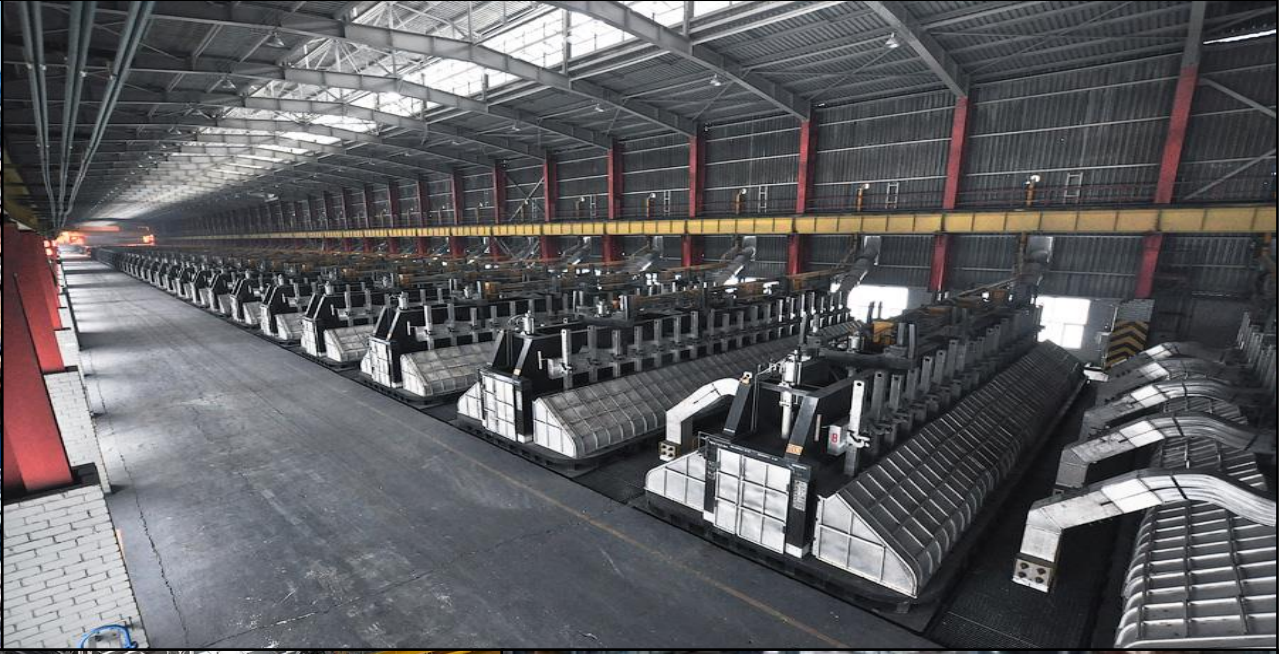




Impact of PAT Scheme and Initiatives by BEE





PAT Cycle Overview



- One of the flagship schemes under NEMEE, the Perform, Achieve and Trade (PAT) scheme is a regulatory instrument to reduce specific energy consumption in energy intensive industries, with an associated market based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded.
- At present, total 13 energy intensive sectors are under PAT Scheme such as Aluminium, Cement, Iron & Steel, Chlor-Alkali, DISCOM, Fertilizer, Pulp & Paper, Textile, Building (Hotels), Thermal Power Plants, Petrochemical, Petroleum Refinery and Railways.
- Total DCs covered under PAT Scheme: 1196
- The scheme has now been expanded with additional coverage to new sectors such as Glass, Ceramic, Chemicals, Mining & Non-Ferrous Metals (Copper/Zinc) etc.
- 15 New sectors are under consideration.



PAT Scheme Impact (2012-2019)



Energy Saving

22.75 mtoe

2.56 % of India's

Total primary energy supply



Emission Reduction

99.43 million tonnes of CO2

3.49% of India's

emissions



Skill Development

Capacity building:

12000+

Engineers and operators

17975 Energy Auditors & Managers

285 Accreditation



ESCerts Trading

95.63 lakhs

ESCerts were awarded.

50.71 lakhs

ESCerts entitled to Purchase.

12.98 lakhs

ESCerts traded in PAT-I



Investment

Encouraged investments for energy efficient technologies for domestic manufacturing

Rs 56,100

Crore invested



Savings

Rs 51520 Crores

from saved energy consumption



PAT Cycle Overview



PAT Cycle	Cycle Year	Number of DC's Notified	Targeted Energy Consumption Reduction (Million TOE)	Achieved Energy Consumption (Million TOE)	Emission Reduction (Million Tonne of Co2)
I	2012-2015	478	6.68	8.67	31.00
II	2016-2019	621	13.63	14.08	68.43
III	2017-2020	116	0.976	1.594	6.43
IV	2018-2021	109	0.699	#	
V	2019-2022	110	0.513	#	
VI	2020-2023	135	1.277	-	-
VII	2022-2025	707	8.485	-	-

M&V In progress



Aluminium Sector

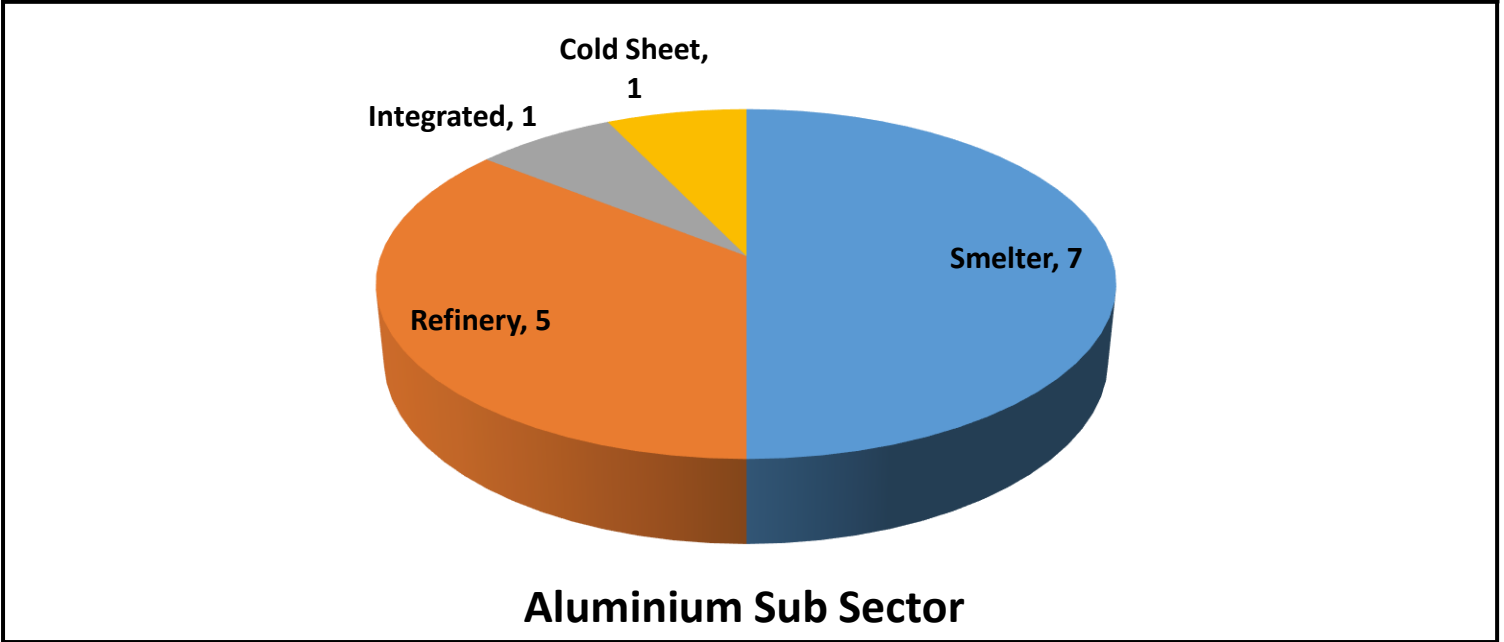
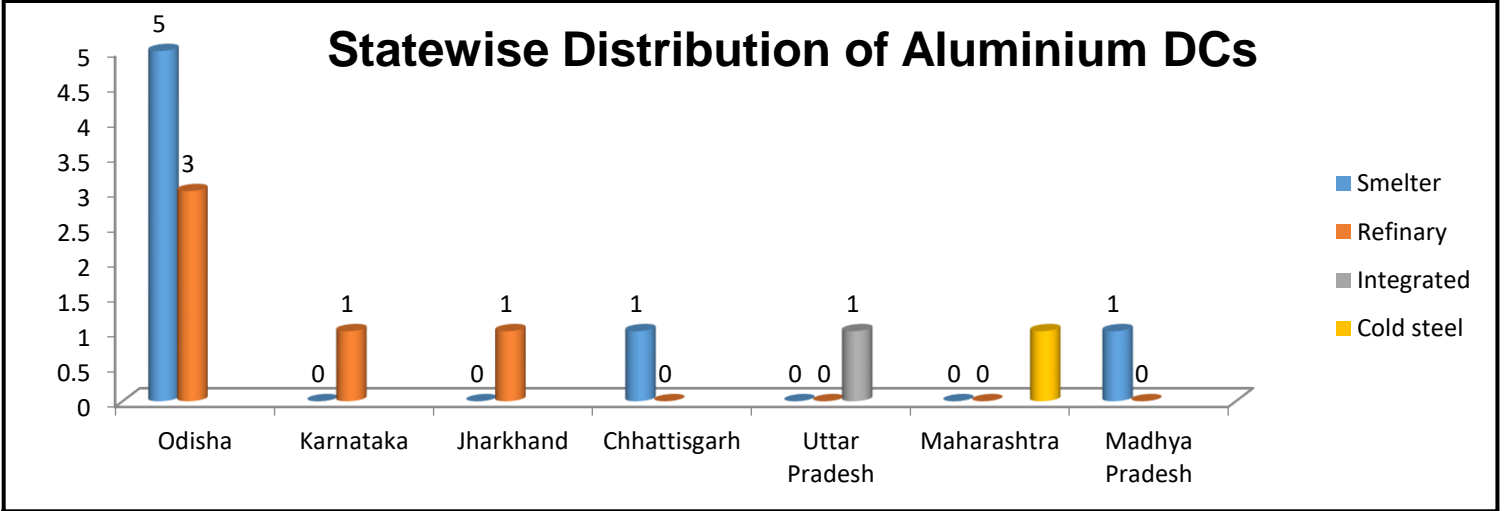


Aluminium DC: 14 Nos

Threshold Limit: **7500** (TOE) per annum

Total Energy Consumption: **17.6**MTOE

Total Emission: **68.51** Million Tonne of Co2

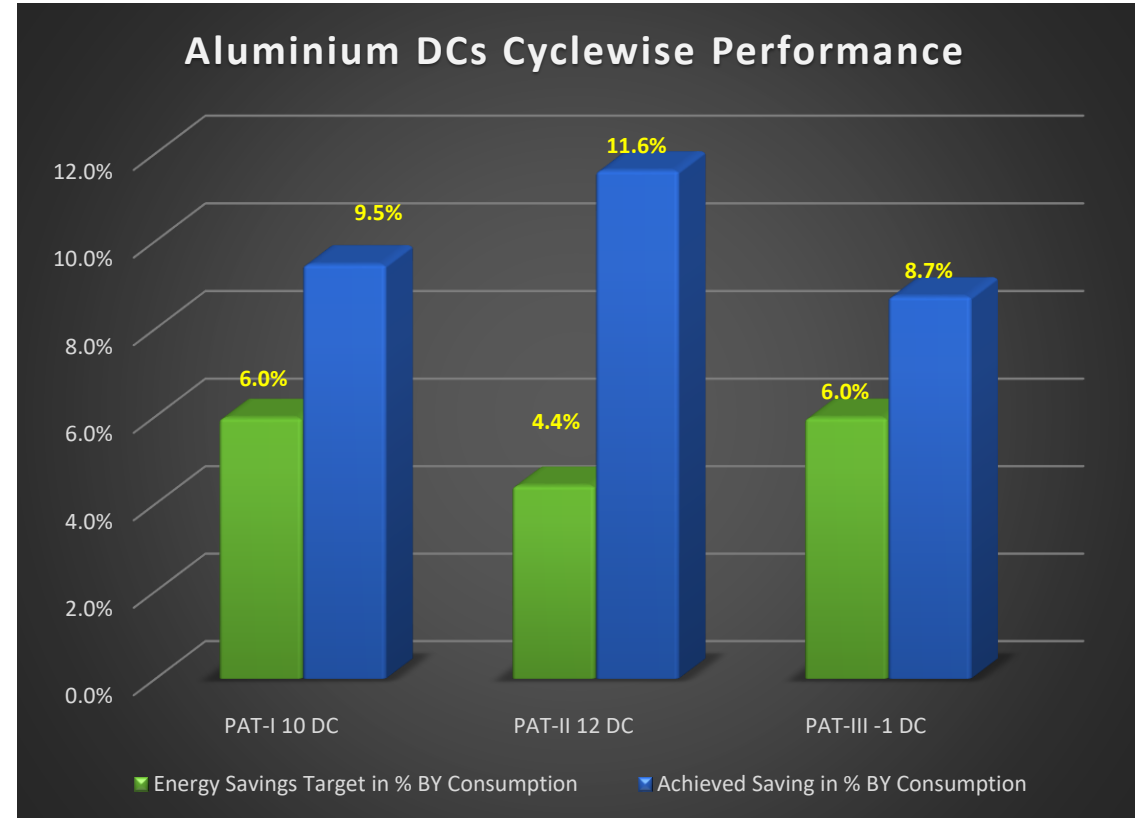




Aluminium DC Performance



S.No.	Particular	Value
1.	Current Production (million Tons)	4.03 million tonnes (Primary Aluminium) 6.39 million tonnes (Primary Alumina)
2.	Future Growth	3.5% (CAGR) Aluminium # 4.7% (CAGR) Alumina ##
3.	Number of Units (Operational)	14
4.	% Plant covered under PAT	100
5.	Emission and Energy Consumption Data	68.51 million tonnes Co2
6.	Type of Fuel	Solid (Coal), Oil and Gas



As per International Aluminium Organization report 2022

Global Market Insight GMI report 2021



DEEP Initiative



In View of implementing innovative energy efficiency technologies and deploy large-scale implementation of energy efficiency measures in the DCs(Designated Consumers), BEE jointly with EESL implementing DEEP(Demonstration of Energy Efficiency Project).

Emerging technologies, which are innovative in nature and have potential to replicate in the notified PAT industries, which has not been commercialized to the large scale and have potential for energy efficiency improvement or generation will be targeted under the scheme.

STAGE:1 Projects:-

1. Micro turbine/ Back pressure turbine (HP/MP to LP expansion)
2. VFD enabled Screw Compressor with Permanent Magnet (PM) motor
3. Turbo Blower
4. Low-Grade Waste Heat Recovery System (LGWHRS)

STAGE:2 Projects:-

1. High grade waste heat recovery
2. Cooling solutions from low grade heat recovery



ESCerts Upgradation



The major issues encountered during the PAT Cycle-I trading was huge price fluctuations of ESCerts due to limited validity and excess supply.

The unmatched price fluctuations not gave the reasonable return for the ENCON investment In order to address the issues the following steps have been taken.

ESCerts Validity Extension:

The ESCerts validity extended till the time it is not sold in order to eliminate the ESCerts dumping in the market.

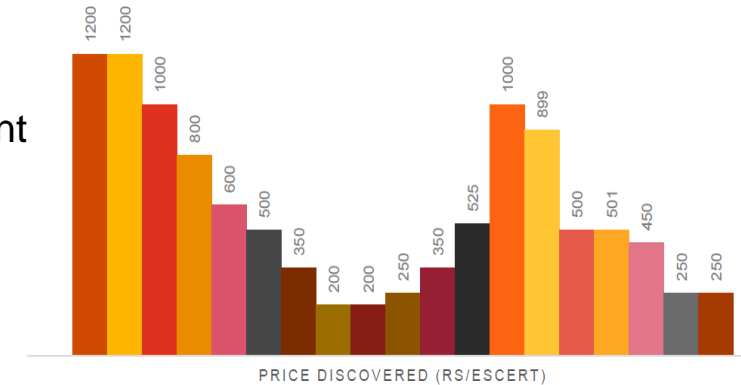
Floor Price for ESCerts:

The floor price for the Energy Saving Certificates has been fixed at ten percent of the price of one metric tonne of oil equivalent (TOE) of energy consumed for PAT Cycle II. Floor price will be 1804 INR.

Proposed Institutional Banking of ESCerts:

In Energy Conservation Amendment Bill-2022, In section 14A sub section (2) Provision given for any other person can purchase of ESCerts on voluntary basis. This will facilitate enough liquidity in the market.

PRICE OF ESCERTS (PAT CYCLE I & II)



Vide notification number G.S.R. 669 (E), dated: 30.08.2022.
TOE Price: G.S.R 779 (E) dated 14th December 2020.



Facilitation Centre



BEE has set-up a Facilitation Centre for encouraging and up scaling Energy Efficiency Financing in the country. This Facilitation Centre helps various beneficiaries like large industries /DCs under the PAT Scheme of BEE, MSMEs, commercial and institutional buildings, Municipalities, Corporations, and commercial establishments get financing to implement Energy efficiency projects through Registered Financial Institutions.

- * Potential beneficiaries can fill in project related information in the Willingness Form. These forms will be evaluated by the Facilitation Center for Energy Efficiency loan/project.
- * After technical and financial evaluations the willingness will be forwarded to the Financial Institutions (FIs) for further processing.
- * FIs may coordinate with the potential borrowers for EE financing.

BEE is connected with 22 Financial institutions till now received 73 project proposals including EV, 36 projects have been completed for technical evaluations.

Email for enquiry/ willingness Facilitation-centre@beeindia.gov.in



Drive for Net Zero Commitment



Revised NDC translates Prime Minister 'Panchamrit' announced at COP 26

- ❖ A step towards achieving India's long term goal of reaching net-zero by 2070
- ❖ India now stands committed to reduce Emissions Intensity of its GDP by 45 percent by 2030
- ❖ Prime Minister's concept of mass movement for 'LIFE' – 'Lifestyle for Environment' as a key to combating climate change“
- ❖ BEE initiated R&D and Demonstrated projects in Iron & Steel sector, subsequently other sector are in pipeline
- ❖ Bureau is in a process of making strategies for Cleaner fuel adoption.

Thank you