Indian Energy Exchange

Electrifying monopolistic growth

June 10, 2020

Edelweiss
Ideas create, values protect

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INITIATING COVERAGE

INDIAN ENERGY EXCHANGE

Electrifying monopolistic growth

India Equity Research| Power

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Ideas create, values protect

Indian Energy Exchange (IEX) is the monopolistic leader in India's fast-growing spot power (exchanges) market. IEX has created a strong, strategic barrier of entry through: i) network effect or 'evangelism'; and ii) technology effect; both feed into each other and reinforce customer stickiness via market depth (volumes)—the key competitive moat. Rapidly changing power industry dynamics and horizontal diversification will further fortify IEX's share by 200bps to 6.3% in the 1250BUs conventional power market over the next three years. With potential launch of its gas exchange, IEX's future looks even more exciting. All in all, we conservatively estimate IEX's volumes as well as EPS would expand at a 15% CAGR over FY20–23E. We are initiating the stock with a 'BUY' and DCF-based TP of INR220. Any reduction in trading margins (currently 4 paisa) and higher competitive intensity are the key risks.

Spot power market in sweet spot; advantage IEX

Over the last ten years, India's short-term power market has outgrown the overall market to 11% of total. In the short-term power market, spot accounts for 41% and is growing rapidly (32% CAGR in FY09–20). The power industry dynamics are evolving fast with increasing reliance on short-term contracts, particularly spot markets. This is due to abundant power supply (buyer's market), thrust on renewables, low transmission congestion, cost rationalisation by discoms, etc. We expect the spot power market mix to rise to 55%/6.7% of the short-term/overall conventional market by FY23 (41%/4.5% in FY20). IEX has an edge due to its monopoly attributes.

High entry barriers and superior ERR profile – A perfect combo

IEX has the ability to create strategic barriers to entry via: i) network effect; and ii) technology effect. These are interdependent and have lured participants, thereby deepening liquidity and improving price discovery – a virtuous cycle – on its platform. With its strong earnings growth trajectory (15% over FY20–23E; excluding gas volumes), superior returns profile (RoE: 40%) and comprehensive risk mitigation framework, IEX boasts a superior earnings, returns and risk (ERR) profile.

Outlook and valuation: Getting bigger, better; initiate with 'BUY'

We reckon that IEX's business model is not just resilient, but charging up all along. The exchange currently charges a margin of 4paisa/unit (within stipulated 0–7paisa/unit), but this could change and is a key risk. We are initiating coverage with **'BUY/SO'**.

Financials (consolidated) **(INR mn)**

Year to March	FY19	FY20	FY21E	FY22E
Revenue	2,541	2,571	2,775	3,293
EBITDA	2,028	2,022	2,198	2,628
EBTIDA margins (%)	*79.8*	*78.6*	*79.2*	*79.8*
EPS (INR)	5.5	5.9	6.0	7.2
P/E (x)	30.6	28.4	27.6	23.1
RoAE (%)	50.5	46.4	41.7	40.6

EDELWEISS 4D RATINGS

Absolute Rating	**BUY**
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	Medium
Sector Relative to Market	Underweight

MARKET DATA *(R: IIAN.BO, B: IEX IN)*	
CMP	: INR 167
Target Price	: INR 220
52-week range (INR)	: 203 / 111
Share in issue (mn)	: 299.6
M cap (INR bn/USD mn)	: 50 / 666
Avg. Daily Vol.BSE/NSE('000)	: 790.3

SHARE HOLDING PATTERN (%)

	Current	Q3FY20	Q2FY20
Promoters	0.0	NA	NA
MF's, FI's	31.3	29.7	29.2
FII's	32.0	30.5	26.5
Others	36.7	39.8	44.3

** Promoters pledged s (% of share in issue)* : *NIL*

PRICE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	8.6	27.2	18.6
3 months	(3.5)	(2.6)	1.0
12 months	(13.6)	18.6	32.2

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Investment Summary

Power exchange market: An introduction

The short-term power market is an integral part of the power sector and enables optimum utilisation of power resources. It has outgrown the overall market (9% CAGR in FY09–20) to 11% of total. There are essentially three categories in India's short-term power market:

- OTC: Bilateral transactions among discoms or negotiated through licensed traders
- **Power exchanges or spot power market** – IEX and PXIL are key competitors
- Deviation settlement mechanism (DSM) / unscheduled interchange (UI) for imbalances

Power exchanges provide a nationwide automated trading platform for mainly physical delivery of electricity and renewable energy certificates (RECs). Exchanges began operations with two products, namely Day Ahead Market (DAM; electricity sector's equivalent of spot price) and Term Ahead Market (TAM), catering to shorter-end of the market up to 11 days. Recently, they launched a new product: Real Time Market (RTM), which addresses last-mile system imbalances. With a 95% market share, IEX has a monopoly in the power exchange market.

In a transition, spot power market is gaining traction – Advantage IEX

Starting from scratch in FY09, power exchange were able to raise their market share on the short-term/overall conventional market to 30%/2.8% by 2015 and further to 41%/4.5% by FY20. The exchange platform enables efficient price discovery and increases the accessibility and transparency of the power market, not to mention higher speed and efficiency of trade execution. Consequently, exchange volumes have surged at a 32% CAGR since inception as against a measly 8% CAGR for the OTC market.

India's power sector is currently in transition driven by increasing reliance on short-term contracts and electricity spot markets. The transition to short-term market (particularly via exchanges) is due to quickly evolving industry dynamics: abundant supply of power, thrust on renewables, low transmission congestion, cost rationalisation by discoms, etc. We expect the spot market share to improve to 55%/6.7% by FY23 of short term/conventional market. IEX, given its dominance, is in a pole position to exploit the surge in spot power volumes.

Widening product profile to double IEX's target market opportunity

The CERC (regulator) had stipulated DAM and TAM for power exchanges. Recently, it also allowed trading of real time market (RTM). Furthermore, long duration contracts (LDC), Green TAM, and Cross Border are in the offing. IEX derives 78% of its revenues from DAM and 7% from TAM. However, with the launch of RTM and LDC (to be launched soon), IEX's market opportunity has broadly doubled to 110 billion units (BUs). This horizontal diversification will fortify its positioning in the overall market. We expect the share of IEX volumes to improve to 6.3% (4.3% in FY20) of the overall market by FY23E.

Network and technology effects: IEX's bulwark of barriers

At its inception in June 2008, the power trading market was a duopoly between IEX and PXIL. IEX has since asserted dominance by erecting strategic or artificial barriers to entry via: i) Network effect: A pull strategy to bring in more participants (50% CAGR since inception), which in turn creates ample liquidity and improves price discovery—a virtuous cycle; and

ii) Technology effect: By employing a scalable and capable technology platform, IEX has been integrating cutting-edge offerings that yield efficiencies for all stakeholders. These two attributes reinforce each other and the sustainable drivers of IEX's success. This combination forms the bulwark that rivals must contend with. Overall, IEX has created a strong, strategic barrier of entry through a formidable mix of network effect or 'evangelism' and technology effect; both feed into each other and reinforce stickiness to volumes.

A superior earnings, returns and risk profile at play

IEX's earnings profile is likely to improve as it launches products; it would, thus, reap the benefits of investing in customers and technology. Despite higher employee cost and capex involved in launching a gas exchange, the returns profile (both RoE and RoCE) is likely to remain upwards of 40%. Finally, the risk profile is well managed via a comprehensive risk management policy framework that systematically assesses, addresses and mitigates risks on continuous basis. All in all, IEX's ERR profile is much superior to other exchanges in India.

A gas exchange in the making with voluminous spot potential

To deepen and widen its growth, IEX is gearing up to launch a gas exchange: Indian Gas Exchange (IGX), a wholly-owned subsidiary. India's spot gas market is 25-30% of overall market (equivalent to 2.5x of spot electricity market); this is IGX's target market. We estimate the overall spot gas opportunity (~40mmscmd) at INR5–6bn. IGX targets to capture 2% of this in the first full year of operations. We have not built in any volumes or valuation from the gas exchange in our estimates. The guidelines for gas trading are yet to be framed.

Key risks: reduction in the trading margins is the key one

IEX business model faces varied risks pertaining to technology, business (volatility in power demand/prices may eat into IEX's volumes), PXIL becoming more aggressive, and a new exchange to the trading floor. However, the biggest risk is regulatory. Currently, IEX charges 4 paisa/unit (2 paisa/unit each from buyer and seller) and it's within the regulations of 0–7 paisa/unit. Should the regulator tinker with the trading margin regulations or reduce them, it would impact IEX's revenue/EPS estimates significantly. That said, the odds of this happening are low as lowering of margins will not impact discoms' procurement cost as the exchange fees works out to barely 0.05% of their procurement cost .

Outlook and valuation: Getting bigger and better; initiate with 'BUY'

With adequate generation capacity, discoms/open access customers would continue to focus on procuring power via exchanges to curtail losses. Moreover, transparent price discovery in an oversupplied market has depressed exchange rates well below long-term PPA rates. This has also led to exchanges gaining share. Going forward, we expect exchanges to gain market share disproportionately—from 4.5% to about 6.7% in three years driven by rising reliance on sport markets and product launches addressing the whole category.

Overall, building in a 15% volume CAGR and 200bps improvement in margins trajectory, we expect IEX to post a 15% EPS CAGR over FY20–23E. On valuations, IEX scores over international and domestic peers and yet trades on a par. We observe that IEX's returns and earnings profile is much superior (40% RoE and 15% earnings estimate is double its peer set). We are initiating the stock with a **'BUY**, and DCF-based TP of INR220 (32% upside; exit implied P/E of 30x). Our DCF model factors in CoE of 12%, and we forecast earnings through FY30. We have assumed 5.5% terminal growth thereafter. **We have not factored in gas exchange volumes in our model.**

The Story in Charts

Chart 1: India's power market structure – Shift to short-term market to continue, particularly towards exchanges…

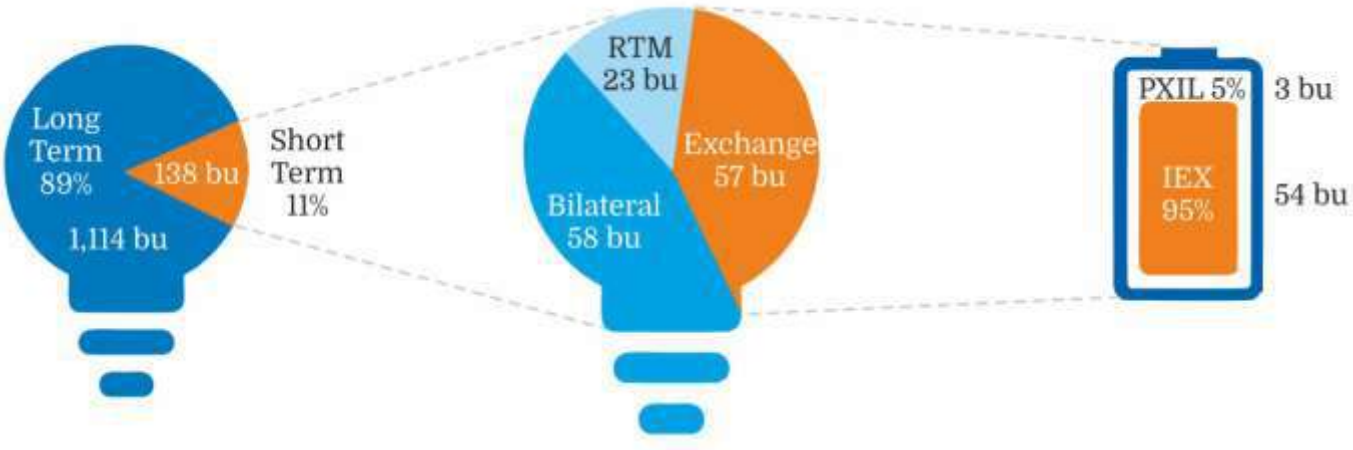


Chart 2: …led by IEX's rising market share in overall market…

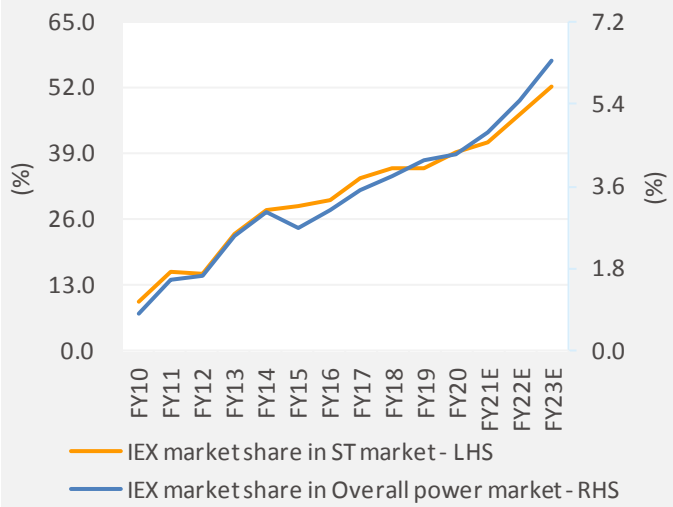


Chart 3: …driven by network and technology effects

Chart 4: ….and bolstered by product launches

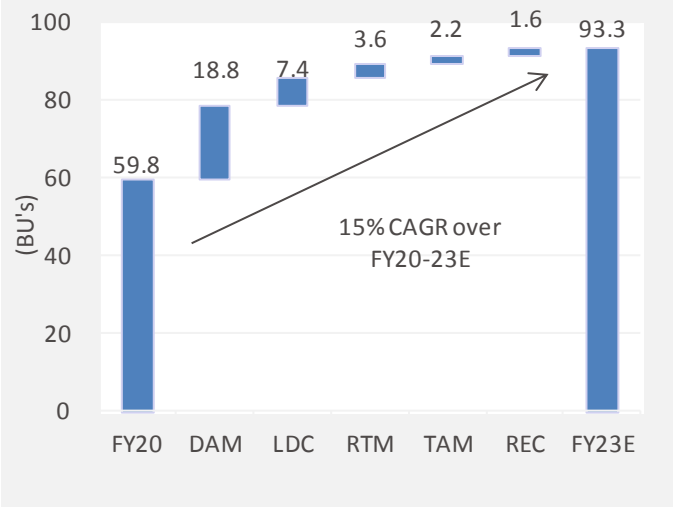
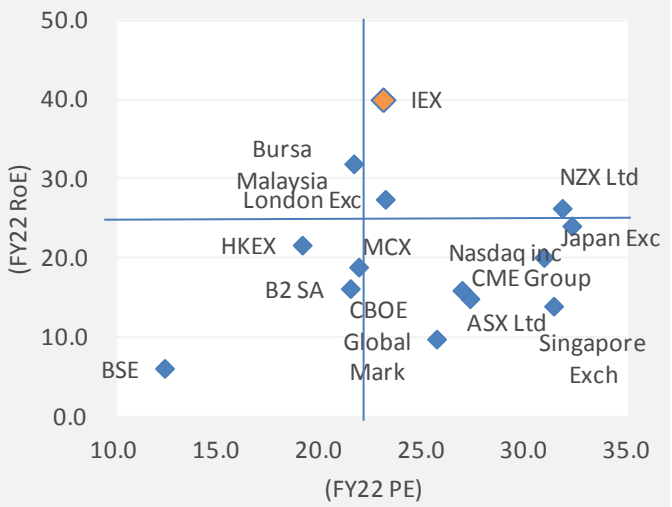


Chart 5 …that underpin its superior ERR profile



Source: CERC, MOP, Company, Bloomberg, Edelweiss research

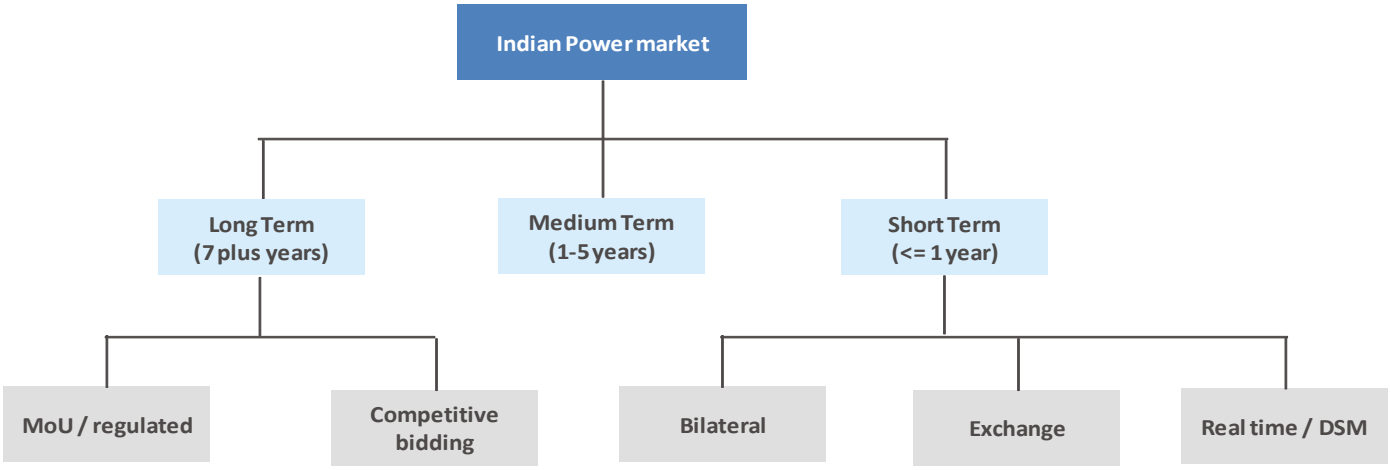
Investment Rationale

Power exchange market: Nascent but crackling growth potential

- Short-term power market just 11% of total and outgrowing the long-term market
- Among three categories of the short-term market, power exchanges have grown the most, recording a 32% volume CAGR since their inception in June 2008
- Exchanges volume is still just 4.5% of overall market versus 15–90% globally
- Short-term market/exchanges poised to grow due to evolving dynamics, cost optimisation by discoms, products launches, and rising number of participants
- Our three-year prognosis: Power exchanges to be 6.7% of conventional market

Power distribution utilities—obliged to supply electricity to consumers—mainly rely on long-term/medium-term contracts, which account for 88–89% of total power market volumes. Nevertheless, short-term power trading plays an important role and ensures optimum utilisation of power resources in different regions. Trading, in short-term markets, depends on the differences in load curves of trading utilities/entities. Hence, short-term planning is distinct from long-term planning: it entails consideration of both local peaking demand and availability for transmission from other regions.

Fig. 1: Indian power markets: A lowdown



Source: CERC, MOP, Edelweiss research

Short-term power market growth (9% CAGR to 138 BUs) has outstripped gross electricity generation by 400bps over FY09–20; it now constitutes ~11% of total generation versus 7% in 2009. Greater liquidity and adequate supply on account of new power capacity addition continues to deepen the short-term power market.

At present, India's power sector is going through a shift: from long-term generation contracts to greater reliance on short-term contracts and electricity spot markets. The drivers of this transition are:

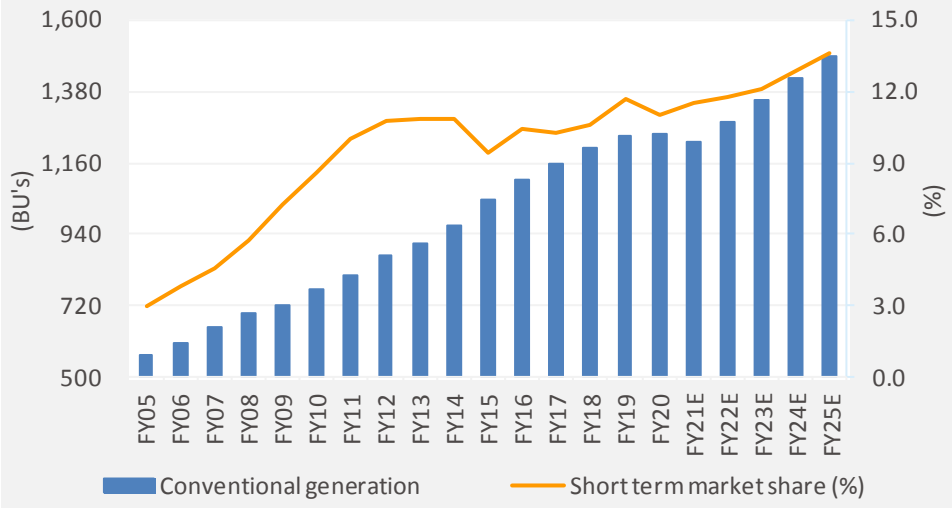
i) discoms' growing interest in short-term contracts and ongoing efforts to improve their financial health;

ii) concerns over coal plant utilisation; greater flexibility in coal allocation via SHAKTI [Scheme for Harnessing and Allocating Koyala Transparently in India];

iii) phase-out of vintage plants, which would accelerate the shift in long-term demand from distribution companies to the short-term market; and

iii) plunging costs of solar PV modules and wind projects and the government's aggressive renewable energy targets and renewable purchase obligations for discoms.

Chart 6: Short-term volumes mix in total electricity generated to go up 300bps to 14%



Source: CERC, MOP, Edelweiss research

In short-term power markets, exchanges are poised to capture growth.

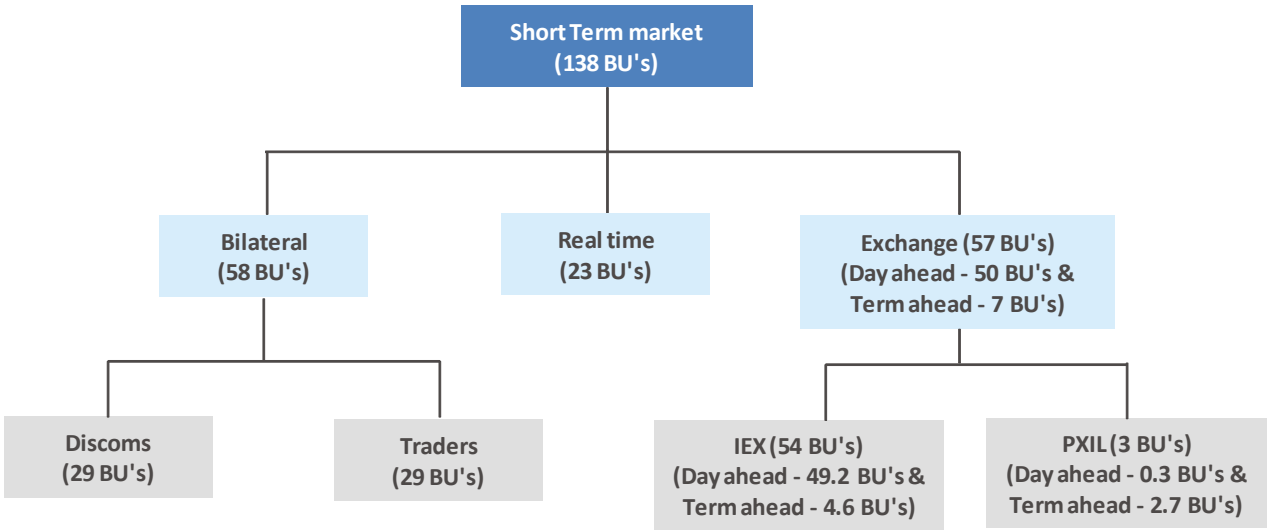
There are essentially three parts to short-term power market in India:

i) OTC: Bilateral transactions among discoms or negotiated through licensed traders;

ii) power exchanges; and

iii) a deviation settlement mechanism or unscheduled interchange (UI) for imbalances.

Fig.2: A schematic outline of FY20 short-term power market with volume parameters



Source: CERC, MOP, Edelweiss research

Exchanges have become more efficient/ liquid and are maturing quickly; preference for short term (especially exchanges) will continue and help exchanges gain 150bps market share in the overall market

Until June 2008, OTC trades dominated India's short-term power markets; however, post that, two power exchanges came into existence: IEX and PXIL. **They have evolved rapidly to compliment and supplement the needs of wholesale power markets, typifying transparency and efficiency of online platforms.**

Trading on the exchanges is maturing quickly, despite low volumes and inefficient price discovery initially that led to high prices. That said, markets are now more efficient and liquid, and promote better utilisation of national resources by reducing unmet demand (thereby cutting down economic losses).

Starting from scratch in FY09, power exchanges' market share increased to 30%/2.8% in 2015 and further to 41%/4.5% in FY20 of the short-term market/ overall. Exchange volumes have surged at a 32% CAGR since inception—against a measly 8% in OTC market— on the back of:

i) reduced transmission congestion driving a 95% reduction in constrained volumes;

ii) transparent bidding mechanism, which attracts more participants and liquidity;

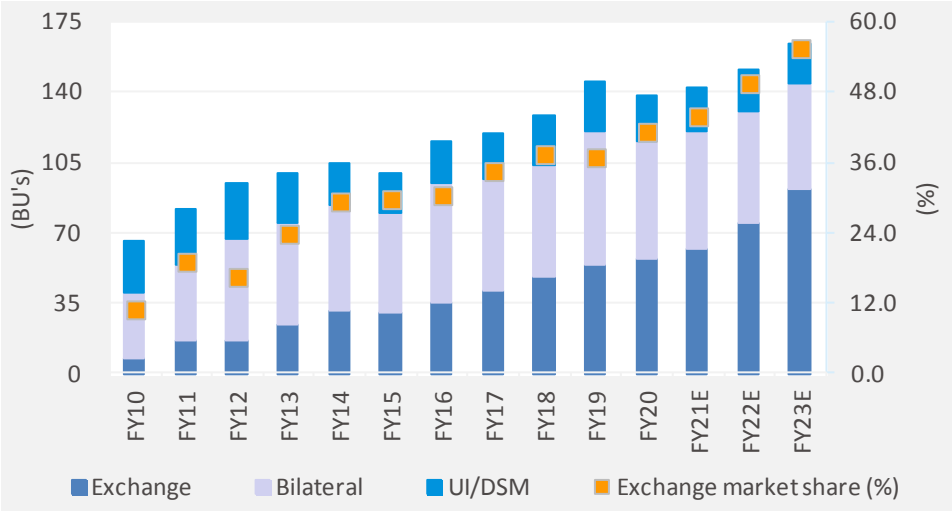
iii) higher participation from discoms and industrial consumers (to lower procurement cost);

iv) growing thrust on renewables: the flexibility offered by exchange products is best suited to discoms to manage the associated intermittency with renewable generation; and

iv) rapidly changing demand-supply dynamics resulting in a buyer's market with abundance market supply.

Exchanges began operations with two products, namely DAM and TAM, catering to shorter-end of the market up to 11 days. We believe, going forward, product launches—two—that enable purchases up to one year and in intraday markets (currently available only via traders) would drive up volumes on exchanges.

Chart 7: Share of exchanges in short-term volumes to further surge by 1,400bps



Source: CERC, MOP, Edelweiss research

Power exchange volumes in India under-penetrated vis-a-vis global peers

Having studied major power exchange markets globally, we note that countries adopted/designed bespoke market models for their respective markets—there is no one-model-fits-all. Australia, (NEMMCO) and USA (PJM) have a mandatory power market model while NZEM (New Zealand), Nord Pool, BETTA (UK) and IEX (India) are voluntary marketplaces. A comparative assessment of different electricity market structures suggests the power exchange market in India is developing along lines of the Nord Pool of Europe.

Table 1: A comparative assessment of main exchange structures across the globe

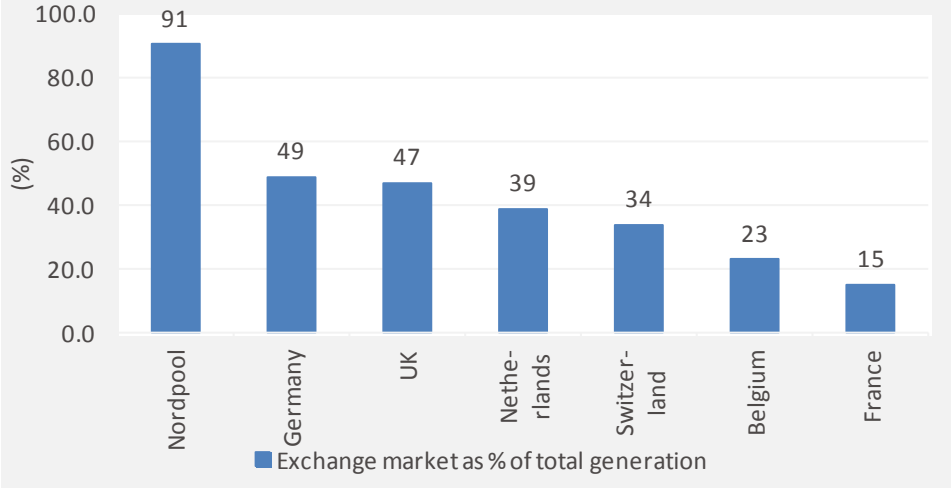
Particulars	IEX	Nord Pool	PJM	MEMMCO
Participation	Voluntary	Voluntary for day-ahead adjustment market	Compulsory for day-ahead market	Compulsory for day-ahead market
Market offering	Day ahead market	Day-ahead spot, Hourahead, Forward	Day-ahead spot, Real-time balancing, Capacity credits	Day-ahead spot and Short time forwards
Bidding Type	Double sided	Double sided	Double sided	Double sided
Real-time/ Balancing Market	RTM/DSM Charges	Counter trade for real-time, participants are given MCP	Deviations are traded in real-time	Through purchase of ancillary services, reserve capacity
Pricing Type	Ex-ante	Ex-ante	Ex-post	Ex-post
Congestion management	Area splitting	Area splitting	Security constrained economic dispatch	Locational transmission for transmission tariff
Transmission loss	Purchased by participants	Included in Zonal price	Included in real-time LMP	To be purchased by generators
Time blocks	15min blocks	Hourly blocks	Hourly blocks	Half-hourly blocks

Source: Industry, Edelweiss research

Indian power exchange market is under-penetrated at just 4.5% of overall market versus 15–90% globally, implying huge potential

We also found that the Indian power exchange market (about 4.5% of overall market) is nascent compared with the developed world (15–90%). We further observe that shorter gate closures (cutoff times for submitting final bids and offers) are imperative to protect grid stability amid rising renewables: 30% of European generation is from renewable energy (RE) versus 12% in India.

Chart 8: Exchange market as % of total generation– global markets



Source: Industry, Edelweiss research

Overall, in light of the evolving market dynamics and further penetration of exchanges in the overall power market, we expect exchange volumes to improve to 6.7%/55% of overall conventional/short-term market by FY23. This is clearly advantageous to IEX, which is in a pole position to capture potential upside.

IEX has created a strong, strategic barrier of entry through network effect or 'evangelism' and technology effect; both feed into each other and reinforce customer stickiness to the volumes

Network and Technology effects: IEX's formidable entry barriers

- IEX and PXIL formed a duopoly, but turned monopolistic with IEX's dominance
- IEX enjoys formidable entry barriers: customer stickiness—now developing into loyalty—and capability to integrate cutting-edge technologies to its scalable platform
- These would take IEX's optimisation and operational efficiency to the next level
- Hereon, odds of a launch of a new exchange (or its success) are low

IEX has logged a 32% volume CAGR since inception (FY09–20). Post-CERC approval, exchanges were launched for trading in the short-term power market in 2008 with a duopoly market structure: both IEX and PXIL had equal opportunities then. Yet, ten years down the line, the market structure is lopsided, tilting into a virtual monopoly for IEX. We ascribe this to strategic or artificial barriers to entry created by IEX through:

A) **Network effect:** An effective pull strategy that constantly brings in new participants, which in turn feeds liquidity and improves price discovery—a virtuous cycle.

B) **Technology effect:** A scalable technology platform that allows integration of new cutting-edge features, thereby driving efficiency for both IEX and customers.

Network effect: Pull strategy attracts first-time users and deepens the market

Starting out with just a few users in 2008, IEX now boasts 4,500 active users on its platform (6,600 plus registered users). The users include all the major discoms, generators, renewable players and open access/industrial customers.

Management has successfully implemented a pull strategy that has brought in many first-time users to its platform. This has snowballed into a network effect over time, and continues to attract more participants. **IEX defines this as 'evangelism', which is proactive willingness to go to prospective customers rather than wait for them to come to them.**

But why is the network effect so important in this business? The higher the number of participants, the deeper the liquidity (i.e. more volumes) that enables better price discovery. It's a virtuous cycle for one (IEX) and vicious for another (PXIL). To be fair, IEX has put in efforts to gain a lead, which has created customer stickiness and drives volumes on IEX.

Chart 9: A virtuous cycle – Advantage IEX

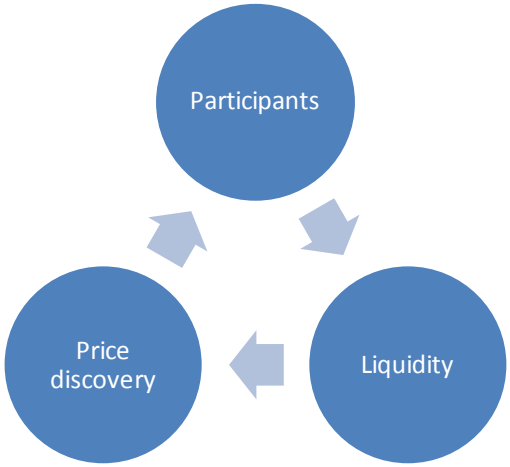
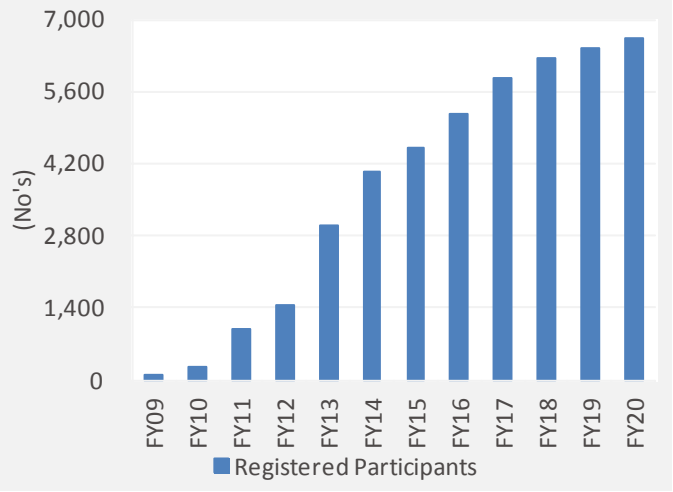


Chart 10: Rise in number of participants



Source: Company, Edelweiss research

IEX's technology platform is a key differentiator: it is scalable and capable of integrating emerging technologies such as AI and block

Technology effect: Scalable and capable platform driving efficiencies and volumes

IEX's control and investments in its technology platform fortify its business model. In fact, IEX's key moat is its robust technology platform, which is highly scalable and capable of handling a multifold spike in volumes, products and participants. IEX, originally incorporated by Financial Technologies (FT) and PTC, used to pay 10% of its transaction fees earned and an annual fee to FT for its technology platform. In May 2017, IEX acquired this technology for INR1.3bn and absorbed the 23 professionals that can work on this technology.

Since then, IEX has been running its in-house Technology Development Centre (TDC).The TDC's core team comprises veterans that have experience in developing and setting up exchanges and its ecosystem around the globe across markets i.e. equity, commodity, currency and electricity. Their key focus is on developing niche technology for trading and the associated ecosystems. IEX looks to tap into emerging tech-based opportunities such as smart power procurement, analytics, new product development, demand forecasting and use of block chain and artificial intelligence.

Fig. 3: Technology in transformation

Source: Company, Edelweiss research

More recently, the Centre developed a sophisticated IT tool—Smart Power Procurement—for helping load-serving entities to optimise their power procurement by integrating the exchange Day Ahead Market. Already many state distribution companies have agreed to adopt this IT tool for reducing their cost of power procurement. It has benefits like cost, flexibility and time to market.

Finally, why technology and network effects are high barriers to entry in this business? In our view, both these attributes are inter-linked cohesively i.e. they are not mutually exclusive. Hence, IEX's success depends on these factors. The launch of a new exchange with a better or more robust technology platform cannot be ruled out, but the main barrier to have viable operations for a new exchange would be to bring on board a sufficiently large number of customers.

A formidable combination of both network and technology effects, which is IEX's forte, would stunt any such effort by a rival.

We present a case study that shows how IEX has helped discoms optimise cost, which in turn results in savings for end consumers.

IEX launched a smart procurement product to optimise cost of power procurement for discoms

"We are increasingly buying power from exchanges, which is cheaper than PPA tariffs."

Maharashtra Discom
12 April, 2020

"We've been doing this for 6-7 months at AP Transco, and we managed to save INR5bn in FY20. We were well placed to maximise this benefit when spot prices fell on the exchange during the lockdown in March and April. We saved INR0.56bn and INR1.32bn in those two months. We were able to buy power for as low as INR1.8 a unit at one point."

AP Transco
28 May, 2020

Case study – Bihar cost optimisation

Discoms have two SMART options (provided by IEX) in their decision-making: i**) SMART CONTRACTING; and ii) SMART PROCUREMENT.** The former is about ensuring an optimum mix of long-term and short-term PPAs to manage fixed costs and availability of supply while the latter is about managing locational demand on a day-to-day basis by utilising cheaper short-term sources instead of power from high-variable cost plants and ensuring MERIT order-based dispatch. Discoms have the option to replace costlier long-term power with procurement from IEX if the energy charge of the power plant is greater than IEX rates (while continuing to pay fixed charges). Non peak prices at IEX are even lower and offer an opportunity to discoms to save up a little extra.

Flow chart under SMART procurement:

- Assess generation availability and demand forecast(internally) for the next day (15-minute block)
- Prepare a schedule with maximum back-down possible for long and medium term
- Submit bids on exchange (1000 to 1200 hours): Regular and replacement bids
- Post-IEX result: Finalise the schedule (after 1500 hours)

On IEX's sustained insistence, Bihar initiated the process of cost optimisation. The state, thus, replaced costlier power from the Barh, Kanti and Barauni power stations with cheaper procurements from IEX.

According to IEX, discoms on its platform could cumulatively save about INR30bn-plus per year.

Table 2: Annual savings by discoms

State	Discom losses (INR bn)	Smart procurement savings (INR bn)	Average power to be bought (MW)
Uttar Pradesh	50	8.0	1,250
Tamil Nadu	22	4.9	660
Punjab	16	1.9	400
Haryana	29	2.7	400
Andhra Pradesh	10	1.7	350
Telangana	44	1.5	300
Maharashtra	26	1.1	390
Rajasthan	22	0.8	190
Bihar	23	0.6	125
MP	23	0.2	70
Other states	-20	8.2	1,450
Total	**250**	**32.0**	**5,700**

Note: Data refers to FY17
Source: Company

Widening product profile to double IEX's target market opportunity

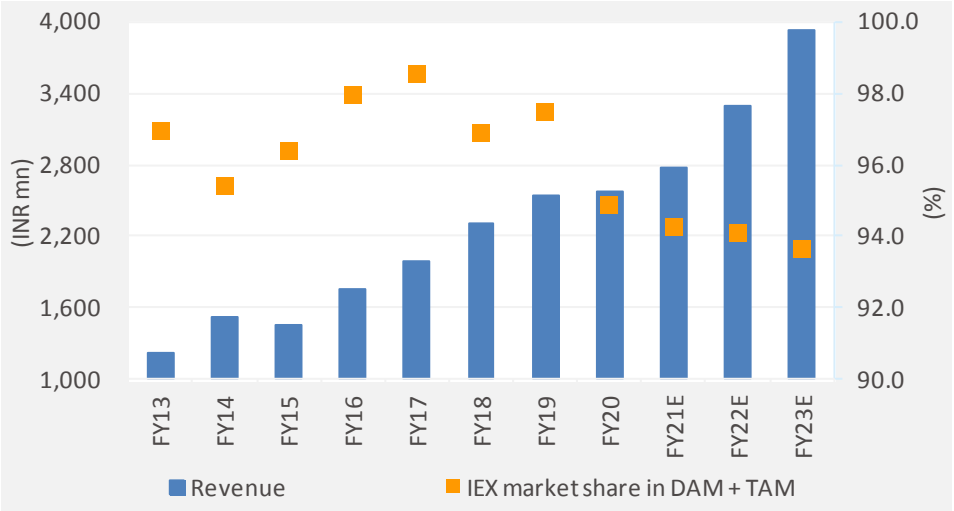
- IEX has attained monopolistic position in the power exchange market in India
- Only ~40% (57 BUs) of short-term market has been tapped into via DAM and TAM
- IEX is at an advanced stage to foray into the untapped 40% of short-term market
- IEX is eyeing horizontal diversification with product launches; this would double its target market size to 110 BUs
- We expect IEX to garner a 20% market share in new products over next three years
- Growth from new and existing products to drive 15% volume CAGR over FY20–23E

IEX is deepening the exchange market by launching products that would double its market opportunity to 110BUs

The CERC had stipulated Day Ahead Market (DAM) and Term Ahead Market (TAM) until March 2020 for power exchanges. With the power sector gearing up to operate electricity markets closer to real time, the concept of gate closure is gaining traction. Keeping in mind the grid reliability (due to increasing share of intermittent renewable generation), the CERC recently allowed trading of real time market (RTM). Furthermore, long duration contracts (LDC) are in the offing.

In our view, proven technology expertise of power exchanges (particularly IEX's) has been able to instill huge confidence and trust among market participants and in the regulator regarding the reliability, robustness and flexibility of their trading platforms. It is an indication that markets are maturing fast; hence, the CERC is allowing deepening of the power exchange markets. As a key next step, the CERC may, in due course, allow regionally operated exchanges as against only nationally operated power exchanges at present. All these steps augur well for IEX.

Chart 11: IEX's market share and revenue growth trajectory since FY13

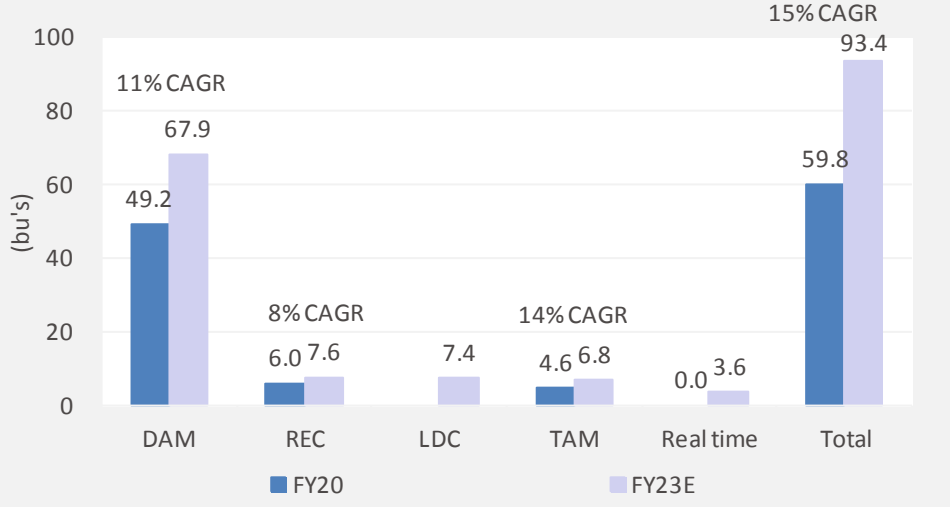


Source: Company, Edelweiss research

Since its inception in 2008, IEX's volumes have been growing by leaps and bounds: 60 BUs annually via products such as DAM, TAM, REC and Energy saving certificates. In fact, in DAM, IEX has monopoly in the power exchange business with a market share of ~95%. With rising participation of various players on power exchanges, IEX has reported a robust CAGR of ~14% in power trades over the past five years (32% CAGR since inception).

Having achieved a dominant 95% share in exchange volumes, IEX is eyeing to **double its market opportunity the short-term power market via horizontal diversification – driven by RTM and LDC products. This excludes discoms' barter trade in OTC market (~25BUs) and 50% of DSM market (~10BUs).** Besides, IEX continues to invest in technology and roll out products to cater to the broader market. We reckon its current volumes of about 55 BUs can jump by 35–50% on the back of new products in a short time.

Chart 12: New markets to drive growth for IEX



Source: CERC, MOP, Edelweiss research

The new key products in the offing are:

i) **Real-time market (RTM)** trading has started recently (from 1 June, 2020). This is expected to reduce the delivery time from three and half hours at present to just 60 minutes, and subsequently to 30 minutes. Out of the 26 BUs deviation settlement market (DSM), 16 BUs is overdrawn, which can shift to exchanges; out of this, IEX is targeting four BUs.

ii) **Long-duration contracts (LDC) (up to 365 days).** This is likely to be launched in three months (after final hearing for withdrawal of the case between the CERC and securities regulator SEBI). LDC is a 35-BU market, and IEX is eying a 25% share in the first year. Note that the dynamics of this market are quite advanced and its mock testing has already begun. We expect approvals in two–three months.

iii) **Cross-border dealings:** It is a 4–5 BU market; IEX is targeting one BU out of this.

iv) **Green market:** Recent changes in the norms by SECI (Solar Energy Corporation of India) suggest that renewable energy contracts have been modified to 80:20 under PPAs and open access capacity. This proposal is in the works and has not been formalised.

A superior Earnings, Return and Risk profile at play

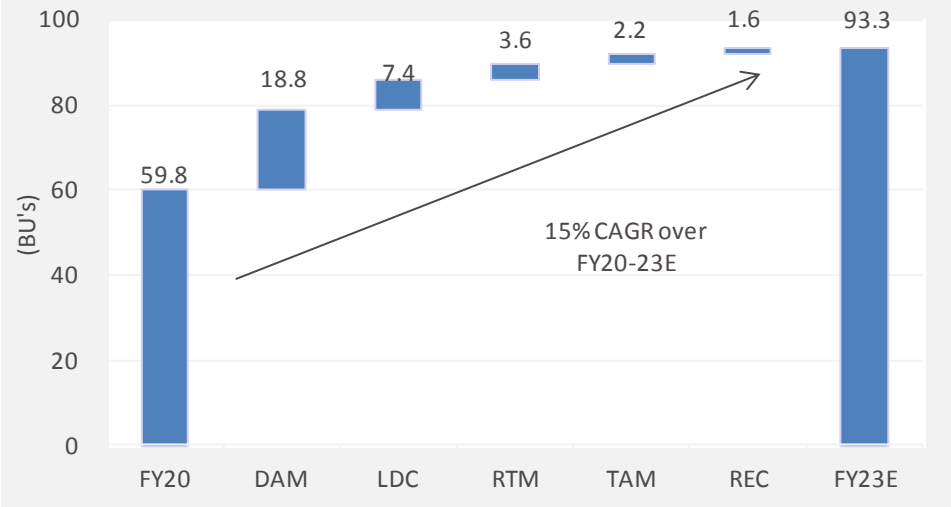
- IEX's earnings profile is likely to improve as it launches products
- The returns profile (RoE/RoCE) could come off slightly, but remains strong at 40%
- The critical risks are under control via a comprehensive risk management framework, which identifies 14 risks and mitigates them
- Overall, IEX's ERR profile is superior to its peers

The earnings profile – Getting better

Despite a ~20% decline in power demand during April and May 2020 (lockdown period), IEX registered electricity volume growth of ~19%. This is attributable to lower spot prices resulting in higher participation, mainly from discoms. **We reckon that IEX is reaping the benefits of its investments in customers and technology**. Moreover, with the launch of products such as RTM, LDC and CBU by IEX, we expect another 5% volume CAGR. Hence, we reckon overall volume CAGR of 15% over FY20–23E.

IEX is reaping the benefits of its investments in customers and technology in the form of high volume growth, profits, cash flows and returns ratios

Chart 13: IEX volume growth and contribution by product

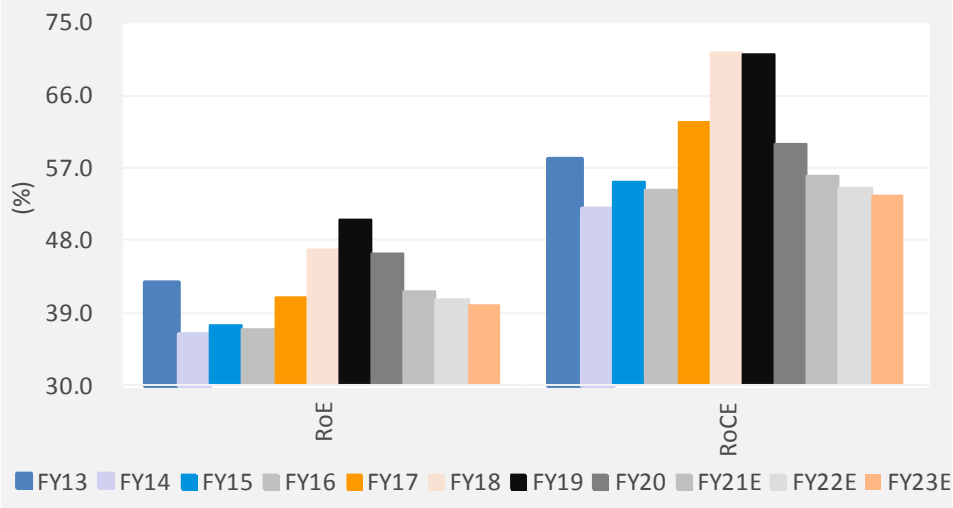


Source: Company, Edelweiss research

Returns profile – Extremely strong and stable

IEX reported 78.6% EBITDA margin (down 120bps YoY) with a PAT margin of 68%. Going forward, despite higher employee cost on account of headcount additions for the gas-based platform, we expect margins to improve back to ~80% levels due to the leverage effect driven by volumes. That said, higher depreciation pertaining to capex on the gas technology platform, lower other income (falling yields) and tax rate (FY20 tax rate was low at 22%) could impact PAT margin by ~100bps. Nevertheless, the returns profile (RoE/RoCE) is likely to remain robust around 40% over the next couple of years.

Chart 14: IEX's RoE and RoCE long-term trend



Source: Company, Edelweiss research

Risk profile – As low as it gets

IEX has zero debt. And it doesn't carry any credit risk. In fact, as a business model, till the time IEX doesn't receive advance/margin from participants, the trade doesn't get scheduled. So, the credit risk is nil.

That said, as an exchange, IEX is susceptible to other risks: market, regulatory, technology, and cyber security. To mitigate such risks, IEX has put in place a Risk Management Policy framework, which identifies risks across 14 categories.

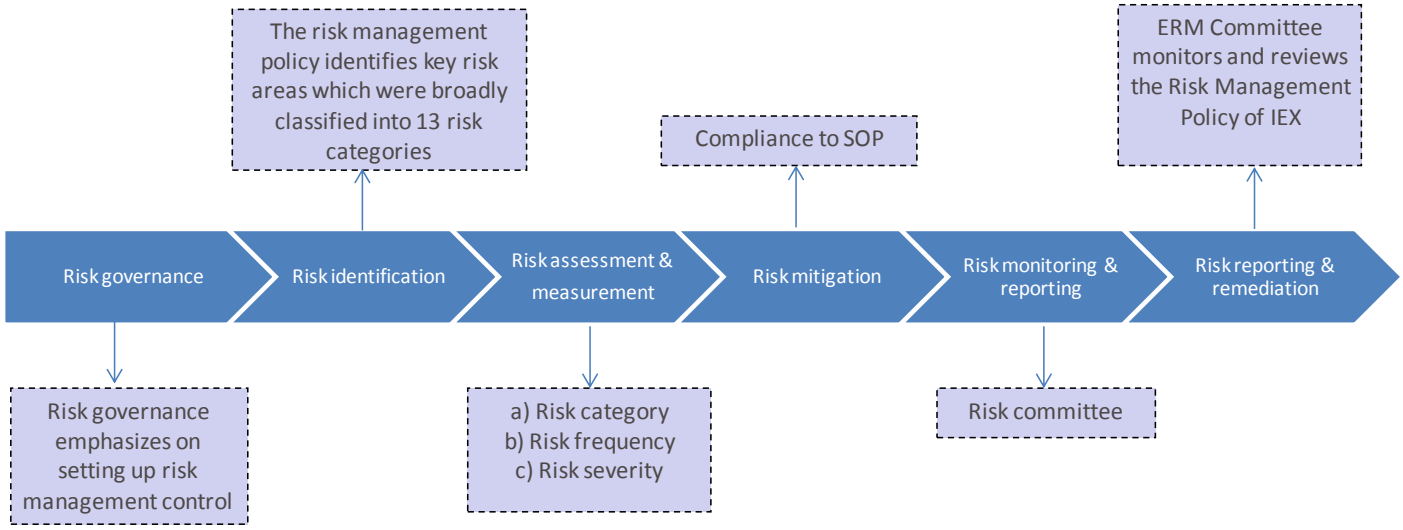
Fig. 4: Risks to the business – A classification

Source: Company, Edelweiss research

The major risks identified by IEX are systematically mitigated on a continuous basis. The company's internal control systems are also in place and are adequate considering the nature of its business and complexity of operations.

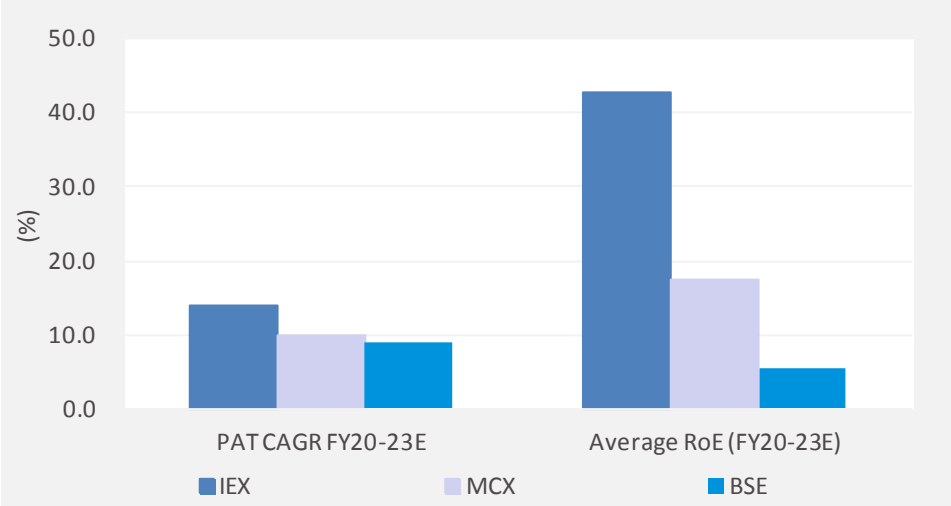
IEX follows an Enterprise Risk Management (ERM) framework consisting of practices relating to identification, analysis, evaluation, control, mitigation and monitoring of risks related to key business objectives. The mitigation status of the risks identified is placed before the ERM Committee on a half-yearly basis. A few key risks as identified by the company along with the mitigation measures are listed below.

Fig. 5: Risk framework adopted by IEX



Source: Company, Edelweiss research

Chart 15: ERR profile of IEX versus MCX and BSE – A comparison



Source: Company, Bloomberg, Edelweiss research

To conclude, IEX's ERR profile is much superior to other exchanges in India—a key differentiator.

Eying the sky: A gas exchange in the works

- To deepen and widen its growth, IEX is gearing up to launch a gas exchange
- India's spot gas market is 40–45mmscmd (25-30% of overall market), this presents an INR5–6bn market for potential gas exchanges in India.
- IEX targets to capture 2–3% of spot gas market in the first full year of its operation
- The regulator is yet to come up with guidelines for gas trading in the country
- We have not built in any volumes or valuation from the gas exchange in our estimates

India's spot gas market is 25–30% of overall market (2.5x of electricity market) which is dominated by traders; this is target market for potential gas

Gas is similar to electricity in terms of logistics and complexity in trade. Hence, after getting a handle on the electricity exchange, IEX is keen on leveraging its technology platform/expertise/capability to launch an 'Indian Gas Exchange'.

The exchange would be launched in partnership with GMEX, UK, and have cutting-edge technology. It would be backed by IEX's leadership and track record of establishing India's leading electricity exchange. The regulator is yet to formalise the rules and regulations pertaining to short-term access for gas. Licensees too have not been announced so far. Nevertheless, the announcement of IGX is a clear signal to the regulator that the company is fully geared to launch one.

The Indian gas market is currently small and growing at a high single digit. That said, gas distribution network is expanding rapidly in the country. In the recent past, the PNGRB, the gas regulator, held simultaneous bids for ten city gas networks. This qualifies as aggressive licensing in the context of PNGRB's history of piecemeal allocation of CGDs. These CGDs, upon completion, would cover more than half of India's territory and 70% of population. Currently about 5mn households are connected to the grid; millions more would join as natural gas is cheaper than LPG. The Petrochemicals, Power and Fertiliser sectors account for the biggest chunk of natural gas demand (65%) in India.

Chart 16: LNG imports growing at a rapid 7% per annum

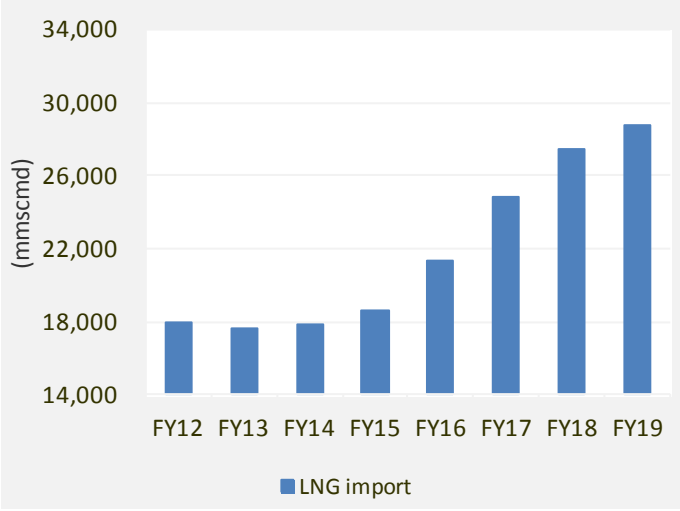
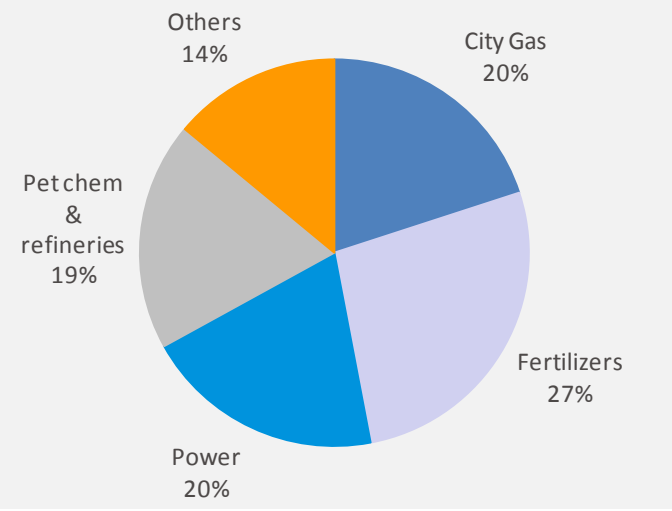


Chart 17: Gas consumption breakdown by industry



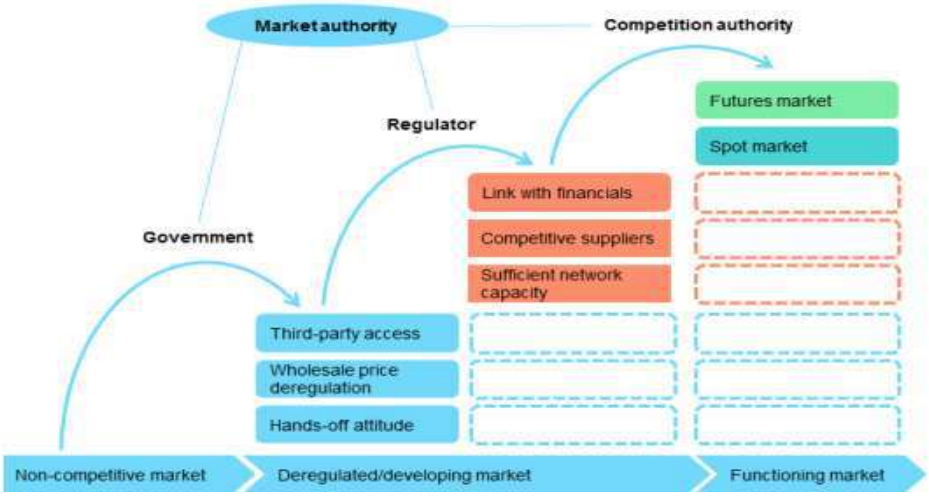
Source: Company, Edelweiss research

Domestic production currently covers just over half of total gas demand; the rest is met by LNG imports. The imports have been steadily rising since India began importing LNG in 2003. LNG regasification capacity too is increasing rapidly: with the commissioning of Ennore LNG in 2019 and forthcoming Mundra LNG terminal, India would have six LNG terminals with total LNG import capacity of about 53 billion cubic metres (bcm).

One big challenge though (for domestic gas producers) is gas pricing: linking domestic gas prices to a basket of (very low) international reference prices has reduced incentives for domestic producers to ramp up supply. The price of domestic gas is lower than that of (imported) LNG and is defined by indexation to international markets. Since India sources about 50% of LNG imports via long-term contracts and the other half from spot markets, the price difference between oil-linked and spot gas is very important for Indian buyers. As spot gas has become markedly cheaper, buyers of oil-indexed gas are likely to seek contractual renegotiations.

GAIL and Petronet have renegotiated contracts with RasGas and others (Australia, Russia) based on lowering of "slopes" that dictate the strength of the oil–gas price link in oil-indexed long-term contracts. India should have its own natural gas price discovery.

Fig. 6: Market reforms in gas sector



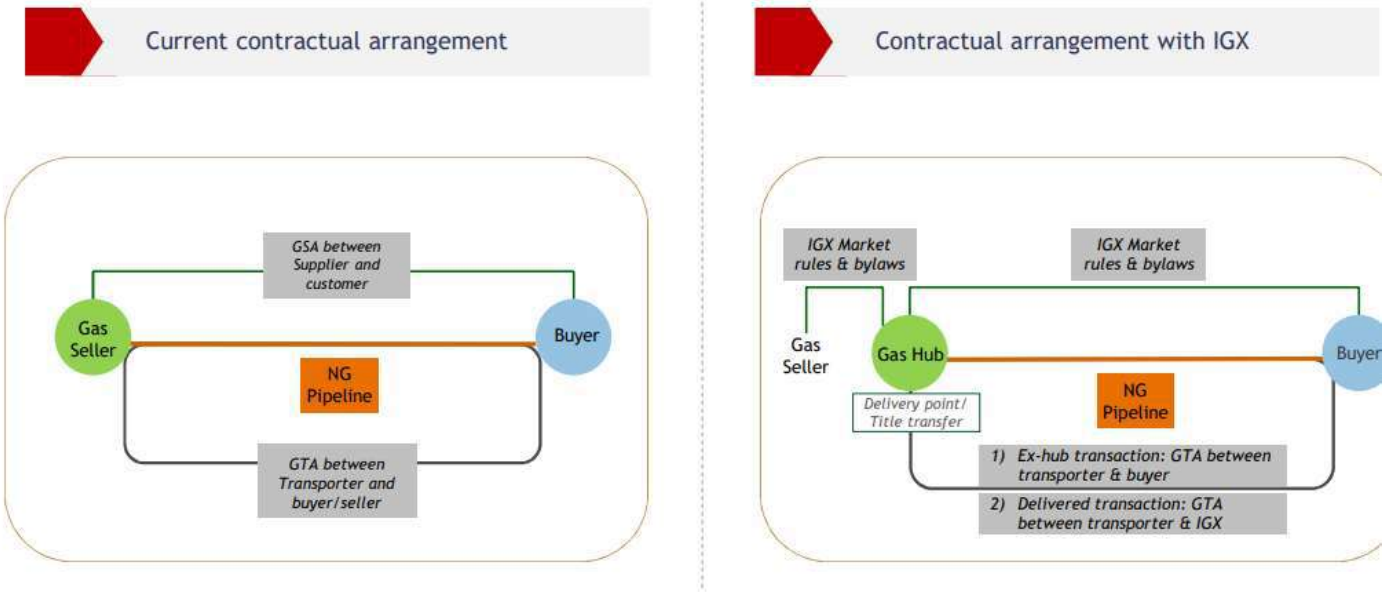
Source: IEA

Short-term gas market is 30% of imported LNG cargo – Opportunity for exchange

India's domestic gas production is fully tied up, and about 50% of gas imports are also tied up; the balance 50%, or 35–40mmscmd, is the short-term or spot market, which is dominated by direct transactions. This is also the target market for potential gas exchanges in India.

In the light of high single-digit growth in LNG imports in India, the quantum is likely to rise beyond 30mmscmd currently. This is a sweet spot that IEX is eying. It would charge INR5/7 /MMBTU as transaction fee for ex-hub/delivered. **This presents an overall opportunity of INR5–6bn.** IEX would target a 2% market share (of spot market) in its first full year of operation. That said, gas exchange volumes is a long-term opportunity, and we do not expect any major volumes delta for IEX in the near term.

Fig. 7: Market model: Contractual framework by IEX



Source: Company

Should it come into existence, IGX will be India's first online gas trading platform for physical delivery of natural gas. IGX plans to offer physical delivery of contracts at physical hubs near Dahej, Hazira and Kakinada. **We have not built in any gas-based exchange volumes in our financial model.**

Financial Outlook

Healthy market share and foray into new segments to drive volumes

IEX currently commands a solid 95% market share in exchange volumes; PXIL accounts for the remainder. The former's market shares in FY20 in DAM and TAM stood at 99% and 64%, respectively, of energy contracts traded. IEX makes INR0.04/unit (INR0.02/unit from each party) of power traded on its platform and INR20 per REC.

The exchange's volumes (ex-REC) have expanded at a CAGR of 14% over the past five years with DAM increasing at a CAGR of 12% and TAM at a fiery 84% CAGR. TAM's contribution in overall volumes rose to ~9% in FY20 (versus less than 1% in FY15). Going ahead, while we expect CAGRs of 11% in the DAM market and 14% in TAM over FY20–23E, commencement of RTM and LDC should drive a 17% volume CAGR (ex-REC) over the period. We estimate the two new segments would account for ~13% of volumes by FY23. All in all, we estimate IEX's revenue would increase at a CAGR of 15% over FY20-23 driven by volume growth of 15% at stable transaction cost. REC volumes are likely to be the weaklings with a CAGR of just 6%.

Chart 18: IEX volume growth trend…

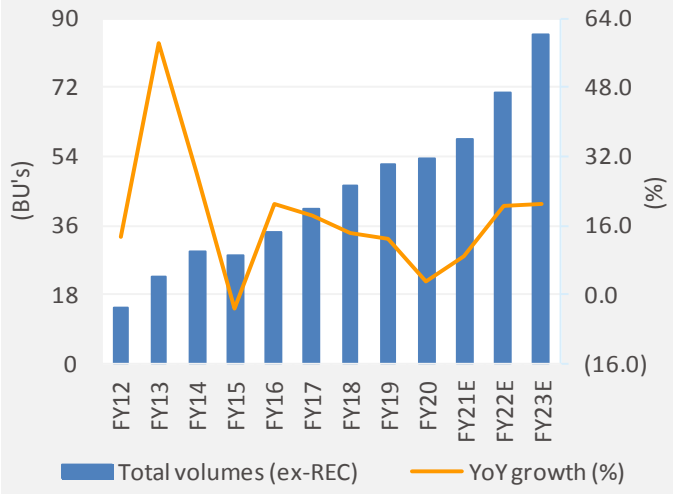


Chart 19: …with pickup in new markets

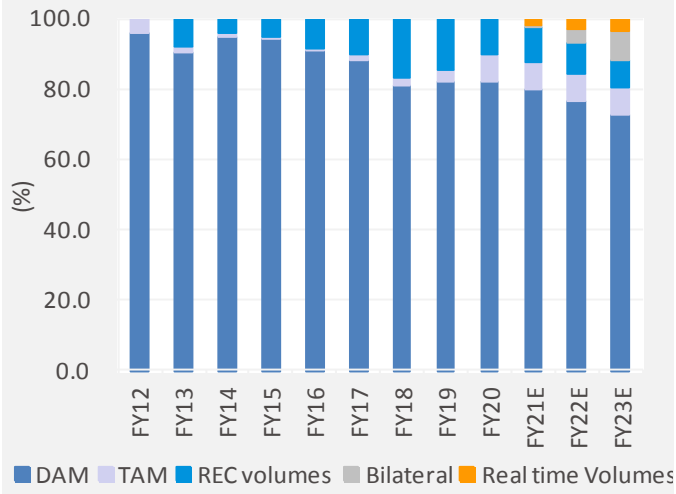


Chart 20: Revenue to clock 15% CAGR over FY20–22E…

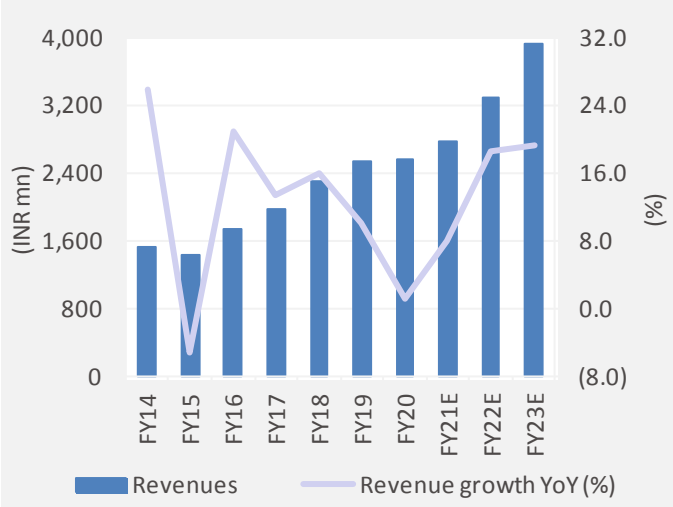
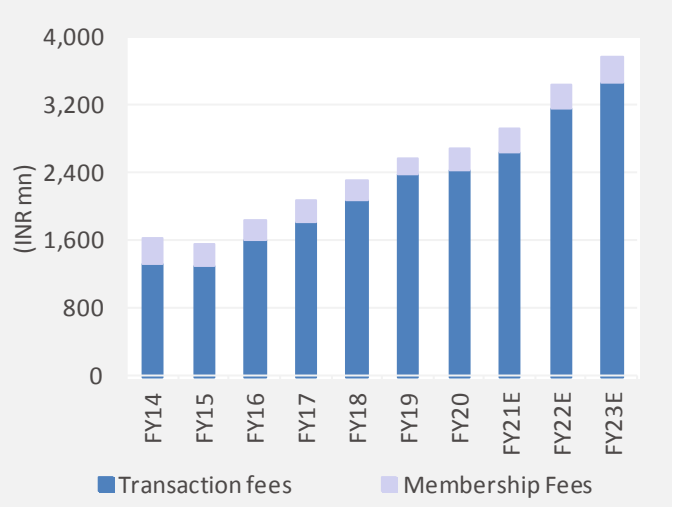


Chart 21: …at flat transaction fee



Source: Company, Edelweiss research

Operating margin to remain in stable zone

IEX generates a high EBITDA margin (78–80%) due to its low-cost model. This coupled with a large proportion of fixed operating cost (~40% employee cost) places it in a sweet spot to capitalise on operating leverage. We expect EBITDA margin to sustainably improve to 80% from 78.6% levels in FY20 led by operating leverage. We also build in higher depreciation and lower other income (falling yields). Overall, we expect a 15% PAT CAGR over FY20–23E.

Chart 22: EBITDA margin likely to stay stable

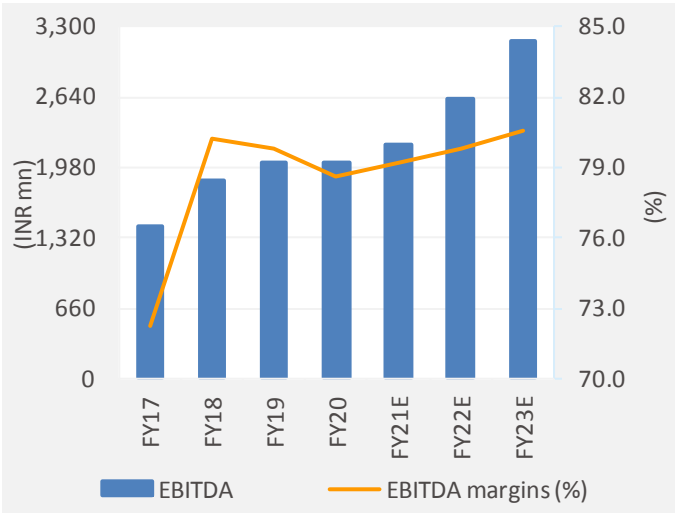
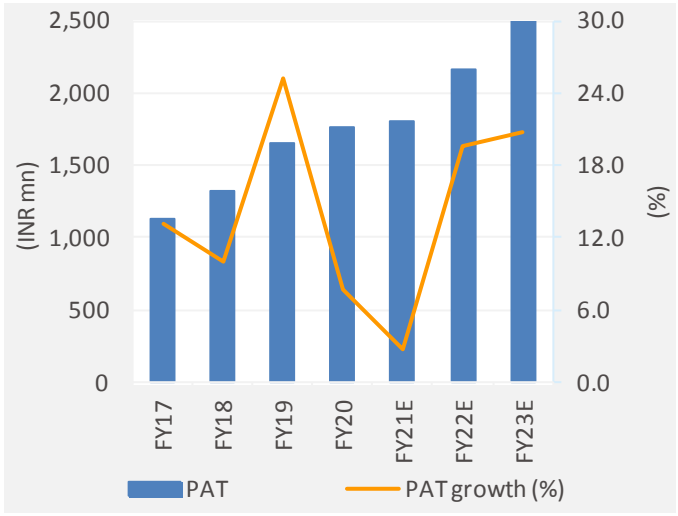


Chart 23: PAT to clock 15% CAGR

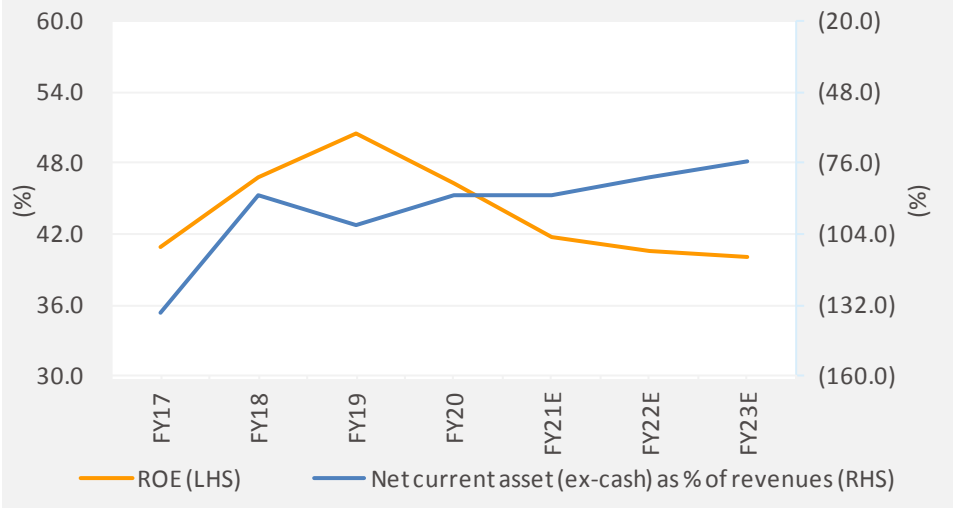


Strong balance sheet and cash flow profile to sustain

IEX has a strong balance sheet (net cash of INR3.4bn at end-March 2020) and an asset-light model with negative working capital. Given its high net profit margin (in excess of 65%), IEX has consistently generated RoE of more than 40% and we expect it to sustain.

In May 2017, the company acquired exclusive rights to the trading software from *63 moons* (erstwhile FTIL) along with the transfer of its 22 employees for an aggregate consideration of INR1.3bn. Prior to this deal, IEX used to cough up about 8-9% of revenue as transaction fees to 63 moons as part of a revenue-sharing agreement.

Chart 24: Health RoEs with negative working capital



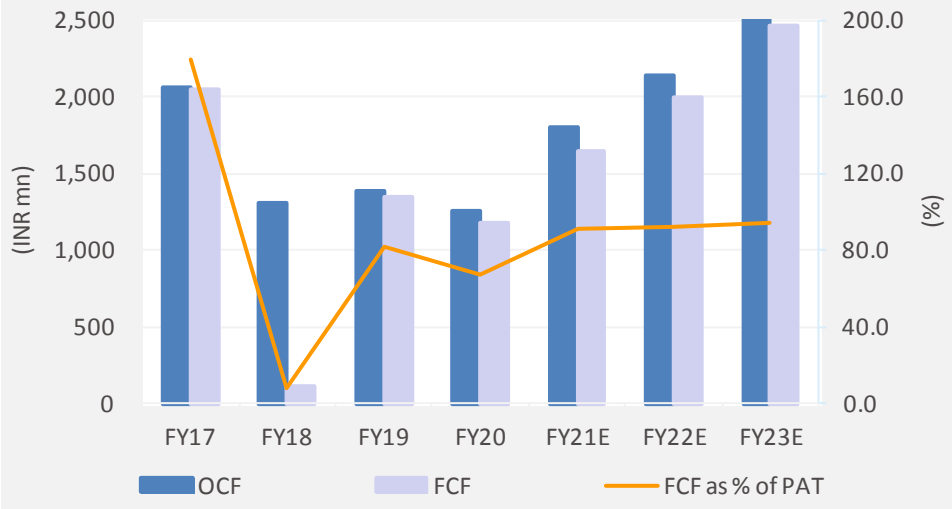
Source: Company, Edelweiss research

Table 3: Drop in NP margins and stable asset turnover to impact RoE marginally

	FY19	FY20	FY21E	FY22E	FY23E
NP margin (%)	65.0	68.3	65.0	65.5	66.3
Total assets turnover (x)	0.7	0.6	0.6	0.6	0.6
Leverage multiplier	1.1	1.1	1.1	1.1	1.1
ROAE (%)	50.5	46.4	41.7	40.6	40.0

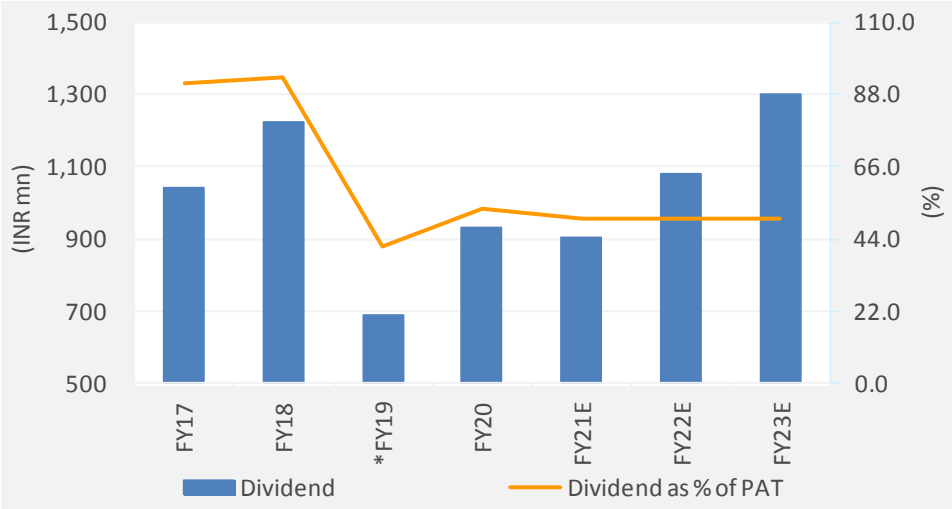
IEX's asset-light business model features advances from customers that result in negative working capital and higher translation of EBITDA to free cash flow (FCF). Translation of PAT to FCF has remained 75% on average over FY18–20, and we expect it to sustain.

Chart 25: FCF profile to stay healthy over FY20-23



As per the Dividend Distribution Policy of IEX, the Board shall endeavor to maintain a dividend payout of about 50% of PAT every financial year on standalone financial. This is visible in the payouts made by the company. In FY19, IEX announced a buyback of INR690mn.

Chart 26: ~50% of PAT gets rewarded to shareholders



** Note: In FY19, IEX announced a buyback of INR 690mn*

Source: Company, Edelweiss research

Valuation

Operations of a power exchange are quite different from a typical spot exchange or even a stock exchange model. This is due to the gate closure concept: cutoff times for market participants to submit final bids and offers.

Due to abundant supply of power, discoms/open access customers would continue to focus on procuring power via exchanges to curtail losses. Moreover, transparent price discovery in an oversupplied market saw exchange rates dip well below long-term PPA rates. This has also resulted in exchanges gaining share. Going forward, we expect the share of short-term power market to increase to 13% of total from 11% at present. Furthermore, exchanges are likely to gain a disproportionate share thereof: from 40% currently to 50–55% or about 6% of the overall market in three years on the back of product launches that fill white spaces.

On valuations, IEX scores handsomely over international and domestic peers and yet trades at a discount. We are initiating coverage on IEX with '**BUY'** with a DCF based TP of INR220 (32% potential upside; exit P/E of 30x). Our DCF calculation assumes a terminal growth of 5.5% and CoE of 12% (6% market risk premium). In our model, we have not factored in gas exchange volumes, but which we believe can contribute significantly over the medium term.

The key risks to our investment proposition are abrupt regulatory changes, and increasing competitive intensity from existing or new platforms (*details in the next sectio*n).

Table 4: Peer comparison

	Mcap	EBITDA margins (%)			PAT margins (%)			RoE (%)			P/E (x)		
Company	**USD mn**	**FY20**	**FY21E**	**FY22E**	**FY20**	**FY21E**	**FY22E**	**FY20**	**FY21E**	**FY22E**	**FY20**	**FY21E**	**FY22E**
IEX	666	78.6	79.2	79.8	68.3	65.0	65.5	41.7	40.6	40.0	28.4	27.6	23.1
MCX	805	44.7	48.5	52.0	61.9	51.6	53.0	16.9	16.2	18.9	24.2	26.2	21.9
BSE Limited	236	12.5	10.8	15.7	24.0	21.8	24.9	5.2	5.3	6.1	14.9	15.5	12.4
Domestic average		**45.3**	**46.2**	**49.2**	**51.4**	**46.1**	**47.8**	**21.3**	**20.7**	**21.7**	**22.5**	**23.1**	**19.1**
HKEX	47,572	90.3	75.1	75.6	69.2	58.1	59.3	22.1	22.3	24.1	33.8	36.2	32.3
Japan Exchange	11,979	66.8	66.9	66.6	38.5	36.5	36.7	16.3	15.0	14.9	21.4	28.1	27.3
ASX Ltd	11,603	80.2	75.0	74.8	58.3	53.3	52.7	13.2	13.5	14.0	33.1	32.6	31.4
Singapore Exch	6,416	70.2	58.0	57.7	51.0	42.5	41.4	39.2	34.3	31.9	19.7	21.1	21.6
Bursa Malaysia	1,582	53.7	57.5	56.7	38.7	40.9	40.2	22.7	27.8	26.3	26.5	30.9	31.8
NZX Ltd	263	45.0	44.6	45.4	21.1	21.9	22.4	23.0	24.6	27.5	25.7	25.2	23.2
London Stock	34,859	47.8	54.8	60.9	18.0	30.0	32.5	12.3	18.2	20.1	64.9	37.0	30.9
Nasdaq Inc	19,902	50.5	50.3	51.1	30.5	32.7	32.5	14.0	15.8	16.2	22.1	21.9	21.5
B3 SA	22,083	72.1	73.6	72.8	45.9	52.8	54.2	10.8	15.4	16.0	32.4	28.1	26.9
Cme Group Inc	68,759	64.2	67.5	69.0	43.5	51.1	50.9	8.1	10.1	9.8	33.0	25.3	25.7
Cboe Global Mark	11,348	63.9	55.7	55.9	33.0	37.7	38.0	11.3	17.5	16.2	31.0	19.9	20.2
Global average		**64.1**	**61.7**	**62.4**	**40.7**	**41.6**	**41.9**	**17.5**	**19.5**	**19.7**	**31.2**	**27.8**	**26.6**

Table 5 : How Edelweiss estimates fare versus consensus

	Edel		Consensus		%	
	FY21E	**FY22E**	**FY21E**	**FY22E**	**FY21E**	**FY22E**
Revenue	2,775	3,293	2,826	3,290	*(1.8)*	*0.1*
EBITDA	2,198	2,628	2,346	2,715	*(6.3)*	*(3.2)*
EBITDA Margin (%)	*79.2*	*79.8*	*83.0*	*82.5*		
PAT	1,805	2,159	1,834	2,171	*(1.6)*	*(0.5)*

Source: Company, Bloomberg, Edelweiss research

Table 6 : DCF – Key assumptions

Particulars	%
Cost of Equity (Beta @ 1.0)	12.0
Debt/Equity	0.0
WACC	12.0
Tax rate	25.2
Terminal Growth rate	5.5

Table 7: DCF model

INR mn	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E	Terminal
IEX volumes (bu's)	59	71	86	98	115	133	152	173	197	229	
Transaction fees	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	
Transaction revenues	**2,371**	**2,863**	**3,471**	**3,977**	**4,666**	**5,403**	**6,152**	**7,011**	**7,995**	**9,255**	
REC	126	139	153	168	185	204	224	246	271	298	
Membership fees	278	291	306	324	343	366	393	424	461	506	
Total Revenues	**2,775**	**3,293**	**3,930**	**4,469**	**5,194**	**5,972**	**6,769**	**7,682**	**8,728**	**10,059**	
EBITDA	**2,198**	**2,628**	**3,166**	**3,609**	**4,209**	**4,871**	**5,545**	**6,321**	**7,213**	**8,360**	
EBTIDA margin (%)	*79.2*	*79.8*	*80.6*	*80.7*	*81.0*	*81.6*	*81.9*	*82.3*	*82.6*	*83.1*	
EBIT	**2,035**	**2,455**	**2,987**	**3,428**	**4,019**	**4,673**	**5,339**	**6,105**	**6,989**	**8,127**	
EBIT margin (%)	*73.3*	*74.5*	*76.0*	*76.7*	*77.4*	*78.2*	*78.9*	*79.5*	*80.1*	*80.8*	
Tax	608	727	878	998	1,150	1,324	1,515	1,730	1,975	2,285	
Tax rate (%)	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	*25.2*	
Depreciation	163	173	179	181	190	198	207	215	224	233	
WC changes	206	242	281	250	309	325	329	363	401	486	
Capex	-150	-150	-100	-100	-100	-100	-100	-100	-100	-100	
Free cashflow	**1,646**	**1,992**	**2,469**	**2,760**	**3,269**	**3,772**	**4,260**	**4,853**	**5,539**	**6,461**	**6,793**
Discounted cashflow			**2,206**	**2,204**	**2,332**	**2,405**	**2,427**	**2,470**	**2,519**	**2,626**	**2,761**
DCF FY22-30E	19,188										
Terminal Value	43,055										
Total value	**62,243**										
Add: Cash	3,395										
Value of equity	**65,638**										
No of shares	298										
Value per share	**220**										

Table 8: Alternate 2 stage model implies a 30x PE

Particulars	High growth	Stable growth
No of years	5 years	Beyond 5 years
Growth (%)	16.9	4.5
Cost of equity	11.9	13.7
Payout ratio (%)	50.0	70.0
RoE (%)	42.2	40.1

Source: Edelweiss research

Table 9: Two-way sensitivity analysis of FY22 revenue: Volume growth to transaction margin fees

		Volume growth								
		-10%	-5%	0	5%	10%	15%	20%	25%	30%
Transaction margin (INR/unit)	0.0400	1,565	1,652	1,740	1,828	1,915	2,003	2,090	2,178	2,266
	0.0375	1,466	1,548	1,631	1,713	1,795	1,877	1,959	2,041	2,123
	0.0350	1,368	1,444	1,521	1,598	1,674	1,751	1,828	1,904	1,981
	0.0325	1,269	1,340	1,412	1,483	1,554	1,625	1,696	1,767	1,839
	0.0300	1,171	1,236	1,302	1,368	1,433	1,499	1,565	1,631	1,696
	0.0275	1,072	1,132	1,193	1,253	1,313	1,373	1,433	1,494	1,554
	0.0250	974	1,028	1,083	1,138	1,193	1,247	1,302	1,357	1,412
	0.0225	875	924	974	1,023	1,072	1,121	1,171	1,220	1,269
	0.0200	776	820	864	908	952	995	1,039	1,083	1,127

Source: Bloomberg, Company, Edelweiss research

Chart 27: IEX one-year forward P/E band

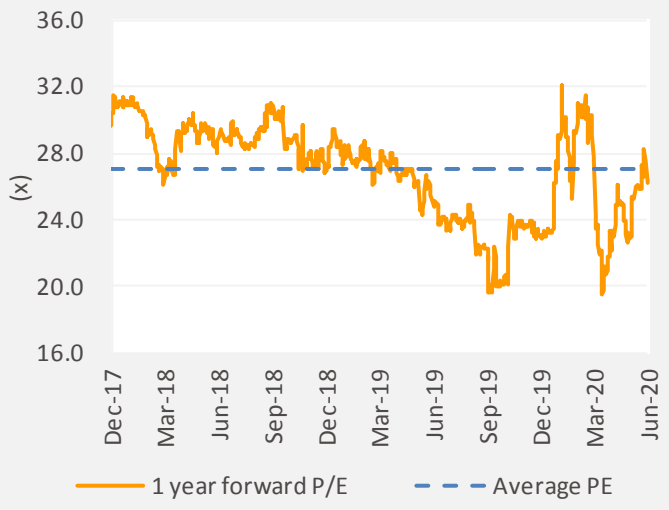
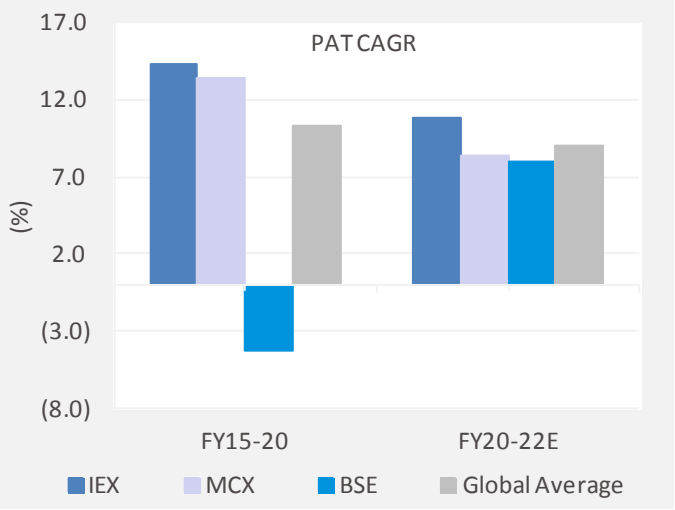
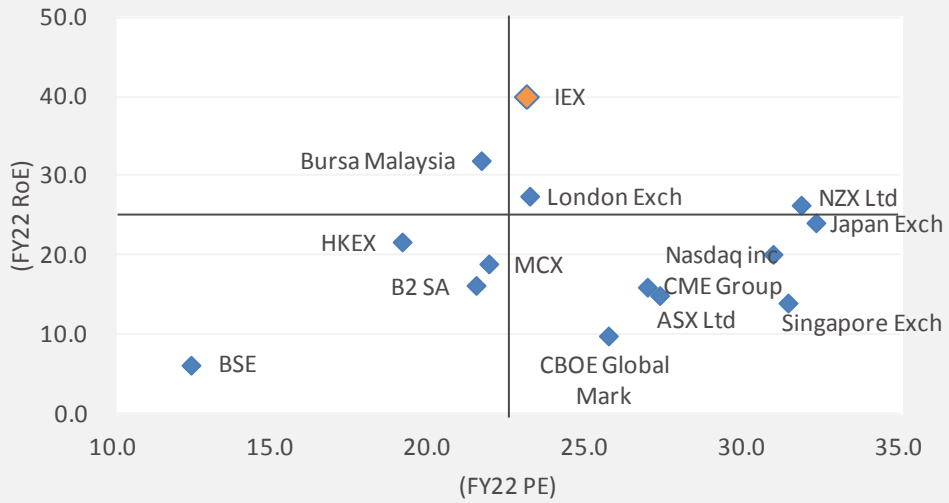


Chart 28: Superior earnings profile of IEX



Source: Bloomberg, Company, Edelweiss research

Chart 29: Superior RoE vis-à-vis global peers



Source: Bloomberg, Company, Edelweiss research

Key Risks

Regulatory changes: Rules for power exchanges are stipulated by the Central Electricity Regulatory Commission (CERC). Currently, for transactions under short-term and contracts through power exchanges up to one year, the trading licensee shall charge a trading margin up to seven paisa/kWh. Currently, IEX charges 4 paisa/kWh, but if the regulator tinkers around with the trading margin regulations or reduces the margins, it would impact our EPS estimates significantly. That said, the odds of this happening are low.

Competitor PXIL becoming aggressive: IEX accounted for a dominant 95% of exchange volume traded (DAM and TAM) in FY20. Rival PXIL could lower its margins (currently at 4paisa/kWh) to gain market share. Any market share gain by PXIL is a key risk.

New exchange to the trading floor: Currently, there are two power exchanges in India: IEX and PXIL. Regulatory proceedings/compliances for a proposed third exchange by a consortium of PTC, BSE and ICICI Bank are underway. The approval and launch of the third exchange would pose a medium-to-long term risk to IEX **as PTC India accounts for 20% of IEX's volume as a member, though clients with PTC could directly transact through IEX.**

Volatility in power demand and prices: It is observed that maximum volumes are traded in a price band of INR2.5–INR2.8/kWh. External factors can impact the power demand-supply equilibrium, thereby impacting spot prices. Higher exchange prices could impact the buyer's decision (higher offtake through long-term PPAs) and lower exchange prices could impact sellers' decision (potentially impacting generators marginal cost). This could eat into the IEX's volumes.

Technology risk: Technology platforms must be constantly updated. IEX's platform too may have to integrate upcoming technologies such AI or block chain. Should IEX fail to keep up with the latest technology, technological obsolescence could drive away customers and erode its volumes. At present, such risk is low given IEX's sustained investments in its technology backbone.

Investments in gas exchange don't ensure guaranteed volumes: IEX has been employing more people ahead of the launch of its gas exchange. In fact, it plans to invest INR0.5bn to obtain the right technology for the gas exchange. Besides, rules/regulations for gas-based trading are yet to be framed and needs to be complied by IEX.

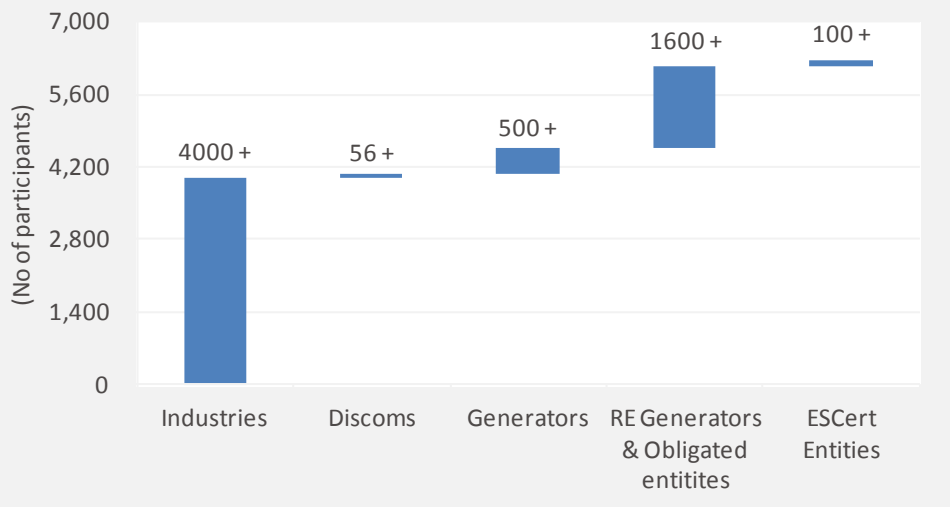
Re-appearance of Financial Technology in shareholding: One of the initial major promoters of IEX was Jignesh Shah-backed Financial Technology (FT). However, the CERC forced FT to sell its stakes in both IEX and MCX in 2014 due to a fraud in National Spot Exchange ltd. Since then, IEX has been a professionally managed company. However, if FT's name reappears in IEX's shareholding structure, either directly or indirectly, it could potentially de-rate the stock. We see extremely low chances of this happening given strict SEBI surveillance.

Revival of long-term PPAs: At this juncture, long term PPAs are a passé considering discoms' financial health. However, if the long-term PPA prices crashes by 30–40%, long-term PPA may again teem with energy. This could impact IEX's volumes, which is dependent on merchant capacity. That said, the odds of this happening are low.

Company Description

IEX is the largest exchange for trading a range of electricity products in India in terms of traded contract volumes. Electricity products traded over 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). IEX commenced the trading of energy saving certificates ("ESCerts") on 26 September, 2017. IEX recently launched Real time market ("RTM") from 1st June 2020. As of FY20, more 6,600 participants were registered on the IEX.

Chart 30: 6600+ participants registered on IEX



Source: Company, Edelweiss research

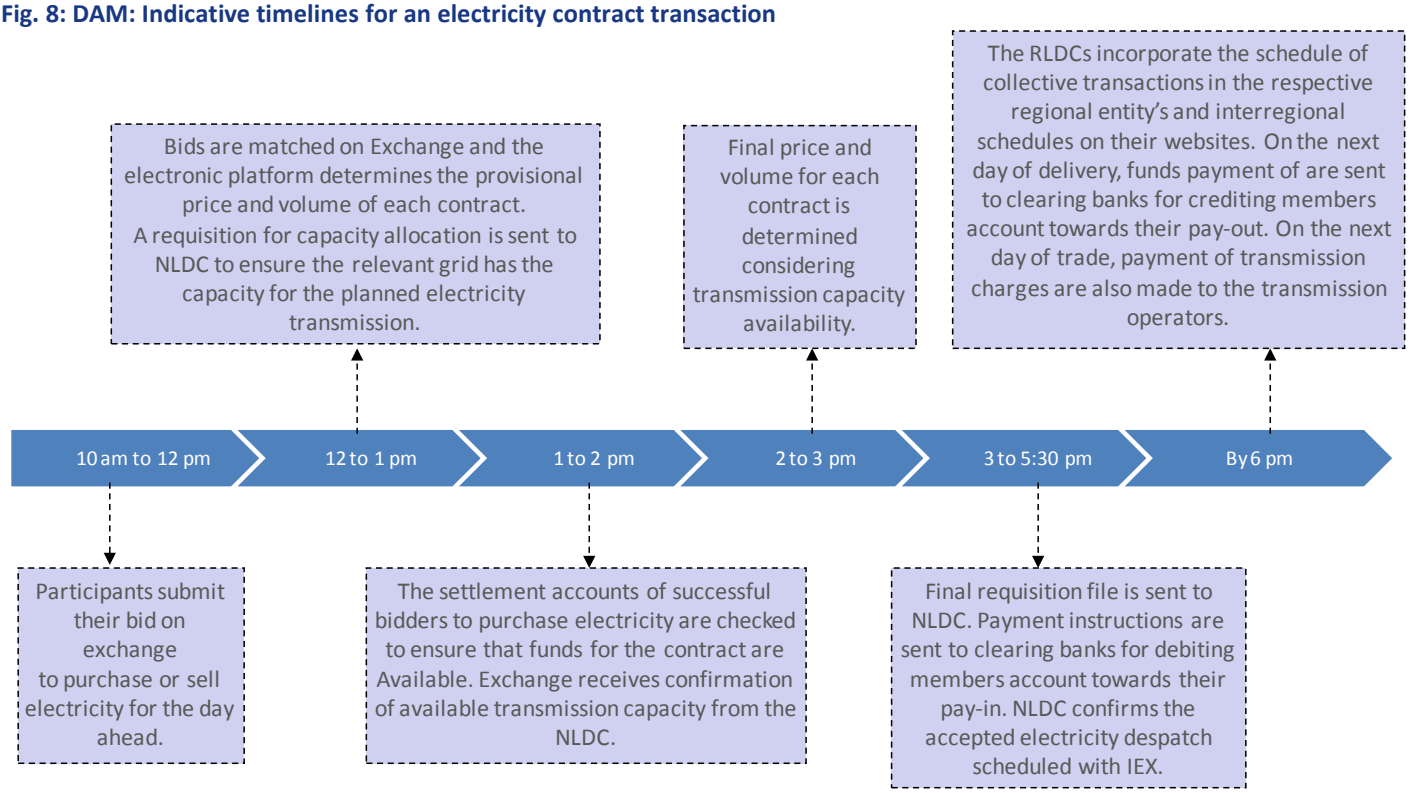
IEX is one of two exchanges in India that offer an electronic platform for trading of electricity products and have a substantial majority market share among power exchanges in India. The DAM constitutes the substantial majority of the energy contracts that are traded on IEX. In FY18, FY19 and FY20, IEX commanded an average 99% market share, respectively, of electricity contracts in DAM, in terms of volume, according to the CERC.

Product portfolio

IEX is an online platform. Besides ease of access to participants, it promotes price discovery via trades in a variety of electricity products. The exchange's key products –are:

- **DAM electricity contracts:** Trading in the DAM commenced in June 2008. The DAM facilitates trading of 96 separate electricity contracts, of 15 minutes time block each, for the subsequent day commencing at midnight. Participants are able to participate in a uniform price double-sided closed auction process. The minimum tradable quantity is 0.1MW, with a minimum increment size of 0.1 MW of electricity. Correspondingly, the minimum tick point is INR1 per MWh.

Fig. 8: DAM: Indicative timelines for an electricity contract transaction



Source: Company

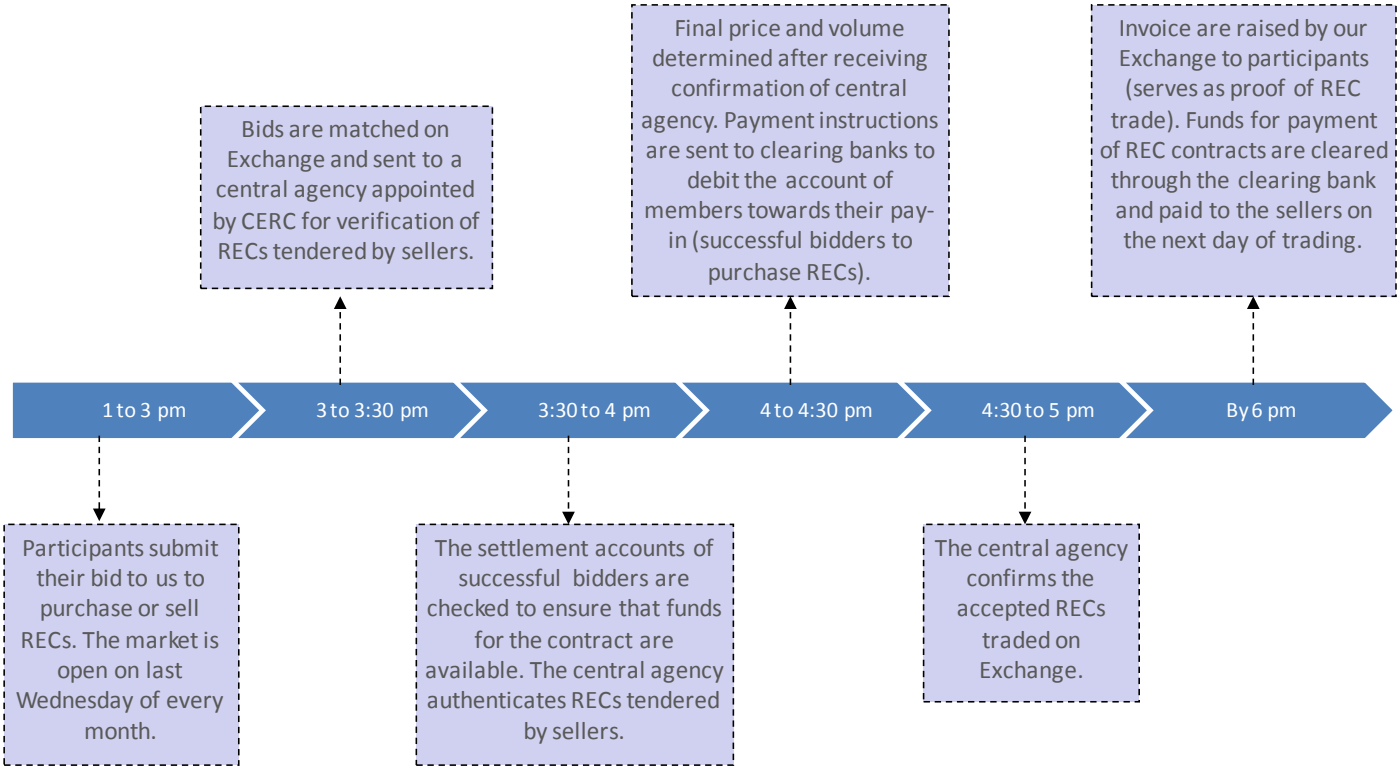
- **TAM electricity contracts:** Trading in the TAM commenced in September 2009. It enables trading of contracts for delivery of electricity for time frames other than the DAM electricity contracts, and for periods up to the subsequent week. The TAM contracts cover a range of options for a duration of up to 11 days. It enables participants to trade electricity for the same day through intra-day contracts, for the next day through day ahead contingency contracts, on a daily basis for rolling seven days through daily contracts, and on weekly basis through weekly contracts.

  - **Day-ahead contingency contracts**: These are hourly contracts available for trading on a day-ahead basis for 0000 hours to 2400 hours of the next day.
  - **Intra-day contracts**: These are fifteen minutes and hourly contracts available for trading for the same day as the day of the trade. The intra-day contracts are fifteen minutes and one-hour-based rolling contracts and are available for trading three hours prior to the start of delivery.
  - **Daily contracts**: Contracts available for trading on a rolling basis, i.e. for every trading day, seven daily contracts starting from the fifth day onwards are available. The duration of the contract can be for a specific time period, such as an entire day, peak time and off-peak time.
  - **Weekly contracts**: These contracts are traded for the subsequent week. Trading in weekly contracts is conducted for contracts of seven days at a stretch, commencing Monday to Sunday of every week.

- **Renewable Energy Certificates:** The trading of RECs commenced in February 2011. RECs are market-based instruments—classified into solar RECs and non-solar RECs—representing the environmental attributes of electricity generated from renewable

resources, and enable sale of such environmental attributes, separately from the electricity generated from renewable resources, in accordance with the regulations issued by the CERC. RECs are traded on the last Wednesday of every month.

Fig. 9: RECs: Indicative transaction timelines



Source: Company

- **Energy Saving Certificates:** Trading commenced of ESCerts on 26 September, 2017. An ESCert is a market-based instrument created under the Perform Achieve Trade (PAT) scheme of the Ministry of Power, Government of India. Under the PAT scheme, consumers in energy-intensive industries and sectors are identified and are required to reduce their specific energy consumption for every compliance period, in accordance with specified targets. Consumers achieving reductions above their targets receive ESCerts, which can be traded on any power exchange. Consumers that don't achieve respective targets in accordance with the PAT scheme must buy ESCerts to offset their shortfall. Consumers achieving reductions above their targets can use their ESCerts for the next compliance period.

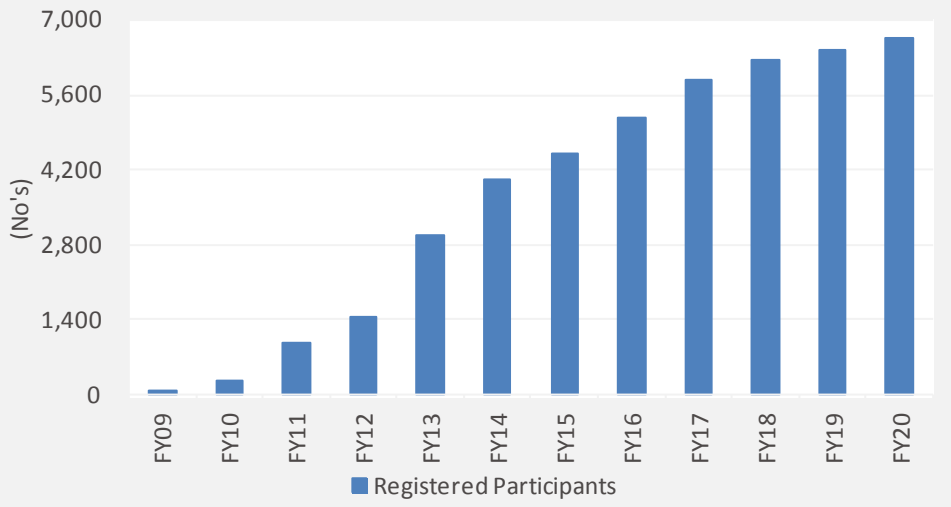
- **Real Time Market:** IEX recently launched this product on 1st June, 2020. It will have 48 auction sessions during the day with delivery of power within an hour of the closure of the bid session. The utilities presently manage unplanned changes in schedule through the Deviation Settlement Mechanism and end up paying penalties. RTM will aid utilities in reducing dependency on the DSM and save on huge penalties. RTM would also provide an opportunity to generators to sell their unrequisitioned capacity, thereby enabling efficient use of generation capacity.

Participants

IEX has three categories of registered members

- **Proprietary Members:** A proprietary member is a grid -connected entity, which can trade on its own account, and clear the same contracts as a clearing member. A proprietary member under the full payment option pays higher admission and subscription fees and lower transaction fees, whereas a proprietary member under the light payment option pays lower admission and subscription fees and higher transaction fees.
- **Trader Members:** A trader member is an entity holding a valid 'Interstate Trading Licence' issued by the CERC. A trader member is eligible to trade and clear on its own account and on behalf of its clients.
- **Professional Members**: An entity that is neither grid-connected nor holds a valid 'Interstate Trading License' can apply under this category. A professional member is not entitled to trade on its own account but can act for and on behalf of its clients, although it is not eligible to settle and clear contracts on an exchange for such clients.

Chart 31: Rising number of participants



Source: Company, Edelweiss research

Management Overview

Mr. Satyanarayan Goel, Non-Executive Chairman

Mr. Goel was appointed as the Non-Executive Chairman of IEX with effect from 21 July, 2019. He is a Bachelor of Electrical Engineering from REC Rourkela and a Master in Business Administration from Faculty of Management Studies, New Delhi.

Mr. Goel has over 40 years of rich experience in different areas of the power sector: power generation, transmission, system operation, power trading, commercial, regulatory affairs, power market development and cross border. He was appointed as Managing Director and Chief Executive Officer of the company with effect from 21 January, 2014. Before joining IEX, Mr. Goel was the director of marketing and operations at PTC India Limited. Prior to that, he was associated with NTPC for 29 years and retired as an Executive Director.

Mr. Rajiv Srivastava, Managing Director and Chief Executive Officer

Mr. Srivastava is the MD & CEO of IEX. Prior to this, he was the COO and Head of Sales, Strategy & Operations at HP Inc., Asia Pacific & Japan from May 2017 to March 2019. Based out of Singapore, Mr. Srivastava was responsible for HP's end-to-end sales, strategy, sales enablement, operations, growth initiatives as well as services and solutions. Between July 2011 and April 2017, he served as an MD at HP Inc. He has also held leadership positions at trade bodies such as CII, MAIT, AMCHAM and NASSCOM. Rajiv joined IEX on 3rd June, 2019. He is a Bachelor of Mechanical Engineering with further specialization in international business.

Mr. Vineet Harlalka, CFO & Company Secretary

Mr. Harlalka was appointed as the CS of IEX with effect from 16 January, 2010. He has been serving as the CFO since 9 May, 2014 and Compliance Officer since 30 May, 2017. He is a Bachelor of Commerce from the University of Delhi, New Delhi, and has been admitted as an associate to the ICAI and the ICSI. He has over 13 years of experience in the field of finance, taxation, and treasury, secretarial and accounting practice. Prior to joining IEX, Mr. Harlalka worked at New Holland Fiat (India) Private Limited.

Mr. Rajesh Kumar Mediratta, Director (Strategy & Regulatory Affairs)

Mr. Mediratta was appointed as Vice president – Special Projects at MCX on 12 March, 2007 and his services at IEX were confirmed with effect from 12 September, 2007. He is a Bachelor of Mechanical Engineering from Rani Durgavati Vishwadvidyalaya, Jabalpur, and Master in Business Administration from Indira Gandhi National Open University, New Delhi. He has 29 years of experience in the power sector. Prior to joining IEX, Mr. Mediratta worked as an Assistant Director at CEA and later as Chief Manager at PGCIL.

Mr. Rohit Bajaj, Head (Business Development)

Mr. Bajaj took over the assignment on 24 May, 2014. He is a Bachelor of Mechanical Engineering from Regional Engineering College, Rourkela, Sambalpur University and holds a Postgraduate Diploma in Executive Management from Management Development Institute, Gurgaon. He has 23 years of experience in the energy domain, particularly in the power, oil and gas sector. Prior to joining IEX, Mr. Bajaj worked at National Energy Trading and Services Limited as head of business.

Mr. Indranil Chaterjee, Chief Risk Officer

Mr. Chaterjee took over on 20 December, 2016. He is a Bachelor of Engineering (Electrical and Electronics) from the University of Mangalore, Mangalore, and Master in Business Administration from Faculty of Management Studies, University of Delhi, New Delhi. He has 14 years of experience in the power market sector. Prior to joining IEX, Mr. Chaterjee worked at Indus Towers Limited as Deputy General Manager, Energy.

Mr. Sangh Suman Gautam, Chief Technology Officer

Mr. Gautam was appointed the CTO with effect from 2nd August, 2019. He is a Master in Science (Computer Science) from UNM (USA) and Bachelor of Technology (Electronics and Communication) from NSIT (Netaji Subhas Institute of Technology, Delhi University). He pursued Master in Business Administration (MBAT, PT) from Faculty of Management Studies, University of Delhi. He has 20-plus years of experience in the technology industry and has worked in a variety of domains: telecom (Tellabs), product (Adobe, LinkedIn), e-commerce (Amazon), analytics (Guavus), print (Hindustan Times) and recruitment (Shine.com).

Mr. Amit Kumar, Senior Vice President (Product Head)

Mr. Kumar is Senior Vice President (Product) and was appointed with effect from 15 November, 2018. He is a Bachelor of Technology (Chemical Engineering) from the Indian Institute of Technology (BHU), Varanasi. He has completed his Master's in Business Administration from the Indian School of Business, Hyderabad. He has 17 years of experience in the technology industry and has worked across software development, product management, program management and operations functions. Prior to joining IEX, he worked at Limeroad (a fashion and lifestyle e-commerce start-up) as the Senior Director - Product and was also a member of the core leadership team at Limeroad.

Mr. Samir Prakash, Senior Vice President (HR & Administration)

Mr. Prakash is a law graduate from Lucknow University and holds a Postgraduate Diploma in Personnel & IR in management. He is a seasoned HR professional with more than 27 years of functional experience spanning manufacturing, services, telecom and IT industries at companies such as Vam Organic, Wimco, Ericsson and Sopra Steria. He has been part of key leadership and management teams handling and driving strategic and critical HR areas mainly in HR Business Partnering, Talent Management, Mergers & Acquisitions, Integration, Transition and Transformation. Prior to joining IEX, Mr. Prakash was working as Director HR, Admin & Legal with SRK Tele Energy Pvt. Ltd. In a couple of earlier assignments, he has worked with Sopra Steria as Senior Director HR (CHRO) and as Director HR with Ericsson.

Ms. Shruti Bhatia, Vice President (Regulatory Affairs & Communication)

Ms. Bhatia is Vice President, Regulatory Affairs and Communications, at IEX and was appointed with effect from 9 January, 2013. She is a Bachelor of Science (physics honours) and a Master of Science (physics) from University of Delhi, New Delhi. She has over 20 years of experience in policy, regulatory affairs and communications. Prior to joining IEX, she worked with Vestas Wind Technology India Private Limited as general manager (government relations). She has also worked with the Confederation of Indian Industry (CII) as a director where she worked with the membership, energy and international division.

Industry Overview

Indian Power Sector

India's energy needs are rising fuelled by rapid economic growth and modernisation. The country is the third largest producer of electricity in the world. Despite India's per capita electricity consumption growing from 631 kWh in 2006 to 1,075 kWh in 2016 and 1,181 kWh in 2019, it is still behind major economies of the world.

Chart 32: Per capita electricity consumption in India on the rise…

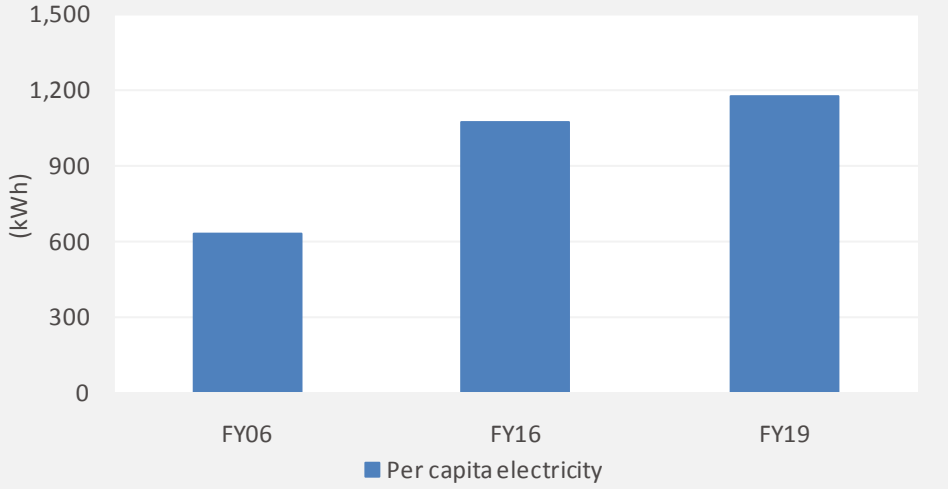
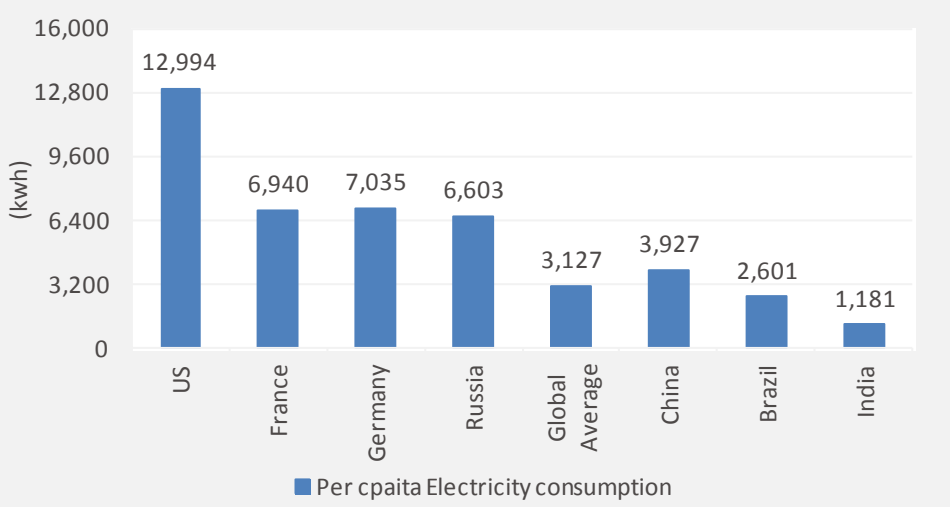


Chart 33: …yet far behind major economies of the world



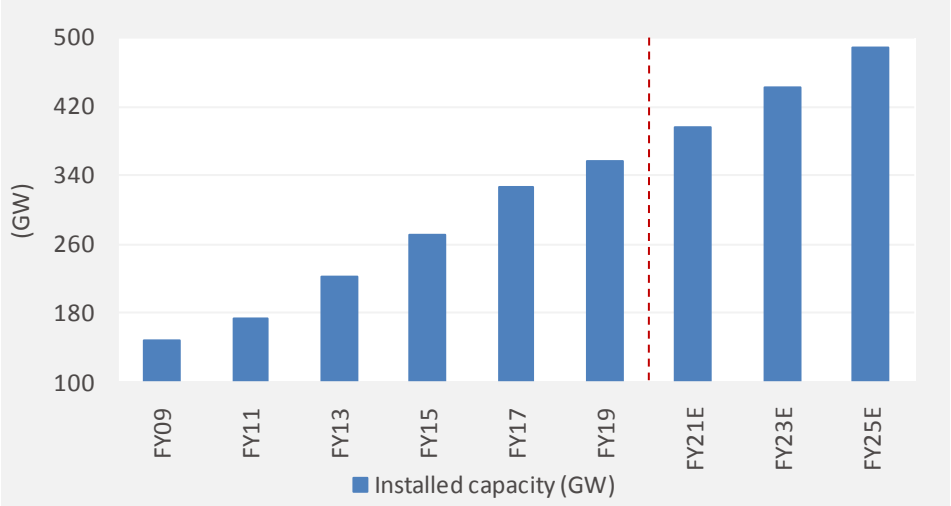
Source: CEA, IEEMA, Industry, Edelweiss research

Generation

India's installed capacity stood at 371GW at end-March 2020. Thermal power makes up ~63% (231GW), followed by renewable (23%), hydro (12%), and nuclear power (2%). Over the last five years, capacity addition in the country aggregated 100GW, mainly driven by the renewable sector (~51%; 51GW). Thermal capacity addition stood at 43GW while hydro and nuclear stood at a mere 5GW and 1GW, respectively.

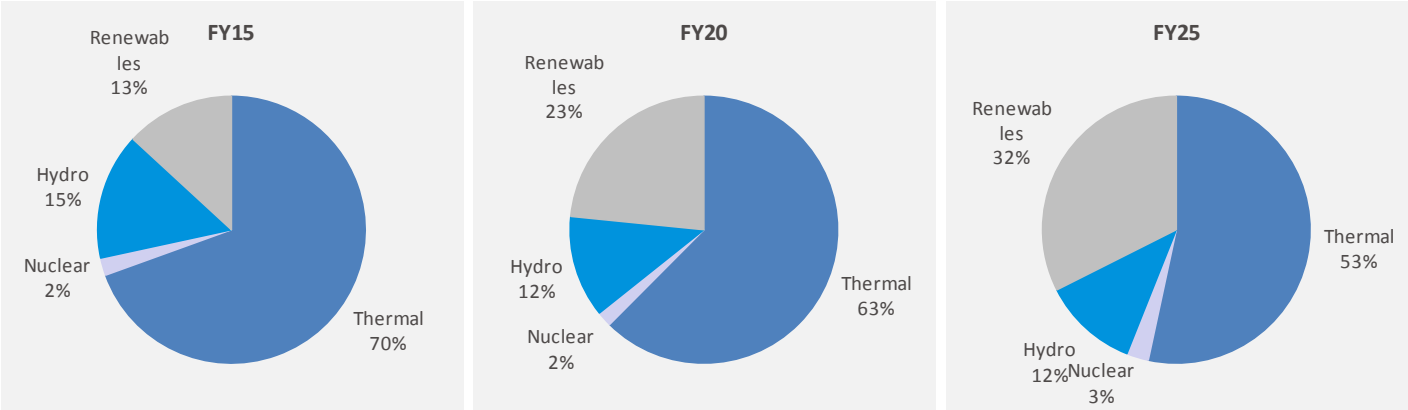
India's peak demand rose at a CAGR of 5% over FY15–20 to 184GW.

Chart 34: Installed capacity addition over the years



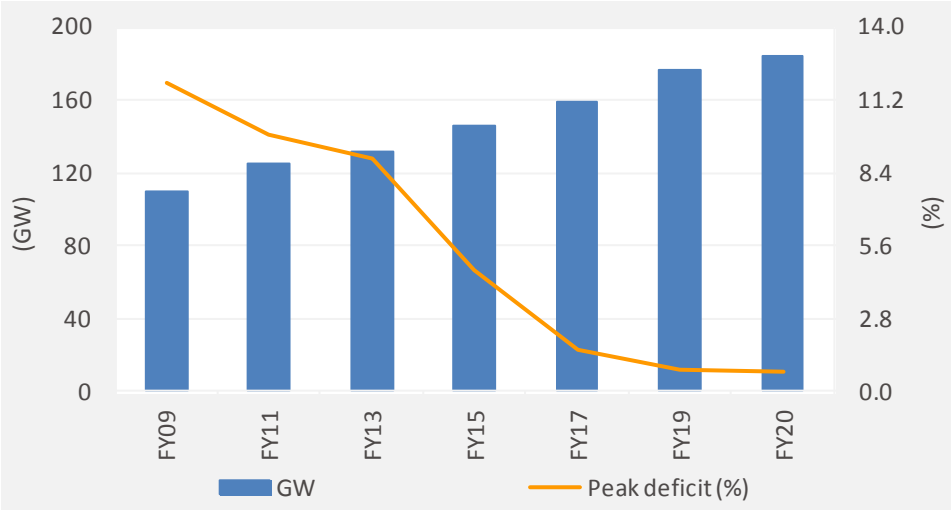
Source: IEEMA, Industry, Edelweiss research

Chart 35: Mix of thermal/renewable (FY15/FY20/FY25)



Source: IEEMA, Industry, Edelweiss research

Chart 36: Peak demand and deficit

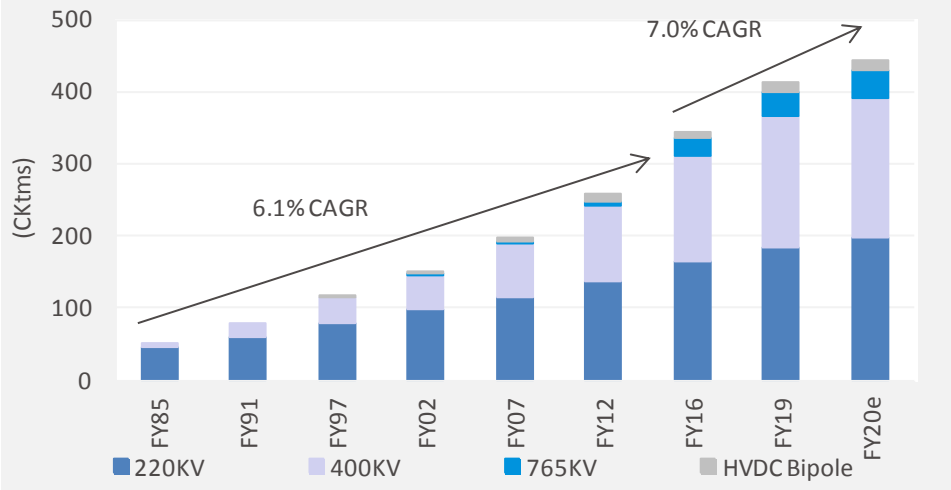


Source: IEEMA, Industry, Edelweiss research

Transmission

Adequate and reliable transmission capacity is a key enabler for power transactions in India. Generation capacity addition has outpaced transmission capacity over FY12–17; the latter has gathered pace since FY16. The transmission system capacity of 765kV, 400kV, 220kV and HVDC stood at 413,745 circuit kilometres as on 31 March, 2019.

Chart 37: Transmission capacity addition



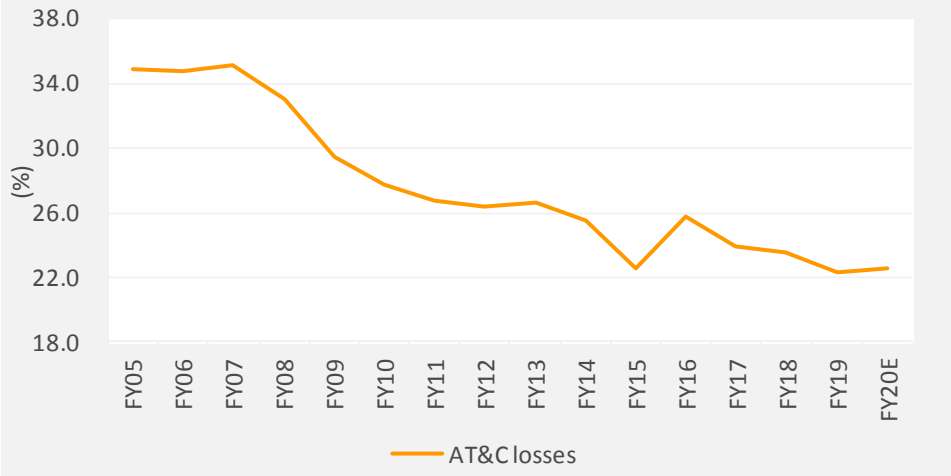
Distribution

Power distribution companies provide last-mile connectivity. In India, generally every state has one or more distribution companies. They are predominantly state-owned, catering to about 90% of energy demand in the country. Two different models of public-private participation have been adopted in the segment:

i) An equity-sharing model between a private owner, which has a majority stake and management control, and the licensee, winner of the licence for power distribution through a transparent bidding process.

ii) The second is an input-based distribution franchisee model.

Chart 38: AT&C loss trajectory



Source: IEEMA, Industry, UDAY, Edelweiss research

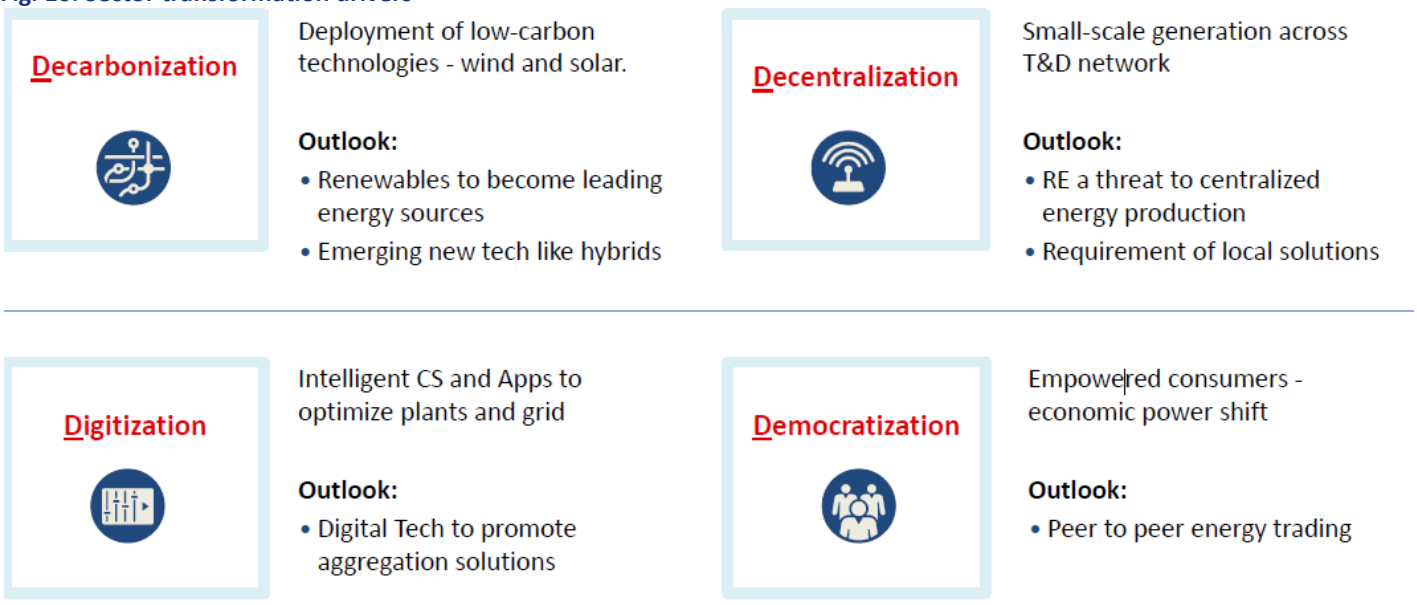
4Ds: Sector transformation drivers in place

Renewable energy is likely to outpace thermal capacity addition underpinned by its better economics and favourable regulatory policies. There are inherent challenges in renewable capacities—it tends to be smaller and more geographically spread than the large fossil-fuel power plants. This causes a problem for the conventional transmission grids, which are designed to move electricity over long distances from a steady, predictable source.

The sector dynamics are changing and there is strong de-focus on generation, and 'uberisation' of energy which is underway.

1) **Decarbonisation** – Hybridisation of energy and increasing renewable footprint are transforming the existing ecosystem. Renewable energy is likely to outpace thermal capacity addition going forward as well; the former's share in the mix would increase from 13% currently to about 20% over the next couple of years.
2) **Democratisation** – Shortly, there will be separation of carriage and content, in which consumer will have the power to choose the supplier and determine the power provider along with the colour of energy. All of this is consumer-led and not generator-led.
3) **Decentralisation** – Smaller generation capacities are being set up in the vicinty of consumers against big generation capacity that are typicall faraway. This phenomenon of closer-to-consumer capacities would entail microgrid management.
4) **Digitalisation** – Quick and agile IT systems are the need of the hour. Data analytics, blockchain, improved algorithms, a better user interface, etc will be developed.

Fig. 10: Sector transformation drivers



Source: Company, Edelweiss research

Evolution of power market structure

Initially, the bulk power market was characterised by long-term contracts between generation plants owned by the central and state governments, IPPs, and captive generators with surplus capacity and distribution utilities or state electricity boards (SEBs). These players inked power purchase agreements for tenors up to 25 years.

Electricity trading through bilateral contracts was promoted via voluntary agreements among market participants, but such agreements did not necessarily guarantee the most efficient market. In December 2006, the CERC issued guidelines for setting up power exchanges.

Short-term electricity market in India

Short-term power market covers transactions of electricity contracts of less than a year:

i) through inter-state trading licencees;

ii) through power exchanges;

iii) directly among distribution licencees (cashless); and

iv) through deviation settlement mechanism (DSM).

Table 10: Types of contracts in short-term market

Area	OTC contract	Exchange Traded
Participants	Available to limited market participants	Wider market participation
Nature of contract	Bilateral / customised	Standardised
Counter party risk	Counter party credit risk	Counter party risk assumed by exchange
Dealing	Opaque dealing	Transparent price discovery mechanism
Reporting / regulatory	Difficulty in reporting and regulating trades	Exchange is the central reporting and regulating entity

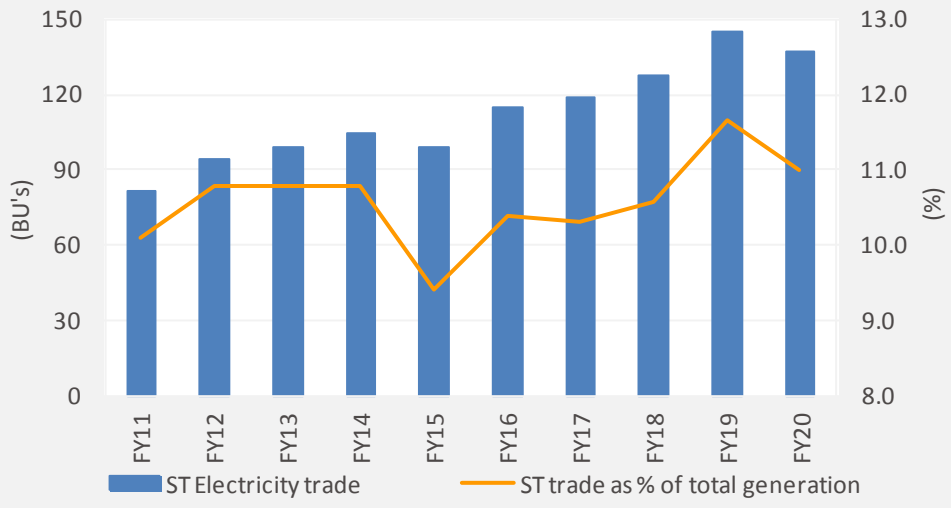
Table 11: Assessment of various market structures

Contract		Pros	Cons
Long Term		# Escape volatility of short term and spot markets # Meets base load requirements # Tranmission availibility	# Capacity + Energy # Falling short term prices may make costly contracts obsolete and sunk
Medium Term		# Escape volatility of short term and spot markets # Meets intermediary load requirements, help escape long term committment for such requirements	# Transmission availibility after LT # Only to meet fixed seasonal or intermediary load requirements
Short Term	Bilateral	# No long term commitment # Flexible response to demand # Priority over PX, unless Spot	# Costlier than PX spot # Congestion # Regulatory risks
	PX spot	# No long term commitment # Price transparency # Flexible response to demand	# Volatile # Congestion # Regulatory risks
DSM		# Realtime load balance	# Volatility # Penalties

Source: Company, Edelweiss research

The volume of short-term electricity transactions as a percentage of total electricity generation has ranged between 10% and 12% in recent years. In FY20, total short-term sale of electricity (138 BUs) was approximately 11% of India's electricity generation.

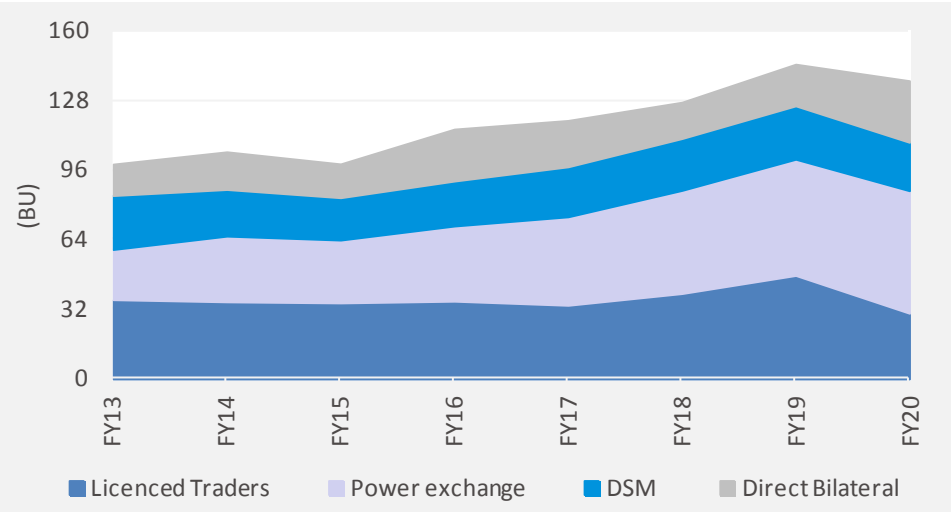
Chart 39: Short-term volumes as proportion of total generation



Source: CERC, CEA, Edelweiss research

Share of volumes traded on power exchanges in short-term power market has risen from ~24% in FY13 to 41% in FY20

Chart 40: Volumes traded by mode

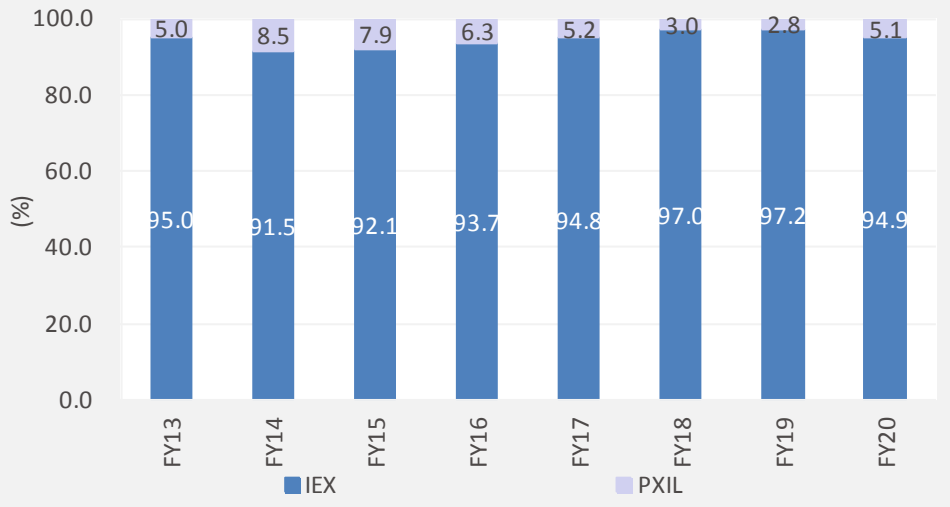


Source: CERC, Edelweiss research

Power exchanges

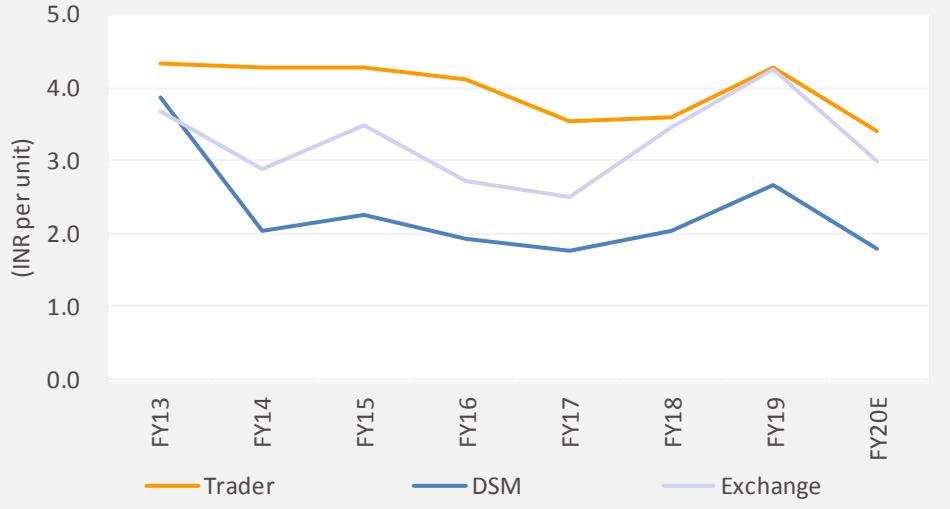
IEX and PXIL are the two power exchanges facilitating short-term trade of power in India. IEX dominates the space, with its share in total volume traded through exchanges at an average of over 93.5% for the last five years.

Chart 41: IEX dominates power exchange trade with 95% market share



Source: CERC, Edelweiss research

Chart 42: Price comparison



Source: CERC, Edelweiss research

Fig. 11: Types of power exchange contracts

		Term ahead Market			
	Day ahead market	Intraday contracts	Day Ahead Contingency	Daily contracts	Weekly contracts
Delivery	Next day	0400-2400 Hrs same day	For next day	From 4th day to next 7 days	For next week
Auction Type	Auction closed	Continuous trading	Continuous trading	Continuous trading	Open auction
Contract	15 min	Hourly	Hourly	Block of Hours (Fixed	Block of Hours (Fixed
Trade availibility	All day	All day	All Days; 1500-2300	All Days; 1200-1500	All Days; 1200-1600
Financial Settlement	Pay-In- D-1; Pay Out – D+1	Pay in: T+1 Pay out: T+1	Pay in: T+1 Pay out: T+2	Pay-In- D-1; Pay Out – D+1	Pay-In- D-1; Pay Out – D+1

Source: Company, Edelweiss research

Trading operations – A seamless process at the exchange

The entire electrical grid is operated and regulated by system operators, which are government-owned independent statutory bodies created/governed under the provisions of the Electricity Act. System operators are responsible for scheduling, despatch and energy accounting of trade in electricity.

The system operator at the national level is the National Load Despatch Centre (NLDC) and at the regional level Regional Load Despatch Centres (five RLDCs, one for each of the five regions). Both these entities are part of Power System Operation Corporation (POSOCO), which is owned by the Government of India. Similarly, at the state level, there are State Load Despatch Centres (SLDCs, total 33 such entities), which are owned by respective state government entities.

The electricity flow on the grid is carried out via the transmission network owned by Power Grid Corporation of India Limited (PGCIL) for inter-state transmission and state transmission utilities of respective states for intra-state transmission.

Trading on the electricity exchanges is conducted and delivery is ensured through a process of scheduling, which is akin to a process of generators injecting their respective obligation to supply into the grid and all buyers drawing power to the extent of their entitlement from the grid, based on their respective contracts. As such a pool of electricity produced by generators gets created in the process and buyers draw their entitlement from this pool.

In case of any breakdown in the grid, the same is handled by the exchanges as a force majeure condition. Based on real-time information provided by system operators, trades are modified to the extent curtailed by the system operator with a view to ensure grid security.

International markets

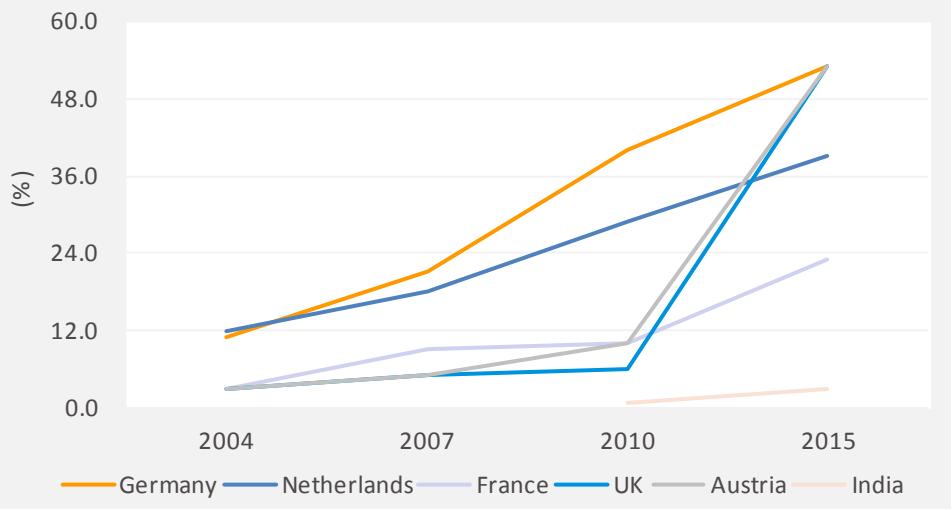
In Australia and the US, all power is traded through a common pool. In the United States, power markets function as independent system operators. The European Union has a policy to create a single market in Europe. The European power market is an agglomeration of regional markets, which are physically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

Table 12: Most international markets have high % of volume traded on exchange

Country	Exchange	Traded on exchange / total consumption
Nordic countries	NORDPool	91
UK	APX, N2EX	53
France	EPEX-SPOT	23
Germany	EPEX-SPOT	53
Austria	EPEX-SPOT	53
Belgium	BELPEX	29

Source: CRISIL, Edelweiss research

Chart 43: Growth in power trade likely to gather pace in India



Source: Council of European Energy Regulators (CEER), EPX SPOT, N2EX, Edelweiss research

Financial Statements (Consolidated)

Key assumptions	FY19	FY20	FY21E	FY22E
Macros				
GDP(Y-o-Y %)	6.1	4.8	-4.0	7.0
Inflation (Avg)	3.4	4.3	3.5	4.0
Repo rate (exit rate)	6.3	4.4	3.0	4.0
USD/INR (Avg)	70.0	70.7	75.0	73.0
Industry assumptions				
Conventional market (bu's)	1,245	1,252	1,227	1,288
Short term (bu's)	145	138	141	151
Company assumptions				
DAM (bu's)	50.2	49.4	52.4	60.3
TAM (bu's)	3.4	7.2	7.9	9.1
Exchange (bu's)	53.5	56.7	62.0	74.8
RTM (bu's)	25.1	22.6	21.9	21.2
Bilateral (bu's)	66.6	58.3	57.6	55.2
Transaction fees (INR/unit)	0.042	0.041	0.040	0.040

Income statement				(INR mn)
Year to March	FY19	FY20	FY21E	FY22E
Income from operations	2,541	2,571	2,775	3,293
Direct costs	-	-	-	-
Employee costs	248	332	353	386
Other expenses	264	217	225	280
Total operating expenses	513	550	577	666
EBITDA	2,028	2,022	2,198	2,628
Depreciation and amortisation	104	152	163	173
EBIT	1,924	1,869	2,035	2,455
Interest expenses	7	16	10	10
Other income	401	403	388	441
Add: Exceptional items	0	0	0	0
Profit before tax	2,317	2,256	2,413	2,886
Provision for tax	667	499	608	727
Reported Profit	1,650	1,757	1,805	2,159
Adjusted profit	1,650	1,757	1,805	2,159
Basic shares outstanding (mn)	302	298	298	298
Adjusted Basic EPS	5.5	5.9	6.0	7.2
No. of Dil. shares outstanding (m	302	298	298	298
Adjusted Diluted EPS	5.5	5.9	6.0	7.2
Adjusted Cash EPS	5.8	6.4	6.6	7.8
Dividend per share	0.0	2.5	3.0	3.6
Dividend payout (%)	0.0	53.0	50.0	50.0

Common size metrics- as % of net revenue				
Year to March	FY19	FY20	FY21E	FY22E
Employee expenses	9.8	12.9	12.7	11.7
S G &A expenses	10.4	8.5	8.1	8.5
Operating expenses	20.2	21.4	20.8	20.2
Depreciation & amortization	4.1	5.9	5.9	5.2
Interest expenditure	0.3	0.6	0.4	0.3
EBITDA margins	79.8	78.6	79.2	79.8
EBIT margins	75.7	72.7	73.3	74.5
Net profit margins	65.0	68.3	65.0	65.5

Growth metrics (%)				
Year to March	FY19	FY20	FY21E	FY22E
Revenues	10.3	1.2	7.9	18.7
EBITDA	9.7	(0.3)	8.7	19.5
PBT	15.9	(2.6)	6.9	19.6
Adjusted Profit	25.3	6.5	2.7	19.6
EPS	25.2	7.8	2.7	19.6

Balance sheet				(INR mn)
As on 31st March	**FY19**	**FY20**	**FY21E**	**FY22E**
Equity capital	302	298	298	298
Reserves & surplus	3,401	3,581	4,484	5,563
Shareholders funds	3,703	3,880	4,782	5,861
Long Term Liab. & Provisions	55	195	205	215
Defered tax liability	244	244	244	244
Sources of funds	**4,002**	**4,318**	**5,230**	**6,320**
Gross Block	116	285	285	285
Net Block	72	213	185	156
Capital work in progress	4	0	0	0
Intangible Assets	1,051	1,015	1,030	1,036
Total fixed assets	1,126	1,228	1,215	1,193
Non Current Investments	2,022	1,967	1,967	1,967
Sundry debtors	459	2	15	18
Cash and cash equivalents	3,401	3,395	4,516	5,860
Loans and advances	17	25	31	37
other current assets	30	55	66	79
Total current assets (ex cash)	507	82	112	134
Trade payable	1,338	766	912	1,083
Other Current Liab. & ST Prov.	1,715	1,588	1,667	1,751
Total CL & provisions	3,053	2,354	2,580	2,834
Net current assets (ex cash)	-2,547	-2,271	-2,468	-2,700
Uses of funds	**4,002**	**4,318**	**5,230**	**6,320**
Adjusted BV per share (INR)	12.3	13.0	16.0	19.6

Free cash flow				(INR mn)
Year to March	**FY19**	**FY20**	**FY21E**	**FY22E**
Reported profit	1,650	1,757	1,805	2,159
Depreciation	104	152	163	173
Interest (Net of Tax)	5	12	7	7
Others	-323	-380	-385	-438
Less:Changes in WC	54	282	-206	-242
Operating cash flow	1,383	1,260	1,796	2,142
Less: Capex	36	78	150	150
Free cash flow	**1,347**	**1,182**	**1,646**	**1,992**

Cash flow metrices				
Year to March	**FY19**	**FY20**	**FY21E**	**FY22E**
Operating cash flow	1,383	1,260	1,796	2,142
Financing cash flow	(784)	(1,614)	(912)	(1,089)
Investing cash flow	(621)	(25)	238	291
Net cash flow	(23)	(380)	1,122	1,344
Capex	(36)	(78)	(150)	(150)
Dividends paid	(801)	(900)	(902)	(1,079)

Profitability & liquidity ratios				
Year to March	**FY19**	**FY20**	**FY21E**	**FY22E**
ROAE (%) (on adjusted profits)	50.5	46.4	41.7	40.6
ROACE (%)	71.1	59.9	55.9	54.4
Debtors days	33	33	1	2
Fixed assets t/o (x)	2.2	2.2	2.3	2.7
Interest coverage (x)	262	119	204	245
Current ratio	1.3	1.5	1.8	2.1
Debt/EBITDA	0.0	0.0	0.0	0.0
Gross debt/Equity (x)	0.0	0.0	0.0	0.0
Adjusted debt/Equity (x)	0.0	0.0	0.0	0.0

Operating ratios (x)				
Year to March	**FY19**	**FY20**	**FY21E**	**FY22E**
Total asset turnover	0.7	0.6	0.6	0.6
Fixed asset turnover	2.2	2.2	2.3	2.7
Equity turnover	0.8	0.7	0.6	0.6

Valuations parameters				
Year to March	**FY19**	**FY20**	**FY21E**	**FY22E**
Diluted EPS (INR)	5.5	5.9	6.0	7.2
Y-o-Y growth (%)	*25.2*	*7.8*	*2.7*	*19.6*
CEPS	5.8	6.4	6.6	7.8
Diluted P/E (x)	30.6	28.4	27.6	23.1
Price/BV (x)	13.6	12.8	10.4	8.5
EV/Sales (x)	18.5	18.1	16.3	13.3
EV/EBITDA (X)	23.2	23.0	20.6	16.7
Dividend yield (%)	0.0	1.5	1.8	2.2

Additional Data

Directors Data

Mr. Rajiv Srivastava	MD and CEO	Mr. Satyanarayan Goel	Non-Executive Chairman
Prof. Kayyalathu Thomas Chacko	Independent Director	Mr. Tejpreet S. Chopra	Independent Director
Ms. Sudha Pillai	Independent Director	Mr. Gautam Dalmia	Non-Executive Director
Mr. Ajeet Kumar Agarwal	Non-Executive Director		

Auditors - B S R & Associates LLP

as per last annual report

Holding - Top 10

	Perc. Holding		Perc. Holding
TVS SHRIRAM GROWTH FUND 1	13.11	DALMIA POWER LTD	10.02
Capital Group Cos Inc	6.85	Mirae Asset Global Investments Co	6.60
AGRI POWER & ENGINEER SOL	5.00	Fibanc Mixto Renta Fija FIM	4.78
RIMCO MAURITIUS LTD	4.55	RURAL ELECTRIFICATION CORP	4.10
FMR LLC	3.85	Reliance Capital Trustee Co Ltd	3.78

as per last available data

Bulk Deals

Data	Acquired / Seller	B/S	Qty Traded	Price
13-Sep-19	Amansa Holdings Private Limited	BUY	1,09,41,482	115
13-Sep-19	Agri Power And Engineering Solutions Private Limited	SELL	93,78,396	115
04-Feb-20	NIPPON INDIA MUTUAL FUND - NIPPON INDIA GROWTH FUND	BUY	22,00,000	167
04-Feb-20	NIPPON INDIA MUTUAL FUND - NIPPON INDIA SMALL CAP FUND	BUY	55,00,000	167
04-Feb-20	LSVP VIII MAURITIUS	SELL	90,98,590	167
13-Mar-20	WARD FERRY ASIA FUND LTD.	BUY	38,56,147	144
13-Mar-20	AMANSA INVESTMENTS LTD	SELL	47,25,552	145
15-May-20	WESTBRIDGE CROSSOVER FUND LLC	SELL	37,33,330	161
26-May-20	Westbridge Crossover Fund Llc	Sell	18,65,329	165

in last one year

Insider Trades

Reporting Data	Acquired / Seller	B/S	Qty Traded
17-Sep-19	Akhilesh Awasthy	Sell	16,198
27-Sep-19	Satyanarayan Goel	Sell	22,000
01-Nov-19	Akhilesh Awasthy	Sell	51,694
01-Nov-19	Prasanna Rao	Sell	15,000
01-Nov-19	Satyanarayan Goel	Sell	47,112
04-Nov-19	Akhilesh Awasthy	Sell	50,100
04-Nov-19	Satyanarayan Goel	Sell	31,109
11-Nov-19	Akhilesh Awasthy	Sell	99,728
15-Nov-19	Satyanarayan Goel	Sell	28,228
20-Nov-19	Satyanarayan Goel	Sell	39,291
10-Feb-20	Satyanarayan Goel	Sell	23,412

in last one year

RATING & INTERPRETATION

Company	Absolute reco	Relative reco	Relative risk	Company	Absolute reco	Relative reco	Relative Risk
Adani Power	REDUCE	SU	H	CESC	BUY	None	None
India Grid Trust	BUY	SP	M	JSW Energy	BUY	SO	M
NTPC	BUY	SO	L	Power Grid Corp of India	BUY	SO	L
PTC India	BUY	None	None	Tata Power Co	BUY	SP	M

ABSOLUTE RATING

Ratings	Expected absolute returns over 12 months
Buy	More than 15%
Hold	Between 15% and - 5%
Reduce	Less than -5%

RELATIVE RETURNS RATING

Ratings	Criteria
Sector Outperformer (SO)	Stock return > 1.25 x Sector return
Sector Performer (SP)	Stock return > 0.75 x Sector return
	Stock return < 1.25 x Sector return
Sector Underperformer (SU)	Stock return < 0.75 x Sector return

Sector return is market cap weighted average return for the coverage universe within the sector

RELATIVE RISK RATING

Ratings	Criteria
Low (L)	Bottom 1/3rd percentile in the sector
Medium (M)	Middle 1/3rd percentile in the sector
High (H)	Top 1/3rd percentile in the sector

Risk ratings are based on Edelweiss risk model

SECTOR RATING

Ratings	Criteria
Overweight (OW)	Sector return > 1.25 x Nifty return
Equalweight (EW)	Sector return > 0.75 x Nifty return
	Sector return < 1.25 x Nifty return
Underweight (UW)	Sector return < 0.75 x Nifty return

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Aditya Narain
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Coverage group(s) of stocks by primary analyst(s): *Power*

Adani Power, Adani Transmission, CESC, India Grid Trust, JSW Energy, NTPC, PTC India, Power Grid Corp of India, Tata Power Co

Recent Research

Date	Company	Title	Price (INR)	Recos
28-May-20	**India Grid Trust**	Resilience at play; *Result Update*	101	Buy
21-May-20	**JSW Energy**	Prudence punctures momentum gusto; *Result Update*	41	Hold
19-May-20	**Tata Power**	Operationally in line; overhangs receding; *Result Update*	32	Buy

Distribution of Ratings / Market Cap

Edelweiss Research Coverage Universe

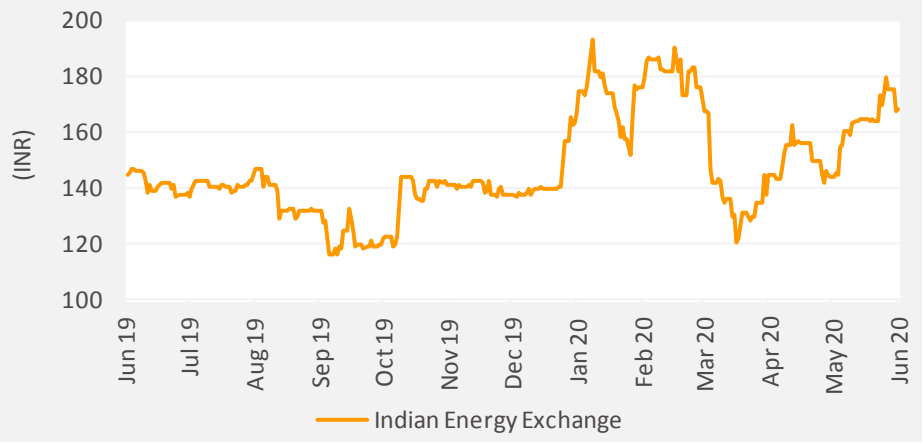
	Buy	Hold	Reduce	Total
Rating Distribution*	161	67	11	240
* 1 stocks under review				

	> 50bn	Between 10bn and 50 bn	< 10bn
Market Cap (INR)	156	62	11

Rating Interpretation

Rating	Expected to
Buy	appreciate more than 15% over a 12-month period
Hold	appreciate up to 15% over a 12-month period
Reduce	depreciate more than 5% over a 12-month period

One year price chart



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