

Marching ahead towards  
Excellence & Innovation



**नालको**  **NALCO**  
National Aluminium Company Limited  
A NAVRATNA COMPANY

## OVERVIEW

National Aluminium Company Limited (NALCO), the Navratna CPSE, under Ministry of Mines, Govt. of India is one of the largest integrated Alumina - Aluminium Complex in Asia. From the days of first commercial operation since 1987, the Company has continuously earned profits for last 30 years. Among CPSEs, NALCO is ranked no.1 as a Net Foreign Exchange Earning Company in FY 2013-14 and ranked 2nd in FY 2014-15 and 2015-16 in the country. The Company has a paid up share capital of Rs 966.46 cr with Government of India holding of 65.36%.

NALCO was incorporated in 1981 to utilize a part of the large Bauxite deposits discovered in East Coast, in technological collaboration with Aluminium Pechiney of France (now Rio-Tinto-Alcan). Considered to be a turning point in the history of Indian Aluminium Industry, NALCO has not only addressed the need for self-sufficiency in Aluminium but also given the Country a technological edge in producing this strategic metal as per world standards.

Further, with ISO 9001:2000, ISO 14001, OHSAS 18001 and SA 8000 certifications and product registered at London Metal Exchange, NALCO enjoys the status of a Premier Trading House. NALCO's Captive Power Plant, Alumina Refinery and Aluminium Smelter have been certified to ISO 50001:2011 Energy Management Standard.

The capacity of operating units:

UNIT	CAPACITY	UNIT	CAPACITY
Bauxite Mines	68,25,000 MT	Wind Power Plant-I	50.4 MW
Alumina Refinery	22,75,000 MT	Wind Power Plant-II	47.6 MW
Aluminium Smelter	4,60,000 MT	Wind Power Plant-III	50.0 MW
Captive Power Plant	1200 MW	Wind Power Plant-IV	50.4 MW
		Roof top Solar Power	310 KWp



## BAUXITE MINES

A fully mechanized open-cast Mine, the Panchpatmali Mines of Koraput district in Odisha, is one the most sophisticated and eco-friendly mining operations to be found worldwide, which features geo-statistical application and computerized mine planning. This mine serves as feed-stock to Alumina Refinery at Damanjodi. The transportation is done through a 14.6 k.m long single-flight, multi-curve cable belt conveyor of 1800 TPH capacity.



## ALUMINA REFINERY

Ranked No. 1 among the lowest cost producers of alumina in the world, NALCO's energy efficient Alumina Refinery utilizes time tested Bayer's Process technology of atmospheric pressure digestion at low temperature. Manufacturing of 26,000 tpa special grade Alumina & Hydrate are well integrated with the main process streams. The present capacity of alumina refinery is 2.275 million tonnes per annum. Alumina produced from here is used to meet Company's requirements for production of primary aluminium at Smelter. After meeting the consumption need of Company's Smelter Plant at Angul, the balance quantity of Alumina goes to International market through Visakhapatnam port.



## SMELTER PLANT

Located in Angul of Odisha, NALCO's Smelter is based on advanced technology of smelting & pollution control and comprises of four potlines with 240 electrolytic pot cells in each, along with integrated facilities for casting of ingots, sows, billets, strips and wire rods and chequered sheets. Smelter unit has a 50,000 tpa Rolled Products Unit (RPU) having facilities to produce sheets and coils for a variety of end uses. This unit has the advantage of direct molten metal transfer from the Smelter.





## CAPTIVE POWER PLANT

Close to the Smelter, a Captive Power Plant of 1,200 MW capacity has been established for firm supply of power to the Smelter. The coal demand of the plant is mostly met from a dedicated mine of Mahanadi Coalfields Limited. The plant is also connected with State Grid for sale of surplus power.



## WIND & SOLAR POWER

NALCO has diversified into wind power with the commissioning of a 50.4 MW Wind Power Plant at Gandikota, Andhra Pradesh in 2012. The second Wind Power Plant of 47.6 MW at Jaisalmer, Rajasthan was commissioned in 2014. Growing further in enhancing its renewable energy portfolio, a 50 MW Wind Power Plant in Jaisalmer, Rajasthan & 50.4 MW Wind Power Plant at Sangli, Maharashtra was commissioned in FY 2016-17. The total Wind Power Plant in operation is 198 MW.

The Company has also utilized the available roof top space in Corporate Office, Township, Research Centre, Training Centre at Bhubaneswar for setting up of 310 KWp Solar Power Plants.



## PORT & RAIL FACILITIES

On the inner harbour of Visakhapatnam Port on the Bay of Bengal, NALCO has established mechanized storage and ship handling facilities for exporting calcined Alumina and importing caustic soda. The port is also used for export of aluminium metal and import of normal as well as project cargoes.

Ship loading rate : 2,200 tph

Aluminium storage : 3 x 25,000 tonnes

NALCO also uses the ports of Paradeep and Kolkata for export of Aluminium. Besides, NALCO operates own locomotives and wagons for surface transportation of finished goods and raw materials.



## NEW PROJECTS

Following a New All-Weather Business Model, NALCO has extensive plans for brownfield and greenfield expansion projects, which include the ongoing 5th Stream Refinery Project of 1 MTPA capacity in existing Alumina Refinery at Damanjodi (Brownfield), development

of Pottangi Bauxite Mines, Utkal D&E Coal Mines in Odisha, establishment of 6 lakh TPA greenfield and 5 lakh TPA brownfield Smelters in Odisha.

In green energy field, the Company has plans for another 120 MW wind and solar power plants. As part of backward integration, the Company is going ahead for a 2.7 lakh TPA Caustic Soda Plant in JV with Gujarat Alkalies & Chemicals Limited (GACL) in Gujarat. Further, NALCO has formed JV Company named 'Angul Aluminium Park Private Ltd' (AAPPL) with Odisha Industrial Infrastructure Development Corporation (IDCO) to give a boost to ancillary, upstream and downstream products related to aluminium industry, for which Pricing mechanism of hot metal has been finalized.

## PRODUCTS

Registered with London Metal Exchange, the products of NALCO enjoy worldwide reputation on account of their quality, reliability in shipment backed by high standard customer service. NALCO is among the most advanced manufacturing units in the world and its products are sold in more than 30 countries.

### Alumina

- ◆ Calcined Alumina
- ◆ Alumina Hydrate
- ◆ Speciality Aluminas & Hydrates
- ◆ Detergent Grade Zeolite

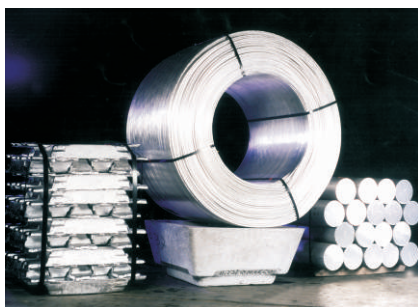
**Aluminium Metal :** (CG, EC & LME grades)

- ◆ **Standard Ingots :** (approx.  $20 \pm 3$  kgs/  
 $22.5 \pm 1.5$  kgs)
- ◆ **Sow Ingots :** (each max. 750 kgs)
- ◆ **T-Ingots :** ( $650 \text{ kgs} \pm 50 \text{ kgs}$ )
- ◆ **Wire Rods :** (in coil form, 9.5/  
11.95 mm dia, weight approx. 2 mt)
- ◆ **Billets (in four sizes) :**  
127  $\pm$  1.5 mm / 152  $\pm$  1.5 mm /  
178  $\pm$  1.5 mm / 203  $\pm$  1.5 mm dia)
- ◆ **Cast Strip :** (in 1600 mm width max.,  
gauge 6 to 10 mm)

◆ **Flat Rolled Products** (coils & sheets)

**New Additions : Value-added Products**

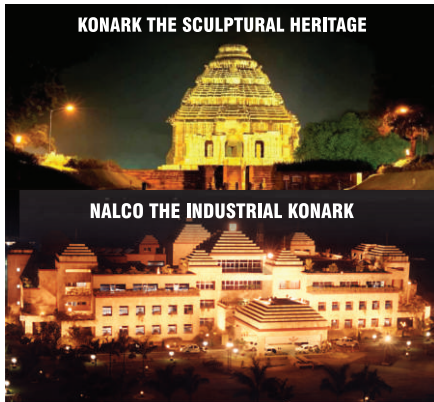
- ◆ **Mechanized Sow :** ( $650 \text{ kgs} \pm 50 \text{ kgs}$ )
- ◆ **High Speed Alloy Billets**
- ◆ **Fan Blade Stock :** AA 3105 Alloy



## NALCO IN NATION BUILDING

NALCO and its CSR arm NALCO Foundation, are actively working in the following areas;

1. Installation of Solar Lights. 2. Open defecation free project. 3. Augmentation of toilets under Swachh Vidyalaya Abhiyan. 4. Development of



Lord Jagannath Temple under Prime Minister's Iconic Shrine Project. 5. Integrated Health Management System. 6. Hospital under Secondary eye care services. 7. Skill Development.

### NALCO KI LADLI

The Company has launched 'NALCO ki Ladli' Scheme to promote meritorious girl students from BPL families, under the 'Beti Bachao, Beti Padhao' programme of Govt of India.

### SWACHH VIDYALAYA

As a PSU-partner in Govt's Swachh Vidyalaya Abhiyan, NALCO constructed 473 toilets in 224



schools, in Odisha and Andhra Pradesh, resulting in enrolment and attendance enhancement of girl students. Now, the Company is taking up continuous water supply and maintenance of these toilets.

### EDUCATION

NALCO Foundation is working to bring children from the tribal district of Koraput to mainstream

education. One of its major projects is the collaboration with reputed residential institutions for providing quality education to the children of periphery villages of Damanjodi sector in Koraput. The Company has so far provided residential education of 755 children from 18 periphery villages. The total cost related to study, lodging and boarding of those students till they complete schooling is borne by NALCO Foundation.

### INTEGRATED HEALTH SERVICES

NALCO has set up two Company-run 50-bedded speciality hospitals, one each at Damanjodi and Angul. Besides, NALCO Foundation runs eight mobile health units and two OPD for villagers living in the vicinity, providing free medicines and treatment every day. Now, a speciality eye hospital is being set up in Angul.



NALCO has also taken up initiative towards preserving & promoting Puri as an Iconic City.

## ENVIRONMENT

यत ते भूमे विश्वनामी क्षिप्रं तदापि रोहनु ।

मा ते मर्म विमृग्वरि मा ते हृदयमर्पिषम् ॥

Oh! Mother earth, when I dig out trees, roots and other substances for food and medicines from your body, let your wounds heal quickly. Let me never hurt the essence of your vitality, the source of all creations and turn you barren.

-Atharva Veda

### NALCO's Three Decades of Green Growth

- ◆ Environment Management Systems in all production units conform to the ISO-14001 norms
- ◆ More than 9.7 million trees planted
- ◆ State-of-the-art technology for pollution control



- ◆ Sustainable utilization of natural resources
- ◆ De-fluoridisation Plant utilizing break-through Nano-based Emrion Technology to prevent fluoride contamination
- ◆ Indira Priyadarshini Vrikshamitra Puraskar for afforestation and Indira Gandhi Paryavaran Puraskar for environment management, by the Govt. of India
- ◆ 5 Star Rating to Panchpatmali Bauxite Mines



## NALCO WORKS & OFFICES

### Regd. & Corporate Office

Nalco Bhawan, P/1, Nayapalli  
Bhubaneswar - 751013, India  
Phone : 0674 - 2301988 to 2301999  
Fax : 0674 - 2300521 / 2300580 / 2301290  
Website: [www.nalcoindia.com](http://www.nalcoindia.com)

### Mines & Refinery

Damanjodi - 763008, Koraput, Odisha  
Phone : 06853 - 254515 / 254550  
Fax : 06853 - 254361 / 254251

### Smelter Plant

Nalco Nagar - 759145,  
Angul, Odisha  
Phone : 06764 - 220110  
Fax : 06764 - 220738 / 220206

### Captive Power Plant

Nalco Nagar,  
Angul - 759145, Odisha  
Phone : 06764 - 220158  
Fax : 06764 - 220646

### Port Facilities

Port Area,  
Visakhapatnam - 530035  
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### Northern Region Delhi

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### Western Region Mumbai

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### Bengaluru

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### Paradeep

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*Spreading sunshine of happiness...*



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