs aimed at deepening our knowledge of the continent's different soils. OCP Group is working with agronomy institutes to analyze each environment. Innovation is thus at the heart of OCP's approach, and the results are contributing to the development of a range of new fertilizer products. These tailored formulas include products which were specifically designed for corn production in Ghana or cocoa and cotton production in Côte d'Ivoire. The same approach was used in Ethiopia, Kenya, Mozambique, and Tanzania, where fertilizers were enriched with sulfur in order to improve their effectiveness.



## Focusing on local production

Although OCP Group reserves part of its Moroccan fertilizer production for Africa, especially at the Jorf Lasfar plant, it is also strengthening its value chain on the rest of the continent through the development of local plants. Created in partnership with local businesses, these units use local resources and actively support each country's economic and industrial systems.

These plants include mixing and bagging equipment, laboratories, and warehouses, while also offering training programs for regional professionals.



# Ensuring the distribution of the right product at the right time and place

The creation of strong distribution channels in Africa is a key part of OCP Group's continental strategy. This focus allows OCP to fully supply farmers with affordable, quality products that are specifically adapted to their conditions. The use of a «package deal» model with African distributors allows OCP Group to combine the sale of fertilizers with the co-financing of agricultural development initiatives.



## Organizing sales and marketing to provide the best service

OCP's organized distribution channels contributes to the flexibility of the company's commercial offer, which includes a competitive pricing formula, nearby storage centers, and the use of containers. OCP's innovative commercial frameworks allow the company to develop the fertilizer market and identify new opportunities.

OCP also offers integrated solutions that address issues faced by all farmers. This offer gives them access to the best possible service and places them on the road to efficient and sustainable agriculture.





## Innovation at the heart of OCP Group's strategy in Africa

#### Partnership with the University of Wageningen

This partnership aims to create a platform for the management of soil fertility and plant nutrients, as well as the development new formulas. Initiated in late 2016, it will enable the development of innovative modelling tools designed to provide information and recommendations for fertilizer use. Internet and mobile applications for farmers and other stakeholders in the agricultural sector will also be available. The pilot development phase for the platform will take place in Mali and Senegal in 2017 and 2018.

#### Partnership with the Bayero University, Kano, the International Institute of Tropical Agriculture, and the Zaria Institute for Agricultural Research

This partnership enabled the development of new fertilizer formulas adapted to corn production in north-central Nigeria. Other formulas will be eventually be tested in Ghana, Côte d'Ivoire, Cameroon, and Burkina Faso.

#### Fertilizer Initiative Program in Côte d'Ivoire

OCP Group has been backing this program since 2013 with support from the National Center for Agricultural Research. The development of a cocoa crop soil fertility map contributed to the development of six new fertilizer formulas that will be tested in 2017.

#### The AgriBooster Program

This product and services bundle offered by OCP Africa includes all the elements that allow farmers to boost their yields: inputs (seeds, fertilizers, crop protection products, agricultural equipment, etc.), financial and insurance services, training, soil preparation monitoring, and market connections for facilitated crop sales. The objective is to create an economically viable and sustainable virtuous cycle for all stakeholders in the value chain. The first pilot project was successfully implemented in June 2016 in northern Côte d'Ivoire.

#### OCP School Lab

This agricultural development program aims to increase the yields and incomes of small producers through a travelling caravan. The program offers a complete range of services, including soil analysis and training in agricultural best practice. The caravan is equipped with a mobile laboratory that gives small farmers access to the latest soil analysis technology.

The first program was launched in December 2016 in Côte d'Ivoire, in partnership with the National Center for Agricultural Research (CNRA), National Agency for Rural Development (ANADER), and the Coffee-Cocoa Board.

#### Farmer Field Schools

OCP Group creates shared value by building on innovation

elements is a testament to OCP Group's desire to establish increasingly structured and integrated programs designed for sustainable interaction with and for stakeholders, all through an approach based on participation and co-development. It also reflects OCP's momentum and continuous action in

and sustainable development. The commitment to these two

The concept of Farmer Field Schools consist of programs aiming mutual learning and dissemination of good practices for an improved agricultural production. Different sessions were organized in Côte d'Ivoire and Nigeria for cocoa farming pratices, as well as in Ghana for maize and Guinea for different crops, to meet specific agricultural needs of each host country.

both sectors.















## OCP Group's Subsidiaries in Africa

In 2016, OCP Group created 9 subsidiaries in several African countries to boost the fertilizer market, all supported by OCP Africa. These initiatives are concrete actions of OCP Group's African strategy.

These concrete actions of OCP Group's African strategy are part of the company's efforts to strengthen its position in promising, rapidly-growing markets. They represent a turning point in the Group's development on the continent.

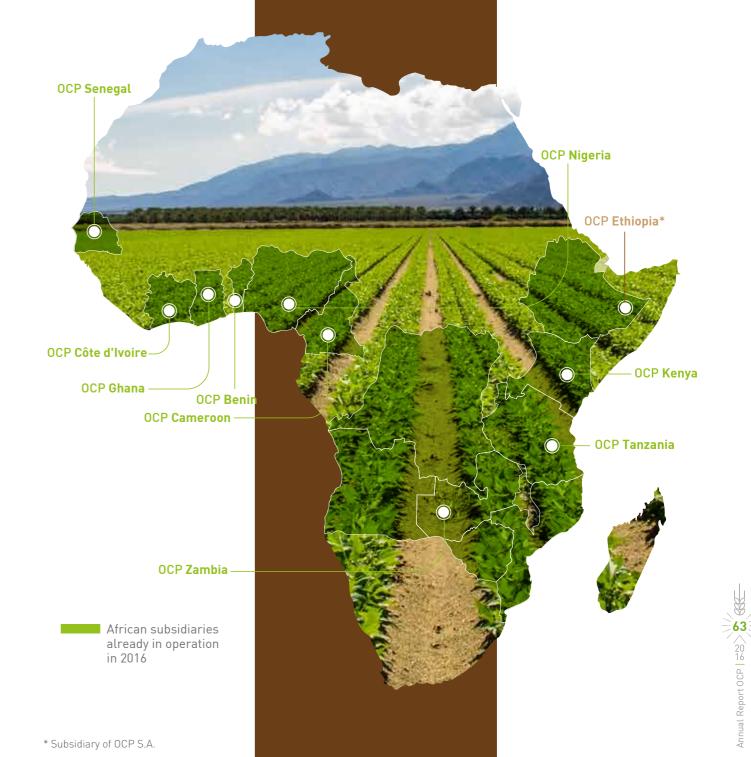
The target countries in West and Central Africa are Côte d'Ivoire, Senegal, the Democratic Republic of Congo, Benin, Cameroon, Nigeria, and Ghana.

In Eastern and Southern Africa, our subsidiaries will be established in Tanzania, Angola, Zambia, Zimbabwe, Mozambique, and Kenya.

Each new subsidiary will be allocated 1 million dirhams in capital and will use the same business model, allowing OCP to expand its distribution network and develop products adapted to specific crops and soils. In addition to fertilizer marketing and distribution activities, these additions will also provide services that contribute to the development of the African agricultural chain while meeting co-construction goals with various stakeholders in host countries. Not all subsidiaries are operational as of yet. OCP launched 9 of them in 2016. The green light having only been given in July 2016, the process is still ongoing.



The creation
of 9 subsidiaries is
part of the Group's
strategy to reinforce its
position in promising,
rapidly-growing
markets.



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**A** Group Mobilized for



### A historic presence at COP22

On December 12, 2015, the first universal climate agreement was unanimously adopted COP22. at COP21 in Paris. A year later, the signatory countries gathered in Marrakesh to ensure the implementation of the commitments made in the agreement.

A number of topics were at at the heart of discussions, including global food security, resilient cities, sustainable construction, innovative low-carbon solutions in various fields, and the sustainable preservation and management of resources.

OCP Group's presence at the event allowed the company to contribute to the discussion while educating the public and partners about its commitment to resilient and sustainable agriculture. OCP's participation also marked a new step in its innovative approach to responsible, sustainable, and inclusive growth. Spanning nearly 500 m<sup>2</sup> at the heart of the public area, OCP Group's space was dedicated to informing visitors and presenting the company's seven COP22labelled projects. These initiatives cover the Group's entire value chain, from extraction to More than processing and transport. They are a perfect symbol of OCP's commitment to energy transition and the fight against climate change.

For twelve days, more than 120 employees took turns welcoming visitors and giving guided tours. A number of interactive media terminals allowed the public and partners to better understand OCP Group's activities. OCP also organized and participated in numerous conferences on the future of Africa and on possible solutions for sustainable agriculture.

key figures

30,000 participants

8,000 delegates from civil society

3,000 international NGOs represented

1,500 journalists

196 participating countries

hectare site



680 activities, conferences, and discussions

OCP at the COP



COP22-labelled projects, including 4 industrial projects



conferences and 8 workshops held



More than

280,000 visitors during

the event



More than

100

requests related to the Group's participation received and processed at the national and international level



120

employees participated as hosts in the OCP booth



Mining Rehabilitation



4.5

million trees planted and **4,500 hectares** of land rehabilitated in Khourigba and Gantour



1,200

hectares of land converted in Khourigba and Gantour over 24 months, in keeping with the integrated «Extraction -Rehabilitation» process.

As part of its environmental approach, OCP has affirmed its commitment to a new vision for mine rehabilitation. Each extraction plan includes a future program for rehabilitating surrounding land, with the aim of limiting the impact of OCP Group's mining activities while adopting a sustainable development approach that benefits local residents of the region. Mining rehabilitation is based on a simple principle: collect and store the topsoil during the mine's operation and reuse it later. New development projects can then be established after the mining stage is completed. Programs focused on the farming or livestock sector are selected and developed at the local level depending on the region, climate, and soil composition of the site. This initiative is part of OCP Group's efforts to promote innovation and entrepreneurship. The company pays special attention to innovative, job-creating projects.

Mine rehabilitation is also in line with OCP's vision of creating shared value based on the upstream involvement of local populations, authorities, and associations. The establishment of an operational ecosystem fosters a sense of ownership and participation among stakeholders involved in rehabilitation programs. The crops and activities are also chosen according to local know-how, with additional reinforcement through professional training and coaching provided by OCP.



# A sustainable vision for mining development

## The Green Mine Project : 330 ha of rehabilitated facilities

Located northeast of Khourigba, the Green Mine project involves the rehabilitation of 330 hectares of old mine facilities. The goal of the sustainable urban development initiative is to preserve ecosystems and optimize resource use. This project will create a green lung for the city, while also developing the equipment necessary for effective protection of the environment and natural resources. A water treatment plant will process and recycle wastewater for optimized irrigation.

Moreover, the establishment of both an 11,000 m media library and a central mall containing office and shops will help foster the city's economic development and cultural life.

#### Mine rehabilitation process



New process
Grading intervention



Optimizing rehabilitation by **pushing ridges** into neighboring depressions only



trenches 5 meters apart



Breaking mining areas into several islands



Planting suitable species



# Water program





More than

**70%** 

of the Group's industrial water needs will eventually be met by non-conventional water sources



More than

80%

of the water used in the enrichment process is recycled Naturally, as OCP's capacities grow, its need for water will grow as well. Socially responsible, the Group has taken its increasing need for water into consideration and made preserving water resources a top priority. The challenge is to use water efficiently and fulfill the current and future water needs of its mining and industrial facilities. In 2010, these facilities required 62 million m³ of water.

Eventually, more than 160 million m³ will be needed annually. However, by implementing the water program, more than 60% of OCP's industrial water needs will be met by non-conventional water sources (treated wastewater and desalinated seawater).

Combining industrial development and water resources preservation

#### The 3 pillars of the OCP water strategy



# 2

# 30

## Optimized water use at mine sites across the entire value chain

#### Extraction

80% of the water used in the enrichment process is recovered and recycled. This performance is the result of improvements made to the process, the separation and decanting equipment used and the control and monitoring system that was introduced.

#### Transportation

The Slurry Pipeline (see p. 72), which conveys washed phosphate in the form of pulp from Khouribga to Jorf Lasfar, saves nearly 3 million m³ of water per year. With the commissioning of the second Slurry Pipeline, which will connect Gantour to Safi, this figure will reach 4.5 million m³ of water per year. This mode of hydraulic transportation is particularly eco-friendly, as the pulp's movement through the pipeline is aided by natural gravity. The Slurry Pipeline conserves the pulp's moisture, and all of the water used for transport is reused in the phosphate processing facilities.

#### **Enrichment**

By adopting more efficient technologies, the new industrial enrichment units have reduced their specific water consumption by almost 25%.

## Optimal management of freshwater resources

In support of the Green Morocco Plan and the National Water Plan, OCP promotes the use of surface water as a substitute for groundwater. Since 2010, the Group has gradually abandoned groundwater extraction from the aquifers in Tadla and Bahira. Eventually, all of the Group's water needs will be met by surface water. To this end, OCP launched a program that will use surface water from the Aït Messaoud and Al Massira dams to meet the industrial needs of its mining sites.

This program also makes it possible to geographically reallocate the withdrawal of surface water to draw from the Oum Er-Rbia watershed. This approach is the result of a modified industrial process: the washing plant now enriches the ore while preparing it for transportation.

## Mobilization of non-conventional water resources

#### Urban wastewater treatment

OCP has implemented an ambitious program to create urban wastewater treatment plants to reuse wastewater for industrial applications. Three stations have already been built in Khourigba, Youssoufia, and Benguerir that treat more than 10 million m³ of wastewater per year for reuse in the phosphate washing process. In addition, part of the wastewater treated by the Benguerir plant will also be used to irrigate green spaces in the Mohammed VI Green City.

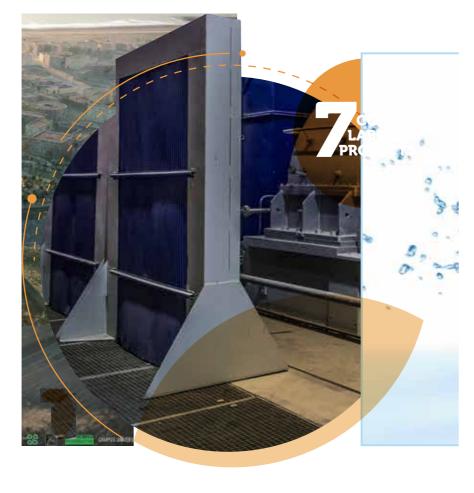
Moreover, biogas recovered from the wastewater treatment process is used to generate electricity, covering up to 30% of the wastewater treatment plant's energy needs. Additional wastewater treatment plant projects are under study in other cities such as Kasbat-Tadla, Fkih Ben Saleh, El Jadida and Safi.

#### Seawater desalination

OCP's industrial development has been accompanied by an increased demand for water. To supply the water to meet this demand without having to resort to conventional water resources, OCP is investing in seawater desalination. To this end, a desalination station was recently commissioned at the Jorf Lasfar industrial platform. Its annual capacity, in its first phase, is 25 million m³. Another station is planned for Phosboucraa, also to meet the water needs of OCP's industrial development program. In total, the Group has reduced its consumption of conventional water per metric ton produced by half.



# **Energy** program



In order to respond to the electricity requirements that will accompany its ambitious industrial development program, OCP has implemented a responsible and innovative Energy Program to reduce its carbon footprint. OCP Group plans to achieve medium-term energy self-sufficiency through a number of innovative measures aimed at diversifying its energy mix. As a result, OCP has been making use of low carbon energy sources while also optimizing consumption throughout its entire value chain.



### The 3 pillars of OCP Group's energy Strategy



### Develop of OCP's cogeneration capacity

Cogeneration capacity development, or producing carbon emissions-free energy: Cogeneration involves the recovery of heat released by sulfuric acid production (exothermic reaction) to produce electricity without emitting CO<sub>2</sub>. OCP is banking on this approach to reach its goal of tripling processing capacity. Combined with renewable energy, the cogeneration process will enable OCP Group to cover more than 70% of its electricity requirements by 2017 and 95% by 2020.



### Implementation of energy efficiency measures

The implementation of energy efficiency measures across the value chain: In order to reduce energy consumption on all its sites, OCP has an energy efficiency policy aimed at streamlining consumption, optimizing production processes, and changing the fuel sources used in industrial processes. The Slurry Pipeline is a perfect example of this approach. It has allowed OCP to reduce its carbon footprint by 500,000 metric tons of  $\mathrm{CO}_2$  equivalent per year. Eventually, this figure will reach 930,000 metric tons of  $\mathrm{CO}_2$  equivalent per year.



# Increase the use of renewable energy in the energy mix

Increasing the amount of renewable energy in the Group's energy mix: As part of its sustainable development strategy, OCP has decided to use renewable energy, including wind energy, to meet its energy needs. The Group has developed an electricity supply model through Power Purchase Agreements (PPA). This will allow the company to meet the growing energy needs of the Phosboucraa, Gantour, and Khouribga mining sites by 2019. In total, 95% of the Phosboucraa site's energy needs are currently supplied by wind energy. By 2018, wind power will provide 400 GWh to the mining sites every year.

Achieving electricity self-sufficiency





### Slurry **Pipeline**





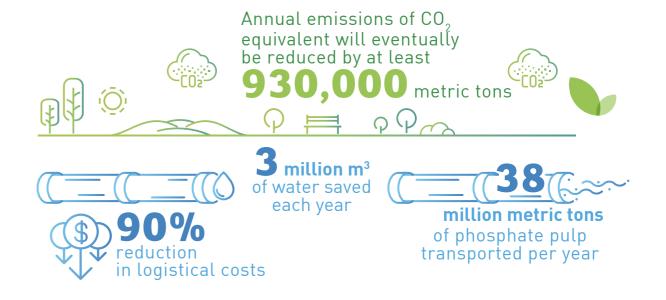
235km Total length of main and lateral pipelines

The Slurry Pipeline is the backbone of OCP Group's new industrial strategy and has revolutionized phosphate transport. It contributes to OCP's sustainable industrial performance while also responding to food security concerns resulting from climate change. Launched in 2014, the Slurry Pipeline is the longest phosphate transport pipeline in the world. A true technological and environmental achievement, it profoundly changed the operation of OCP Group's value chain. The project responds to a three-pronged objective involving cost optimization, increased transport capacity, and environmental preservation. The idea is to transport phosphate as a pulp composed of 60% ore and 40% water. Previously, the phosphate was dried before being transported by railroad.

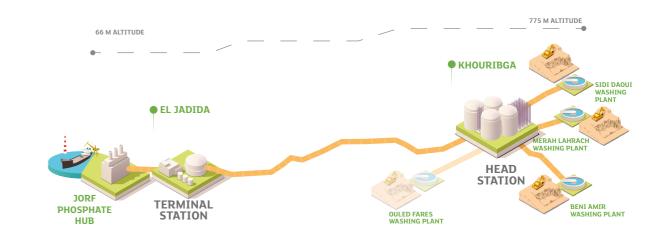
The pulp travels a distance of 235 km from the Khourigba mining site to the Jorf Lasfar processing plant. The Slurry Pipeline's route was optimized to reduce its length and incorporate natural slopes. As a result, the phosphate is largely transported by gravity. The pipeline begins at an altitude of 775 meters and ends at an altitude of 66 meters at its destination. This design is a first in Morocco in the domain of ore transportation.

Ultimately, the Slurry Pipeline will transport 38 million metric tons of phosphate to the Jorf Lasfar processing units every year. Previously, only 18 million metric tons could be transported annually.

A technological revolution in the service of sustainable development



Complete integration of the Khouribga - Jorf Lasfar value chain



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### Researcher Villas



The innovative and unique Researcher Villas, built by OCP in the Benguerir Mohammed VI Green City, are designed to accommodate the University's researchers.

Combining local expertise with innovation, they incorporate environmental concepts through bio-climatic building designs and sustainable water and energy management techniques.

These 9 Researcher Villas are manifestations of an innovative ecological and architectural approach. They combine traditional methods and materials with state-of-the-art environmental practices.

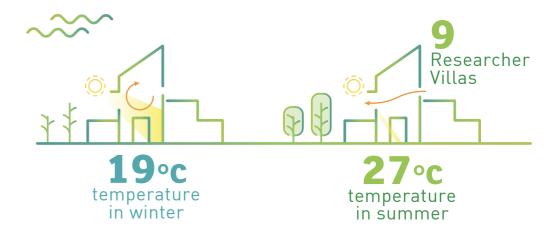
The Researcher Villas boosted local production and mobilized many Benguerir artisans, with the design of traditional Moroccan medinas inspiring solutions to problems related to natural ventilation. sunlight, and wind resistance. The project also uses innovative technologies in its approach to optimal resource management and insulation. Heat is stored through a wind tower connected to a gravel bed, and water is heated with solar energy.

The bio-climatic architecture of the Researcher Villas addresses the region's climate without resorting to conventional heating and air-conditioning methods.

The natural air conditioning system uses a gravel bed that serves as a furnace in winter and a cooling unit in summer.

These models for sustainable development were also designed with responsible water management principles in mind. In addition to rainwater recovery, the graywater produced in the buildings is separated and processed through the wastewater treatment plant (STEP). The water is then used to water green spaces.

These high-tech villas were designed with TRNSYS software and are fully equipped with temperature probes and sensors to manage energy storage in the gravel bed. Renowned for their innovation, they were the subject of research published by the Institute of Electrical and Electronic Engineers, a professional association with over 400,000 members and the world's foremost authority in the field.



The manifestation of an innovative ecological and architectural approach







OPTIMAL AND SUSTAINABLE MANAGEMENT OF WATER RESOURCES



PASSIVE ENERGY (THERMAL INSULATION AND STORAGE)



RENEWABLE ENERGY

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# Foum El Oued technology cluster





1,200 permanent jobs in the operational phase



1,200 m<sup>3</sup>

water treated by the wastewater treatment plant per day

**60%** 

of the School of Excellence's hot water requirements covered



**2,500** students and researchers

The Four El Oued Technology Cluster is a new green city that has created a hub for knowledge and sustainable technology. Located on the shores of the Atlantic Ocean, it is built around a 50 hectare lagoon on an area of 126 hectares. The Cluster's architecture is unprecedented in the region, incorporating an innovative design that allows for the preservation of the local environment and biodiversity. The city was carefully designed to meet international environmental standards, and a number of impact studies were carried out before construction in order to protect the surrounding natural environment. The city represents a total investment of 2 billion dirhams, with construction launched in 2016. The objective is to back industrial projects at Phosboucraa through training, capacity building, and support to new local and regional businesses.

The urban development plan developed for the Cluster aims to produce low carbon footprint spaces through the use of a renewable energy mix, including photovoltaic power, biomass power, wind energy, etc. The Technology Cluster is a zero-waste and zero-garbage area that also integrates and strengthens sustainable development

principles, especially those adapted to the Saharan environment. This approach also includes the innovative design of the Foum El Oued wastewater treatment plant, as well as the use of cutting-edge systems for recycling wastewater, reusing organic waste, and producing algal biomass. The Technology Cluster is also at the forefront of digital urban innovation. It incorporates a large number of smart systems centered on four key themes:

- ☐ Environmental technology (urban technology and renewable energy)
- □ Eco-Construction (sustainable buildings and infrastructure)
- → Eco-Mobility (transportation, accessibility, and mobility)
- → Urban Services (city, organization, management, and decision aid tools)



# Eco-construction and sustainable urban development

The Foum El Oued Technology Cluster's architectural design is based on a sustainable urban development model. However, it was also inspired by the distinctive buildings of the Southern regions\* and the latest technological innovations in water and energy management. This delicate balance between sophisticated urban infrastructure and the preservation of nature has allowed the Technology Cluster set itself apart in the region.



### Performance development

The Foum El Oued Technology Cluster is designed to be both efficient and pleasant. Clients can go there to learn, live, work, and be entertained. The Technology Cluster is the ideal location for a balanced and pleasant life. All its components are accessible, surrounded by nature, and equipped with state-of-the-art sustainable development technology, thus contributing to a new dynamic in the region.



- > The Laayoune Mohammed VI Polytechnic University, which will eventually admit around 2,500 students. It will focus on research and development in fields relating to agriculture in arid climates, water, and the environment;
- > The School of Excellence for secondary education and preparatory classes for higher education, with a capacity of 550 students;
- > The Laayoune Industrial Expertise Center, with a training capacity of 200 people per day, for OCP employees and partners.



### Flexibility and reliability

The development project incorporates other important principles beyond sustainability. It also distinguishes itself through its flexibility, with the inclusion of a number of adaptive features that contribute to environmental preservation in the Southern regions\*. It protects the area's natural resources and promotes biodiversity by using technology to manage sea level fluctuations, produce renewable energy, and ensure reliable circulation.



### Liveable facilities

The Foum El Oued Technology Cluster's was designed with the well-being of the population as a priority. Each block includes services and community facilities designed to facilitate the movement of pedestrians. This in turn creates meeting points for residents and visitors and improves all aspects of social life.



<sup>\*</sup> Guelmim - Oued Noun, Laâyoune - Sakia El Hamra, Dakhla - Oued Ed Dahab



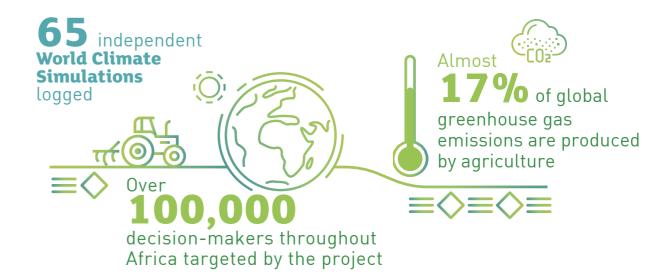
### Building Africa's capacity to face climate change



The Mohammed VI University partnered with the NGO Climate Interactive to build Africa's capacity to fight climate change. This fruitful partnership resulted in several simulations of climate change negotiations in different African countries and also led to the development of a new Climate-Smart Agriculture decision-making tool.

This ambitious project aims to strengthen the capabilities of African leaders in the fight against climate change while also preparing them for participation in climate negotiations. The program offers training for future trainers and enables the use of the C-ROADS computer simulator across the continent.

In addition to the promotion of the Climate-Smart Agriculture approach to reducing greenhouse gas emissions, the partnership aims define the most pressing issues in Africa while taking local conditions into account. The objective is to have over 100,000 decision-makers across the continent, including leaders, policy makers, academics, scientists, and journalists, as well as a large number of committed young leaders. 16 «Train-the-trainers» Climate-Smart Agriculture workshops to train future trainers held in Morocco, Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, and Côte d'Ivoire.





A systemic approach for African leaders



### Managing the environmental footprint

### Reducing fuel consumption by 50% in Khouribga

As part of the Energy Program, the gradual abandonment of drying resulted in a 50% reduction in fuel consumption. CO<sub>2</sub> analyzers are being installed in the drying ovens to continue the implementation of the plan to reduce greenhouse gas (GHG)

#### Carbon review:

emissions.

#### Cleaner production in Jorf Lasfar

To reduce sulfur dioxide emissions by 96%, OCP has implemented an innovative technology called «SULFACID» on a second sulfuric acid production line in Jorf Lasfar. This solution brings OCP a step closer to achieving its desired results. Adapting the site's two phosphoric acid production lines and using the pulp conveyed by the Slurry Pipeline has reduced fluorine emissions and made it possible to completely eliminate dust emissions after dry milling of phosphate was discontinued.

#### State-of-the-art infrastructures to meet water needs sustainably

Water is a primary concern for OCP. The Group's water strategy relies on three main components: optimized water use, the optimal management of freshwater resources, and the use of non-conventional water resources. For this purpose, the Group commissioned a seawater desalination plant in Jorf Lasfar. Inaugurated by His Majesty King Mohammed VI in February 2016, the facility has a capacity of 25 Mm<sup>3</sup>/year in its first phase.

#### The first thermoelectric power plant in Benguerir

The Group has invested in the development of clean energy by constructing its first thermoelectric plant. Located in Benguerir, it has a 1MW capacity and uses CSP (concentrated solar power) technology combined with an Organic Rankine Cycle turbine, and was designed in partnership with the Research Institute for Solar Energy and New Energy (IRESEN).

#### Targeted programs for eliminating waste

Building upon the expertise of partners who are leaders in their field, OCP implemented environmentally friendly waste management through innovative methods. The recuperation, recycling, recovery, and disposal of waste occur according to the regulations in effect and under the strictest conditions. Reducing the root cause of waste production, establishing dedicated areas with a controlled environmental impact for storage, and the elimination of industrial waste are also some of the responsible management actions led by the Group. In 2016, more than 95% of energy- or mineral-rich waste was processed or reused for industrial purposes. Approximately 80% of industrial waste is eliminated through specialized waste disposal streams.

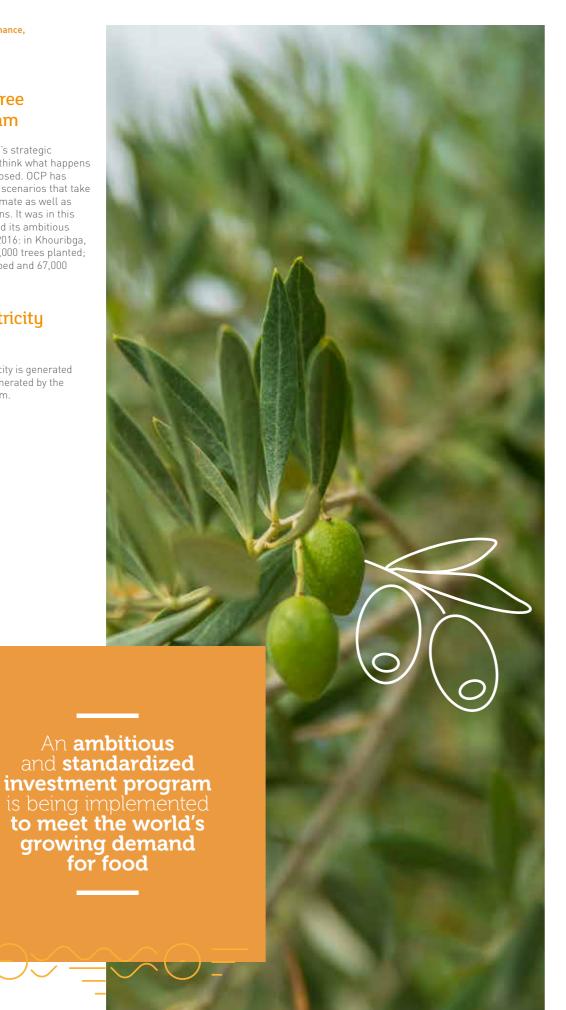
In addition, the Group has implemented a by-product recuperation program through which 736,000 metric tons of useless components were processed at the Youssoufia washing plant in 2016.

#### An Ambitious Tree Planting Program

The objective of the Group's strategic rehabilitation plan is to rethink what happens to mines when they are closed. OCP has developed region-specific scenarios that take into account the area's climate as well as local cultures and traditions. It was in this context that OCP continued its ambitious tree planting program in 2016: in Khouribga, 300 ha developed and 110,000 trees planted; in Gantour, 240 ha developed and 67,000 trees planted.

### 95% Green Electricity in Boucraa

In Boucraa, 95% of electricity is generated from renewable energy generated by the recently-installed wind farm.



# **Creating value for Stakeholders**



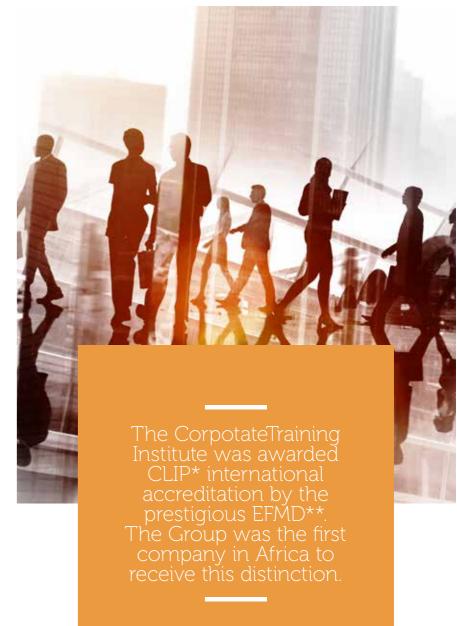
Because of its deep local roots, the Group is profoundly aware of its responsibility to its stakeholders, and prioritizes the health and safety of its employees and communities. The Group promotes job creation everywhere it operates, and, in a broader sense, supports the socio-economic development of the local populations. The Group's programs, designed in partnership with local contributors, are run by its foundations: the OCP Foundation and the Phosboucraa Foundation. Efforts to innovate focus mainly on developing adapted fertilizers, or specialized products in order to provide each farmer with products specifically suited to their soil and crops.

### Supporting and developing talent

When it comes to managing its human capital, the Group has a singular vision: to build an agile, innovative company that is able to reinvent its partnerships by placing digital technology at the heart of transformations. The Group is also committed to providing a fulfilling work environment in which employees can grow in well-being. In 2016, OCP's Corporate Training Institute received international accreditation. Also, new programs were established and existing programs were enhanced, employees were enrolled in the Mohammed VI Polytechnic University's MBA program, and the Digital Learning approach progressed.

### Customized and enhanced programs

Through an offering that covers the majority of the Group's trades, the Corporate Training Institute promotes employees' individual and collective learning throughout their careers and facilitates the exchange of know-how, the dissemination of good practices, and the development of synergies. This offering is co-developed by managers and experts, and deployed internationally in collaboration with major institutions. To put these learning experiences in the context of OCP Group's reality and to share its expertise, a body of Internal Education Managers banks on internalized training. These managers are called on to create content, conduct or co-conduct training sessions, provide testimonials from practitioners, and develop and manage case studies.



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#### 2016 news

- The HR Academy and its flagship program «Future HR Leaders», in partnership with the Université Paris Dauphine.
- The multiple-stakeholder SR Academy, to stimulate CSR within the Group.
- Structuring of the Learning component of the Discovery program.
- The Train-the-Trainer program for HSE Safety
- Strengthening synergies with the Mohammed VI Polytechnic University: some 40 participants in the General Management program, a collaborative effort between Mohammed VI Polytechnic University's Africa Business School and Columbia University.

### Ensuring employee safety

One of the Group's priorities is to safeguard the health of, and ensure the safety of, all its employees. This requirement is reflected by a dual commitment: to earn the trust of both employees and customers through reliable and effective solutions, and to anticipate occupational hazards in order to provide employees and subcontractors the best possible working conditions. In 2016, the company continued to deploy the OCP Zero Accident Program as well as the VOSE, GIASE, and EVEPS operational and governance standards, ADRPT risk analysis, and standards involving confined spaces, work at heights, lockout-tagout, management of Individual Protective Equipment (IPE), etc.

### Employee safety: an absolute priority

Safety is one of the Group's key values. Sharing good practices, through awareness-raising measures and training programs for teams and stakeholders, including suppliers and co-contractors as well as their subcontractors, is an integral part of day-to-day management at every level of the organization. Milestones for performance analysis and review, established as part of the periodic meetings of the executive and steering committees, are part of a continuous improvement and systems optimization approach.

#### A vigilance culture

Risk prevention is an integral part of all the improvement initiatives undertaken by the Group. This vigilance culture has been adopted by all teams. The Group provides regular training and carries out staff-wide awareness-raising campaigns. Training sessions are also held to inform the Group's subcontractors about field safety standards that they must follow.

### Virtual platforms

In 2016, the Corporate Training Institute continued to deploy its Digital Learning approach with the launch of the VIT (Virtual Immersive Tour). The VIT is a virtual platform that uses 360° spherical photography technology to provide virtual tours of facilities and descriptions of the Group's industrial processes, from geological prospecting to port activities, to give users an understanding of the Group's value chain. Designed in close collaboration with management, today the VIT is run by our Internal Education Managers in a blended learning format. The Edumine platform also offers subscriptions that give users access to top-notch online mining and geoscience training programs as well as tools for simulation, conversion, and mine modeling.

OCP strives for operational excellence, and trains all of its employees to play an active role in their own safety and that of their coworkers.

#### **Empowering communities**

Acting independently or in partnership with local organizations, the Group designs, introduces, and develops programs to support local communities. Its operational activities serve as catalysts and make positive, lasting contributions to the communities in which the Group operates. By working in partnership with NGOs and civil society, the Group contributes to creating jobs and providing training, while investing in infrastructure and access to hasic services.

### Committed, supportive programs

Run by its foundations, the Group's human development programs are designed in accordance with each region's specificities. Since its inception, the OCP Foundation had been a means of showing the Group's commitment and mobilizing its efforts. It deploys OCP's human development programs in the country's 16 regions, and its geographical scope spans the entire African continent and stretches into Asia, where the OCP Foundation manages flagship projects to meet local populations' needs and works to strengthen the South-South Cooperation.

#### Co-constructed initiatives

The OCP and Phosboucraa Foundations are long-term initiatives, and their co-constructed measures create shared value. To do this, they collaborate with local contributors and stakeholders, and coordinate joint actions with all those who identify with their values and rely on strategic local and international partnerships.



### The OCP Foundation's Programs

Education; health; youth employability; agricultural, entrepreneurial, and sociocultural development; the fight against poverty; etc. All projects developed by the OCP Foundation carry considerable social significance. Whether acting alone or with partners, the OCP Foundation is active anywhere the Group is established, both in Morocco and internationally.



#### 2016 in Brief

- ✓ International Conference on Pulses coorganised with the ICARDA, the INRA, and the FAO in Marrakesh: 447 participants from 34 countries, including 11 African countries.
- ☐ Cereals & Legumes Caravan: Launch of a campaign to perform 4,900 soil analyses and disseminate good agricultural practices to nearly 5,800 farmers.
- ☐ Launch of the Cooperation in Africa Programs targeting six countries, including Togo, Benin, and Madagascar (developing fertility maps and Agricultural Caravan, training, etc.)
- ✓ In Ethiopia: Launch, in partnership with the Agricultural Transformation Agency (ATA) of the 3-year agricultural development project involving the teff production value chain.
- Reached the milestone of 1,000 OCP
   Foundation scholarships awarded to
   students from top schools based on merit
   and need.
- ¬ Skills centers: Deployment of a new model for youth employability that aims to provide enhanced support and individualized coaching for 240 young people from Youssoufia and Benguerir until they achieve positive results.

- □ Launch of the «Sponsored Schools»
   program that provides 20 public schools
   a quality educational offering focused on
   student success.
- → Opening of the Coworking Space in Khouribga New Work Lab Khouribga) (with networking and entrepreneur support events).
- Acceleration of more than 20 startups from the 2nd Class of the EMPACT acceleration program for social entrepreneurship.
- ¬ The Khouribga Media Library: Doors opened to the public, with 1,700 memberships, 6,000 beneficiaries, and 340 workshops.
- Street Art Caravan» in Safi, Youssoufia, and Benguerir: 15 mural paintings, a wall for young local artists to collaborate on, «Graffiti Lab» educational workshops, etc.
- → Design Explore in Safi 5 training workshops and 25 young artisans trained in the development and improvement of ceramics in Safi.
- ¬ LYDEX: Back to school 2016/2017 for the 198 students enrolled in CPGE (Higher School Preparatory Classes) and opening of School of Excellence's residences

### The Phosboucraa Foundation's Programs

Since 2014, the Phosboucraa Foundation has been a means for the Group to express its societal commitment on a day-to-day basis in Morocco's three Southern regions. It supports and initiates targeted community and support measures to foster social and economic fabric offering strong potential. The Phosboucraa Foundation is committed to developing the Southern regions' most valuable asset: its men and women. It does so by supporting farmers, strengthening small business capacity building, facilitating access to care and helping women and young people discover their skills.

Saharan agriculture and environmental protection



#### 2016 in Brief

- → Royal Inauguration of the Foum El Oued Technology Cluster: Launch of construction on the Foum El Oued Technology Cluster, future city of knowledge and innovation serving the Southern regions, presided over by His Majesty Mohammed VI.
- ☐ Launch of the Women Innovation Circles, a program designed to help women in the region develop their skills.
- → Health & Outreach: Deployment of a Mobile Hospital, 2,414 free services rendered and medication distribution for needy patients (El Marsa, Laayoune).
- □ Launch a second Learning Center in □ Dakhla to train an average of 600 people per year.
- ☐ Innovation: Production of 500 metric tons
  of silage fodder from vegetable crop byproducts.
- □ 400 ha in Foum El Oued mapped with ICBA and INRA for soil salinity.
- 23,630 small farmers benefit from the program to rehabilitate the irrigation networks in the provinces of Tata and Guelmim.
- □ 25,769 dromedaries treated under the camel health program in the Dakhla Oued Eddahab region
- □ 42 Projects funded: Cooperatives & very small businesses created and supported
- $\nearrow$  200 young people passed the TFI & TOEIC
- 对 159 Merit Scholarships awarded
- ¬ 2,145 students introduced to entrepreneurship in partnership with Injaz

# Staying ahead of the curve

Renowned worldwide for its know-how and expertise in the phosphate industry, OCP Group continues its innovation efforts to differentiate itself from its competitors, ncrease its competitiveness, reduce its costs, meet market demands and provide sustainable, high-performance agricultural solutions.

## R&D serving responsible performance and innovation

Innovation is in OCP Group's DNA. It is also key to maintaining an edge in the phosphate industry while meeting customers' current and long-term needs and maintaining the flexibility needed to better serve agriculture. This is why the Group's policy is to continually invest in R&D aiming at building further value creation and impact. This approach has added numerous achievements to the 2016 to 2020 project portfolio. In addition to the continued development of high-performance products and innovative biotechnology and agronomy processes, the Group has made a number of major advances:



The synergy between OCP Group and its African partners has allowed for research to categorize soils and develop new products perfectly suited to crop production.



The forming of a dynamic innovation ecosystem to create an Open Innovation model through a collaborative approach with top-tier partners and multidisciplinary teams (X-Teams).

Building a portfolio of high impact project, projects aiming at in and product quality.



Project to set up laboratories in joint partnership with best in class Research centers.



Building a portfolio of more than a hundred high impact project, including 40 operational projects aiming at improving performance and product quality.



The launch of a high level training program in biotechnology, in partnership with the Mohammed VI Polytechnic University.

### Innovative products and processes

2016 was marked by exploration and advances in innovative products and processes :

- Development of a purified acid manufacturing process that uses membrane technology.
- Development of several phosphate-based materials: thermal energy storage in partnership with Prayon, etc.
- Recovery of sludge from phosphate washing plants through microhydrocycloning: commissioning at the Khouribga site.

- Ongoing development of granules made from natural phosphate to treat water.
- Ongoing efforts to recover and recycle waste and other valuable chemical components in the phosphate value chain.





#### An ecosystem of innovation and research

In 2016, the Group continued to deploy research programs with universities and specialized institutes in Morocco and around the world. Its main actions in this area included

- Completion of engineering studies to establish a biotechnology platform at the Mohammed VI Polytechnic University in Benguerir;
- Convergence of biotech organizations to develop shared expertise centers and privileged partnerships, notably with the Center for Protein Engineering at the Université de Liège;
- Development of partnerships with African universities, with particular focus on developing agriculture across the continent;
- Technical and financial structuring of 42 projects selected after OCP's national solicitation for projects to benefit Moroccan universities:
- Strong collaboration with Cadi Ayyad University and Hassan II University, notably to develop new materials from Moroccan phosphate.

publications

statements

**o** semi-industrial pilots and 2 under development

#### A center dedicated to research and high-level higher education

Founded for research purposes, the Mohammed VI Polytechnic University based in Benguerir is an exceptional environment for state-of-the-art training and academic excellence. Open to the business world, this institution makes Morocco an international platform for innovation to meet the African continent's major challenges and issues. Based in Morocco, the University contributes to developing the national knowledge ecosystem by creating synergies between different stakeholders. It has risen to the rank of a world-class university through several academic partnerships. Through targeted research programs, the University aims to provide answers to the major challenges facing the continent, such as rational management of natural resources, development of human capital, sustainable industrialization, and adaptation of public policy. To accomplish this, the Mohammed VI Polytechnic University focuses its teaching model entirely on innovation and experimentation. The Green City and Mohammed VI Polytechnic University teaching sites are equipped with life-sized «Living Labs» where researchers can experiment in real-world situations.

#### An educational model for excellence

Located at the heart of the green city Ville Verte Mohammed VI at Benguérir, the Lycée d'Excellence (LYDEX) is a top-level scientific and technological private institution resulting from a partnership with the Ministry of National Education, Professional Training, Higher Education and Scientific Research. Aligned with international standards, LYDEX is the model for achieving educational excellence based on meritocracy, social mix and academic excellence.

#### An innovation fund to promote innovative agricultural projects

Agricultural Fund supports the potential and current stakeholders of the agricultural world.

indirect jobs, including 1,800 farmers

A model for learning and innovative research through experimentation, the labs adopt a multifaceted partnership approach that promotes openness to the research and knowledge ecosystem.

# Supporting the agricultural world

Committed to an integrated approach that benefits small farmers, the Group, through the OCP Foundation, implements measures that strengthen farmers' capacities and increase their productivity. In Morocco, this support involves developing sustainable agriculture. This is a strategic priority for the Group, whose efforts helped raise the use of phosphate fertilizers in Morocco to the level targeted in the Green Morocco plan's goal for 2020. To achieve this task, the Group adopted an integrated approach that involves many valuable agricultural stakeholders. The Agricultural Caravans in Senegal, Mali, Guinea and Côte d'Ivoire, as well as the schools in the field launched in Côte d'Ivoire, Nigeria, Guinea, Ethiopia and Kenya, perfectly illustrate the Group's commitment to promote efficient, sustainable agricultural productivity across the African continent.

#### Fertility: a key element

Launched in 2010, the fertility map is a geographical soil database. It provides better knowledge of soil composition and its fertilizer needs to allow for balanced fertilizer use, both in quality and quantity, that will result in the highest productivity. To date, more than 6.7 million hectares of farmland have been mapped.

### Innovative and appropriate fertilizers

The Group is committed to offering innovative, appropriate and high-performance fertilizers that support the balanced fertilization of Morocco's soils. This approach has been ongoing since 2012, with the launch of the feed line of products, which are phosphorous-and calcium-based nutrient supplements for livestock. Also, the water-soluble MAP fertilizer, adapted to microirrigation systems, was released in 2013.

#### Package contracts

The Group offers its clients a contract that enables them to bundle a volume of fertilizer with agricultural services. Thanks to package contracts between the Group, the OCP Foundation, and its distributors, farmers receive support from distributors in the field.



### The OCP agricultural caravan model

The Group provides support though concrete actions that demonstrate its solidarity with the rural world. The OCP Agricultural Caravans are an example of these actions: they are an outreach tool that promote the best agricultural practices, in Morocco and beyond. First launched in 2012, the Agricultural Caravans were held for the fifth consecutive year in 2016.

They are a mobile educational platform designed to benefit farmers. Each leg is organized over the course of two days, during which 700 farmers can attend. The practice of rotating cereals and legumes, which improves soil health, is at the top of the agenda. Likewise, attendees are extensively educated about the importance of choosing appropriate fertilizers to ensure soil fertility and boost crop yields. Educational workshops are held to discuss the benefits of balanced fertilization, cultivation techniques, crop preservation and sustainable water management. The Caravans are supported by the Ministry of Agriculture and Fisheries and all the national fertilizer distributors.

The success of the Caravans led the Group to duplicate them across the African continent. OCP Group is committed to improving access to appropriate fertilizers and optimizing agricultural productivity through mutually beneficial cooperation. In an effort to support farmers and promote the adoption of balanced fertilization, the Group shares its know-how and its expertise with its African partners.

### A fertilizer for each region

The fifth edition of the Agricultural Caravan, dedicated to Cereals and Legumes, led to the development of new fertilizers. For each of the seven regions visited, NPK formulas adapted to local agroclimatic conditions were offered to farmers in the region. These new fertilizers are the result of nearly 5,000 soil analyses carried out prior to the Caravan. Close to 5,800 farmers received training on good agricultural practices at the same time. The objective is to understand the particularities of each region's soil and determine its physical and nutritional needs.

# Excellent attendance for the agricultural techniques workshops

During each leg of the Caravan, workshops led by experts welcomed groups of 50 to 60 farmers. The attendees were taught about harvesting techniques, balanced fertilization and sustainable water management, thereby raising their awareness to good farming practices. These workshops address technical crop protocols, typical agricultural processes and soil analyses with the mobile laboratory. A very popular attraction, the mobile lab enables farmers to learn about innovative technologies that can improve their yields.

