Indian Energy Exchange Ltd.

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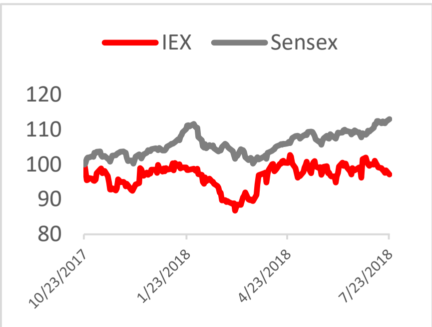
BUY	
Current Price	1593
Target Price	2025
Upside/Downside	27%
52 Week Range	1678/1405

Key Share Data	
Market Cap (Rs.bn)	48.3
Market Cap (US$ mn)	721
No of o/s shares (mn)	30.3
Face Value	10
MonthlyAvg. vol(BSE+NSE) Nos'000	5200
BSE Code	540750
NSE Code	IEX
Bloomberg	IEX:IN

Price performance



% Shareholding	Mar-18	Dec-18
Promoters	-	-
Institutions	56.78	56.78
Others	43.22	43.22
Total	**100.0**	**100.0**

IEX is the largest exchange for the trading of a range of electricity products in India. IEX will be key beneficiary of rising short term market in India supported by current demand-supply situation. Within short term market exchanges will gain market share from current 3.5%. IEX has 98% market share in power exchanges. Strong business moat, large opportunity size and solid financials with high ROE and FCFs will continue to command premium. We recommend **'BUY'** with DCF based target price of Rs2025.

IEX: beneficiary of rising short term market: India's peak demand is 169GW while base demand is 135GW. With installed capacity of 360GW oversupply situation is likely to persist over medium term in power sector. Most efficient procurement for distribution companies is to procure base demand through PPAs and peak demand through short term market at much competitive price therefore, reducing losses. As per CRISIL short term power volumes are likely to increase from current 10% of total short term market to 20% by 2022. IEX is likely to be major beneficiary of increasing market size.

Exchanges to gain market share: Currently exchanges contribute 35% of total power traded through short term market. However, inherent advantages of exchanges over other modes like transparency, price discovery, reliability and flexibility have improved contribution of exchanges to total short term power market. Exchanges share in total market is likely to increase to 50% by 2022. As IEX has 98% market share in power exchanges we expect trading volumes at IEX to increase at a CAGR of 18%.

Future potential products to add value: IEX introduced products like RECs and Escerts which will add to its topline. Both products contributed 2% in FY18. As gas exchange and power exchange has lot of synergies like power is transmitted through the transmission line; gas is transmitted through the pipeline, IEX is vouching to launch gas exchange. It is seeking other regulatory approvals for the same. Other products like G-DAM, future and forward markets, season ahead contracts to add value as and when they are introduced.

Valuation

We expect IEX volumes to increase at a CAGR of 18% over FY18-21E. Improved EBITDA margin post acquisition of 63Moons technology to improve bottomline at a CAGR of 20%. At current price the stock is trading at 28xFY19E and 24xFY20E earnings. IEX has very high return ratios with ROE at 42% and ROCE at 65%. IEX has generated consistent FCF and offer FCF of yield of 4% on FY19E FCF. Based on Discounted Cash Flow method we arrive at a target price of Rs2025 27% upside from current levels. We recommend **'BUY'**.

Key Financials (Rs Mns)

Year	Net Sales	%growth	EBIDTA	OPM%	PAT	%growth	EPS	PE(x)	RoE%	RoCE%
FY16	1,750.3	2.0	1,251.8	71.5%	900.2	11.4	33.1	48.4	37%	54%
FY17	2,039.1	16.5	1,432.9	70.3%	1,003.4	11.5	37.5	42.7	41%	63%
FY18	2,288.8	12.2	1,833.0	80.1%	1,136.2	11.5	42.9	37.3	42%	65%
FY19E	2,653.7	15.9	2,314.5	87.2%	1,652.3	13.2	54.5	29.4	47%	72%
FY20E	3,084.4	16.2	2,699.9	87.5%	1,935.8	70.4	63.8	25.1	49%	74%

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Investment Rationale

Company Background

IEX is the largest exchange for the trading of a range of electricity products in India. Electricity products traded over IEX's electronic trading platform comprise (i) electricity contracts in blocks of 15 minutes in the day-ahead-market (the "DAM"), (ii) electricity contracts for fixed terms in the future, such as intra-day contracts, day ahead contingency contracts and contracts up to 11 days ahead, known as the term-ahead-market (the "TAM") and (iii) renewable energy certificates ("RECs"). The company also introduced "Ecerts." IEX has been operational since 2008 and today has a market share of 98.5% of the total power volumes traded on exchanges. Over 5,800 participants registered on our Exchange of which over 3,500 participants were active.

IEX derives its revenues from three segments:1) transaction charges – it charges 4 paise per unit on each unit traded on its platform and Rs40/REC; 2) one-time joining and annual subscription fees from trading members and clients (in all 4000 participants are registered on IEX platform); and 3) investment income earned on member deposits, trading margins and surplus cash. In FY18, transaction revenues contributed 88%, annual subscription 11% and balance 11% was from investment income.

Financial Technologies (India) Ltd. (41%), PTC Financial Services (PFS) (26%), and other power and financial market participants promoted IEX In June 2008. Both FTIL and PFS had to sell their stake post different orders from CERC: 1) in 2012, CERC mandated that no trading member of the exchange could hold more than 5% in the exchange. Consequently, PFS had to reduce its holding; and 2) following the commodity market fiasco (NSEL) in 2013, CERC forced FTIL (also a promoter in the commodity exchange) to sell its stake. It is during this time that many private equity investors became shareholders of the company.

Major Shareholders

Name of the shareholder	Ownership 2yrs prior to IPO (%)	Ownership before IPO (%)	Ownership Post IPO (%)
63 Moons Technologies Limited*	25.6	0	
Lightspeed Venture Partners VIII Mauritius	9.5	5	4
Multiples Private Equity Fund	8	8	2.1
Multiples Private Equity Fund I Limited	6	4.8	1.6
PTC India Financial Services Limited	5		
Pathfinder Mauritius Limited	5		
AFHolding	4.6	4.6	3.5
Golden Oak (Mauritius) Limited	4.5	4.5	2.2
Rural Electrification Corporation Ltd	4.1		
Reliance Infrastructure Limited	4.1		
Jindal Power Limited	4.1		
Adani Enterprises Limited	4.1		
The Tata Power Company Limited	4.1		
Aditya Birla Private Equity Trust A/c Aditya Birla Private Equity - Fund I	4.1	5	3.4
IL and FS Trust Company Limited	3		
Bessemer Venture Partners Trust	2.1		
DCB Power Ventures Limited		15	15
TVS Shriram Growth Fund 1B LLP		10	10
Agri Power and Engineering Solutions Pvt Ltd		5.5	5.5
Westbridge Crossover Fund, LLC		4.8	4.8
Total	**97.9**	**67.2**	**52.1**

Source: RHP, Annual Report

Power situation in India:

India is the third-largest electricity producer in the world. Thermal power plants constitute around 67% of the installed capacity, followed by renewable, hydro and nuclear at around 18%, 14% and 2%, respectively. During the Twelfth Five-Year Plan ending March 2017, about 92 GW of thermal generation capacity has been added against a target of 72 GW. While capacity addition has peaked, the peak demand has grown at a moderate CAGR of 4.1% during the past five years ending March 2017, on account of sluggish demand from the industrial and commercial segments. In this context, the country has witnessed a gradual decline in peak deficit from 9.0% in the financial year 2013 to 1.6% in the financial year 2017.

While generation capacity has been added at a faster pace over the last five years, the growth in transmission has not been commensurate enough to ensure congestion free transmission within the country, resulting in situations where a certain demand in a market could not be met even as supply is available elsewhere. This has led to some unsold capacity in some regions impacting plant load factors for thermal generation plants. The mismatch in Supply and demand has led to excess availability of Power in India with PLF of as low as 60% for thermal plants for FY17.

Installed generation capacity

	Thermal				Nuclear	Hydro	RES	Grand total
	Coal	Gas	Diesel	Total				
FY07	53.70%	10.30%	0.90%	64.90%	2.90%	26.20%	6.00%	100.00%
FY12	56.00%	9.20%	0.60%	65.80%	2.40%	19.50%	12.30%	100.00%
FY13	58.30%	9.00%	0.50%	67.80%	2.10%	17.70%	12.40%	100.00%
FY14	59.20%	8.90%	0.50%	68.60%	1.90%	16.60%	12.90%	100.00%
FY15	60.60%	8.50%	0.40%	69.50%	2.10%	15.20%	13.20%	100.00%
FY16	61.30%	8.10%	0.30%	69.70%	1.90%	14.20%	14.20%	100.00%
FY17	58.80%	7.70%	0.30%	66.80%	2.10%	13.60%	17.50%	100.00%

Source: RHP

Power supply position in India

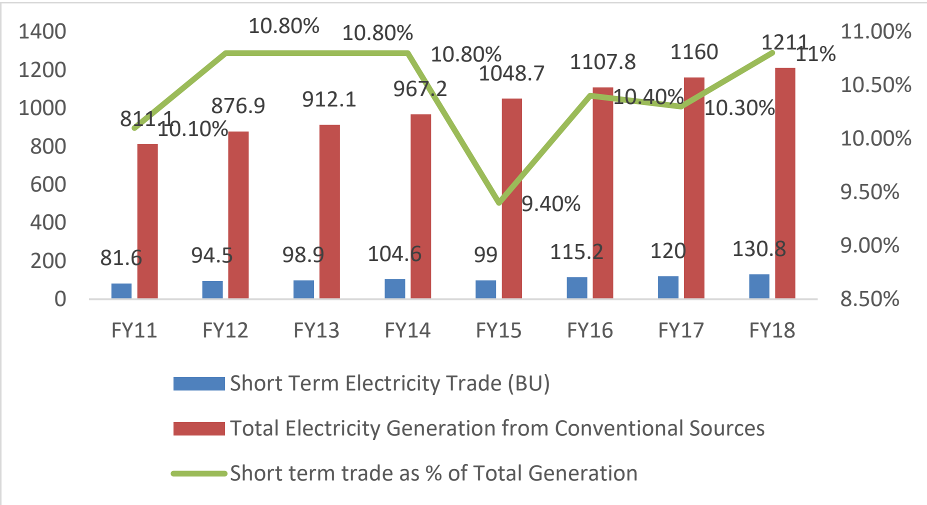
	Energy (MU)				Peak (MW)	
Year	Requirement	Availability	Deficit (%)	Peak Demand	Peak Met	Deficit (%)
FY11	861591	788355	-8.5%	122287	110256	-9.84%
FY12	937199	857886	-8.5%	130006	116191	-10.63%
FY13	995557	908652	-8.7%	135453	123294	-8.98%
FY14	1002257	959829	-4.2%	135918	129815	-4.49%
FY15	1068923	1030785	-3.6%	148166	141160	-4.73%
FY16	1114408	1090850	-2.1%	153366	148453	-3.20%
FY17	1142929	1135334	-0.7%	159542	156934	-1.63%
FY18	1212134	1203567	-0.7%	164066	160752	-2.02%

Source: RHP

Oversupply situation to drive short term volumes:

The short term volume has been at ~10% levels for almost 7 years now. Short term markets remained range bound due to power deficit scenario in the past. SEBs ensured adequate power supply with certainty. With power supply situation changing in the country SEBs are focused on procuring power at competitive rates. Augmentation of transmissions capacity lowering grid congestion for short term transactions, ramp up in domestic coal production and subdued power price is likely to drive short term volumes. Short term power volume is likely to increase from current 10% to 15% by FY22E. However these volumes are expected to increase further if the PLFs remain low and the Discoms face Balance sheet problems.

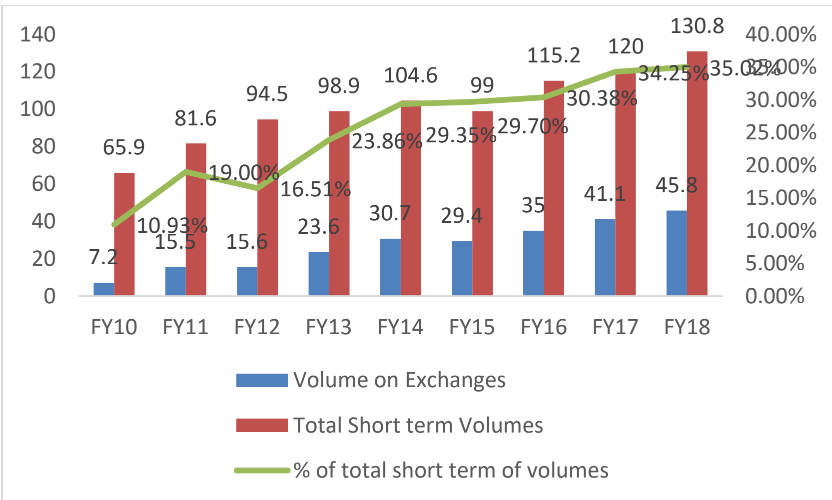
Short term volume as % of total generation



Source: RHP

It is worth noting that, although the proportion of short term trades have remained at 10% for almost 7 years, the share of Exchanges have grown in a nonlinear way from 11% in FY10 to 34% in FY17. Volume of power traded through the exchanges increased to 41.1 billion units in the financial year 2017, having grown at 28.3% CAGR between the financial year 2010 and the financial year 2017. The total volume on power exchanges for the financial year 2018is around 45.8BUs, and amounts to around 35% of total short-term electricity trade in the country.

Share of exchanges in short term market



Source: RHP

Key Drivers for short term market

Power procurement cost optimization by Distribution companies

The short term market has provided the distribution companies with the option to hold a mix of long-term and short-term contracts and optimize the overall power-purchase cost. Subdued demand for power in the past three years, combined with a lag in long-term capacity contracting has pushed generators to sell their surplus power in the short-term market.

Cost optimization by large consumers

The lower price discovered at the exchanges could also benefit large industrial and other consumers (Connected Load greater than = 1 MW), provided they are allowed non-discriminatory open access by the distribution companies. The exchanges have played a significant role in facilitating and operationalizing the open access trade. With power tariffs in exchanges remaining low, industrial consumers across many states are increasingly buying electricity from the power exchanges.

Short term rates on the exchanges have been lower as compared to bi-lateral trades and DSM rates. In FY17 traders' average rates were Rs3.54 p.u. while exchange rates were Rs2.47p.u.

Adequate Supply for Short Term Market

At present we have, 327 GW of installed capacity, whereas the peak demand was only 159.5 GW in 2017. Large coal based generation capacity is operating at a PLF of under 60% whereas it has a potential of operating at PLF of over 80%. A major portion of this coal based capacity is remaining underutilized. More than 35 GW of generation capacity in the private sector do not have long term contracts. These capacities are selling power in the short term market. In addition to the above installed capacity, in the 13th plan, a capacity addition of 50 GW of conventional capacity and more than 100 GW of renewable capacity is planned. With this capacity addition, present surplus supply scenario is expected to continue for the next seven to eight years.

The peak demand is expected to reach an estimated 268 GW by 2022 from current levels of 159.5 GW in the financial year 2017. During the same period, the installed capacity of the country is estimated to reach 417 GW by the financial year 2022, which translates into 1,610 BU of electricity, from current levels of 1,242 BUs generated during the financial year 2017. This increase in generation is going to be primarily driven by significant addition in renewable energy based capacity by 2022. As base demand is 80% of peak demand it is prudent for distribution companies to reduce its cost by procuring extra power during peak demand through short term market.

Further, the current untied capacity of 35 GW, owing to record thermal capacity addition in the last five years, is expected to inflate to around 40 GW by 2022, with another 50 GW of coal based power projects under different stages of construction. Therefore, overall PLF levels will rise marginally from current 60% to 64% by 2022. A major portion of the electricity produced from such untied generation capacity is likely to be traded in the short term market.

Plant Load Factors

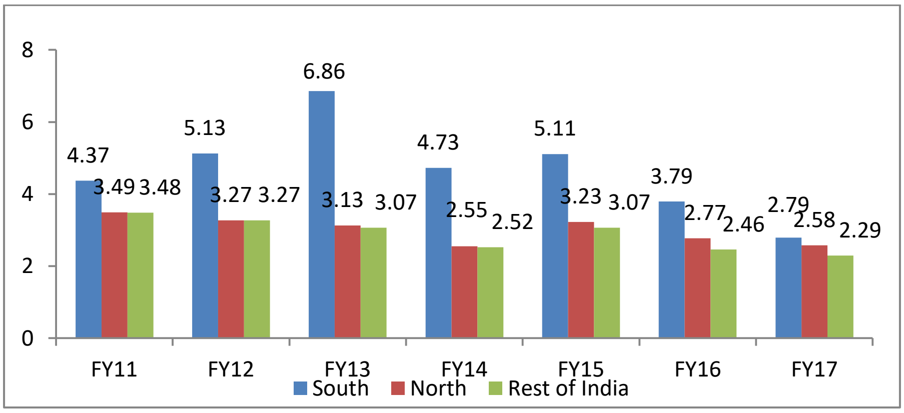
Year	PLF	Sector-wise PLF (%)		
	%	Central	State	Private
2009-10	77.5	85.5	70.9	83.9
2010-11	75.1	85.1	66.7	80.7
2011-12	73.3	82.1	68	69.5
2012-13	69.9	79.2	65.6	64.1
2013-14	65.6	76.1	59.1	62.1
2014-15	64.46	73.96	59.83	60.58
2015-16	62.29	72.52	55.41	60.49
2016-17	59.88	71.98	54.35	55.73
2017-18	60.67	72.35	56.83	55.32
2018-19*	64.9	76.46	64.71	56.32

Source: Power Ministry

Improvement in Transmission Infrastructure

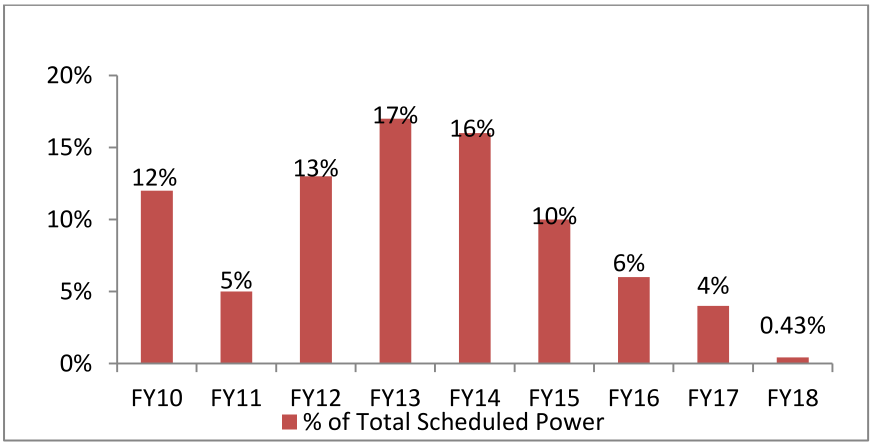
Inter-regional transmission capacity has more than doubled in the five years leading up to the financial year 2017 to approximately 75,050 MW for the financial year 2017 from 27,750 MW for the financial year 2012. Augmentation of transmission capacity is expected to reduce transmission congestion, which is currently restricting short term transactions through exchanges. With improved transmission capacity buyers will be more confident to meet their power requirement from short term market. Constrained volumes in Exchanges due to transmission congestion have fallen from 16% in 2014 to 4% in 2017 as a result area clearing price in IEX has fallen from Rs6.9p.u. in 2013 to Rs1.8 in 2017.

Area clearing price Rs/Kwh



Source: CEA

Constrained volume in exchanges due to transmission congestion



Source: CEA

Improved availability in domestic coal production

Domestic coal availability is constraint for many power plants which are dependent on imported coal supply. This increases coal cost for these power plants. Post 'SHAKTI' policy domestic coal production is set to increase in the near future and thus improve capacity utilisation of power plants contracted by states. Coal supply has improved by 6% in FY18. During April 2018 coal production has improved by 18% sufficient availability of domestic coal would increase electricity supplies from merchant power plants at competitive rates in the ST market. Higher availability of untied electricity is a key factor for development of the ST power market.

Seasonality factors

There is variation in demand of state electricity distribution companies in India due to geographical spread and varied climatic conditions. States with hydroelectric potential such as Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Sikkim are power surplus in the summer and monsoon seasons and are deficit in the winter season. Similarly, some other states like Punjab and Haryana have power requirements in the summer and monsoon seasons and have surplus in winters. This diversity provides lot of power trading opportunities. For managing seasonal variations, distribution companies can utilize the short term market instead of tying long term purchase power agreements which require payment of fixed charges, even when there is no procurement of power during off-peak season. With increase in renewable power supply variation in supply is likely to increase leading to increase in short term trade.

Improving health of distribution companies

UDAY allows states opting for it to take over 75% of total debt outstanding in the books of their respective distribution companies as of September 30, 2015, and pay back lenders by selling bonds. UDAY envisages Distribution companies to reduce their AT&C (Aggregate Technical & Commercial) losses to less than 15% by the financial year 2019. This is expected to ease the financial stress on distribution companies and improve their power offtake ability. Improvement in the financial health of distribution companies would enable them to procure cheaper power available at exchanges and reduce their overall power procurement cost.

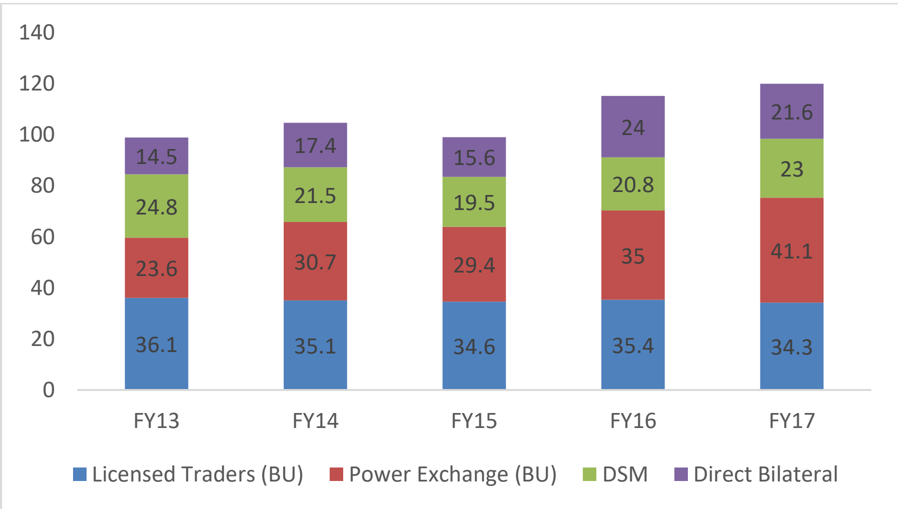
Technology acquisition to improve margin

IEX, originally incorporated by Financial Technologies (FT) and Power Trading Corp (PTC), used to pay 10% of its transaction fees earned and annual fees to FT for its technology platform. On 16 May 2017, IEX acquired this technology for Rs1.3 bn and absorbed 22-23 employees who can work on this technology. This change has led to technology expenses being capitalised and depreciation rising vs higher technology expenses being incurred earlier. This has driven a sustainable rise in EBITDA margins from 70% levels in FY17 to 82% levels by FY20E (FY18 reported EBITDA margins is 80%). This control over its technology has added to the sustainability of the business model.

Modes of Short term trading:

Short-term power market covers contracts of less than a year for electricity transacted through (i) inter-state trading licensees; (ii) power exchanges; (iii) directly between distribution licensees (cashless) and (iv) also inadvertent exchange of power under Deviation Settlement Mechanism.

Market share among different short term modes



Source: RHP

Advantages of trading on exchanges

Power exchanges aim to facilitate transparent and efficient use of energy resources and bridge the demand-supply mismatch by bringing larger players onto a common platform for buying and selling in an auction-based system, thereby providing liquidity, transparency and competitive price discovery. Owing to efficient price discovery at the exchanges, the short-term market witnessed a shift from traders to exchanges over the years.

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In a market-driven economy, conflicting market forces determine the correct price of a commodity at any given point of time. An electronic power exchange serves this purpose by allowing buyers and sellers across the length and breadth of the country converge on a common platform and enable price discovery.

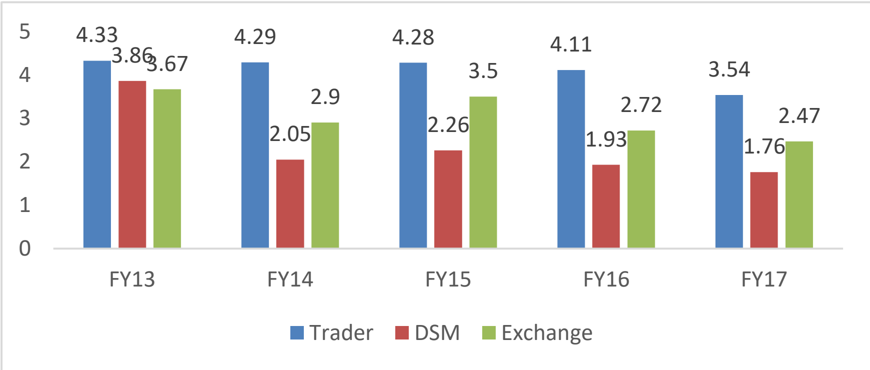
The following table sets forth a comparative analysis of offerings of licensed traders vis-à-vis exchanges:

Modes for short-term trading

Parameter	Directly Between discoms	Traders	DSM	Through Power Exchanges
Term	Upto 1 year	Upto 1 year	Instantaneous	Day ahead, Intra-day, term ahead upto 11 days
Contracting parties	Buyer & seller	Buyer, seller and trader	No contracts	Buyer, seller, exchange, trader
Transaction charges	No charges for discoms, OA charges for OA consumers	Trading margin, in addition OA charges for OA consumers	No transaction charges, penalties in place	Exchange fees for all consumers, in addition, applicable OA charges for OA consumer
Likelihood of transmission constraints	Average	Average	NA	Relatively High
Volume transacted in 2016-17	1.9% overall 18.0% of total ST	3.0% overall 28.6% of total ST	2.0% overall 19.1% of total ST	3.5% overall 34.3% of total ST
Major risks for buyers	Evacuation risk	Evacuation risk	Volatility of DSM charges/ penalties	Evacuation risk
Major risks for sellers	Payment risk & Evacuation risk	Payment risk & Evacuation risk	Volatility of DSM charges	Evacuation risk
Counterparty risk borne by	Seller	Seller	DSM pool	Exchange

Source: RHP

Price p.u. through different modes of short term trades



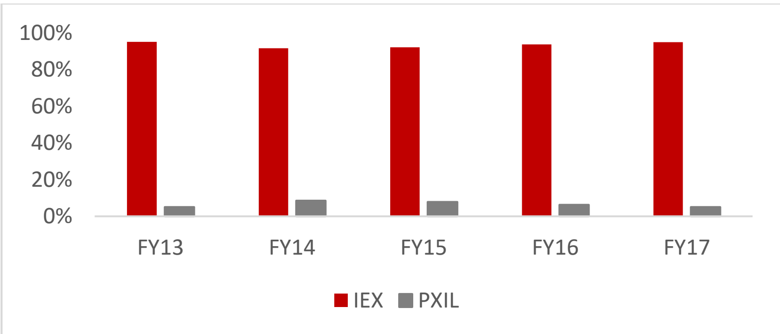
Source: RHP

With limitations on exchange to venture into term-ahead contracts beyond 11 days, term market is likely to be dominated by traders and day-ahead market by exchanges in the immediate term. In the future, with possible clarity on regulatory direction regarding term ahead contract duration, more trade is expected through exchanges rather than through bilateral contracts, as currently done. Further to this, relief in transmission congestion and increased availability of transmission corridor is expected to precipitate a shift from term-ahead to day-ahead market where high liquidity ensures competitive price discovery.

Market share of IEX and PXIL

IEX and PXIL are the two power exchanges facilitating short-term trade of power in India. IEX dominates the space, with its share in total volume traded through exchanges at an average of over 93.5% in last five years. IEX has been able to maintain its dominant position due to adoption of robust technology platform, market development initiatives by IEX and domain knowledge expertise.

The following chart sets forth market share of IEX and PXIL by DAM, TAM and REC:



Source: RHP

IEX volume to grow at 18% CAGR

As short term power market is likely to grow at 13% CAGR and share of exchange in total trading is likely to increase from 3.4% to 5% by FY22 we expect IEX's volume to grow at 18% CAGR over FY17-21E.

IEX expected volume

Particulars	FY17	FY18	FY19 (E)	FY20 (E)	FY21 (E)	FY22 (E)
Total volume for exchange (BU)	41.1	45.8	53.0	64.3	78.9	93.4
Exchange share in short term trading	34.5%	35.0%	36.0%	37.0%	39.0%	40%
IEX volume (BU)	39.8	44.4	51.4	62.4	76.6	90.6
IEX market share	97%	97%	97%	97%	97%	97%

Source: RHP, D&B Research

Future potential products

Apart from current products introduction of following products is likely to be beneficial for IEX.

Green day ahead market

Green day-ahead market is proposed to be based on collective transactions, and will function on similar lines as existing DAM at exchanges. It would comprise solar and non-solar day-ahead contracts, applicable for merchant capacity. G-DAM contracts will enable obligated entities procure renewable power at competitive prices, when they actually need power, and also green attributes to meet RPOs. In this context, it would offer an alternative market-based mechanism and stimulate renewable energy generation in the country.

Forward and future market

As current product portfolio focuses on short term markets, generating and distribution companies lack price visibility over one year. Forward markets provide such visibility and important hedging options for generators as well as distribution companies.

Month ahead or season ahead contracts

Currently only two types of contracts are available on exchanges i.e. DAM and TAM. As CERC doesn't have authority to regulate products longer than 11 days. Whenever such products are allowed, they would further increase volumes for the exchanges and possibly shift some volumes from traders onto the exchange.

Gas contracts

Management believes that gas exchange and power exchange has lot of synergies like power is transmitted through the transmission line; gas is transmitted through the pipeline. As far as the quality is concerned it is the uniform quality when they are in the pipeline system, so one needs, gas quantity and quality meter at the consumers and supplier end and all these energy accounting is done by third-party. So business models are quite similar, so management feels that IEX is in a good position to take up the gas exchange initiative. The company is in discussion with the different stakeholders, and is also trying to develop its own capabilities. Management is also consulting with couple of technology providers so that whenever there is opportunity created by the government of India by the PNGRB they will be in a position to start gas exchange.

Changing buyer's profile on IEX

Buyers' profile for IEX is changing, driven by macro changes in the power sector. Historically, volumes on the exchange were driven by open-access customers (industrial customers with >1MW demand) as the delivered cost of power procured on exchanges was significantly lower than the host state's industrial tariffs. However, rising losses on SEBs book have forced distribution companies to increase cross-subsidy charges on open-access transactions, resulting in lower savings for industrial customers. Consequently, industrial customers have become more sensitive to volatility in power prices on the exchanges, given a low margin of safety. Thus, volume growth for industrial customers has tapered off in FY17 and FY18. Open access volume has gone down from 24BU in FY17 to 14 BU in FY18 and SEBs volume has gone up from 15.78BU to 30.14BU in FY18. SEBs share to total volume traded has gone up from 46% to 67% yoy in FY18.

SEBs is likely to be key driver of volumes on IEX. Given the availability of competitive power on exchanges, it is only prudent for SEBs to procure from exchanges and optimize their cost of supply. SEBs are in a better position to project demand and manage volatility.

Global power exchanges

Power exchanges operating across the world work on the principle of market efficiency. Competitive price discovery mechanism, transparency and risk mitigation act as pillars of market efficiency. These factors have led to robust growth in volumes in global power exchanges.

In Australia and the US, all power is traded through a common pool. In the United States, power markets function as independent system operators. The European Union has a policy to create single market in Europe. The European power market is a conglomerate of regional markets, which are physically connected. India's wholesale power market resembles the EU power market, in terms of structure, competition, regulation and pricing.

Country	Regulator	System operator	Exchange	Total Consumption
Nordic Countries	EI, EMV, DERA, NVE	Statnett SF, Svenska Kraftnat	NORDPool	91%
UK	OFGEM	National Grid plc	APX, N2EX	53%
France	CRE	Reseau de Transport d'Electrcite (RTE)	EPEX-SPOT	23%
Germany	Federal Network Agency	Sperate Operators for 4 zones	EPEX-SPOT	53%
Austria	E- Control	Verbund-Austrian Power Grid	EPEX-SPOT	53%
Belgium	CREG	Elia System Operator	BELPEX	29%

Source: RHP

As most exchanges operate across several countries, DAM volumes are the sum-total of the turnover of individual power exchanges in all the countries of operation. In most EU exchanges, volumes are between 30% and 70% of energy consumption.

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Comparison of exchanges

India has developed an electricity market in a short span of four years - from being an unorganized market prior to 2004, it saw emergence of multiple power exchanges in 2008. Since then, the power exchanges have expanded considerably, in size and market share. However, it is pertinent to compare power exchanges across the globe with IEX to understand their structure and products offerings.

Global Exchanges	Nord Pool	IEX	PJM	NEM	EPEX SPOT
Participation	Voluntary for dayahead and adjustment market	Voluntary	Compulsory for dayahead market	Compulsory for day-ahead spot	Voluntary for day-ahead and adjustment market
Market offerings	Day-ahead spot, hour ahead	Intra-day market and limited forward contracts up to 11 days	Day-ahead spot, realtime balancing, capacity credits market	Day-ahead spot and short-term forwards	Intra-day market, day-ahead auction, and balancing market
Bidding type	Double-sided	Double-sided	Single- Sided	Single- Sided	Double-sided
Adjustment market	Intra-day auction market (Elbas technology platform)	Intra- Day	Bid quantity can be changed till gate closure	-	Intra-day auction market
Realtime/balancing market	Counter-trade for real-time, participants are given MCP	Deviations are subjected to DSM charges	Deviations are traded in real-time	Through purchase of ancillary services, reserve capacity buying	Counter-trade for real-time
Pricing rule	Zonal pricing	Zonal pricing	Nodal pricing	Zonal pricing	Zonal pricing
Pricing type	Ex-ante	Ex-ante	Ex-post	Ex-post	Ex-ante
Hedging options with participants	Forwards and futures on separate markets	Bilateral OTC	FTRs-ARRs, bilateral OTC, multisettlement market, virtual bidding, financial trading at NYMEX	Bilateral OTC, derivatives on Sydney futures exchange	OTC Clearing
Congestion management	Market splitting	Market splitting	Security constrained economic despatch	Locational signals for transmission tariff	Market Splitting
Transmission losses	Included in zonal price	To be purchased by participants	Included in LMP	To be purchased by generators	Included in zonal price
Time blocks	Hourly blocks	15 minutes	Hourly blocks	Half-hourly blocks	Hourly block, 15 minutes

Source: RHP

Valuation

IEX is likely to post more than 20% CAGR topline growth over FY17-20E driven by growth in volumes. We expect IEX volumes to increase at a CAGR of 18% over FY17-22E from 40Bus to 90Bus. DAM is expected to contribute 98% and TAM volumes expected to contribute 2% to total volumes. In FY18 open access volumes have gone down by 38% with increase in the clearing price, as in many of the states the breakeven price for the open access consumers because of the cross subsidy surcharge, additional surcharge and other transmission billing charges is less than Rs. 3/unit. But there was substantial increase (98% yoy) in the buy by the distribution companies. The trend is likely to continue and distribution companies' volume is likely to be 65-70% of total volume.

Volumes in the REC market on exchanges have been volatile, growing at 30% to 100% pa over FY14-18. In FY18, volumes of REC have doubled, as select states have been aggressively buying REC to meet their RPO obligations. In FY19E and FY20E we expect REC volumes to grow at a CAGR of 15%.

Acquisition of 63Moons will improve operating leverage and margin is likely to improve margin from 80% to 88% by FY22E. Therefore, company is likely to post more than 25% CAGR in PAT over FY17-20E. As there is no major capex IEX is likely to generate FCF. At current price IEX has Free cash flow yield of 4%. Asset light model generates high ROE and ROCE of 41% and 62% respectively. It is trading at 25xFY20E earnings and 15xFY20E EV/EBITDA. As per our Discounted Cash Flow methodology we arrive at target price of **Rs2025** showing 27% upside. We recommend **'BUY'**.

Discounted Cash Flow

Particulars	FY17	FY18	FY19E	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E
EBIT	1398.3	1730.6	2211.4	2596.8	3051.4	3273.3	3745.4	4288.3	4912.7	5630.7	6181.2	6786.7	7452.8
EBIT (I-T)	922.9	1142.2	1459.5	1713.9	2013.9	2160.4	2472.0	2830.3	3242.4	3716.3	4079.6	4479.2	4918.9
Dep	34.6	102.4	103.1	103.1	103.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1
NOPAT	957.5	1244.6	1562.6	1816.9	2117.0	2264.5	2576.1	2934.4	3346.5	3820.4	4183.7	4583.3	5023.0
Capex	7.01	1315.33	65.33	65.33	65.33	65.33	65.33	65.33	65.33	65.33	65.33	65.33	65.33
Change in WC	1297.6	194.99	192.55	32.04	178.55	38.5	43.8	50.0	57.1	65.3	71.6	78.5	86.1
% to sales	64%	9%	7%	1%	5%	1%	1%	1%	1%	1%	1%	1%	1%
FCFF	2262.1	2754.9	1820.5	1914.3	2360.8	2368.3	2685.2	3049.8	3468.9	3951.0	4320.6	4727.1	5174.3
FCFF Growth Rate	161%	22%	-34%	5%	23%	0%	13%	14%	14%	14%	9%	9%	9%
Weights	0	0	1	2	3	4	5	6	7	8	9	10	11
Cost of Capital %	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%	9.88%
PV of cash flows			1656.80	1585.54	1779.56	1624.64	1676.45	1732.82	1793.77	1859.34	1850.44	1842.52	1835.48

Sensitivity Analysis

Sum of PV of FCF	17401.9
Calculation of Terminal Value	
Terminal Growth Rate	5%
Terminal Year Free Cash Flow	4963.5
Terminal Value	101711.1
PV of Terminal Value	39644.4
Enterprise Value	57046.3
Add: Cash & Investments	4376.1
Less: Debt	0.0
Market Capitalisation	61422.4
No. of shares (mn)	30.3
Value per share	**2025**
CMP	**1593**
% upside	**27**

2025	7.88%	8.88%	9.88%	10.88%	11.88%
3%	1691	1658	1628	1599	1573
4%	1856	1823	1793	1764	1738
5%	2089	2056	**2025**	1997	1971
6%	2441	2408	2378	2349	2323
7%	3039	3006	2975	2947	2921

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P&L (Rs mn)	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
Net Sales	1,525.7	1,447.8	1,750.3	2,039.1	2,288.8	2,653.7	3,084.4
Raw Materials							
Employee Cost	82.6	117.1	141.1	155.7	240.8	279.2	324.5
Other Expenses	301.9	289.8	357.5	450.5	215.0	60.0	60.0
Operating Profit	**1,141.2**	**1,040.9**	**1,251.8**	**1,432.9**	**1,833.0**	**2,314.5**	**2,699.9**
Depreciation	26.5	29.5	33.9	34.6	102.4	103.1	103.1
PBIT (Excl O. Income)	1,114.7	1,011.5	1,217.8	1,398.3	1,730.6	2,211.4	2,596.8
Other income	214.2	316.0	251.1	335.6	256.0	294.4	338.6
Interest	0.2	2.4	2.7	1.3	2.3	2.3	2.3
PBT	1,328.7	1,325.1	1,466.3	1,732.6	1,984.3	2,503.5	2,933.0
Exceptionals	-	-	-	-	-	-	-
Profit before tax (post exceptional)	1,328.7	1,325.1	1,466.3	1,732.6	1,984.3	2,503.5	2,933.0
Provision for tax	409.2	424.9	462.9	596.4	683.0	851.2	997.2
Reported PAT	**919.5**	**900.2**	**1,003.4**	**1,136.2**	**1,301.3**	**1,652.3**	**1,935.8**
MI	-	-	-	-	-	-	-
Net Profit	**919.5**	**900.2**	**1,003.4**	**1,136.2**	**1,301.3**	**1,652.3**	**1,935.8**
Adjusted Profit (excl Exceptionals)	919.5	900.2	1,003.4	1,136.2	1,301.3	1,652.3	1,935.8
	-	-	-	-	-	-	-

Cash Flow St. (Rs. mn)	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
Net Profit	919.5	900.2	1,003.4	1,136.2	1,301.3	1,652.3	1,935.8
Add: Dep. & Amort.	26.5	29.5	33.9	34.6	102.4	103.1	103.1
Cash profits	**946.0**	**929.6**	**1,037.3**	**1,170.8**	**1,403.7**	**1,755.4**	**2,038.8**
(Inc)/Dec in							
-Sundry debtors	0.6	1,565.0	(3,976.6)	457.4	9,530.9	(4,802.7)	1,691.7
-Inventories							
-Loans/advances	(2.2)	3.7	(0.4)	6.0	-	-	-
'-Current Liab and Provisions	22.6	531.9	(119.0)	1,240.2	199.2	193.6	33.2
Change in working capital	(244.4)	685.0	21.3	1,297.6	195.0	192.6	32.0
CF from Oper. activities	**701.6**	**1,614.7**	**1,058.6**	**2,468.4**	**1,598.7**	**1,947.9**	**2,070.9**
Capex	(7.0)	(67.3)	(11.5)	(12.8)	(1,315.1)	(65.3)	(65.3)
CF from Inv. activities	**(591.3)**	**(138.3)**	**(274.7)**	**(998.6)**	**(1,500.1)**	**(259.6)**	**(269.4)**
CF from Fin. activities	**(75.5)**	**(1,063.4)**	**(704.2)**	**(1,109.1)**	**(976.0)**	**(1,239.2)**	**(1,451.8)**
Cash generated/(utilised)	**34.8**	**413.0**	**79.8**	**360.7**	**(877.4)**	**449.1**	**349.7**
Cash at start of the year	387.2	422.0	835.0	914.7	1,275.5	398.0	847.1
Cash at end of the year	422.0	835.0	914.7	1,275.5	398.0	847.1	1,196.8
	-	-	-	-	-	-	-

Balance Sheet (Rs Mn)	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
Equity capital	303.3	303.3	303.3	303.3	303.3	303.3	303.3
Reserves	2,225.6	2,096.2	2,406.1	2,447.2	2,772.5	3,185.6	3,669.5
Net worth	**2,528.8**	**2,399.5**	**2,709.4**	**2,750.5**	**3,075.8**	**3,488.9**	**3,972.8**
MI							
Non Current Liabilites	336.7	361.9	352.3	359.1	362.7	366.3	370.0
Current Liabilites	871.3	1,345.0	1,251.3	2,460.7	2,665.0	2,860.4	2,895.8
CAPITAL EMPLOYED	**3,736.8**	**4,106.3**	**4,313.0**	**5,570.3**	**6,103.5**	**6,715.6**	**7,238.6**
Non Current Assets	619.2	404.3	270.5	266.9	266.9	266.9	266.9
Fixed Assets	101.6	140.3	113.8	86.3	1,299.3	1,261.6	1,223.8
CWIP	0.8	-	4.0	9.6	9.3	9.3	9.3
Deferred Tax Asset	-	-	-	**12.8**	**12.8**	**12.8**	**12.8**
Long Term Loans and Advances	29.3	34.5	31.5	28.8	28.8	28.8	28.8
Other Non-current assets							
Current Assets	42.8	99.3	95.9	44.7	48.9	49.9	51.1
Investments	2,472.9	2,543.9	2,807.1	3,793.0	3,978.1	4,172.4	4,376.4
Inventories	(4.0)	(3.0)	(2.0)	(1.0)	-	1.0	2.0
Trade Receivables	2.7	3.6	7.7	2.1	6.3	7.3	8.5
Cash and Bank Balances	422.0	835.0	914.7	1,275.5	398.0	847.1	1,196.8
Short Term Loans and Advances	24.5	15.6	19.0	15.7	15.7	15.7	15.7
Other Current Assets	51.0	64.4	84.2	98.9	103.1	107.6	112.3
CAPITAL DEPLOYED	**3,736.7**	**4,106.4**	**4,313.0**	**5,570.3**	**6,103.5**	**6,715.6**	**7,238.6**

Ratios	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
OPM	74.8	71.9	71.5	70.3	80.1	87.2	87.5
NPM	52.8	51.0	50.1	47.8	51.1	56.0	56.6
Tax rate	30.8	32.1	31.6	34.4	34.4	34.0	34.0
Growth Ratios (%)							
Net Sales	29.7	(5.1)	21	16.5	12.2	15.9	16.2
Operating Profit	0.3	(8.8)	20.3	14.5	27.9	26.3	16.7
PBIT	55.8	(9.3)	20.4	14.8	23.8	27.8	17.4
PAT	42.1	(2.1)	11.5	13.2	14.5	27.0	17.2
Per Share (Rs.)							
Net Earnings (EPS)	30.3	29.7	33.1	37.5	42.9	54.5	63.8
Cash Earnings (CPS)	29.4	28.7	32.0	36.3	39.5	51.1	60.4
Dividend	2.6	8.7	9.3	10.9	13.0	15.7	20.0
Book Value	83.4	79.1	89.3	90.7	101.4	115.0	131.0
Free Cash Flow	23.4	55.5	35.3	81.8	96.1	66.4	70.4
Valuation Ratios							
P/E(x)	**52.8**	**53.9**	**48.4**	**42.7**	**37.3**	**29.4**	**25.1**
P/B(x)	19.2	20.2	17.9	17.6	15.8	13.9	12.2
EV/EBIDTA(x)	47.8	53.1	44.5	38.8	31.3	24.8	21.3
Div. Yield(%)	0.2	0.5	0.6	0.7	0.8	1.0	1.3
FCF Yield(%)	**1.5**	**3.5**	**2.2**	**5.1**	**6.0**	**4.1**	**4.4**
Return Ratios (%)							
ROE	36.4%	37.5%	37.0%	41.3%	42.3%	47.4%	48.7%
ROCE	51.6%	55.1%	54.2%	63.0%	64.6%	71.8%	73.9%

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