

12 Aluminium and Alumina

The aluminium industry in India is strategically well-placed and ranks eighth largest producer of Aluminium in the world with discernible growth plans and prospects for the future. India's rich bauxite mineral base renders a competitive edge to the Industry as compared to its counterparts globally. The aluminium industry in India scaled lofty notches since the establishment of the first manufacturing company, namely, Indian Aluminium Company (INDAL) in 1938. All business activities of INDAL subsequently have been merged with Hindalco Industries Limited (Hindalco), with an exception of its foil unit at Kollur.

Two major primary producers, NALCO and Hindalco which are at the forefront with competing business interest and formidable global presence, are the leading producers of aluminium metal. The primary producers have a strong presence in the sheet business and are enlarging their roles in the foil segment. The primaries are also extending their activities in the extrusion segment in which a large number of secondary manufacturers participate with fragmental capacities.

The overall total annual installed capacity of aluminium in the country has risen to 11.96 lakh tpy. Producerwise capacity of aluminium is given in Table-1. The installed capacity of alumina in the country was 30.20 lakh tpy (Table-2).

PRODUCTION

Aluminium

The production of Aluminium at 1,240 thousand tonnes in 2007-08 registered an increase of 11% as compared to the previous year. Five plants reported production of Aluminium during the year. Of these, one plant in public sector accounted for about 29% of the total production in 2007-08. The remaining 71% was accounted for by the joint and private sectors.

**Table - 1 : Installed Capacity of Aluminium, 2007-08
(By Producers)**

(In '000 tonnes)		
Producer	Plant	Annual capacity
Total		1196
Public Sector		
National Aluminium Co. Ltd	Angul (Orissa)	345
Joint Sector		
Bharat Aluminium Co. Ltd	Korba (Chhattisgarh)	350
Private Sector		
Hindalco Industries Ltd	Renukoot (Uttar Pradesh)	461*
	Hirakud (Orissa)	
	Alupuram (Kerala)	
Madras Aluminium Co. Ltd	Mettur (Tamil Nadu)	40

Source: Information received from the Companies, Annual Reports.

* Capacity increased by technological upgradation of existing plants.

Alumina

The production of Alumina at 3053 thousand tonnes in 2007-08 increased by about 9% as compared to the previous year. NALCO continued to be the leading producer of Alumina accounting for 51% of the total production during the year under review.

**Table - 2 : Installed Capacity of Alumina, 2007-08
(By Producers)**

(In '000 tonnes)		
Producer	Plant	Annual capacity
Total		3020
Public Sector		
National Aluminium Co. Ltd	Damanjodi (Orissa)	1575
Joint Sector		
Bharat Aluminium Co. Ltd	Korba (Chhattisgarh)	200
Private Sector		
Hindalco Industries Ltd	Renukoot - 700 (Uttar Pradesh)	1160
	Belgaum - 350 (Karnataka)	
	Muri - 110 (Jharkhand)	
Madras Aluminium Co. Ltd	Mettur (Tamil Nadu)	85

Source : Information received from the Companies, Annual Reports/Ministry of Mines Annual Report..

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**Table - 3 : Production of Aluminium
2005-06 to 2007-08**

(Quantity in tonnes; value in Rs. '000)

Year	Production	
	Quantity	Value
2005-06	930543	90055103
2006-07	1113849	130571656
2007-08(p)	1239581	112101116

**Table - 4 : Production of Aluminium
2006-07 and 2007-08
(By Plants)**

(Quantity in tonnes)

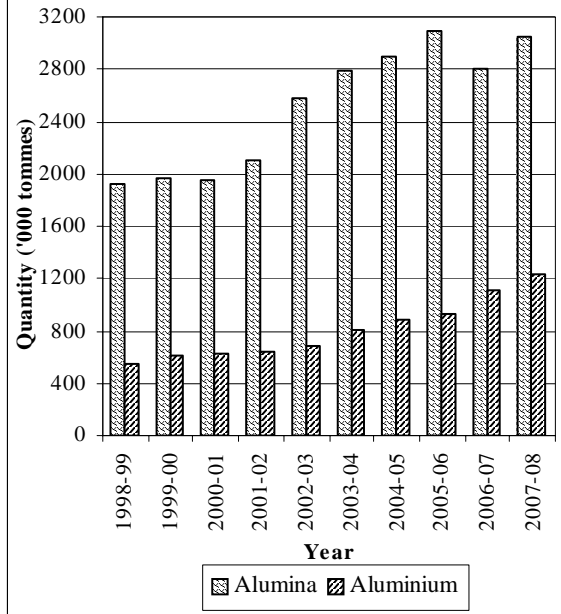
Producer	Plant	Production	
		2006-07	2007-08(p)
Total		1113849	1239581
National Aluminium Co. Ltd	Angul	358729	361925
Hindalco Industries Ltd	Renukoot	369704	378153
	Hirakud	63974	99572
Bharat Aluminium Co. Ltd	Korba	283790	362297
The Madras Aluminium Co. Ltd	Mettur	37652	37634

**Table - 5 : Production of Alumina
2005-06 to 2007-08**

(Quantity in tonnes; value in Rs. '000)

Year	Quantity	Value
2005-06	3086240	31088586
2006-07	2810824	61891993
2007-08(p)	3053214	28637352

**Production of Alumina and
Aluminium 1998-99 to 2007-08**



**Table - 6 : Production of Alumina
2006-07 and 2007-08 (p)
(By Plants)**

(Quantity in tonnes)

Producer	Plant	Production	
		2006-07	2007-08(p)
Total		2810824	3053214
National Aluminium Co. Ltd	Damanjodi	1308500	1569300
Hindalco Industries Ltd	Renukoot	716745	708859
	Belgaum	372100	377000
	Muri	114200	106850
Bharat Aluminium Co. Ltd	Korba	222396	217185
The Madras Aluminium Co. Ltd	Mettur	76883	74020

INDUSTRY

Six aluminium smelters of total installed capacity of 11.96 lakh tpy were known to be in operation in the country. Of these, NALCO is the only company in the Public Sector with installed capacity of 345,000 tpy. BALCO, hitherto a Public Sector company, is now in Joint Sector with stake holdings apportioned between Sterlite Industries (India) Ltd (51%) and Government of India (49%). The remaining four smelters of Hindalco and MALCO are in the Private Sector. The aluminium plants of NALCO, BALCO, MALCO and Hindalco have their alumina-aluminium complexes at Angul-Damanjodi (Orissa), Korba (Chhattisgarh), Mettur (Tamil Nadu) and Renukoot (Uttar Pradesh), respectively. Hindalco operates two smelters one at Renukoot (Uttar Pradesh) and the other at Hirakud (Orissa). The third smelter of Hindalco at Alupuram (Kerala) did not report production.

Hindalco, with effect from 10.3.2006, acquired the 30,000 tpy rolling mill and 14,000 tpy conductor rod plant at Mauda, near Nagpur, Maharashtra, from Pennar Aluminium Co. Ltd. This has enhanced the flat-rolled capacity of the company to 200,000 tpy thus taking the value-added products capacity to 60% of operating primary metal capacity. The plant is not in operation at present. Sheets and foils are produced by primary producers and extrusions by primary as well as secondary producers. The installed capacity for semis was approximately 119,200 tonnes extrusions, 224,900 tonnes rods and 307,000 tonnes rolled products. The capacity for foils was around 57,700 tonnes. India Foils, Pennar Aluminium and Century Extrusions together control over 70% of the market for extrusions and foils. Jindal Aluminium Ltd is also a leading producer and exporter of aluminium extrusions with a total capacity of 75,000 tpy. The installed capacity of semis along with production by major plants is given in Table-7.

**Table - 7 : Production Facility for Aluminium Semis
2006-07 and 2007-08**

Producer/product	Annual installed capacity	Production	
		2006-07	2007-08
(In tonnes)			
Hindalco Industries Limited			
Rolled product	200000	211088	215198
Extruded products	27700	38282	43315
Conductor redraw rods	50000	68998	71798
Aluminium foils	40000	25699	27645
Aluminium wheels (No. of pieces)	300000	196621	174069
NALCO			
Aluminium wire rods	100000	N.A.	N.A.
Aluminium billets	30000		
Aluminium strips (smelter)	26000		
Aluminium strips (RPU)	52000		
Rolled products	45000	2587	
MALCO			
Rolled products	3000	-	-
Properzi rods	36000	34484	-
Bus bars	-	448	-
BALCO			
Extruded products	8000	-	-
Rolled products	72500	57287	61693
Properzi rods	111500	72981	101183
Foil product	600	-	-
Conductors	1200	-	-

Source: Information received from individual plants/Annual Reports, etc.

Development & Expansion

NALCO's expansion activities were on schedule and are expected to augment aluminium production capacity from 3.45 lakh tonnes to 4.6 lakh tonnes per year, alumina capacity from 15.75 lakh tonnes to 21 lakh tonnes per year and that of bauxite mines capacity from 48 lakh tonnes to 63 lakh tonnes per year. Augmentation of its power generation capacity from 960 MW to 1200 MW is also in the pipeline.

NALCO is understood to have received an in-principle approval of Government for a second greenfield aluminium project in Orissa. The project to be set up at a cost of Rs.16,000 crore has a proposed 5 lakh tpy smelter capacity and will be located in the district of Jharsuguda.

The Hindalco's brownfield expansion of Muri Alumina Refinery to 4.5 lakh tpy is complete and operations are under ramp up. The expansions of Hirakud Smelter to 1.43 lakh tpy (1.10 lakh tpy already commissioned) and power addition from 67.5 MW to 367.5 MW (100 MW already commissioned) were expected to be commissioned by June 2009. The company's plans to expand refining capacity at Belgaum from 3.5 lakh tpy to 6.5 lakh tpy are on hold awaiting Government's approval relating to bauxite mines.

The Hindalco's greenfield projects have made significant progress. Utkal Alumina, the 1.5 million tpy alumina refining project reportedly made considerable headway with land acquisition mostly completed. The bauxite mining activities were to start by March 2009 and commissioning of the plant is expected by January 2011. The other integrated aluminium project, namely, Aditya Aluminium that encompassing 1 to 1.5 million tpy alumina refinery, 2.6 to 3.59 lakh tpy aluminium smelter and 750 to 900 MW captive power plant was on progressive course. The smelter is expected to be commissioned by October 2011 and the alumina refinery by January 2013. A joint venture agreement on bauxite mines was signed with OMC. The company is also developing and mining coal for captive consumption jointly with Mahanadi Coalfields Ltd and Neyveli Lignite Corporation Ltd. The company is also planning to set up 3.59 lakh tpy smelter and 900 MW captive power plant in Madhya Pradesh, based on captive coal consumption (JV) from Sidhi district, Madhya Pradesh. Another greenfield project, viz Latehar Aluminium, entails setting up a 3.59 lakh tpy aluminium smelter with 900 MW captive power plant supported by 5 million

tpy captive coal mine of Auranga Coalfields in Jharkhand in JV with Tata Power. Land acquisition was in progress, and for other clearances, application was filed. The project is likely to be commissioned in June 2012. Hindalco has received approval for SEZ for aluminium in Orissa in 2007.

BALCO of Vedanta group and controlled by Sterlite Industries (India) Ltd is undertaking programmes for modernisation and expansion. The company has effected capacity addition at Korba with a new 2.45 lakh tpy capacity aluminium smelter, for which the technology was provided by Guiyan Aluminium-Magnesium Design & Research Institute (GAMI), China. Modernisation and upgradation of existing pot and Pot Control Systems are expected to enhance the smelter capacity. Sterlite Industries (India) Ltd holds a 30% stake in Vedanta Alumina Ltd which is setting up a 1 to 1.4 million tpy alumina refinery and a 0.5 million tpy aluminium smelter in Orissa. The alumina refinery at Laajigarh, Kalahandi district was commissioned in 2007. With a view to enhance its production capacity to one million tonnes, BALCO signed a MoU in August 2007 with the Government of Chhattisgarh for setting up a new smelter with 6.5 lakh tpy capacity. The feasibility report of the project is under preparation.

USES

Aluminium has wide applications in various areas, such as, transport and building & architectural sectors, packaging, food & chemical industries, electrical sector, machinery & equipment, consumer durables and also in defence sector. In automobile industry, aluminium is gradually replacing steel. Aluminium body makes car lighter and more fuel-efficient. Other important new application areas are lithographic (offset) plates required in printing, solar panels, fibre composites & reflectors and gas cylinders. India has pioneered the replacement of copper by aluminium in power transmission & distribution which has enhanced the demand for aluminium. There are 600 cable and conductor manufacturing units in the country, having a total capacity of 400,000 tpy. The major end-use of aluminium is as rolled sheets, extrusions and foils. India Foils, Pennar Aluminium and Century Extrusions are the major players in the extrusion & foil market.

Foil is a very thin sheet of rolled aluminium supplied in its pure form or as alloys. The thickness of foil ranges from the thinnest currently

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produced at about 0.0065 mm to thickest 0.2 mm. Material thicker than 0.2 mm is defined as sheet or strip.

Indian aluminium foil industry is a growing sector in the country. According to a conservative estimates, the domestic foil industry is expected to grow at about 8-9% per annum in the coming 5-10 years. Hindalco Industries Ltd, after its merger with the erstwhile INDAL, has become the biggest supplier for both domestic and export markets. The main exportable market is for high-value laminates for cigarette and chocolate foils while the demand in domestic market is for foils and semi-rigid foil containers. The other significant producers are Sterlite Industries Ltd and INDAL which took over India Foils Limited and Annapurna Foils Limited, respectively. The two major aluminium producing companies namely, Hindalco and Sterlite Industries (I) Ltd jointly account for about 90% of the country's foil capacity. India Foils Ltd has capacity of around 19,000 tpy and is the single largest capacity for foil production in India today. Hindalco's foil unit located at Silvassa, has an installed capacity of 5,000 tpy and produces foils with thickness varying from 7 microns to 200 microns and with average thickness of 45 microns. Additionally, Hindalco's Kalwa plant in Thane district (Maharashtra) has foil capacity of 9,000 tpy. Further, INDAL has 4,000 tpy foil plant at Kollur

in Medak district, Andhra Pradesh through ownership of the former Annapurna Foils, Hyderabad.

CONSUMPTION

In advanced economies, aluminium is increasingly replacing wood and steel in building sector. Aluminium cans and containers are used extensively world over. Aluminium is also the ideal packaging material for pharmaceuticals and processed foods.

In India, aluminium was consumed mainly in the electrical sector (31%), followed by transport sector (18%), durables (12%), building (13%), packaging (11%) and machinery & equipment (6%). In contrast, the global consumption pattern was transportation (26%), building & construction (20%), containers & packaging (20%), electrical (9%) and others (24%). The per capita consumption of aluminium in India was only 0.7 kg which is among the lowest in the world (world average 12-15 kg). The per capita consumption in the western countries was 15-32 kg.

Alumina is produced from bauxite. About one tonne of alumina is produced from three tonnes of bauxite and about one tonne of aluminium from two tonnes of alumina. Plantwise consumption of different raw materials in 2006-07 and 2007-08 are given in Table-8.

**Table- 8 : Consumption of Raw Materials, 2006-07 and 2007-08
(By Plants)**

Material	NALCO* 2006-07	HINDALCO		BALCO		MALCO	
		2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Bauxite	4487034	3513421	3498193	682881	696634	338799	341563
Alumina	NA	NA	NA	390895	502931	73752	73714
Cryolite	NA	NA	NA	14216	1212	31	212
Aluminium fluoride	8901	6285	5866	10274	10896	1773	1367
Petroleum coke	141797	171095	168286	135353	147590	15020	14111
Caustic soda	123368	137369	137523	33243	31299	13538	15873
Lime	45839	NA	NA	NA	NA	3450	3126
Soft pitch	36455	46053	40977	37509	42652	7724	7250
Electricity per tonne of metal (kWh)	14953	15939	15826	16226.4	15428.8	17830	17676

* Consumption of bauxite in 2007-08 was reported at 4,802,167 tonnes; consumption of other raw materials was not available.

RESEARCH & DEVELOPMENT

The Hindalco's research and development work was mainly aimed at new product development, conservation of materials and resources, improvement in energy conservation, waste minimisation and reutilisation, environment preservation and sustenance, etc.

NALCO's in-house R&D units located at M & R Complex, Damanjodi and S&P Complex, Angul were into development of Integrated Technology for processing East Coast Bauxite for production of alumina in collaboration with JNARDDC, development of process for extraction of vanadium sludge, recovery of TiO_2 from plant sand, recovery of alumina from partially lateritised khondalite characterisation of baked anode for process monitoring, determination of cell factor for prediction of net carbon consumption, etc. Manufacture of novel type of cement known as Ordinary Portland Cement (OPC) from NALCO's red mud was established. Lab scale studies related to Gallium recovery were completed by NALCO in collaboration with M/s NML, Japan.

Recycling

The Working Group on Non-ferrous Metals set up by the Ministry of Mines, Government of India, made strong representation on the need to encourage recycling in India as a long-term solution for conserving energy and resources. In India, though aluminium industry is over six decades old, the recycling sector with modern state-of-the-art technology has not really taken off. Worldwide, the fully developed and organised recycling operations contribute about 32% metal requirement for the global downstream sector, i.e., 6 million tonnes. About 20% of India's aluminium requirement is met through recycling. In India, scrap collection activities are still nascent. The utensil industry and casting industry are the major consumers of scrap.

Organised scrap segregation activity could generate considerable quantity of scrap every year in the country which could further be channelled for recycling to produce aluminium. These processes are energy-efficient and environment-friendly.

Recycling process uses only about 5% units of energy against 15,000 units consumed for every tonne of metal produced through the bauxite-alumina route in a modern smelter. Besides, it keeps the emission levels of green house gases to a low of 5% from the actual emission experienced during primary production. Further, for every one lakh tonne of aluminium produced annually through recycling, about six lakh tonnes per annum of bauxite resources can be conserved. Besides, recycling process does not require pollution control equipment, such as, scrubbers, which are mandatory to control emissions in smelting operations.

About 97,000 tonnes scrap are said to be imported and used for recycling in addition to about 40,000 tonnes secondary metal produced by recycling of domestic scrap. In India, INDAL has the only major aluminium recycling unit in the organised sector with a capacity of 25,000 tpy at Taloja. The remaining aluminium recycling is still limited to the unorganised sector, catering mostly to the utensil and casting industries.

Most recycling units in India operate on outdated, or primitive technology that entail high levels of pollution and energy consumption. This is an area that needs to be addressed by the Indian Aluminium Industry. Due recognition of recycling could encourage, users of aluminium, particularly in transport, housing, packaging and durable sectors, to broaden the organised markets for the scrap generated. This should naturally lead to wider and greater use of aluminium and thereby improve the consumption growth of the metal as a whole.

WORLD REVIEW

In 2007, world production of aluminium (primary) increased to 38.2 million tonnes from 33.3 million tonnes in 2006. The principal producers were China (33%), Russia (10%), Canada (8%), USA (7%) and Australia (5%) (Table-9).

The world production of alumina in 2007 increased to 77.5 million tonnes in terms of contained Al_2O_3 from 72.2 million tonnes in 2006. China accounted for a whopping 25%, followed

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by Australia (24%), Brazil (9%), Jamaica and USA (5% each) in the production of alumina in 2007 (Table-10).

The largest ever takeover in the mining sector was completed in October 2007 when Rio Tinto completed their US \$38.1 billion purchase of Canada-based Alcan Inc. Rio Tinto Alcan is now the largest aluminium producer in the world. It is also a significant producer of Alumina and the largest bauxite miner in the world. The other large producer of bauxite, alumina & aluminium is Alcoa Inc. USA.

In Brazil, CBA completed Sorocaba smelter's capacity expansion to 400,000 tpy. The capacity is to be raised further to 600,000 tpy in the next four years.

**Table - 9 : World Production of Aluminium (Primary)
(By Principal Countries)**

(In '000 tonnes)

Country	2005	2006	2007
World : Total	31900	33300	38200
Australia	1903	1929	1957
Brazil	1498	1605	1655
Canada	2894	3051	3082
China	7806	9358	12559
India*	931	1114	1230 ^e
Norway	1391	1383	1362
Russia	3647	3117	3955
South Africa	846	895	899
USA	2481	2284	2554
Other countries	8503	8564	8947

Source : World Mineral Production, 2003-2007.

* *During 2005-06, 2006-07 and 2007-08, India's production of aluminium was 9,30,543 tonnes, 11,13,849 tonnes and 12,39,581 tonnes, respectively.*

**Table - 10 : World Production of Alumina
(By Principal Countries)**

(In '000 tonnes of Al₂O₃)

Country	2005	2006	2007
World : Total	65500	72200	77500
Australia	17704	18312	18884
Brazil	5291	6735	7077
China	8592	13257	19453
India*	3066	3077	3208
Ireland Republic	1800 ^(e)	1800	1808
Jamaica	4086	4100	3940
Kazakhsatan	1505	1515	1545
Russia	3259	3265	3332
Spain	1400 ^(e)	1400 ^(e)	1450
Surinam	1940	2151	2178
Ukraine	1632	1672	1656
USA ^(e)	5215	4696	3890
Venezuela	1931	1920	1800 ^e
Other countries	8079	8100	7287

Source : World Mineral Production, 2003-2007.

* *During 2005-06, 2006-07 and 2007-08, India's production of alumina was 30,86,240 tonnes, 28,10,824 tonnes and 30,53,214 tonnes, respectively.*

FOREIGN TRADE

Exports

Exports of alumina decreased to 0.69 million tonnes in 2007-08 from 0.92 million tonnes in the previous year. Exports in 2007-08 were mainly to China (56%), Romania (18%), Georgia (9%) and Iran (7%). Exports of aluminium and alloys including scrap increased in 2007-08 to 359,124 tonnes from 272,540 tonnes in 2006-07. Exports in 2007-08 were mainly to Singapore (22%) and Malaysia (9%), UAE, Nigeria and USA (6% each) (Tables - 11 to 13).

Imports

Imports of alumina decreased to 270,441 tonnes in 2007-08 from 347,636 tonnes in the previous year. Imports were mainly from Australia (57%), China (13%), Croatia, Bosnia-Harzgovina (9% each) and Netherlands (5%) in 2007-08. Imports of aluminium & alloys and scrap increased to 534,832 tonnes from 443,483 tonnes in 2006-07. Imports were mainly from China (14%), UAE (12%), South Africa (10%), Bahrain, Thailand and Saudi Arabia (6% each), UK, USA and Iran (4% each) (Tables - 14 to 16).

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**Table - 11: Exports of Alumina
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	916531	18701242	688044	10166490
China	792359	15359739	385722	5485868
Romania	37230	952795	120799	1471986
Georgia			62730	941753
Iran	53134	1585079	49222	842624
Bahrain	1	41	20279	332011
UAE	1745	50088	11639	303724
USA	8662	163845	14095	284102
Thailand	7785	188595	6787	144147
Indonesia	1512	39392	2904	54704
Chinese Taipei/Taiwan	2139	53426	1890	43371
Other countries	11964	308242	11977	262200

**Table - 12 : Exports of Aluminium and Alloys Including Scrap
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	272540	37238999	359124	45214886
Singapore	73906	8993366	80761	8917228
USA	18927	3585911	19934	3598742
Malaysia	2163	298715	31515	3356925
UAE	16840	2514053	22322	3040821
Nigeria	11450	1636520	21808	2578400
Vietnam	19829	2412615	13518	1505788
Chinese Taipei/Taiwan	5280	737559	12111	1399919
UK	8382	1499628	8320	1378264
Germany	7888	1310010	8468	1354754
Bangladesh	9584	1394730	8535	1042515
Other countries	98291	12855892	131832	17041530

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**Table - 13 : Exports of Aluminium
(By Items)**

Item	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Items	272540	37238999	359124	45214886
Aluminium & alloys: unwrought	123852	14060476	166672	18329996
Aluminium ingots	121301	13674054	163046	17832381
Aluminium unwrought, NES	723	103837	1597	181427
Aluminium alloys, unwrought	1828	282585	2029	316188
Aluminium powder & flakes	1395	232424	2429	380267
Aluminium & alloys : worked (bars, rods, plates, profiles, etc.)	90492	13389817	92680	12634316
Aluminium & alloys, worked, NES	56389	9506891	95940	13724775
Aluminium scrap	412	49391	1403	145532

**Table - 14 : Imports of Alumina
(By Countries)**

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	347636	6980836	270441	5355140
Australia	142882	3039136	155048	2566512
China	35227	646956	36336	849075
Croatia	152233	2502762	25405	436573
Bosnia-Hrzgovina	-	-	25002	411951
Netherlands	8289	234740	13821	330092
Germany	5215	267094	7685	325636
USA	1314	157155	2297	201377
France	1062	50149	1595	70353
Canada	155	15690	644	46810
Belgium	40	8920	224	43070
Other countries	1219	58234	2384	73691

Table - 15 : Imports of Aluminium and Alloys Including Scrap (By Countries)

Country	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Countries	443483	53113387	534832	61485631
China	33942	5484372	73574	10176603
UAE	59957	6137558	64830	6629871
South Africa	11477	1415049	54365	5858836
Bahrain	33870	4137266	33971	3979779
Thailand	23541	3121577	32812	3802952
Germany	12023	2691715	15460	3245395
Saudi Arabia	41117	3760959	31693	2779869
UK	43664	4086645	23755	2500087
Iran	18368	2291376	21279	2417460
USA	16642	1759420	21744	2217265
Other countries	148882	18227450	161349	17877514

Table - 16 : Imports of Aluminium (By Items)

Item	2006-07		2007-08	
	Qty. (t)	Value (Rs. '000)	Qty. (t)	Value (Rs. '000)
All Items	443483	53113387	534832	61485631
Aluminium & alloys :				
unwrought	111814	13730840	169809	18574096
Aluminium ingots	101455	12326276	154175	16706047
Aluminium unwrought, NES	660	83501	1305	152127
Aluminium alloys, unwrought	9699	1321063	14329	1715922
Aluminium powder & flakes	208	52915	216	46268
Aluminium & alloys : worked bars, rods, plates, profiles, etc.)	74061	14382926	119710	19278539
Aluminium & alloys, worked, NES	11841	3834418	18949	5102160
Aluminium scrap	245559	21112288	226148	18484568

FUTURE OUTLOOK

China is expected to influence the world's aluminium demand. The increased availability of alumina in the global market is expected to exert downward pressure on alumina prices. Domestic aluminium prices follow international prices and were expected to remain firm in 2008-09 barring global recession. A major strategic imperative for the Indian aluminium industry today is to become globally competitive. India, backed by its six decades of collective experience in the industry, is suitably positioned with regard to skilled manpower at reasonable cost within the country. However, it is still dependent, to a large measure for want of state-of-the-art technology and sourcing funds at internationally competitive rates.

While gibbsitic bauxite resources in the world are depleting, vast gibbsitic deposits in India assume particular interest because of its ease in processing. Since gibbsitic bauxite processing has specific advantage of low energy consumption, the alumina refineries enjoy sustainable comparative cost advantage.

As per the industry sources, the present domestic consumption is estimated at around 7 to 8 lakh tonnes and is expected to grow further. The main segments driving aluminium demand in the country are construction, consumer goods and power & electrical segments. Indian alumina producers are looking beyond meeting of domestic smelting needs, by increasing substantially their exports of metallurgical as well as speciality-grade alumina.

The Planning Commission of India has projected production of aluminium at 1.28 million tonnes by 2012 (8% growth rate) and 1.5 million tonnes by 2017. The demand for corresponding years is projected at 1.35 million tonnes and 1.5 million tonnes, respectively.