

CLIMATE CHANGE



MITIGATION



1. MONITORING, REPORTING & VERIFICATION (MRV)

Since 2007, as part of its low-carbon strategy, OCP has been monitoring the evolution of its carbon footprint. It has put in place a calculation tool, in accordance with ISO 14064-1, that specifies the organization's principles and requirements, to quantify and edit regular reports on greenhouse gas (GHG) emissions.

This monitoring, handled in collaboration with Environment Managers at all the Group's Sites, aims to meet two objectives: on the one side, it is a question of identifying the main sources of GHG emissions and implementing any and all appropriate mitigation measures and actions. On the other it also then quantifies the GHG emission reductions associated with these measures.

The range of calculation of the OCP Group's GHG emissions includes:

- Jorf Lasfar industrial complex: OCP S.A. Jorf Lasfar, subsidiaries (JFO, JFD, JFC III, JFC IV, JFF) and joint ventures (Pakistan Morocco Phosphorus - Pakmaroc, IMACID and EMAPHOS);
- Safi industrial complex;
- Khouribga and Gantour mining sites (Benguerir and Youssoufia);
- Phosboucraa subsidiary;
- Headquarters in Casablanca.

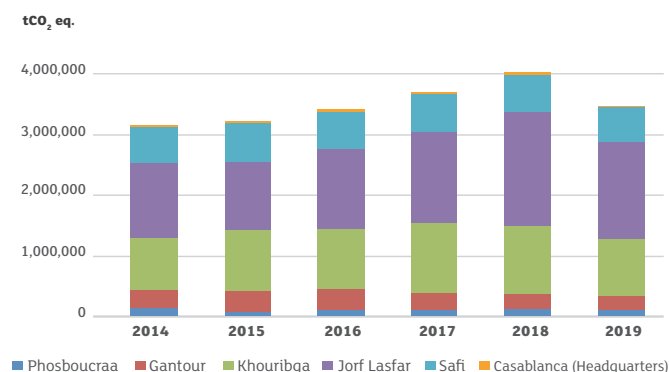
The scope also covers the transport of products (phosphates, acids and fertilizers) to ports (Casablanca, Jorf Lasfar, Safi and Laâyoune).

The operational dimension has been defined by identifying the different sources of GHG emissions from each of the Sites. These sources have been grouped according to whether they are sources of direct emissions (**scope 1**), indirect emissions linked to electricity (**scope 2**) or other indirect emissions (**scope 3**).

The emission inventory includes the following GHGs: carbon dioxide (CO₂) and hydrofluorocarbons (HFCs).

The carbon footprints from 2014 to 2018 have been verified along the guidelines outlined by ISO 14064-3 & by an approved certified organization.

Evolution of the Group's carbon footprint (2014-2019) & breakdown of emissions by Site

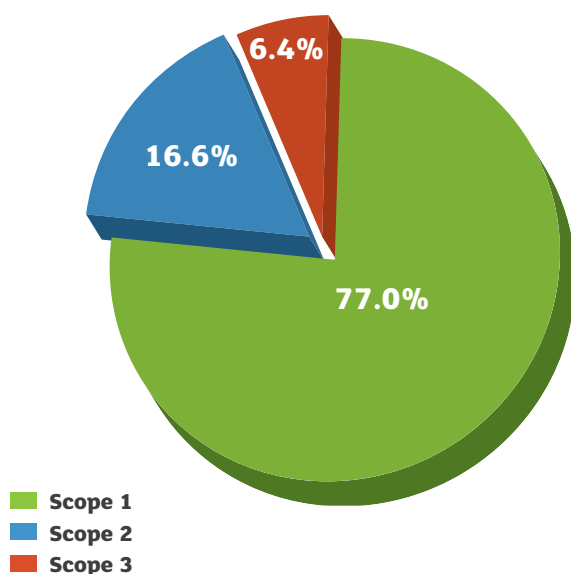


	2014	2015	2016	2017	2018	2019
Phosboucraa	105,002	76,495	100,701	79,047	101,180	84,197
Gantour	314,067	329,027	319,303	310,052	272,288	241,512
Khouribga	884,151	1,012,516	1,011,984	1,150,622	1,109,656	937,290
Jorf Lasfar	1,224,417	1,127,108	1,330,412	1,495,345	1,871,797	1,582,985
Safi	584,522	634,845	611,551	628,068	637,616	581,496
Casablanca (Headquarters)	11,432	12,009	13,102	12,354	13,150	14,397
Total	3,123,590	3,192,000	3,387,053	3,675,488	4,005,687	3,441,877

Total emissions in 2019 amounted to 3,441,877 tCO₂ eq. ± 2.0%

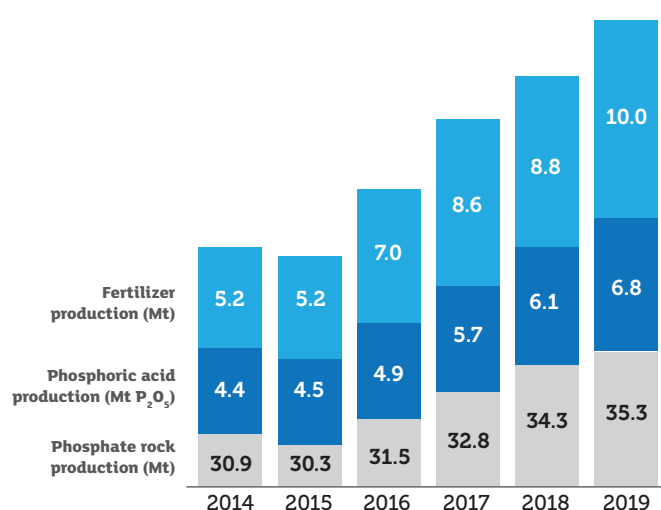


Breakdown of GHG emissions in 2019 by source



Scope 1	2,649,511
Scope 2	570,688
Scope 3	221,677
Total	3,441,877

Evolution of phosphate rock, phosphoric acid and fertilizer production (2014-2019)



2. ENERGY PROGRAM

Commitment to cover 100% of its industrial needs from clean electrical energy.

With the challenges of climate change, population growth and the energy transition, the OCP Group has made a strategic decision to reach optimal energy efficiency while maintaining clean energy output: cogeneration and renewable energies. By 2030, the Group is committed to covering 100% of its industrial needs from clean electrical energy to meet both its ambitious industrial development program, as well as contributing fully to the UN Sustainable Development Goals (SDGs) [\[Link to the Energy Policy\]](#).

3. SLURRY PIPELINE KHOURIBGA - JORF LASFAR

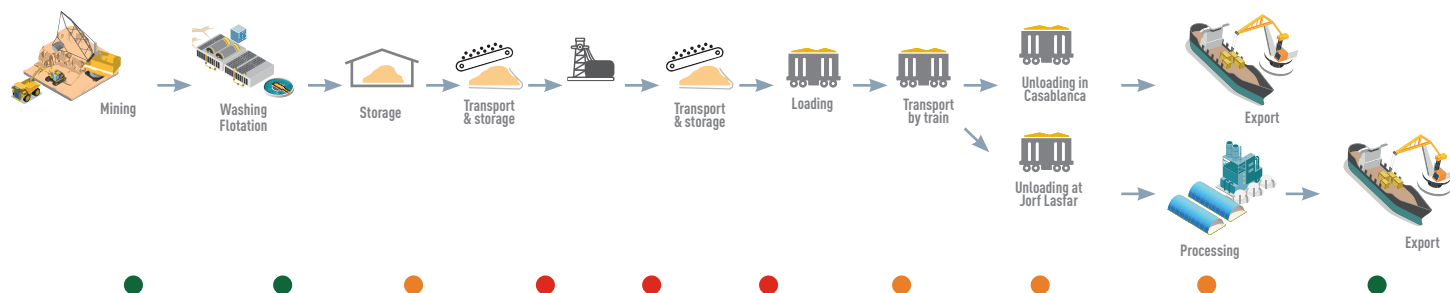
Among the OCP projects designed to be part of the industrial development program is the Slurry Pipeline. This major change in the Group's industrial process relies heavily on the technological advancement of a pipeline hydraulic transport system, to meet the twin challenge of volume growth and cost optimization, throughout the entire value chain.

This technological shift marks a fundamental change in the phosphate transport approach in Morocco, with the shift of the production chain from discrete to continuous and integrated mode, from phosphate mining to beneficiation in the processing units, up to the loading of phosphate products onto the ship for export.

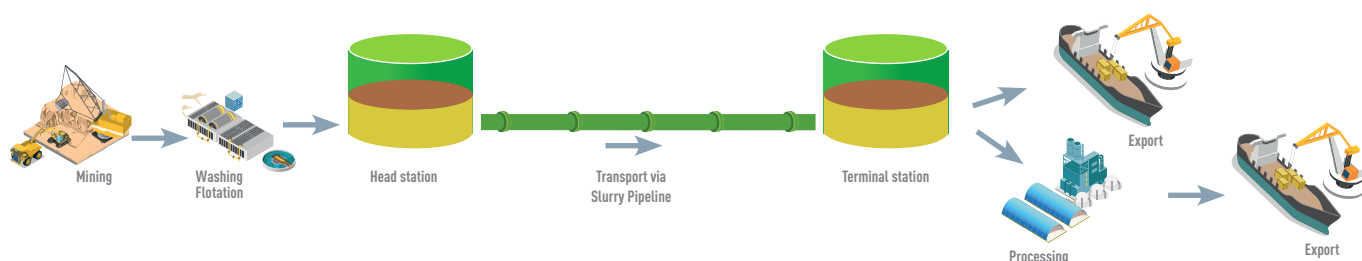
This pipeline secures the continuous transport of phosphate pulp from Khouribga mines to the Jorf Phosphate Hub integrated processing platform, where it is transformed into derivative products, therefore cutting down on several intermediate steps of its transportation.



Former mode: 20 Mt/y, several intermediate stock, discontinuous transport



New mode : 38 Mt/y, transport by Slurry Pipeline, continuous process



Project content:

- 187 km length and 900 mm diameter primary pipeline connecting the head station in Khouribga to the terminal station in Jorf Lasfar.
- 48 km secondary pipelines (300 to 500 mm diameters) connecting the washing plants to the head station.
- Main pipeline's head station consisting of 4 pulp reservoirs and the main pumping station supplying the mineral pipeline.

- The terminal station at Jorf Lasfar with 8 tanks designed to receive and distribute the phosphate pulp to the different consumption functions.
- Data Control and Acquisition System.

This mode of transport reduces OCP Group's environmental/carbon footprint. As a matter of fact, more than 930,000 tons of CO₂ will be rendered void in a full capacity scenario by 2025, and more than 3 Million cubic meters of water will be saved.

		2014	2015	2016	2025
% Tonnage transported	By train	85%	65%	48%	0%
	By Slurry Pipeline	15%	35%	52%	100%
Tons of CO ₂ avoided		110,380	276,627	495,920	More than 930,000

ADAPTATION

1. WATER PROGRAM

The OCP Group's «Water Program»: a sustainable approach between industrial development and preservation of water resources.



Required in all its activity, water is a major sustainable development challenge for OCP. Its use occurs at every stage of the group's value chain: from a need of 63 million cubic meters in 2010 for production, increasing, with continued production growth over time, its water resource requirements could exceed 160 million cubic meters per year, equivalent to consumption in water from the Greater Casablanca region.

To ensure integrated and sustainable management of water resources, OCP has set up a «Water Program» which is based on two clear objectives: optimizing the use of water throughout the value chain (mining activities, transport, recovery) and mobilization of non-conventional water resources (purified domestic wastewater and desalinated seawater) [\[Link to the Water Policy\]](#).



2. RESILIENT AND SUSTAINABLE AGRICULTURE

In the knowledge that climate change constitutes a major systemic risk for food security across Africa and the World, OCP is working towards a resilient and sustainable agriculture program: developing new products and agricultural solutions, exploring precision farming methodology, making advances in research, forging partnerships, training specialists and providing innovative answers to the global sustainability challenges in agriculture but also specifically to the concerns facing the African continent; this is the core principle that underpins OCP Group's strategy in terms of flexibility and commercial agility.

The concept of effective fertilization, reasoned in its dose / efficacy contributions and adapted to each type of crop, allows for participation in two complementary challenges: the nutritional quality of the land and the dynamism and competitiveness of the agriculture economy, at both national and continental level. To respond to this, the Group is emphasizing the promotion of tailor-made plant and soil nutrition solutions by increasingly diversifying its portfolio with more suitable products that have higher added value. With more than 40 customized solutions, OCP is moving towards the personalization of suitable & sustainable fertilizer formulas.

In the field, the OCP Group has drawn up soil fertility maps alongside public and institutional partners. They allow the farmer to use fertilizers in a more rational & efficient way. They also provide farmers with theoretical and practical support, so that they can become fully aware of the needs of the land and surrounding environment.

Committed to transforming agriculture across the continent and at home, OCP launched in September 2018, a major initiative aimed at boosting Moroccan agriculture. It is through a comprehensive and integrated multi-pronged service, based on an approach centered on the farmer, to better support and serve him or her, capitalizing on the agricultural lessons & developed expertise over the recent years. Entitled «Al Moutmir», this integrated initiative is based on 3 pillars: the scientific approach to ensure the sustainability of the offer; the partnership approach to develop solutions co-constructed with and for the ecosystem; and the farmer as a real change agent. Al Moutmir offers a multitude of innovative services and solutions focused on Soil Analysis from OCP's mobile laboratories and scientific support from UM6P, a training that covers the entire technical route of crops, demonstration platforms serving as support for explaining best agricultural and technological practices.



By diversifying its activities and by using digital assets wisely, the farmer of tomorrow has a major role to play in ensuring food, environmental and energy transitions within its territory, a dimension reinforced by the circular economy approach adopted by the OCP Group.

