



BUREAU OF ENERGY EFFICIENCY
Ministry of Power, Government of India

LESSONS LEARNT IN ESCERTS TRADING UNDER PAT SCHEME:

**EXPERIENCE AT IEX DURING
PAT CYCLE I, AND WAY FORWARD**





INDEX

- 1. Overview 1**
- 2. Key Stakeholders 3**
 - Bureau of Energy Efficiency.....3
- 3. Key Learnings: PAT Cycle I 4**
- 4. PAT Cycle I: Industry Specific Trade Snapshot 7**
 - 4.1 Textiles.....8
 - 4.2 Thermal Power Plants9
 - 4.3 Pulp & Paper 10
 - 4.4 Iron & Steel..... 11
 - 4.5 Fertilizer 12
 - 4.6 Chlor-Alkali 13
 - 4.7 Aluminium..... 14
 - 4.8 Cement 15
- 5. Way Forward – PAT Cycle-II 16**
- 6. Recommendations for DCs for effective planning of ESCerts Trading..... 18**
- 7. Procedure of ESCerts Trading at IEX..... 19**
- 8. ESCerts Trading: Flow Diagram 20**
- 9. CERC Fee Orders 21**
- 10. IEX fee structure for ESCerts Trading..... 21**
- 11. Frequently Asked Questions (FAQs) 22**

1. OVERVIEW

The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the missions under the National Action Plan for Climate Change (NAPCC) launched by the Prime Minister of India in 2008. The Perform, Achieve and Trade (PAT) is one of the components under NMEEE.

The PAT Scheme is a regulatory instrument to reduce the specific energy consumption in energy intensive industries. PAT is a completely market-based mechanism, focussed primarily on enhancing the energy efficiency of large energy intensive sectors through accelerated adoption of efficient and low-carbon technologies. A total of six cycles of the PAT scheme have been launched till April, 2020, covering 1073 industries from 13 industrial and service sectors. These 13 sectors include: Aluminium, Cement, Fertilizer, Pulp & Paper, Thermal Power Plant, Chlor-Alkali, Iron & Steel, Textile, Railways, Petroleum Refinery, Petrochemicals, Discoms, and, Hotels (under commercial buildings).



The energy savings are translated into tradable instruments called Energy Savings Certificates (ESCerts). The industries, which over achieve their targets are issued ESCerts and those who are not able to achieve the target are entitled to purchase ESCerts for compliance. The trading of ESCerts is a part of PAT scheme, where trading takes place between the DCs who over achieve their targets and DCs who under achieve their targets.

In PAT Cycle I, the Ministry of Power issued approximately 38.25 lakh ESCerts to 309 DCs while 110 DCs were directed to purchase 14.23 lakh ESCerts for their

compliance. For PAT Cycle I, trading of approximately 13 lakh ESCerts took place, with overall business of Rs.100 crores and 96% of the DCs (buyers) met their compliance.

Under the PAT Cycle I (2012-2015), the trading commenced in September 2017 and continued until January 2018. The trading sessions were held every Tuesday or on the next working day in case of the bank holidays. The trading of ESCerts can take place only at the Power Exchanges.

During PAT Cycle I, the trading of ESCerts took place at Indian Energy Exchange Limited (IEX) only as Power Exchange India Limited (PXIL) was not ready for the trading. Thus, the IEX pioneered trading in the ESCerts. The first trading session was held on 26 September, 2017 and the last session was held on 16 January, 2018. A total of 17 trading sessions were held by IEX under PAT Cycle I.

However, currently both Power Exchanges - IEX and PXIL are ready to participate in trading of ESCerts for PAT Cycle II.



Hon'ble Minister, Shri R.K Singh, Minister of State (IC) Power and New & Renewable Energy, MoS in the Ministry of Skill Development and Entrepreneurship, GOI, launching the PAT booklet



Hon'ble Minister, Shri R.K Singh, Minister of State (IC) Power and New & Renewable Energy, MoS in the Ministry of Skill Development and Entrepreneurship, GOI, ringing the ceremonial bell during the launch of ESCert trading



2. KEY STAKEHOLDERS

Besides the power exchanges where ESCerts are traded, the other key stakeholders involved and their respective roles and responsibilities are as below:



Bureau of Energy Efficiency (BEE)

- BEE is the administrator of the PAT scheme.
- BEE played a pivotal role in successful execution of PAT Cycle I trade sessions.
- BEE drafted regulations and procedures for ESCerts trading and getting them approved by CERC.
- BEE along with POSOCO, IEX and IT vendor deployed by BEE, worked seamlessly to design D-CRM module and PATNet portal for the DCs to facilitate the ESCerts trading.



Power System Operation Corporation (POSOCO)

- MoP has nominated POSOCO as a registry for ESCerts trading process.
- POSOCO in PAT Cycle I has registered approximately 350 DCs as Eligible Entity for the trading of ESCerts and book-keeping of the ESCerts.
- POSOCO played an important role in cross-verification of ESCerts during trading sessions.



Central Electricity Regulatory Commission (CERC)

- CERC is the market regulator for ESCerts trading.
- As a regulator, CERC has notified the regulations and approved procedure for trading in ESCerts at the Power Exchanges.
- CERC also helped IEX & PXIL in timely approval of their Business Rules of Trading in ESCerts.



3. KEY LEARNINGS: PAT CYCLE I

Under the PAT Cycle I, a total of 478 DCs, encompassing 8 industries, were notified by the Government of India. The sectors were as follows:

S. No.	Industry	No. of Designated Consumers
1	Power (Thermal)	144
2	Iron & Steel	67
3	Cement	85
4	Aluminium	10
5	Fertilizer	29
6	Textiles	31
7	Paper & Pulp	90
8	Chlor-Alkali	22
	Grand Total	478

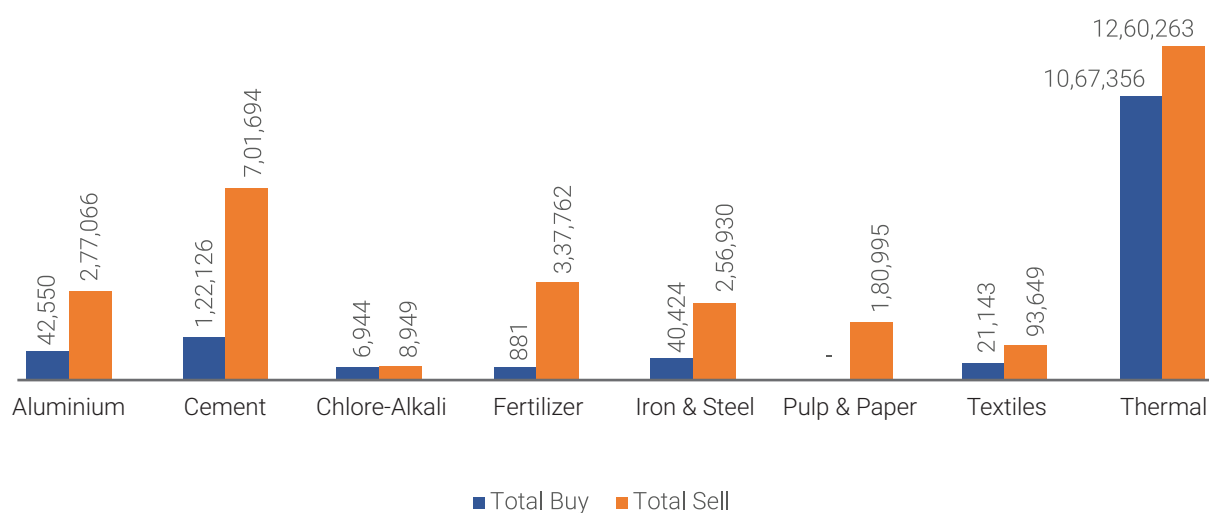
Out of 478 notified DCs, only 427 DCs participated in PAT Cycle I. Out of 427 participating DCs, only 281 DCs registered with IEX participated in the ESCerts trading. The details are as below:

Notified Sectors	No. of DCs Registered with IEX
Aluminium	6
Cement	55
Chlor-Alkali	9
Fertilizer	19
Iron & Steel	27
Pulp & Paper	13
Textiles	56
Thermal Power Plants	96
Grand Total	281

Out of 281 DCs registered with IEX, the gross sell and buy bids placed by DCs during 17 trading sessions are summarized below:

Notified Sector	Count of Buyer DCs	Sum of Buy	Count of Seller DCs	Sum of Sell
Aluminium Industry	1	42,550	5	2,77,066
Cement Industry	15	1,22,126	40	7,01,694
Chlore-Alkali Industry	3	6,944	6	8,949
Fertilizer Industry	1	881	18	3,37,762
Iron & Steel Industry	8	40,424	19	2,56,930
Pulp & Paper Industry	-	-	13	1,80,995
Textile Industry	24	21,143	32	93,649
Thermal Power Plants	45	10,67,356	51	12,60,263
Grand Total	97	13,01,424	184	31,17,308

Industry-wise Demand & Supply @ IEX

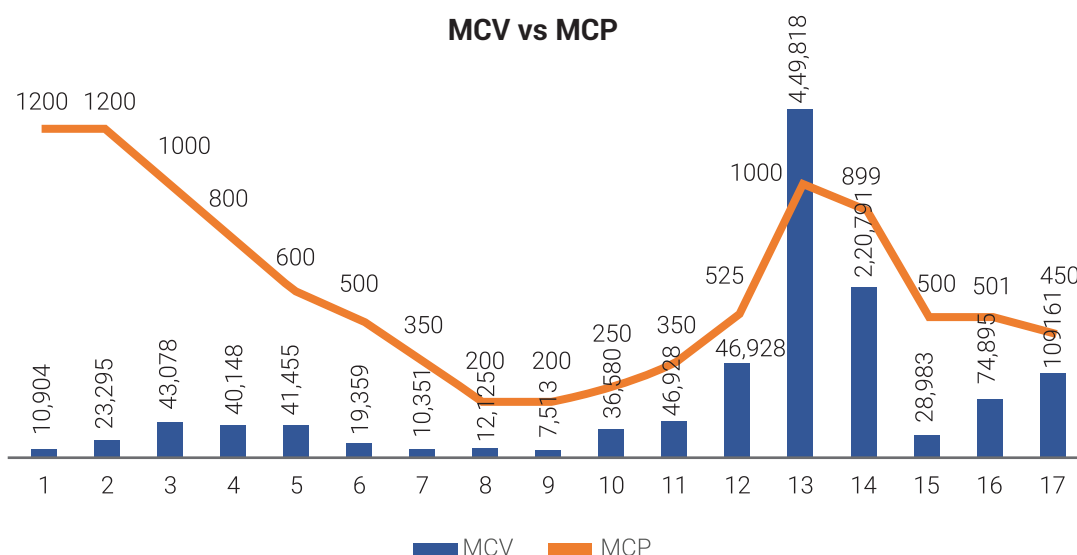


- Total demand of the ESCerts for the DCs registered with IEX under PAT Cycle I = 13.01 lakhs
- Total supply of ESCerts for the DCs registered with IEX under PAT Cycle I = 31.17 lakhs

IEX successfully held 17 ESCerts trading sessions under PAT Cycle I. A total of 12.98 lakhs ESCerts were successfully traded at the exchange platform. The details of the individual trade sessions are as below:

Trade Session	Trade Session Date	Sell Bid Qty.	Buy Bid Qty.	MCV	MCP
1	26-09-2017	2,39,644	50,904	10,904	1,200
2	03-10-2017	2,36,031	51,925	23,295	1,200
3	10-10-2017	3,48,587	64,459	43,078	1,000
4	17-10-2017	3,81,443	40,538	40,148	800
5	24-10-2017	3,49,806	42,271	41,455	600
6	31-10-2017	3,83,379	21,037	19,359	500
7	07-11-2017	4,36,394	11,521	10,351	350
8	14-11-2017	3,19,810	12,241	12,125	200
9	21-11-2017	3,36,121	10,963	7,513	200
10	28-11-2017	3,68,361	1,17,514	36,580	250
11	05-12-2017	3,55,226	2,62,331	46,928	350
12	12-12-2017	4,33,769	4,95,553	1,23,520	525
13	19-12-2017	8,31,224	7,30,885	4,49,818	1,000
14	26-12-2017	10,94,568	3,65,980	2,20,791	899
15	02-01-2018	7,77,567	1,45,150	28,983	500
16	09-01-2018	8,24,707	1,52,195	74,895	501
17	16-01-2018	8,94,445	1,10,511	1,09,161	450
Grand Total				12,98,904	

ESCerts Trading at IEX under PAT Cycle I: Price & Volume





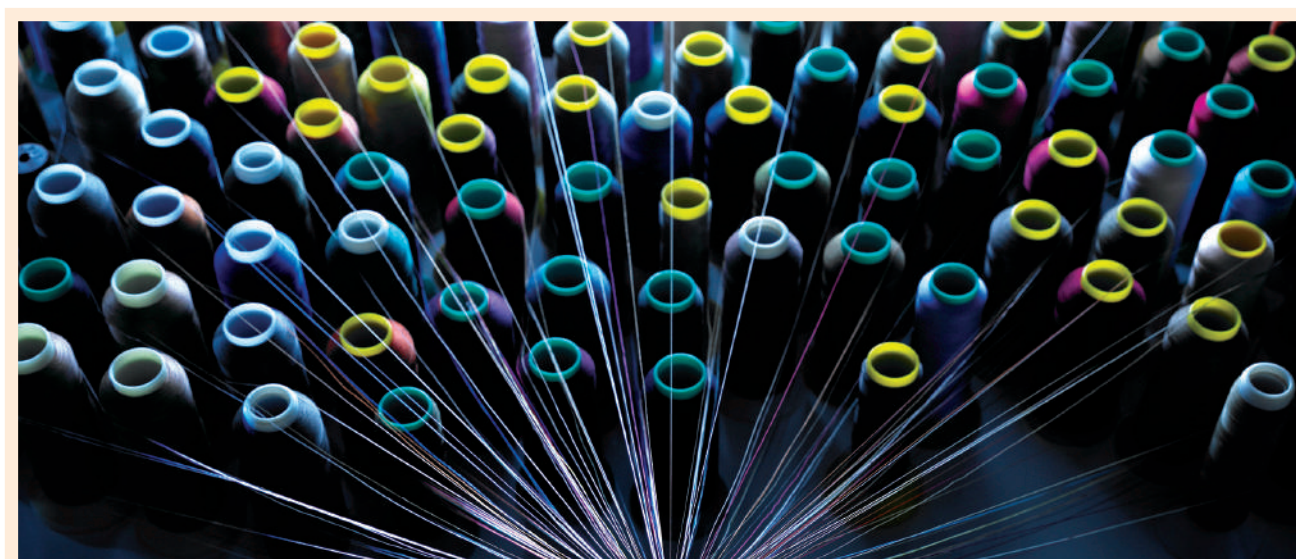
**Industry Specific
ESCerts Trade Snapshot**

4. PAT CYCLE I – INDUSTRY SPECIFIC TRADE SNAPSHOT

4.1 TEXTILES

The DCs from the Textile Industry participated on both the demand as well as the supply side. Their bid clearance ratio ranged from 5% to as high as 66%. The key reason for the acceptance of high price was the favourable price quoted by seller DCs from the textile industry during 13th and 14th trade sessions, where IEX recorded the highest volume in ESCerts trade. The session-wise trade details are as below:

Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	654	19,554	20,208	654	2,047	2,701	13	10,904
03-10-2017	-	8,720	8,720	-	-	-	-	23,295
10-10-2017	378	14,520	14,898	-	-	-	-	43,078
17-10-2017	381	20,109	20,490	-	3,000	3,000	15	40,148
24-10-2017	1,881	27,855	29,736	1,881	9,804	11,685	39	41,455
31-10-2017	3,751	39,229	42,980	2,489	3,881	6,370	15	19,359
07-11-2017	2,128	34,202	36,330	-	-	-	-	10,351
14-11-2017	1,925	39,048	40,973	1,925	-	1,925	5	12,125
21-11-2017	3,570	28,748	32,318	893	500	1,393	4	7,513
28-11-2017	4,813	27,748	32,561	1,379	-	1,379	4	36,580
05-12-2017	3,878	34,802	38,680	-	-	-	-	46,928
12-12-2017	4,034	32,502	36,536	-	-	-	-	1,23,520
19-12-2017	3,532	17,958	21,490	2,243	11,975	14,218	66	4,49,818
26-12-2017	3,711	16,685	20,396	3,672	7,612	11,284	55	2,20,791
02-01-2018	-	9,222	9,222	-	-	-	-	28,983
09-01-2018	1,028	9,237	10,265	28	500	528	5	74,895
16-01-2018	2,221	8,983	11,204	871	-	871	8	1,09,161



4.2 THERMAL POWER PLANTS

The DCs from the Thermal Industry were the leading players on both the supply as well as the demand side. They were the leading contributors to the ESCerts trading during PAT Cycle I. The session-wise trade details are as below:



Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	50,000	7,274	57,274	10,000	1	10,001	17	10,904
03-10-2017	43,076	25,600	68,676	-	-	-	-	23,295
10-10-2017	21,381	73,136	94,517	-	-	-	-	43,078
17-10-2017	40,157	1,16,630	1,56,787	40,148	7,721	47,869	31	40,148
24-10-2017	27,602	1,14,131	1,41,733	26,786	20,000	46,786	33	41,455
31-10-2017	12,879	1,08,930	1,21,809	12,463	3,060	15,523	13	19,359
07-11-2017	1,416	1,03,243	1,04,659	-	-	-	-	10,351
14-11-2017	316	83,370	83,686	200	1,400	1,600	2	12,125
21-11-2017	2,393	78,509	80,902	1,620	1,075	2,695	3	7,513
28-11-2017	51,614	42,592	94,206	3,057	3,000	6,057	6	36,580
05-12-2017	2,21,209	1,13,439	3,34,648	-	-	-	-	46,928
12-12-2017	4,71,596	1,49,417	6,21,013	-	-	-	-	1,23,520
19-12-2017	7,21,488	5,19,938	12,41,426	4,44,037	3,54,201	7,98,238	64	4,49,818
26-12-2017	3,49,215	5,17,743	8,66,958	2,04,065	1,38,479	3,42,544	40	2,20,791
02-01-2018	1,45,150	3,78,474	5,23,624	28,983	5,597	34,580	7	28,983
09-01-2018	1,51,167	4,02,328	5,53,495	74,867	28,382	1,03,249	19	74,895
16-01-2018	75,808	3,89,770	4,65,578	75,808	15,958	91,766	20	1,09,161

4.3 PULP & PAPER

The DCs from the Pulp & Paper Industry participated only on the supply side in the ESCerts trading under PAT Cycle I. Due to unfavourable price quoted by the sellers, their clearance bids were around 5-10%. The session-wise trade details are as below:

Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	-	79,155	79,155	-	8,856	8,856	11	10,904
03-10-2017	-	86,504	86,504	-	-	-	-	23,295
10-10-2017	-	79,525	79,525	-	-	-	-	43,078
17-10-2017	-	66,360	66,360	-	1,247	1,247	2	40,148
24-10-2017	-	75,225	75,225	-	577	577	1	41,455
31-10-2017	-	67,825	67,825	-	2,404	2,404	4	19,359
07-11-2017	-	1,01,162	1,01,162	-	-	-	-	10,351
14-11-2017	-	1,00,662	1,00,662	-	725	725	1	12,125
21-11-2017	-	94,937	94,937	-	500	500	1	7,513
28-11-2017	-	99,427	99,427	-	1,030	1,030	1	36,580
05-12-2017	-	84,541	84,541	-	-	-	-	46,928
12-12-2017	-	99,405	99,405	-	-	-	-	1,23,520
19-12-2017	-	99,405	99,405	-	10,331	10,331	10	4,49,818
26-12-2017	-	1,00,001	1,00,001	-	16,872	16,872	17	2,20,791
02-01-2018	-	86,796	86,796	-	5,000	5,000	6	28,983
09-01-2018	-	81,798	81,798	-	3,932	3,932	5	74,895
16-01-2018	-	77,866	77,866	-	4,098	4,098	5	1,09,161



4.4 IRON & STEEL

The DCs from the Iron & Steel Industry were consistent in bidding on the supply side throughout the ESCerts trading under PAT Cycle I. However, due to unfavourable rates quoted by the DCs, they were successful only in 6 out of 17 sessions. The session-wise trade details are as below:



Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	-	40,829	40,829	-	-	-	-	10,904
03-10-2017	-	43,329	43,329	-	-	-	-	23,295
10-10-2017	2,318	24,946	27,264	-	-	-	-	43,078
17-10-2017	-	23,521	23,521	-	-	-	-	40,148
24-10-2017	-	23,652	23,652	-	-	-	-	41,455
31-10-2017	-	40,152	40,152	-	8,011	8,011	20	19,359
07-11-2017	-	20,152	20,152	-	-	-	-	10,351
14-11-2017	-	1,000	1,000	-	-	-	-	12,125
21-11-2017	-	1,000	1,000	-	-	-	-	7,513
28-11-2017	15,654	21,152	36,806	8,247	1,000	9,247	25	36,580
05-12-2017	13,428	31,152	44,580	-	-	-	-	46,928
12-12-2017	3,279	31,152	34,431	-	-	-	-	1,23,520
19-12-2017	1,258	53,229	54,487	1,258	7,594	8,852	16	4,49,818
26-12-2017	4,649	80,547	85,196	4,649	152	4,801	6	2,20,791
02-01-2018	-	74,895	74,895	-	-	-	-	28,983
09-01-2018	-	59,380	59,380	-	8,000	8,000	13	74,895
16-01-2018	12,867	1,10,703	1,23,570	12,867	47,317	60,184	49	1,09,161

4.5 FERTILIZER

The DCs from the Fertilizer Industry participated on the sell side in the ESCerts trading under PAT Cycle I. Due to the accepted price quoted by the sellers, the bid clearance ratio was on the higher side. The session-wise trade details are as below:

Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	-	-	-	-	-	-	-	10,904
03-10-2017	-	-	-	-	-	-	-	23,295
10-10-2017	-	-	-	-	-	-	-	43,078
17-10-2017	-	70,520	70,520	-	28,180	28,180	40	40,148
24-10-2017	-	42,340	42,340	-	-	-	-	41,455
31-10-2017	-	42,340	42,340	-	-	-	-	19,359
07-11-2017	-	42,340	42,340	-	3,851	3,851	9	10,351
14-11-2017	-	38,489	38,489	-	-	-	-	12,125
21-11-2017	-	38,489	38,489	-	-	-	-	7,513
28-11-2017	-	52,489	52,489	-	10,000	10,000	19	36,580
05-12-2017	-	42,489	42,489	-	8,999	8,999	21	46,928
12-12-2017	-	33,490	33,490	-	10,890	10,890	33	1,23,520
19-12-2017	-	63,269	63,269	-	28,206	28,206	45	4,49,818
26-12-2017	881	64,825	65,706	881	45,826	46,707	71	2,20,791
02-01-2018	-	18,999	18,999	-	-	-	-	28,983
09-01-2018	-	64,817	64,817	-	27,500	27,500	42	74,895
16-01-2018	-	94,761	94,761	-	28,005	28,005	30	1,09,161



4.6 CHLOR-ALKALI

The DCs from the Chlor-Alkali Industry participated on both the demand and the supply side. However, their quantum was relatively lower than other sector DCs. The bid clearance ratio was 100% on several occasions. The session-wise trade details are as below:

Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	250	-	250	250	-	250	100	10,904
03-10-2017	1,600	-	1,600	1,600	-	1,600	100	23,295
10-10-2017	2,580	-	2,580	2,580	-	2,580	100	43,078
17-10-2017	-	-	-	-	-	-	-	40,148
24-10-2017	-	-	-	-	-	-	-	41,455
31-10-2017	421	-	421	421	-	421	100	19,359
07-11-2017	1,977	1,977	3,954	1,977	-	1,977	50	10,351
14-11-2017	-	438	438	-	-	-	-	12,125
21-11-2017	-	438	438	-	438	438	100	7,513
28-11-2017	116	-	116	-	-	-	-	36,580
05-12-2017	116	-	116	116	-	116	100	46,928
12-12-2017	-	-	-	-	-	-	-	1,23,520
19-12-2017	-	-	-	-	-	-	-	4,49,818
26-12-2017	-	1,977	1,977	-	-	-	-	2,20,791
02-01-2018	-	1,977	1,977	-	-	-	-	28,983
09-01-2018	-	1,977	1,977	-	-	-	-	74,895
16-01-2018	-	1,977	1,977	-	-	-	-	1,09,161



4.7 ALUMINIUM

The DCs from the Aluminum Industry consistently participated on the sell side during the ESCerts trading under PAT Cycle I. However, due to high prices quoted by the sellers, they were successful only in 4 trading sessions. The session-wise trade details are as below:



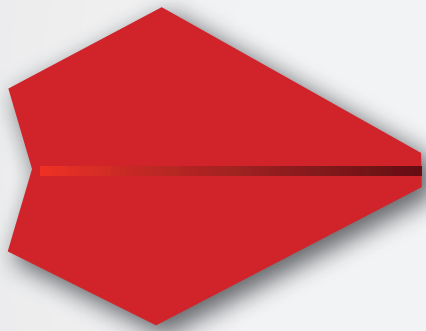
Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	-	22,203	22,203	-	-	-	-	10,904
03-10-2017	-	22,203	22,203	-	-	-	-	23,295
10-10-2017	-	22,203	22,203	-	-	-	-	43,078
17-10-2017	-	22,203	22,203	-	-	-	-	40,148
24-10-2017	-	22,203	22,203	-	-	-	-	41,455
31-10-2017	-	22,203	22,203	-	-	-	-	19,359
07-11-2017	6,000	28,203	34,203	6,000	6,000	12,000	35	10,351
14-11-2017	10,000	32,203	42,203	10,000	10,000	20,000	47	12,125
21-11-2017	5,000	5,000	10,000	5,000	5,000	10,000	100	7,513
28-11-2017	21,550	43,753	65,303	21,550	21,550	43,100	66	36,580
05-12-2017	-	22,203	22,203	-	-	-	-	46,928
12-12-2017	-	22,203	22,203	-	-	-	-	1,23,520
19-12-2017	-	22,203	22,203	-	-	-	-	4,49,818
26-12-2017	-	92,203	92,203	-	-	-	-	2,20,791
02-01-2018	-	22,203	22,203	-	-	-	-	28,983
09-01-2018	-	42,203	42,203	-	-	-	-	74,895
16-01-2018	-	42,203	42,203	-	-	-	-	1,09,161

4.8 CEMENT

The DCs from the Cement Industry were prominent buyers and sellers during ESCerts trading under PAT Cycle I. Their bids were cleared with relatively high acceptance ratio during majority of the trade sessions. The session-wise trade details are as below:

Trade Date	Demand Bids	Supply Bids	Cumulative Bids from Sector	Trade (Buy)	Trade (Sell)	Cumulative Traded Qty.	Success Rate of Sector DC (%)	MCV
26-09-2017	-	70,629	70,629	-	-	-	-	10,904
03-10-2017	7,249	49,675	56,924	-	-	-	-	23,295
10-10-2017	37,802	1,34,257	1,72,059	37,802	33,128	70,930	41	43,078
17-10-2017	-	62,100	62,100	-	-	-	-	40,148
24-10-2017	12,788	44,400	57,188	12,788	11,074	23,862	42	41,455
31-10-2017	3,986	62,700	66,686	3,986	2,003	5,989	9	19,359
07-11-2017	-	1,05,115	1,05,115	-	-	-	-	10,351
14-11-2017	-	24,600	24,600	-	-	-	-	12,125
21-11-2017	-	89,000	89,000	-	-	-	-	7,513
28-11-2017	23,767	81,200	1,04,967	2,347	-	2,347	2	36,580
05-12-2017	23,700	26,600	50,300	21,420	-	21,420	43	46,928
12-12-2017	16,644	65,600	82,244	14,364	35,000	49,364	60	1,23,520
19-12-2017	4,607	55,222	59,829	2,280	37,511	39,791	67	4,49,818
26-12-2017	7,524	2,20,587	2,28,111	7,524	11,850	19,374	8	2,20,791
02-01-2018	-	1,85,001	1,85,001	-	18,386	18,386	10	28,983
09-01-2018	-	1,62,967	1,62,967	-	6,571	6,571	4	74,895
16-01-2018	19,615	1,68,182	1,87,797	19,615	13,783	33,398	18	1,09,161





Way Forward

5. PAT CYCLE II

After successful trading sessions under PAT Cycle I, PAT Cycle II shall be conducted on the two Power Exchanges – IEX and PXIL, resulting in market competition and a better price discovery in the market as compared to PAT Cycle I. The PAT Cycle II has far greater potential in terms of net trade, as the scheme has deepened and widened. It has 89 more DCs from existing sectors and 84 new DCs included from additional industries, namely refinery, railways and distribution utilities (Discoms).

S. No.	Sector	No. of DCs in PAT Cycle I	Additional DC in PAT Cycle II	Total No. of DCs in PAT Cycle II
1	Aluminium	10	2	12
2	Chlor-Alkali	22	3	24
3	Textiles	90	14	99
4	Pulp & Paper	31	4	29
5	Iron & Steel	67	9	71
6	Fertilizer	29	8	37
7	Cement	85	27	111
8	Thermal Power Plants	144	22	154
9	Refinery	NA	18	18
10	Discoms	NA	44	44
11	Railways	NA	22	22
	Total			621

PAT Cycle II
 Baseline Year: 2014-15
 PAT Cycle: 2016-2019
 Assessment Year: 2018-19
 Total Final PAT II DCs = 542

Energy Savings Target =
 12.13 Million TOE

Energy Savings Achieved =
 14.08 Million TOE
 Reduction of CO2 Emissions =
 66.1 Million tons per annum

With 542 DCs under PAT Cycle II, the potential of trading of ESCerts has increased significantly. The Ministry of Power has recently approved to issue 57 lakh ESCerts to 349 DCs and shall be directed to 193 DCs for purchasing 36.68 lakh ESCerts.

BEE has been conducting state-wise capacity building programme across India. As the leading Energy Exchange, IEX has also been interacting with the DCs and explaining them the potential benefits of participating at IEX for a competitive price discovery due to high liquidity. IEX is delighted about the prospects of ESCerts trading under PAT Cycle II.

6. RECOMMENDATIONS FOR DCs FOR EFFECTIVE PLANNING OF ESCERTS TRADING

There are few key recommendations for DCs for effective planning for trading under ESCerts segment at IEX. These are as follows:

1. While placing bids for sell by an eligible DC, place the bid price based on marginal cost of investment for respective PAT Cycle. This will send a healthy signal to the market that will benefit both buying and selling DCs.
2. While placing bids for buy by an eligible DC, place your bid price based on potential investment for achieving energy efficiency plus compliance penalty cost, that may be levied, if not met compliance for a specific PAT Cycle. If a buyer places buy bid prices based on calculation on the mentioned factors, the market will benefit.
3. The DCs need to register with the Registry as Eligible Entity before registering with the power exchanges for trading of ESCerts.
4. The DC must register with the power exchange before the commencement of trading sessions for PAT Cycle II. This will help the DCs to be a part of all the trading sessions. Otherwise, if registration is being done by the DC during the mid trading session, the DC may miss few sessions.
5. The DCs are requested to kindly go through the Business Rules of both the power exchanges before registering for trading of ESCerts.
6. The DCs must ensure that their KYC is completed in IEX GST portal for invoice for seamless registration. For the KYC in PXIL, please connect with PXIL.
7. Portfolio ID should be activated and relevant ESCerts segment should be enabled before each trading session for uninterrupted bidding experience.
8. For buying DCs, sufficient funds should be available in the settlement account with the power exchange on the trading day.
9. If the DC is participating in a trade session with the power exchange, the cumulative sell quantity bided across power exchanges should be within the permissible limit. Otherwise, registry will remove the DC's bids from both the power exchanges.
10. The Selling DCs to raise the invoice on IEX GST portal on time to avoid any delay in pay-outs.
11. Participate in all the mock sessions on trading of ESCerts organised by IEX to have a better hands-on experience of the trading platform.

7. PROCEDURE OF ESCERTS TRADING AT IEX

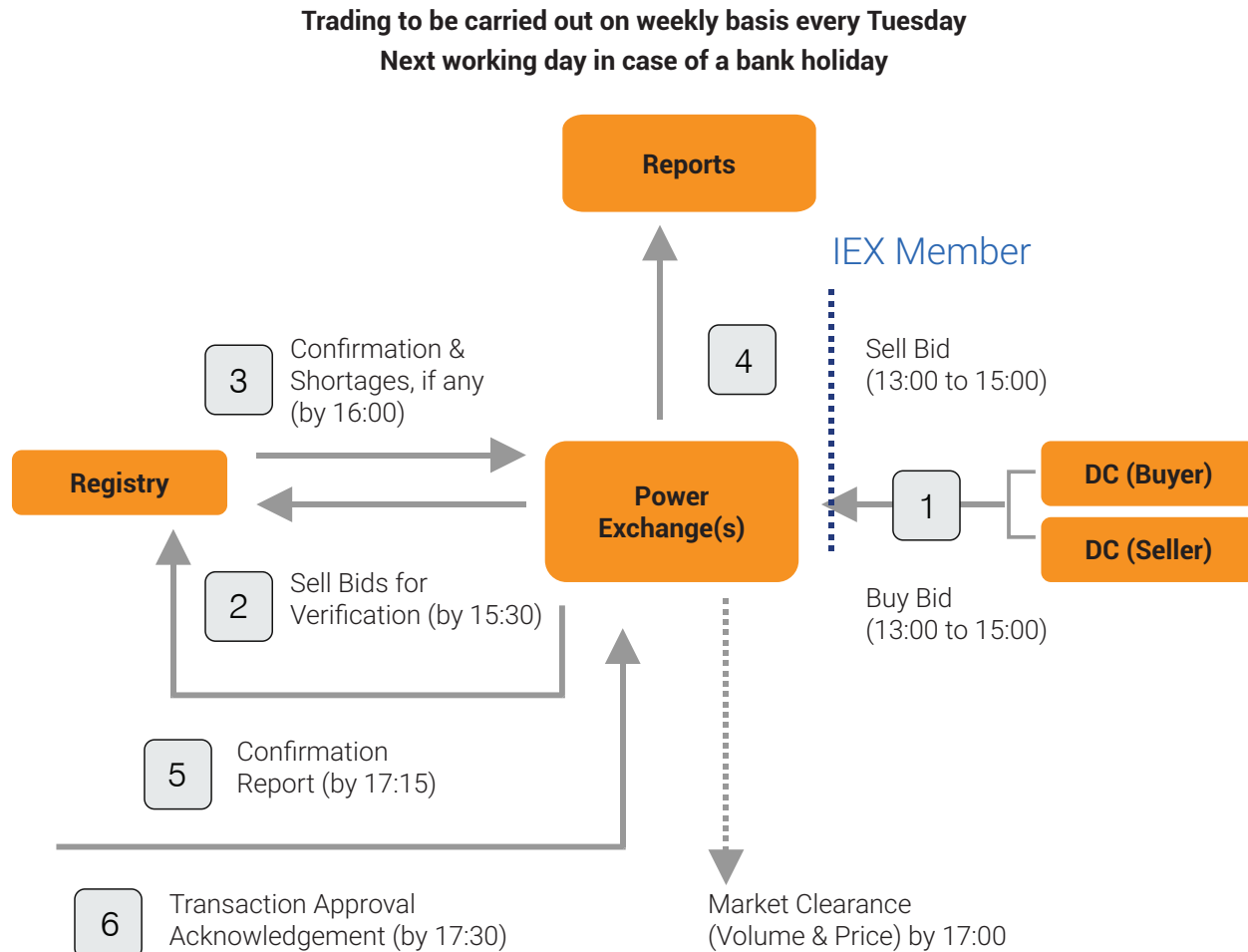
The ESCerts trading at IEX will be based on the contract at its trading platform. The details of ESCerts contract traded at IEX can be referred to Business Rules document of IEX available at the IEX website (www.iexindia.com). The trading in ESCerts would take place every Tuesday, as and when notified by the BEE. The basic details of the ESCerts contract and trading timeline are as follows:

Name of the Tradable Instruments	Energy Saving Certificates (ESCerts)
Underlying	Energy Saving attributes of 1 MTOE of energy saving by Designated Consumers allowed in Energy Conservation (Energy Consumption Norms and Standards for Designated Consumers, Form, Time within which, and Manner of Preparation and Implementation of Scheme, Procedure for Issue of Energy Saving Certificate and Value of Per Metric Ton of Oil Equivalent of Energy Consumed) Rules, 2012
Instruments Type	ESC 16-19
Price Quotation	INR/ESCert
Price Tick	1 INR
Price Limit	Not Applicable
Volume Tick	1 ESCert
Minimum Order Volume Limit	1 ESCert
Transaction Fee	Specified by the exchange from time to time, as per Business Rules
Matching	Closed double-sided uniform price auction
Trading Cycle	Weekly Trading on Tuesday; to be notified by BEE

S. No.	Process	Time
1	Buyers and sellers place buy and sell bids on power exchanges	From 1:00 pm to 3:00 pm
2	Power exchanges to send the bid details to registry for validation	By 3:30 pm
3	Receive sell bid details validation/confirmation from registry	By 4:00 pm
4	Power exchanges compute the market clearing volume and price	By 5:00 pm
5	Power exchange to send trade confirmation report to registry	By 5:15 pm
6	Receive trade confirmation acknowledgement from registry	By 5:30 pm

8. ESCerts TRADING: FLOW DIAGRAM

The ESCerts trading flow diagram depicts every stakeholder involved in the trading along with their respective rates.



Description of flow diagram activity:

1. Buyers and sellers place buy and sell bids on power exchanges between 13:00 to 15:00 hrs.
2. Power exchanges to send the bid details to registry for validation by 15:30 hrs.
3. Receive sell bid details validation/confirmation from registry by 16:00 hrs.
4. Power exchanges compute the market clearing volume and price by 17:00 hrs.
5. Power exchange to send trade confirmation report to registry by 17:15 hrs.
6. Receive trade confirmation acknowledgement from registry by 17:30 hrs.

9. CERC FEE ORDER

The key takeaway from revised CERC Fee Order dated 30th April 2021 are as follows:

1. Registration fee will be @ Rs 15000/DC (for those DCs who are not yet registered with POSOCO).
2. ESCerts Fee will be @ Rs 5/ESCert for only those DCs who are issued ESCerts. DCs directed to purchase ESCerts or Buyer DCs are not supposed to pay ESCert fee.
3. DCs once registered with the Registry becomes an Eligible Entity, and need not register again in the next cycle. It is a life-time registration.
4. DCs need to pay ESCerts fee every time they introduce new ESCerts for trading.
5. To claim their share of fees (ESCCerts Fee and Registration Fee—in the ratio of 50:50), the Registry will raise an invoice on the Administrator.
6. All other terms and conditions as per the Commission's Fees and Charges Order dated 24.03.2017 remains unchanged.

10. IEX FEE STRUCTURE FOR ESCerts TRADING

The general fee structure for member/client registration at IEX can be referred from the website <https://www.iexindia.com/membership.aspx>

11. FREQUENTLY ASKED QUESTIONS (FAQS)

Q 1. What is the objective of Energy Saving Certificate trading mechanism?

Energy Saving Certificate (ESCert) trading mechanism under PAT scheme is a market-based instrument, designed to accelerate energy savings in energy intensive and large industries by incentivising energy savings.

Q 2. What is the denomination of each ESCert?

One Energy Saving Certificate is equivalent to 1 Metric Tonne of Oil Equivalent (MTOE).

Q 3. Who is eligible for ESCert trading?

Any entity, who is notified by the Government of India for participation in PAT scheme, becomes a Designated Consumer (DC). All the DCs, to whom the Ministry of Power has issued or entitled to purchase ESCerts, have to get themselves registered with registry (POSOCO) for becoming eligible entities to participate in the trading/transaction of ESCerts.

Q 4. Who will inform about the date of opening of registration and date of commencement of trading of ESCerts?

Being the Administrator, Bureau of Energy Efficiency (BEE) shall inform about the date of opening of registration to all DCs, along with the fee details. The commencement of ESCert trading shall also be informed by BEE.

Q 5. Who can be a seller or a buyer during ESCert trading?

Any DC, who has over-achieved its target for the current PAT Cycle and has been issued ESCerts by the Ministry of Power, or any DC with banked ESCerts from its previous participating PAT Cycle, can be a seller on Power Exchange during ESCert trading.

Any DC, who has under-achieved its target for current PAT Cycle and has compliance to meet as per Energy Conservation Act, 2001, can be a buyer on Power Exchange during ESCert trading.

Q 6. What will be the validity of ESCerts for sellers having banked ESCerts?

Validity for sellers having banked ESCerts remains the compliance period of its next participating PAT Cycle.

Q 7. What will be the validity of ESCerts for buyers having banked ESCerts?

Banking is allowed for buyers with ESCerts purchased over and above their compliance. They can use banked ESCerts only, for their compliance but cannot trade those ESCerts.

Q 8. Where are ESCert traded?

ESCert are traded only on Power Exchanges.

Q 9. What is the floor and forbearance price of one ESCert?

There is no floor and forbearance price of an ESCert. The price of ESCert is discovered during market-based double-sided closed auction process.

Q 10. If DC is already registered with the registry as Eligible Entity, then does DC need to register again with the registry?

Registration with the registry (POSOCO) is a one-time process. So, the DC need not register again with the registry (POSOCO).

Q 11. Is self-retention of ESCerts allowed within the same group in PAT Cycle II?

No, self-retention of ESCerts is not allowed within the group company. A notified DC can only use ESCerts for trade or for compliance purpose for itself only. It cannot transfer ESCerts within the group company.

Q 12. What is the process to register with Power Exchanges?

For the purpose of trading in ESCerts segment, DCs can either register as member or register as client of an already registered member at one or both the Power Exchanges – IEX and PXIL. DCs need to fill client registration form and produce POSOCO registration certificate at the time of registration.

To register at IEX as an ESCerts member, follow the below link to IEX website for membership details: <https://www.iexindia.com/membership.aspx?id=grsGMSq%2bzsc%3d&mid=IT8b%2bZM5cBA%3d>

To register at IEX as a client, follow the below link for client registration details: https://www.iexindia.com/client_registration.aspx?id=3AGNZpFcFww%3d&mid=IT8b%2bZM5cBA%3d

To register at PXIL, follow the below link:

<https://www.powerexindia.com/code/frontend/subpages/Membership.html/>

Q 13. Do DCs need to register with both the Power Exchanges or they can register with any one?

DCs can either register with both the Power Exchanges (IEX and PXIL) or choose any one of them (IEX or PXIL).

Q 14. Is it mandatory for every DC to register with POSOCO?

DC is not mandated to register with the Registry (POSOCO). DC who are willing to sell their ESCerts or buy ESCerts to meet their compliance can go on PATNet and register themselves with the Registry. Registration with the registry is a one-time activity and only after registration the DC can become an eligible entity and only an eligible entity can trade ESCerts on the Power Exchanges.

Q 15. What is the fee for registration of DC with POSOCO?

DCs are requested to follow fee order issued by CERC on 30th April 2021. It is available on BEE's website (<https://beeindia.gov.in/sites/default/files/4-SM-2021.pdf>) as well as on the website of CERC (<http://www.cercind.gov.in/2021/orders/5-SM-2021.pdf>).

Q 16. What is the fee and process for registration of DC with IEX or PXIL?

DCs are requested to follow business rules of IEX and PXIL that are available on websites of both the exchanges. IEX business rules can be referred at (https://www.iexindia.com/Uploads/LegalDocument/20_08_2020IEX_Business_Rules_20082020.pdf).

Q 17. What is the procedure for transaction/trading of ESCerts?

CERC had issued Procedure for transaction of ESCerts on 14th February 2017 and modified this Procedure on 23rd June 2021. DCs are requested to follow Procedure for Transaction of ESCerts that is available on BEE's website (<https://beeindia.gov.in/>), PATNet <https://escerts.gov.in/PortalUser/GetImportantLinks>

ACKNOWLEDGMENTS:

Special Thanks to

Mr. Abhay Bakre

Director General, Bureau of Energy Efficiency

Mr. SN Goel

Chairman & Managing Director, Indian Energy Exchange

for their invaluable contributions

**Thank you all the officials from BEE & IEX
for your inputs and contributions in preparation of this booklet.**

Dr. Ashok Kumar

Deputy Director General, BEE

Vineeta Kanwal

Director, BEE

Vishal Mehta

Project Engineer, BEE

Amit Kumar

Sr. Vice President, Market Operations and New Product Initiatives, IEX

Shruti Bhatia

Head, Corporate Communications & CSR, IEX

Sudhir Bharti

Vice President, Market Operations, IEX

Adil Ahmad

Deputy Manager, Market Operations, IEX

Farheen Fatima

Deputy Manager, Corporate Communications, IEX