

Management discussion and analysis



Indian economic overview

After registering a GDP growth of over 7% for the third year in succession in 2016-17, the Indian economy headed for somewhat slower growth, estimated to be 6.7% in 2017-18 while world GDP growth was 3.8% during the year (WEO, Apr'18). Even with this lower growth for 2017-18, GDP growth averaged 7.3% for the period from 2014-15 to 2017-18, the highest among the major economies. This was achieved on the back of lower inflation, an improved current account balance and a reduction in fiscal deficit-to-GDP ratio. The year under review was marked by various structural reforms being undertaken by the Central Government. In addition to GST introduction, the year witnessed significant steps towards resolution of problems associated with NPA levels, FDI liberalisation and bank recapitalisation. (Source: CSO, Economic Survey 2017-18)

FY2017-18 versus FY 2016-17

	2017-18*	2016-17
GDP growth	6.7%	7.1%
GVA growth	6.5%	7.1%
Farm growth	3.4%	6.3%
Manufacturing growth	5.7%	7.9%
Power and Gas growth	7.2%	9.2%
Mining growth	2.9%	13%
Construction growth	5.7%	1.3%
Trade, hotel, transport, telecom growth	8%	7.2%
Financials, realty growth	6.6%	6%
Public, admin, Defense growth	10%	10.7%
Per capita income growth	5.4%	5.7%

*Estimated

(Source: Ministry of Statistics and Programme implementation (2017-18))

Outlook

The World Bank projected India's economic growth to accelerate to 7.3% in 2018-19 and 7.5% in 2019-20. Strong private consumption and a growth in the services sector are expected to continue supporting economic activity. Private investments are expected to revive as the corporate sector adjusts to the GST. Over the medium-term, the introduction of the GST is expected to catalyse economic activity and fiscal sustainability by reducing the cost of tax compliance drawing informal activity into the formal sector and expanding the tax base. The recapitalisation package for public sector banks announced by the Government of India is expected to resolve banking sector balance sheets, enhance credit to the private sector and spur investment inflows. (Source: IMF, World Bank)

Indian power sector overview

India's power sector is one of the most diversified in the world, reconciling conventional sources (coal, lignite, natural gas, oil, hydro and nuclear power) and viable unconventional sources (wind, solar, agricultural and domestic waste). To meet increasing electricity demand, massive addition to the installed generating capacity is required. India's per capita electricity consumption increased from 671.9 kilowatts per hour in FY2006-07 to 1,122 kilowatts per hour FY2016-17. Despite this healthy increase, per capita electricity consumption continues to be significantly lower than major and developing economies.

Per capita power consumption across countries (kilowatt-hours)

Canada	15,546
United States	12,984
Germany	7,035
France	6,940
Russia	6,603
United Kingdom	5,130
Malaysia	4,596
South Africa	4,198
China	3,927
World (Average)	3,125
Brazil	2,601
India	1,122

Power generation

India has an electricity generation capacity of 344 gigawatts of which thermal power accounts for ~65% of the generation capacity, followed by renewable, hydro and nuclear at ~20%, ~13% and ~2%, respectively. The Indian power sector is undergoing a gradual transition from a fossil fuel centric approach to an energy efficient and renewable centric approach in an indeed impressive way. The Government of India has been placing significant emphasis on aspects such as: electrification of villages; power for all around the country to provide on a round-the-clock basis. The country added ~121 gigawatts of capacity during the past five years. The country's present installed capacity could have possibly generated >1,700 billion units. However due to limited availability of domestic coal, the actual generation including renewable energy in fiscal 2017-18 was 1,303 billion units. This implied that the generation assets were operating sub-optimally and there was indeed potential to generate more and meet the increasing demand. The country has conventionally faced peak demand and energy shortage, despite tremendous growth in capacity addition in the past six decades. While many states such as Punjab, Himachal Pradesh, Haryana, Jharkhand, Odisha, Telangana and Tamil Nadu indicate a near-surplus situation, peak deficit in

states in Northern India was ~3.8% as of March 2018. Jammu & Kashmir continued to experience the highest peak deficit at 20% as of March 2018. (Source: CEA)

Growing focus on renewables

In 2017-18, India added more generation capacity from renewable energy than from conventional sources. Between April 2017 and March 2018, the country added ~11,778 megawatts of renewable energy capacity - >2x of ~5,400 megawatts of capacity addition in the thermal and hydro power sectors during the same period. With ~20% share of the total generation capacity in the country coming from renewables capacity, the latter stood at 69.02 gigawatts. Lower electricity tariff from renewable sources on account of developments in technology, equipment availability at lower prices and renewable purchase obligations helped renewable energy achieve grid parity. Increased focus on reducing carbon footprints, ensuring RPO compliance, waiving off of transmission charges and growing REC trades helped attract investments in the country's renewables sector. The Power Ministry has outlined a roadmap to achieve 175 gigawatts of installed renewable power by 2022. The renewable energy sector (especially solar) is all set to dominate India's energy mix across the coming decades.

Electricity generated

Year	Production including renewables (in billion units)
FY14	1,027
FY15	1,105
FY16	1,168
FY17	1,236
FY18	1,303

[Source: CEA]

Power transmission

The growth in India’s transmission capacity has been commensurate with the growing need for congestion-free transmission, resulting in reduced shortages in congestion-prone regions namely Northern and Southern India, reduced differential in area clearing prices, increased number of ‘one grid, one price’ days and a reduction in loss in traded volumes on the exchange due to congestion. The transmission system capacity of 765 kilovolts, 400 kilovolts, 220 kilovolts and HVDC stood at 3,90,970 kilometres and 8,26,958 megavolt-amperes of transformation capacity of sub-stations, as on 31st March 2018. The total transmission capacity of the inter-regional links stood at 86,450 megawatts as on 31st March 2018. The interregional transmission capacity grew >3x in five years (2012-17). The incremental transmission capacity during 12th Five Year Plan period helped improve the connectivity between regional corridors. India’s transmission network has been demarcated into five transmission regions viz. Northern, Eastern, Western, Southern and North Eastern. Rapid economic growth and increased electrification warranted the transmission sector to move towards an integrated system as generation capacities were distributed unevenly in different regions. While thermal capacity is concentrated in the coal-rich Eastern region, hydro capacity is concentrated in the hilly North and North East, while renewable sources like wind or solar are concentrated in Western and Southern India. The integration of regional

grids that began with asynchronous inter-regional links facilitating a limited exchange of regulated power was subsequently graduated to high-capacity synchronous links between the regions. Initially, the inter-regional links were intended to exchange operational surpluses among regions. Later, larger integration among inter-regional links helped connect generation projects with beneficiaries across regional boundaries. In 2009, the National Load Dispatch Centre began supervising flows on inter-regional lines, while monitoring operations of the National Grid and cross-border transactions with neighbouring countries.

Power distribution

The power distribution system, the last leg of the electricity sector value chain, provides power to consumers. Until some time ago, State Electricity Boards owned all distributions networks, which changed following the entry of private players in the distribution segment across a few large cities. Private distribution companies are operating in Delhi, Kolkata, Mumbai, Ahmedabad and Surat. Some distribution companies in Maharashtra, Madhya Pradesh and Uttar Pradesh have adopted the input-based distribution franchisee models.

Power consumption

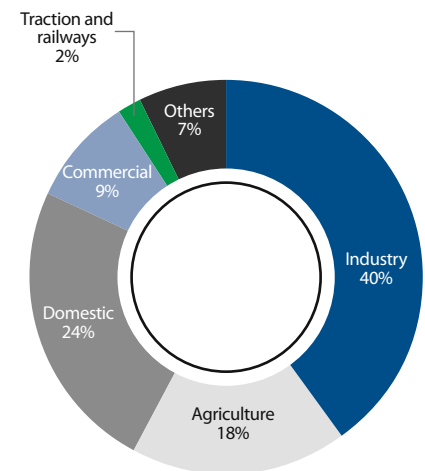
The industrial sector continues to be the primary electricity consumer in India, accounting for a 40% share in 2016-17. The electricity consumption in the country’s industrial and domestic segments increased faster compared to other sectors between 2007-08 and 2016-17 at CAGRs of 8.46% and 7.93%, respectively. Distribution sector, the revenue-generating link of the power sector, remained the weakest link in the value chain. The consolidated outstanding debt of discoms was pegged at ₹3.96 Lakh Crores as on 30th September 2015, owing to accumulated financial losses as well as aggregate AT&C losses (even as there has been a decline in the last few years from 29.24% during 2007-08 to 22.5% during 2016-17 in the first nine months).

Short-term electricity market in India

The size of India’s short-term power market

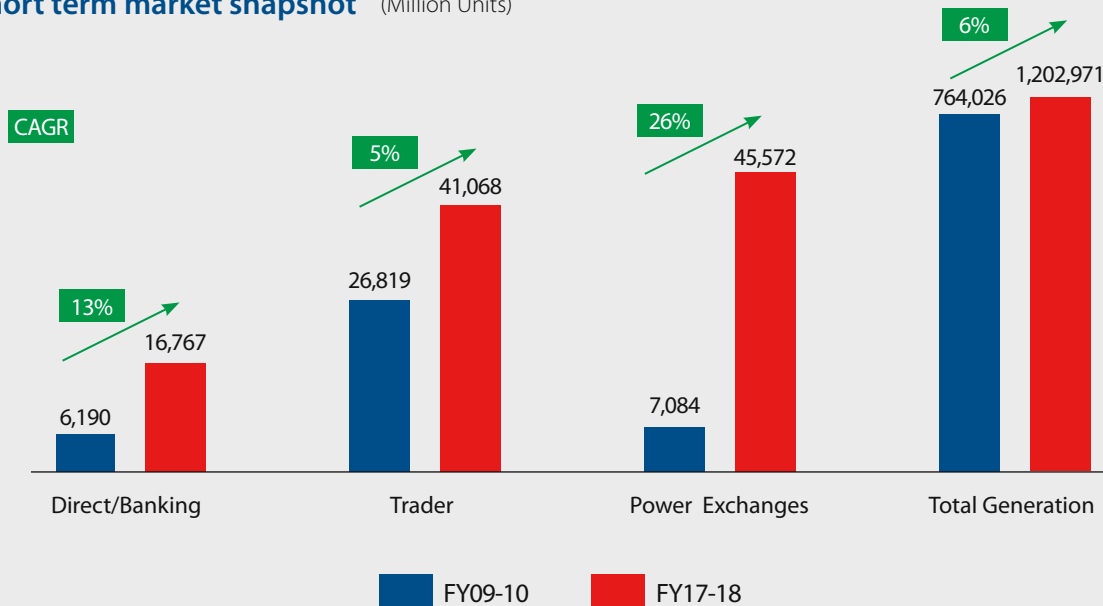
grew from 119 billion units in FY2016-17 to 128 billion units in FY2017-18. The volume of electricity transacted through traders increased from 34.6 billion units in the FY2016-17 to 41.1 billion units in FY2017-18, whereas volume transacted through power exchanges increased from 40 billion units in FY2016-17 to 45.6 billion units in the FY2017-18. Electricity traded directly between distribution companies declined from 21.4 billion units in FY2016-17 to 16.8 billion units in FY 2017-18, while the volume of electricity transacted through DSM increased from 23.2 billion units in FY2016-17 to 24.2 billion units in FY2017-18. Correspondingly, the share of traders increased from 29% of the total short-term power traded in FY2016-17 to 32% in FY2017-18. During the same period, share of direct bilateral (traded between distribution companies) declined from 17.9% to 13.1%, and that of DSM declined from 19.5% to 19%. The total volume of power traded through the exchanges have grown at a CAGR of 26% between FY2009-10 and FY2017-18. The total volume of power exchanged for FY2017-18 stood at 45.6 billion units accounting for a ~36 % share of the total short-term electricity traded in the country. There has been a growing preference for short-term power transactions, with exchanges emerging as the most organised and dominant transaction platform.

Consumption of electricity by sectors



Total consumption = 10,66,268 million units

Short term market snapshot (Million Units)



Government initiatives

Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA): The Saubhagya scheme was launched on 25th September 2017 to provide free electricity connections to all households (both APL and poor families) in rural areas and economically-disadvantaged families in urban areas. India has ~4 Crores un-electrified households and the Central Government has targeted to provide them electricity connections by December 2018. The Rural Electrification Corporation (REC) has been designated as the nodal agency for the Saubhagya scheme.

Direct benefit transfer: The transfer of governmental subsidies and payments directly into the bank accounts of beneficiaries will help reduce burden on distribution companies in the power sector.

National Electricity Policy (NEP): The NITI Aayog proposed a draft of the National Energy Policy (NEP) with four key objectives: access at affordable prices, improved security and independence, greater sustainability and economic growth. The NEP proposes actions to meet the objectives in such a way that India's economy is 'energy-ready' by 2040.

Solar parks: Solar parks eased hurdles for

developers to install solar power assets and now offer an attractive proposition to

The transfer of governmental subsidies and payments directly into the bank accounts of beneficiaries will help reduce burden on distribution companies in the power sector.

develop solar power generation capacities. The Solar Mission plans to develop 40 gigawatts of solar capacity through solar parks.

Green energy corridors: The Central Government has taken steps to develop a grid-connected network for the transmission of renewable energy produced from various renewable energy projects, recognising the need for transmission infrastructure to cope with increasing renewable energy capacity.

Once complete, the green energy corridors are expected to facilitate evacuation from renewable projects, strengthening the interstate sale of renewable energy.

Other initiatives: The Central Electricity Regulatory Commission (CERC) proposed several new initiatives such as: draft regulations for transmission planning, draft regulations for connectivity and general network access, constituted task force to review framework of sharing of interstate transmission charges and losses and a report from the committee outlining CERC-recommended linking of deviation settlement rates with prices determined in day-ahead market of power exchanges. Besides these initiatives, the Central Electricity Regulatory Commission also notified amendments in its IEGC Regulations 2010 and sharing of inter-state charges and losses regulations to waive off interstate transmission charges for solar and wind projects. The Central Electricity Authority issued a draft of Conduct of Business Rules for facilitating cross-border transactions and trade in electricity as per Ministry of Power, Government of India's Guidelines on Cross Border Trade of Electricity.

Growth drivers

Power procurement cost optimisation by distribution companies

The short-term market has provided distribution companies with the option to hold a mix of long-term and short-term contracts and optimise costs. Subdued demand for power in the past three years, combined with a lag in long-term capacity contracting, prompted generators to market surplus power in the short-term market. The average market clearing price discovered at the exchange was ₹2.7 per kilowatt-hour in FY2015-16, and ₹2.4 per kilowatt-hour in FY2016-17 and ₹3.3 per kilowatt-hour in FY2017-18 even as the average power procurement cost through bilateral contracts remained higher, incentivising distribution companies to optimise their power portfolios through exchange procurement. Besides, there is a greater recognition that the short-term market represents a better financial proposition over the excess contracting of long-term power purchase agreements beyond base demand, requiring the payment of fixed charges even when there is no procurement of power during the non-peak season.

Cost optimisation by large consumers

The competitive price discovered at the exchanges also benefits large industrial and other consumers (connected load >1 megawatt), provided they are permitted open access by distribution companies. The exchanges played a significant role in facilitating open access trade. Consumers opting for open access are required to pay network usage charges and losses and also open access charges such as cross-subsidies and additional surcharges. With the lower price discovered on the exchange, even after paying above charges, open access consumers can optimise their power procurement cost by purchasing power through the exchanges. The implementation of open access and removal of procedural barriers could make open access transactions attractive for consumers, benefiting the exchanges.

Adequate supply for the short-term market

Large coal-based generation capacity is operating at a plant load factor of <60%, whereas it has a potential of operating at plant load factor of >80%. A major portion of this coal-based capacity remained underutilised. About 25 gigawatts of generation capacity in the private sector does not have long-term contracts. These

capacities were selling power in the short-term market. In addition to the above installed capacity, in the 13th Five Year Plan, a capacity addition of 50 gigawatts of conventional capacity and more than 100 gigawatts of renewable capacity is planned. There is a possibility that following this medium-term capacity addition, there could be a national power surplus across the foreseeable future.

Power for all, rural electrification and Make in India

The Government of India's Power for all scheme aims at providing households and industries 24x7 access to electricity. This, along with rural electrification and Make in India campaign of GoI, aim to increase the per capita electricity consumption, which at 1,122 kilowatt-hours is one of the lowest among major economies.

Phasing out of old plants

Due to environmental, technological and commercial concerns, the Government of India intends to phase out thermal generating capacity (>25 years). This capacity stood at >40,000 megawatts with most of the capacity belonging to State and Central Government utilities and tied up with distribution companies on a long-term basis. The phasing out of these plants could shift long-term demand from distribution companies to the short-term market.

Seasonality factors

There is demand variation of state electricity distribution companies in India due to their geographical spread and varied climatic conditions. States with hydroelectric potential (Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Sikkim) are power-surplus in summer and monsoons but deficit in winter. Some states like Punjab and Haryana have power requirements in the summer and monsoon seasons but are surplus in winters – a diversity that provides power trading opportunities. For managing seasonal variations, distribution companies can utilise the short-term market instead of entering long-term purchase power agreements that warrant the payment of fixed charges even when there is no non-peak power procurement.

Improvement in transmission infrastructure

Inter-regional transmission capacity grew by >3x to ~86,450 megawatts for FY2017-18 from 27,750 megawatts for FY2011-12.

Enhanced transmission capacity is expected to reduce transmission congestion, and allow unrestricted short-term transactions through exchanges.

Improving health of distribution companies through the Ujwal Distribution Companies Assurance Yojana (UDAY)

The Ujwal Distribution Companies Assurance Yojana (UDAY) was initiated by the Government of India to improve the financial health of distribution companies. UDAY allowed states to take over 85% of total debt outstanding in the books of their respective distribution companies as of September 30, 2015, and repay lenders by selling bonds. Distribution companies are expected to issue bonds for the remaining debt. With states issuing UDAY bonds worth approximately ₹2.32 Lakh Crores as of August 2017, it is expected that distribution companies' financial health will improve owing to a reduced interest burden following the transfer of debt to their respective State Governments. UDAY envisages distribution companies to reduce their AT&C losses to <15% by FY2018-19. If the financial losses of distribution companies are not reduced, the future losses of distribution companies would be taken over by the respective states in a graded manner. The Scheme is expected to encourage distribution companies and states to ensure loss reduction. Such loss reduction will bring more revenues, enhancing their ability to purchase power for meeting their requirements.

Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY)

Under Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), a rural electrification scheme, the Central Government has achieved 100% village electrification, driving demand for power in the country.

Outlook

India's power demand is projected to grow to 1,905 billion units by FY2021-22 from 1,348.4 billion units in FY2016-17 on the back of industrial expansion, growing per capita incomes, enhanced rural electricity availability and GDP growth. The Government of India's focus on projects like Power for all and SAUBHAGYA is expected to drive demand in the power sector in the coming years.

Business review

Indian Energy Exchange Limited (IEX) is India's premier power trading platform.

The exchange provides an automated platform for physical delivery of electricity.

The exchange is marked by efficient price discovery and offers participants the opportunity to trade in a variety of energy products.

The exchange platform increases the accessibility and transparency of the power market in India and enhances the speed and efficiency of trade execution.

More than 6,200 participants are registered on the exchange and located across utilities

from 29 States, 5 Union Territories (UTs) by the close of 2017-18. These participants included 55 distribution companies, over 450 electricity generators, over 3,900 open access consumers and 1,050 renewable energy generators.

The open access beneficiaries comprised industries like metal, textile, cement, ceramic, chemicals, automobiles, information technology, food processing, institutional and commercial entities.

IEX is the largest exchange for the trading of a range of electricity products in India. The Company is professionally-managed. IEX received three ISO certifications:

ISO 9001:2008 for quality management, ISO 27001:2013 for information security management and ISO 14001:2004 for environment management.

IEX was recognized as the 'Leader in Power Market Development' by Council of Power Utilities in 2015 and awarded the Exchange of the Year Award by Power Business View in 2014. IEX was listed on the Indian stock exchanges in October 2017 (NSE: IEX, BSE:540750).

IEX has earned respect for its ability to create customized products in line with market gaps and customer needs.

Product overview

Electricity Segment

A total of 46,215 MU were traded in the electricity segment of IEX, an increase of 14% over the last year trade volume of 40,528 MU.

Day Ahead Market

Trading in the DAM commenced on the Exchange in June 2008. The DAM provides for trading of 96 separate electricity contracts, of 15 minutes time blocks each, for the subsequent day, commencing at midnight. IEX participants are able to participate in a uniform price double-sided closed auction process. Buyers and sellers electronically submit bids during the market session and the matching of bids is done on double-sided closed auction mechanism with uniform market clearing price. The minimum allowable quantity to be bought and sold is 0.1 MW, with a minimum increment size of 0.1 MW of electricity and minimum price increment of Re 1.0 per MWh, enhancing trading convenience.

Some 44,842 MU were traded in DAM in 2017-18 in comparison to 39,783 MU in 2016-17 indicating a growth of 13%. The

average daily volume was 123 MU, nearly 13% up from 109 MU in the previous fiscal.

Key highlights of the Day-Ahead Market of IEX are as below:

One Nation-One Grid: One price was realized on 268 days in DAM in FY2018 compared to 23 days in FY2017, implying that transmission congestion declined.

Highest volume traded in DAM: 182.99 million units were traded on September 14, 2017.

Total volume transacted in the short-term market by DAM: 35.1% as per CERC MMC reports, from April 2017 till March 2018.

Sell bids: 72,956 MU of sell bids were received in FY 18, while sell bids of 77,141 MU were received in FY 2017 (5% lower than previous year).

Buy bids: Buy bids of 57,133 MU were received, almost 20% more than 47,699 MU in FY 2017.

Market Clearing Price (MCP): The market remained a faithful reflection of the national

reality: average MCP was ₹3.26/unit in FY18, about 35% more than ₹2.41/unit in previous fiscal due to increase in buy bids and decrease in sell bids on the exchange, caused by lower availability of coal supply.

Final cleared volume: Final cleared volume was 44,842 MU, increased 13% from the previous year.

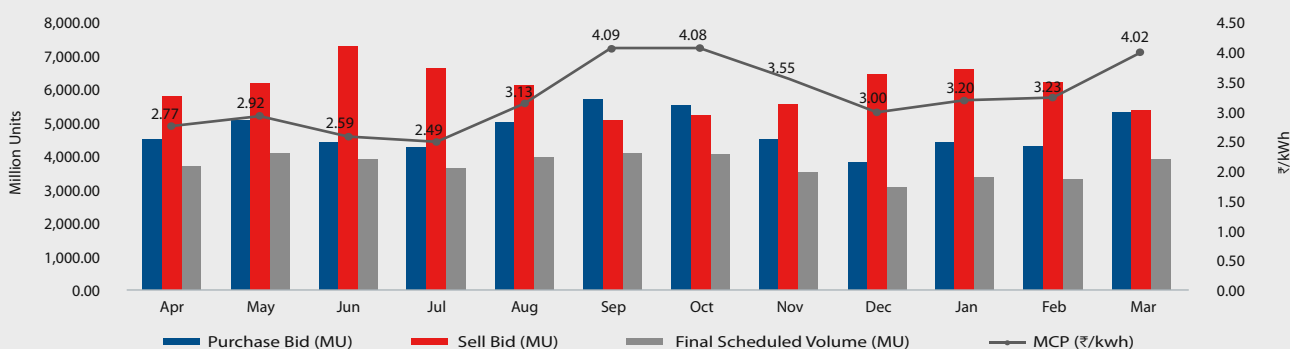
Participants: Total registered participants increased from 5,807 in 2016-17 to 6,238 in 2017-18, reflecting a growth of 7.4%.

Congestion:

Northern and Southern States were less affected due to congestion in the Inter-State transmission corridors.

- The East -> South and West -> South corridors were congested for about 8.1% of the time
- The East -> North and West -> North corridors were congested for about 1.7% of the time
- Overall, 279 MU could not be traded in FY'18 due to congestion while in the last fiscal 1,527 MU were lost.

Day ahead market trend – 2017-18



Term-ahead market

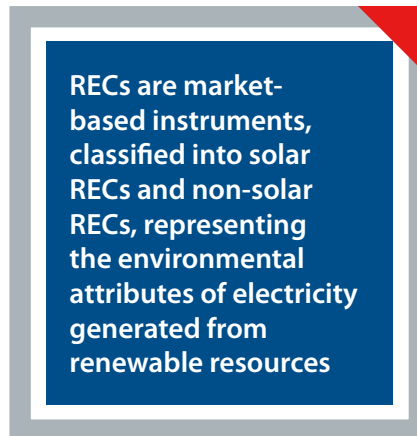
Trading in the TAM commenced on IEX in September 2009. Participants were able to trade contracts for the delivery of electricity for the time frame other than for the DAM electricity contracts, and for periods up to the subsequent week. Buyers and sellers electronically submit their bids during the market session. The TAM contracts cover a range of options for electricity for the 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, to manage their electricity portfolios for different durations. These contracts are region-specific and can be differentiated on a time-of-day basis, for example, for all 24 hours, peak times and off-peak times. The exchange enables trading in day-ahead contingency contracts, intra-day contracts, daily contracts through the continuous trade methodology, i.e., on a real-time basis with price and time priority as the matching criteria. The exchange enables trading in weekly contracts through a uniform price auction methodology.

TAM witnessed 1,373 MUs of power scheduled in 2017-18 compared to 744 MUs reported in 2016-17. The highest volume traded so far in this segment was achieved in Nov' 2017 when close to 317 MUs were traded.

Certificate Market

Renewable energy certificates: The trading of RECs on IEX commenced in

February 2011. RECs are market-based instruments, classified into solar RECs and non-solar RECs that represent 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 each month; they seek to address the mismatch between the availability of electricity generated through renewable resources and the requirement for certain entities to ensure that a proportion of their annual electricity consumption is addressed through renewable resources. The renewable energy generators sell electricity to distribution companies at their average power purchase cost, or utilize the same for captive consumption, or sell it to third parties, while selling the green attribute of the renewable electricity through RECs.

As per the regulations issued by the CERC, RECs are only permitted to be traded through power exchanges (like IEX). The floor and ceiling price of solar and non-solar RECs is periodically revised by the CERC and the price discovered for RECs remains between such floor and ceiling prices. The exchange reported 93.29 Lakh REC certificates traded in 2017-18, an increase of 102% from 46.19 Lakh REC certificates traded in 2016-17.

Energy saving certificates (ESCert):

IEX received regulatory approval for the commencement of trading in ESCerts. The Company commenced trading of ESCerts on September 26, 2017. This market-based instrument was 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 were identified and were required to reduce their specific energy consumption for every compliance period in accordance with specified targets. Consumers achieving reductions above their targets are issued ESCerts that are tradable on IEX. Consumers unable to meet their targets in accordance with the PAT scheme are required to buy ESCerts to offset their shortfall. Consumers achieving reductions above their targets can either bank their ESCerts for the next compliance period or sell them on the Exchange. As per the regulations issued by the CERC, ESCerts are only permitted to be traded through power exchanges, such as our Exchange.

During the year under review, the Exchange traded 12.99 Lakh energy saving certificates.

Human resource management

IEX is a passion-driven organization comprising dedicated professionals with rich industry experience. As on 31st March 2018, the Company comprised a human capital of 116 people with various competences; engineers, MBAs and finance professionals. The Company is young with an average age of 33 years.

IEX is marked by an open culture, cascading from the senior levels, marked by accessibility, responsiveness, customer-orientation and a culture of urgency. The Managing Director remains accessible to all; every single email is addressed in the shortest time; all communication are solution-focused; the one word that faithfully encapsulated the IEX culture is 'Now!'.

Training programs at regular intervals are conducted to impart the necessary knowledge and skills to employees and keep them updated on latest sector developments. During the financial year 17-18, a total of 18 Trainings were organised covering technical & behavioral aspects which were related to personal, interpersonal, managerial and organizational needs.

The Company also trained employees in line with industry needs, besides deputing executives to prominent institutes like IIT and ASCI etc., to engage in technical/behavioral training, strengthening their relevance to the Company's competitiveness and direction. Training experts like Franklin R Covey, have also been engaged by the Company to train

its middle and senior employees.

IEX promoted job rotation across specific functions to minimise role monotony, enhance skill-sets, increasing job contemporariness and reinforcing employee productivity. Over the years, this strengthened the ability of executives to take informed decisions, strengthening competitiveness.

The Company provided annual health checks for employees, sports events, yoga sessions, which focused on employee fitness and encouraged get-togethers that made it possible for families to meet and inculcate a cohesive environment.

Every month, we celebrate birthday of employees and welcome new joiners with

special gift and arrange refreshments for all employees. We encourage employee engagement activities. We make sure to celebrate different occasions and festivals throughout the year such as Republic Day, Women's Day, Yoga Day, Diwali, Christmas and New Year. All this inculcates a culture of togetherness and harmony. Also, we

focus on maintaining the diversity at IEX. We have employees from different regions and religion.

Recently, we have revised all our policies which are at par with industry standards. The policies are employee friendly, flexible and they have been well accepted and

appreciated by all the employees.

The result is in the numbers: employee retention continues to be favourable compared to the industry average.

Managing risk at IEX

The Company is exposed to normal industry risk factors like Regulatory risk, IT risk, Legal Risk, Operational risk, Market risk etc. the Company takes adequate steps to monitor, measure and mitigate these risks through a systemic risk management framework.

IEX has an approved Risk Management Policy, which identified risks across the following 13 risk categories.



The major risks identified by the businesses and functions are systematically addressed through mitigating actions and on a continuous basis. The Company's internal control systems are also in place and are adequate considering the nature of its business and the complexity of its operations. IEX follows a definitive Enterprise Risk Management (ERM) framework which consists of practices relating to identification, analysis, evaluation, control, mitigation & monitoring of risks related to key business objectives. The mitigation status of the risks identified is placed before the ERM committee on periodic basis.

The brief about various major risks are provided below:

Regulatory risk: a. The restriction on open access emerges as a risk for the development of short term power market in India. Although open excess aims at making the power market more competitive and all

state regulations favour grant of open access to industries and large consumers having connected load over and above 1MW, its implementation emerges as a key challenge across several states by imposition of tariff or non tariff barriers.

Mitigation: With the government's focus on improving the financial and operational performance of discoms, this may enable them to grant open excess to large industrial customers at competitive charges. In this context, it can be expected that the restrictions on open access would be gradually removed, that will aid power exchanges in improving volumes in long run.

b. IEX is governed by Central Electricity Regulatory Commission (Power Market) Regulations, 2010 and also the Business Rules, Rules & Bye – laws approved by CERC. Any deviation from any of the provisions would be of significant risk to IEX.

Mitigation: Market surveillance committee & risk management committees are formed as mandated by CERC, and the reports are submitted at regular intervals. The state level regulations are governed by SERCs. IEX engages into regular policy advocacy with CERC and SERCs for the any change in regulation that may adversely affect our business.

Technology risk: The use of obsolete technology as well as threat to data security could affect the Company's business.

Mitigation: The Company's cutting-edge technology can address 100,000 participants against the present participation of more than 6,000. The Company's technology provides a capability to handle 30 bid areas against 13 being currently used. IEX is ISO 27001-certified for information security. The Company has a disaster recovery site in Mumbai to quickly provide backup in case of a break down.

Legal Risk: Legal risk consists of various factors like membership criteria fulfilment, incorrect member enrolment, non-compliance to tax or accounting compliances etc.

Mitigation: Mitigation measures include systematic monitoring of the risk parameters and implementation of risk mitigation strategies. The membership data are checked through a maker-checker mechanism.

Operational Risk: Operational risk consists of various risks that have the potential to

affect the regular business operation of the Company. This may include factors like margin maintenance, malfunctioning of soft wares, access to trading data etc.

Mitigation: Mitigation measures include regular surveillance of the trading mechanism and reporting any error to the CERC at periodic intervals.

Market Risk: The Company's revenues could be adversely affected if it is unable to maintain or grow electricity contract volumes.

Mitigation: The Company derives a majority

of its revenues from transaction fees and annual subscription fees. The Company's ability to maintain / increase participants and volume of electricity contracts traded resulted in increased revenues.

IEX also follows a defined Enterprise Risk Management (ERM) framework for identifying, qualifying & assessing strategic, operational and external risks that may affect the business of the Company.

The ERM framework also provides a structure for determining a response strategy, and monitoring progress.

The risk management framework in IEX consists of the following steps:



The Enterprise Risk Management Committee (ERMC) meeting is held every six months at IEX, wherein the status of risk monitoring & remediation are presented before the committee. The ERM Committee is chaired by Prof KT Chacko, Independent Director of the Company.

Finance review

Key performance metrics

Parameters	2017-18	2016-17	Growth (%)
Total revenue (₹ Lakhs)	25,607.14	23,287.18	9.96%
EBIDTA (₹ Lakhs)	21,049.51	17,768.76	18.46%
PBT (₹ Lakhs)	19,999.51	17,385.20	15.04%
PAT (₹ Lakhs)	13,168.52	11,358.13	15.94%
Earnings per share (₹) -Basic	44.61	39.06	14.21%
Earnings per share (₹) - Diluted	44.05	37.67	16.94%

Profit & Loss statement analysis

Revenue:

The Company derives its revenues from transaction fees, annual subscription fees, admission fees, interest/dividend income, gains on sale of investments, and other miscellaneous income.

During FY 2017-18, the Total Revenue of the Company increased by 9.96% from ₹23,287.18 Lakhs to ₹25,607.14 Lakhs. Out of which the Operating Revenue increased by 16.01% from ₹19,864.52 Lakhs to ₹23,044.80

Lakhs, and treasury income was lower. The treasury and other income was lower by 25.14% from ₹3,422.66 Lakhs to ₹2,562.34 Lakhs due to cash outflow on acquisition of Exchange Trading Software license, special dividend pay-out (for FY-2016-17) and lower interest rates during the year in comparison to previous year.

The Company continued to perform well during the fiscal with a net profit margin of 51.43%. During the year the Operating expenses (excluding Depreciation and

Finance Cost) decreased from ₹5,518.42 Lakhs in FY 2016-17 to ₹4,557.63 Lakhs in FY 2017-18, registering a fall of 17.41%.

The Profit before Tax (PBT) for the FY 2017-18 was at ₹19,999.51 Lakhs, as against ₹17,385.20 Lakhs in the last financial year, registering a growth of 15.04%.

During FY 2017-18, the Profit after Tax (PAT) increased by 15.94% to ₹13,168.52 Lakhs, as against ₹11,358.13 Lakhs in FY 2016-17.

Expenses:

The Company's expenditure mainly consists of employee cost, operating and other expenses, interest and depreciation / amortization charges as detailed below:

IEX's expenditure (₹ in Lakhs)

Particulars	FY 2017-18	FY 2016-17	Change %
Employee benefit	2,407.69	1,547.88	55.55%
Finance cost	22.66	41.60	(45.53)%
Depreciation and amortization	1,027.34	341.96	200.43%
Other expenses	2,149.94	3,970.54	(45.85)%
Total expenditure	5,607.63	5,901.98	(4.99)%

Other expenses mainly includes costs / charges pertaining to rent, software/hardware related costs, business promotion, communication expenses, advertisement, repairs & maintenance, legal and professional, regulatory fee and various fees, CSR expenses etc.

The total expenditures during the year was of ₹5,607.63 Lakhs, which was lower by 4.99% in comparison to ₹5,901.98 Lakhs incurred during the previous year.

During the year the employee cost increased by 55.55% from ₹1,547.88 Lakhs to ₹2,407.69 Lakhs, primarily due to increase in the number of employees (mainly hiring of software team at Technology Center at Mumbai), annual increments, and payment of one-time bonus.

The rental cost increased from ₹210.69 Lakhs to ₹301.99 Lakhs, mainly due to acquiring of new office space on lease basis at the Mumbai for setting up of Technology Centre.

During the year the Technology related expenses decreased from ₹2,342.35 Lakhs to ₹511.22 Lakhs due to acquisition and internalization of trading software.

During the year the Legal & Professional expenses decreased from ₹718.63 Lakhs to ₹391.87 Lakhs, mainly, due to reduction in legal fee for Technology acquisition of trading software and other consultancy fee.

During the year the depreciation & amortization amount increased from ₹341.96 Lakhs to ₹1,027.34 Lakhs, mainly due to amortization of new Trading Software license acquired by the Company over its useful life.

Other expenses were of ₹2,149.94 Lakhs, which was lower by 45.85% in comparison to ₹3,970.54 Lakhs during the previous year, mainly due to saving of software development and maintenance cost post acquisition of the Trading Software License.

During the year, Contribution towards corporate social responsibility has increased from ₹206.58 Lakhs to ₹304.76 Lakhs

pursuant to Section 135 of the Companies Act, 2013. Gross amount required to be spent by the Company during the year was ₹301.69 Lakhs.

Provision for taxation:

During the year the Income Tax liability (provision) was of ₹5,272.23 Lakhs, as against the tax liability (provision) of ₹6,216.37 Lakhs made during the previous year, mainly due to higher tax depreciation available on Trading Software License acquired during the year. However this has resulted in increase in Deferred Tax liability. As on March 31, 2018 the Deferred Tax liability was of ₹1,558.76 Lakhs as against the Deferred Tax Assets of ₹189.30 Lakhs as on March 31, 2017.

Earnings Per Share

Earnings per equity share [face value ₹10/- per share]	FY 2017-18	FY 2016-17
Basic (₹)	44.61	39.06
Diluted (₹)	44.05	37.67

Basic EPS of the Company increased by 14.21% to ₹44.61 for the FY 2017-18 against ₹39.06 for the FY 2016-17 whereas Diluted EPS increased by 16.94% to ₹44.05 from ₹37.67 in the same period.

Shareholders' Funds**Share capital:**

As on March 31, 2018, the Company's share capital stood at ₹3,016.00 Lakhs, i.e., 3,01,59,992* equity shares of ₹10 each. (Previous year: ₹2,861.11 Lakhs i.e. 2,86,11,061* equity shares of ₹10 each and Compulsory Convertible Preference Shares (CCPS) of ₹151.64 Lakhs i.e. 15,16,431# CCPS of ₹10 each)

*Company's share capital is net of 1,68,632 equity shares of ₹10 each (yet to be granted) held by IEX ESOP Trust (previous year: 2,01,132 equity share of ₹10 each)

#During the year the outstanding 15,16,431 CCPS were converted into the 15,16,431 equity shares. Refer note 14 of Financials on page 122.

Other equity:

The Company's other equity as on March 31, 2018 was of ₹25,356.39 Lakhs in comparison to ₹24,808.70 Lakhs as on March 31, 2017. The net worth stood at ₹28,372.39 Lakhs as on March 31, 2018 as against ₹27,821.45 Lakhs as on March 31, 2017.

Settlement Guarantee Fund

The SGF balance (non-current and current) as on March 31, 2018 was of ₹11,671.76 Lakhs, increased by ₹5,344.92 Lakhs as compared to ₹6,326.84 Lakhs as on March 31, 2017 due to increase in additional margin requirement in line with higher trading obligation.

Secured loans:

The Company had no secured loans in its books as on March 31, 2018 as well as on March 31, 2017.

Trade payable

The Company's trade payable was of ₹8,462.98 Lakhs as at March 31, 2018, as against ₹17,193.93 Lakhs as at March 31, 2017. The Trade Payable as on March 31, 2017 were including trade payable on account of trade in RECs.

Fixed assets:

The Company's fixed assets stood at ₹11,951.97 Lakhs as at March 31, 2018, as against ₹930.64 Lakhs as at March 31, 2017. It consists increases in other Intangible assets from ₹229.52 Lakhs to ₹11,176.01 Lakhs mainly due to acquisition of Trading Software License and increases in Property, plant and equipment from ₹605.07 Lakhs to ₹722.92 Lakhs for mainly purchases of computer Hardware & Servers and vehicles.

Investments:

As on March 31, 2018, the Company's investments (Non-current and Current) stood at ₹26,846.71 Lakhs, as against ₹38,309.52 Lakhs as on March 31, 2017. The reduction in investment amount mainly attributable to capex on acquisition of Trading Software License and dividend payout during the financial year 2017-18.

Corporate social responsibility

The Company's corporate social responsibility initiatives address environmental sustainability, economic empowerment and social development. Over the last two years, the Company aided communities in Uttar Pradesh, Delhi-NCR, Bihar, Chhattisgarh, Tamil Nadu, Karnataka and Maharashtra.

The Company's CSR activities promote decentralized renewable energy creation,

skill development for the youth, mid-day meals and holistic development for young school children, skilling the mentally disabled, school bus support for rural schools, health care for elderly and communities, among others - in partnership with credible non-governmental organizations. Besides these activities, the Company signed a memorandum of understanding with the Indian Institute of Technology, Kanpur, to set up the Energy

Analytical Lab to promote research in power sector efficiency, development of markets and provide support to scholars pursuing doctoral and post-doctoral fellowships in energy and power markets.

The Company's expenditure in CSR initiatives was ₹304.76 Lakhs for the financial year 2018 compared to ₹206.58 Lakhs for the financial year 2017.

Internal control

The Board has put in place various internal controls to ensure that they are adequate and are effective. The Board has also put in place state-of-the-art technology and has automated most of the key areas of operations and processes, to minimize human intervention.

The design, implementation and maintenance of adequate internal financial controls is to enable it to operate effectively and ensure the accuracy and completeness of the accounting records, and are free from material misstatement, whether due to error or omission.

The operational processes are adequately documented with comprehensive and well defined Standard Operating Procedures and policies. For more details, please refer the Directors' Report.