



**Dangote Petroleum Refinery
& Petrochemicals**

We are Making History!





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Mild Hydrocracking (MHC) - South Wing

Who We Are

The Dangote Petroleum Refinery and Petrochemical Project, a subsidiary of Dangote Industries Limited, is a 650,000 barrels per day (bpd) crude oil refinery, located in Dangote Industries Free Zone, Ibeju-Lekki, Lagos, Nigeria.

What We Do

The Dangote Petroleum Refinery is an industrial plant that transforms crude oil into various usable petroleum products such as diesel, gasoline, jet fuel and kerosene.



Our Core Values





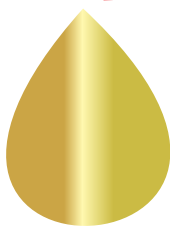
Aerial view of Heat Recovery Generator for Captive Power Plant

Our Scope of Operations

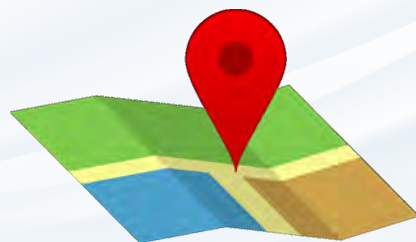
Dangote Petroleum Refinery with capacity to refine 650,000 barrels of crude oil per day covers an area of approximately 2,635 hectares and is located in the Lekki Free Trade Zone in Lagos.

2,635
hectares

650,000



Barrels of crude oil per day







Crude Oil Distillation Unit (CDU)



Quality Products

The refinery will produce Euro-V quality gasoline and diesel, as well as jet fuel and polypropylene.

GASOLINE		Euro-V quality
DIESEL		
JET FUEL		
POLYPROPYLENE		

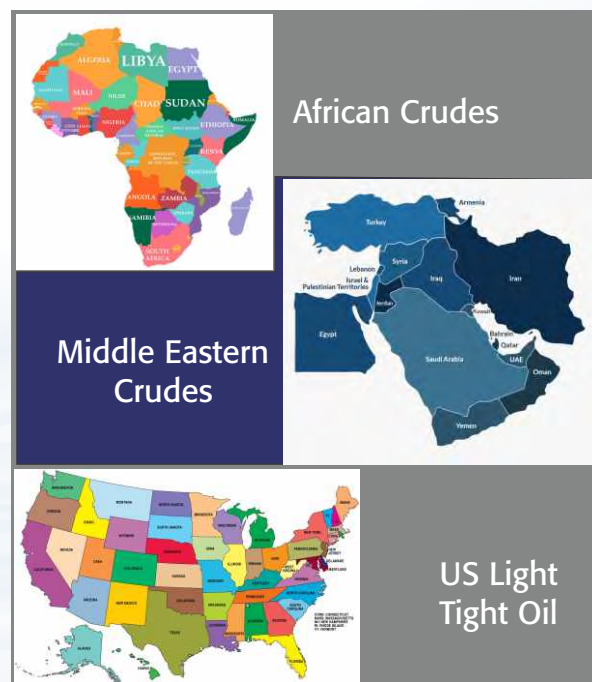


NHT + PENNEX + CCR (North Wing)

Versatility

Designed to process large variety of crudes including many of the African Crudes, some of the Middle Eastern Crudes and the US Light Tight Oil.

CRUDES



African Crudes

Middle Eastern Crudes

US Light Tight Oil



Target Markets & Petroleum Sufficiency

Dangote Petroleum Refinery can meet 100% of the Nigerian requirement of all liquid products (Gasoline, Diesel, Kerosene & Aviation Jet) and also have surplus of each of these products for export.

Meet

100%

of the Nigerian requirement
of all liquid products



World Class Technology

The refinery is designed to use the latest technology to comply with stringent guidelines and regulations to protect the local environment, and at the same time produce the latest environmentally friendly petroleum products for worldwide markets.

Major Equipment

MAJOR EQUIPMENT	Nos
Reactors	51
Columns	62
Vessels	443
Heat Exchangers	557
Air Coolers	489
Pumps	1055
Tanks	153
TOTAL	2,810



Fuel Requirement in Nigeria & Supply from Dangote Refinery

Products	Production Mil lit/day	Consumption Mil lit/day	Surplus Mil lit/day
Gasoline	53	33	20
Kerosene	10	9	1
Jet	2	1	1
Diesel	34	18	16
Total	99	61	38



DANGOTE

714-TT-1401 H
GASOLINE
Capacity-60000 M³



DANGOTE
PETROLEUM REFINERY



Tank Farms

Total Tanks

177

Capacity

4.742
billion litres

Product Evaluation

The dispatch facilities by road (Tanker) for the product (Gasoline, Diesel, Kerosene/Jet Fuel, Propane and Slurry) is up to 80% of the total production and up to 75% through Marine Facilities

Year-round operation for road loading operation.

Gantry Loading Arms



Loading Facilities

Total tanker loading of 2,900. This number is based on tanker capacity of 33 KL.

Total tanker loading

2,900



By-Products

Polypropylene
900,000



Sulphur
36,000





An Extraordinary Project

The Dangote Refinery project is particularly complex, featuring engineering, procurement, construction, pre-commissioning, and related storage facilities, all located in the Dangote Industries Free Zone Area of Ibeju-Lekki, Lagos

EPC Contractor

Dangote is one of the few companies in the world executing a Petroleum Refinery and a Petrochemical complex directly as an Engineering, Procurement, and Construction (EPC) Contractor. Globally, apart from three companies, no individual owner has done the complete EPC Contract for a Petroleum Refinery.





Housing Units

Total number of temporary housing in the premises – 33,000 people

33,000
people

Quality of the Plant

The refinery design conforms to World Bank, US EPA, EU and Department of Petroleum Resources (DPR) emission / effluent norms.



Power Plant

The Refinery has its own dedicated steam and power generation system with adequate standby units for reliable / uninterrupted utility supply to operating plants.

435 MW



Power Plant in Refinery









Marine Facility

1 Self sufficient marine facility with ability for freight optimisation.

2 Largest single order of 5 SPMs anywhere in the world.

3 2 crude SPM for unloading ships up to ULCCs.

4 3 product SPM for product exports up to Suez Max vessels.

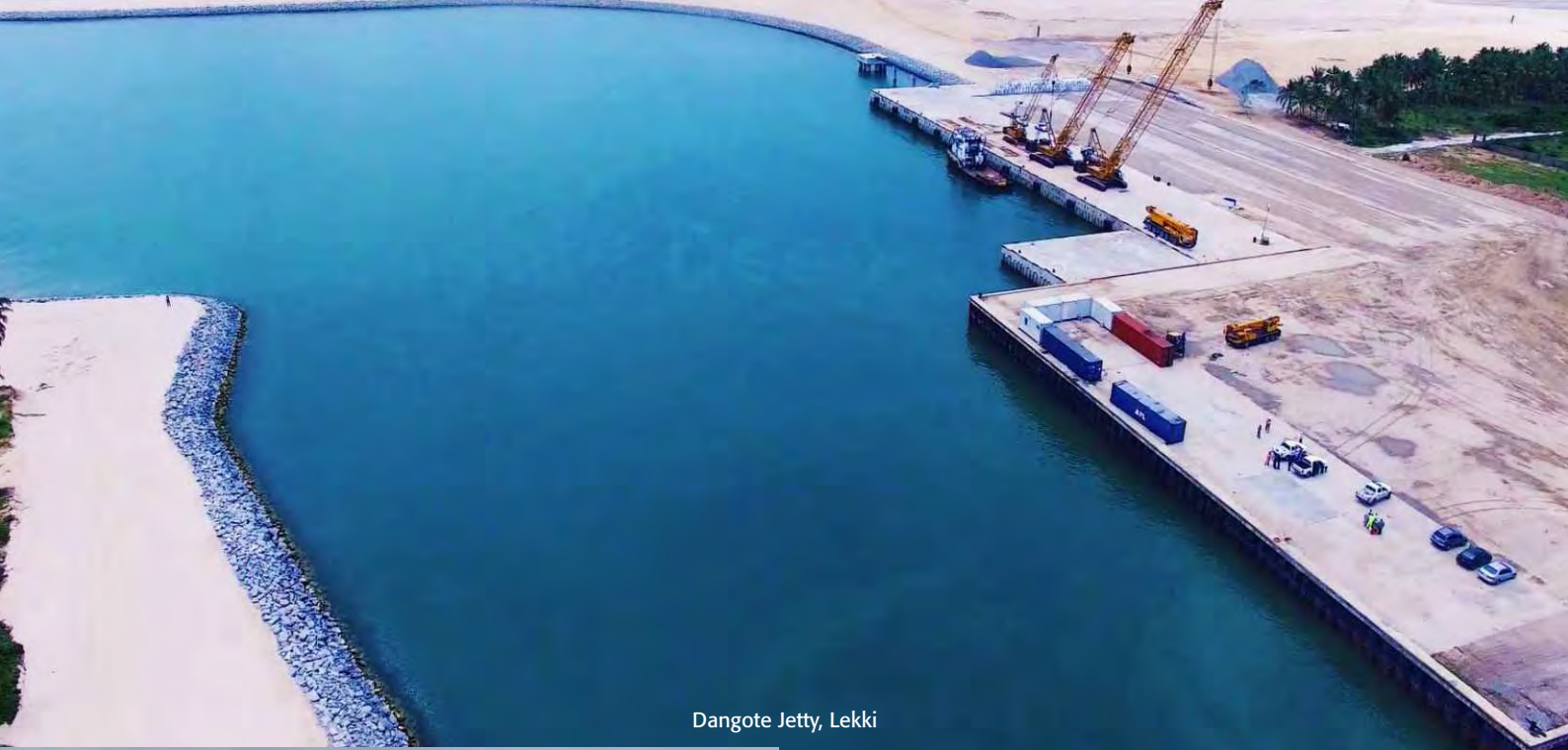
5 2 X 48" sub sea crude pipelines with interconnection.

6 3 X 24" subsea pipelines for products and imports.

7 120 km subsea pipeline.

8 Crude offloading capacity – **108,500** barrels/hour (17.25 million lits/hr).

9 Product loading capacity – **77,000** barrels/hour (12.32 million lits/hr).



Dangote Jetty, Lekki



Roll-on/Roll-off Quay

Dangote Industries has developed a port and constructed quays with a load bearing capacity of 25 tonnes/ sq meter to bring Over Dimensional Cargoes close to the site directly to handle liquid cargoes. The Jetty is situated at distance of 12.3 km from the refinery thereby effectively reducing the travel time



Health, Safety and Environment

Dangote Petroleum Refinery maintains high standards for all its business practices, valuing health, safety, environment and rights for its employees, compliance with all applicable local and international laws, and being a committed partner to communities, governments and the environment.

Safety Standards

- All units & utilities conform to world-class safety standards and codes such as API, AFPM, etc
- Complete fire protection system with international SAFE practice
- Suitable instrumentation to ensure alarm & trip to avoid material / personal damage
- HAZOP and SIL studies done with independent chairmen
- All process units, utilities and offsite systems designed & analysed for exigency scenario & mitigation measures through ESD Logic



Logistics

Over 1,029 trucks to improve the capacity of the local logistics

Employment Generation

- Over 100,000 indirect employment at retail outlets.
- 26,716 filling stations and 129 depots in Nigeria.
- Ease of availability of product - help open up service stations.
- 16,000 trucks for transport will create additional jobs.



Local Content Development

Artisans: We have trained over 400 artisans selected from host communities in the areas of Masonry, Carpentry, AC Electricians, Plumbing, Welders, Iron-benders and Auto Mechanics.

In collaboration with the Nigerian Directorate of Employment and Nigerian Content Development and Monitoring Board

Manpower Development

Training of 900 young engineers in refinery operations outside the country. Another six Mechanical Engineers trained in the GE University in Italy. 50 Process engineers trained by Honeywell/UOP for six months; 50 Management Trainees; secondment for succession. Currently six selected and under training in ABU for R & D in Zeolites in conjunction with NCDMB



Air Emission Control Measures

- Units designed to meet EU & USEPA Standards
- Ambient air quality monitoring stations
- Mobile monitoring stations

Waste Water Treatment & Reuse

- Liquid effluent streams generated within the refinery are treated in a central effluent treatment plant. Part of the treated effluent reused for DM water generation/ fresh water makeup within refinery
- Central effluent treatment plant comprises of OWS/ Process Effluent Chain, Contaminated Rain Water Treatment Chain, Sanitary Effluent Treatment Chain and Spent Caustic Treatment Chain



Beyond Envisaged Investments

- 70% of the site was swamp and the land had to be reclaimed
- 65 million cubic metres of sand filling costing approx. Euro 300 million, elevate the height by 1.5 metres, to insure against any potential impact of increase in mean sea level due to global warming.

Employment Generation

In terms of employment generation, over 30,000 are currently working at the petroleum refinery project site, through various contractors. When operational, the petroleum refinery is going to generate over 100,000 direct and indirect jobs for Nigerian youths



Civil Construction

We bought over 1,209 pieces of equipment to enhance the local capacity for site works since even Julius Berger, Dantata & Sawoe, Hi-Tech etc. are unable to handle some portions of our construction requirement

Mechanical Construction

We bought 332 cranes to build up equipment installation capacity since the current capacity in Nigeria is extremely poor.





Project Benefits in Nigeria

- 1 Technology.
- 2 Employment.
- 3 Power generation
- 4 Professional development.
- 5 Production of petrochemicals.
- 6 Increased demand for domestic crude.
- 7 Unhindered availability of the product.
- 8 Development of local area and ancillary industries
- 9 Availability of high quality products (Euro V Grade).

Creates market for

\$21 BILLION PA

of Nigerian Crude



Our Commitment

We strive to make a difference in the social lives of host communities through investments that simultaneously provide lasting community benefits and direct business value.



Our Social Impact

- Mobile Clinics -collaboration with local Govt. for free consultation
- Diagnosis, provision of drugs for ailments like malaria, fever etc.
- Construction of Schools, Hospitals / Community Health Centres
- Access to micro credit system & merit scholarships.
- Health Program -Eye treatment & health awareness campaign.
- Educational Development Program.
- Institutionalise scholarships for meritorious candidates.
- Enhance Infrastructure in host community primary schools.
- Construction of computer training centre for indigenous youth.
- **Youth Empowerment Program:** - Promotion of vocational training and - establishment of computer training centres.
- Development & training of youth entrepreneurs.
- Partnering the Lagos State government and Siemens in the skills development of the local community for employment at the construction site. We have already trained and employed 400 artisans.



Key Take Away

The project utilised the coordination of various local and international suppliers and the coordination of multi-cultural work teams.



Dangote Group

Dangote Industries Limited (Dangote Group) is one of Africa's largest industrial conglomerates. It is a diversified and fully integrated conglomerate with an annual group turnover in excess of US\$4billion. It has been a key investor in the Nigerian economy. The Group's interests include cement, sugar, salt, fertiliser, agriculture and real estate, with ongoing new projects in the oil and gas, petrochemical, and steel sectors of the economy.

The core business focus of the Group, which started operations in 1978, is to provide local, value-added products and services that meet the 'basic needs' of the populace. Through the construction and operation of large-scale manufacturing facilities in Nigeria and across

17 other African countries, Dangote Group is focused on building local manufacturing capacity to generate employment, prevent capital flight and provide locally produced goods for the people.

As a Group, we recognise the perceived difficulty of doing business in Nigeria, and across Africa, especially in the manufacturing sector. However, we also believe that the potential for growth in Africa and the opportunities available in value added manufacturing remain attractive, despite the obstacles.

We also believe the future growth of African economies will be built on the ability of the continent to harness the value of its resources internally and to supply our vast and fast



Dangote Group (Cont'd)

growing consumer population with the goods and services they rely on. We aim to supply their 'basic needs'.

Our Business Units include Dangote Cement PLC, Dangote Sugar Refinery PLC, NASCON Allied Industries PLC, Dangote Rice Limited, Dangote Academy, Dangote Petroleum Refinery and Petrochemicals FZE, Dangote Fertiliser Limited, Dangote Packaging Limited, Dangote Ports Operations, Dangote Transport Limited, Dangote Sinotruk West Africa Limited, Dangote Projects, Dangote Coal Mines Limited, Dangote Steel, Dangote Granite Mines Ltd., Aliko Dangote Foundation and Dangote Construction Limited.

Our subsidiary, Dangote Cement is Africa's leading cement producer with nearly 46Mta

capacity across Africa. A fully integrated quarry-to-customer producer, we have a production capacity of 29.25Mta in our home market, Nigeria. It is on the strength of this that we export cement to ECOWAS countries. We have eliminated Nigeria's dependence on imported cement and transformed the nation into an exporter of cement.

In philanthropy, Aliko Dangote Foundation (ADF) is the private charitable foundation of our President, Aliko Dangote. It was incorporated in 1994 with the mission to enhance opportunities for social change through strategic investments that improve health and wellbeing, promote quality education, and broaden economic empowerment opportunities. It has become



Dangote Group (Cont'd)

the largest private Foundation in sub Saharan Africa, with the largest endowment by a single African donor.

The primary focus of ADF is child nutrition, with interventions centred on health, education and empowerment, and disaster relief. Aliko Dangote endowed the Foundation with the equivalent of \$1.25bn. The Foundation also supports stand-alone projects with the potential for significant social impact.

In one of its biggest collaborations to date, Aliko Dangote Foundation started working in partnership with the Bill and Melinda Gates Foundation and key northern State Governments in Nigeria from 2013 to eradicate polio and strengthen routine immunisation in Nigeria.

In the energy sector, we are seeking to help the country create more efficient industrial and energy infrastructure, via strategic investments in upstream and downstream projects. We are building the world's largest single train Refinery and Petrochemical Complex in Africa. The Refinery has the capacity to refine 650,000 barrels of crude oil per day while the Petrochemical Plant has the capacity to produce 900,000 metric tonnes per year (MTPY) of Polypropylene.

Our passion to transform the Nigerian economy is already evident in our just-completed 3 million metric tonnes per annum (mmtpa) of Urea and Ammonia fertiliser plant. Dangote's investment in petroleum refining, petrochemical and fertiliser is in excess of \$22.5 billion.





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