

## APEX Objective

To facilitate development and communication of ideas and practices in the operation of global competitive electricity markets.

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## IN THE SPOTLIGHT

### INDIAN ENERGY EXCHANGE ENERGY MARKETS TO LEAD TRANSFORMATION IN THE NEW DECADE

Indian Energy Exchange is India's first and largest power exchange offering participants an automated platform to trade in Electricity, Renewable Energy Certificates and Energy Saving Certificates. The exchange enables competitive and efficient price discovery, increases the accessibility and transparency of the power market and enhances the speed and efficiency of trade execution. The Exchange is certified for quality management, Information Security Management and environment management and is a listed Company on the Indian stock exchanges – NSE and BSE

Working relentlessly over the last 12 years, IEX has succeeded in the goal of providing electricity at the most competitive price to 55+ distribution utilities and 4500+ commercial and industrial consumers. Today, IEX accounts for ~35% of total short-term electricity market in the country.

The Indian government is extensively pushing for decarbonizing the energy sector and aims for a new target installed renewable capacity at 500 GW by 2030. The renewable energy currently comprises 23% in terms of installed capacity - 86 GW on total installed base of 369 GW and about 10% in terms of energy generation - 103 BU renewable energy on total energy production base of 1400 BU as of March 2019. As per the US-based Institute for Energy Economics and Financial Analysis (IEEFA) - India needs \$500 million to \$700 million investments in renewable energy over the next decade in order to reach the 2030 target.

The current structure of long-term bulk supply agreements being pursued for green capacity addition is not a favorable paradigm anymore. As a technology led energy marketplace, IEX is best placed to lead the rapid transformations in power sector. The market orientation can facilitate grid integration of the renewable energy and achieve the capacity targets in the most optimum and competitive ways and IEX is leading this discussion in the Indian context with policy makers and regulators. The other way to meet RE aspirations is through enablement of micro grids which means more local renewable addition close to the point of consumption, storage capacity backed by peer to peer networks to trade energy. Renewables will eventually switch to a microgrid architecture, driven by technology.

IEX strongly believes its success has been possible through its approach to develop committed relationships with stakeholders across organizations and geographies. With an expert-led approach, and a deep understanding of the customer, their environment, and their issues, IEX has always developed unique tailor-made innovations to maintain a high level of customer centricity and trust. IEX business is fulcrumed on the spirit of good governance and it stands committed to improving ease of doing business, reducing cost of doing business thereby enhancing business competitiveness and sustainability.

The Indian energy sector is on the cusp of a significant transformation. A big change we foresee is a strong move towards consumerization of power– i.e. choice to consumers to choose their electricity provider and flexibility to select the source of power which will have a positive impact on the entire power value chain. This concept of 'Energy as a Service' which will lead towards uberisation of power. IEX is uniquely positioned to spearhead transformation enabled by smart optimized technology-based solutions. Additional information about the IEX can be found at the following link:

<https://www.iexindia.com/articles.aspx?id=G0%2f7eYJNhus%3d&mid=Gy9kTd80D98%3d>.



**Ahmed Ali Al-Ebrahim**  
Board Member APEX  
Chief Executive Officer  
GCC Interconnection Authority

I was delighted to join the Board of APEX, as the CEO of the GCC Interconnection Authority (GCCIA), which will contribute to GCCIA's efforts in developing the electricity market within the six interconnected GCC countries, (Saudi Arabia, Kuwait, UAE, Bahrain, Oman and Qatar), and beyond to the Arab region (Iraq, Jordan, Egypt and other). Our keen interest for joining APEX and being on the Board, reflects the high value we see APEX can bring to this developing region with huge amounts of energy from conventional and renewable resources. As a Board member, I would like to capitalize on the wealth of expertise within APEX to create opportunities to harmonize the development and model of the GCC and Arab regional market with best global practices, and create future opportunities for regional and even global coupling of markets that will add value and bring opportunities to the global energy markets.

**\*\*\*SAVE THE DATE \*\*\***  
**2020 APEX CONFERENCE**

**\*\* APEX is monitoring international developments with the Coronavirus and evaluating the conference schedule accordingly. \*\***

**APEX is pleased to announce that the Annual Conference will be held in spectacular, seaside Dubrovnik, Croatia:**

- ❖ **Dates:** 30 September – 2 October 2020
- ❖ **Venue:** **Excelsior** <https://www.adriaticluxuryhotels.com/hotel-excelsior-dubrovnik>

**Further announcements will be forthcoming relative to the website for registration.**

## DID YOU KNOW?

### Facts about Transmission Lines

- The first operative AC transmission line was put into service in 1885 in via dei Cerchi, [Rome, Italy](#), for public lighting<sup>1</sup>.
- Transmission lines are loose when hung on poles because of the effect of weather and the internal temperature of the cable.
- If contraction should occur the lines would become tighter and if they were hung tight it could cause damage or cut the line.
- DC transmission uses two conductors and is used for transmitting direct current while AC transmission uses three conductors and is used for transmitting alternating current.
- The longest transmission line in the world is a 2,543 km (1,580 miles) located in Brazil and runs from the Belo Monte hydroelectric facility to Rio de Janeiro. This line crosses over 80 cities along its route from the Amazon to Brazil's southeast coast and can transmit 4 GW of electricity.<sup>1</sup>
- DC transmission is typically used for long distances because it is less expensive and has low electrical losses. AC transmission is typically used for short distances because it typically requires less convertible equipment.
- The electric power transmission grid of the contiguous United States consist of over 190,000 km (120,000 miles) of transmission lines<sup>1</sup>.
- DC transmission was invented before AC transmission using the Thury system in 1889 where it was installed without transformers by placing generators in series with load. However, this system was prone to more failures and because there was no good voltage conversion technology at this time, the AC transmission system become more widely used.
- The four major interconnections in North America that deliver AC power with the same relative frequency are the Western Interconnection, Eastern Interconnection, Quebec Interconnection, and Electric Reliability Council of Texas (ERCOT). There is one large interconnection that connects most of continental Europe.

<sup>1</sup> [https://kids.kiddle.co/Electric\\_power\\_transmission](https://kids.kiddle.co/Electric_power_transmission)

<sup>2</sup> "The world's longest power transmission lines", Power Technology, "<https://www.power-technology.com/features/featurethe-worlds-longest-power-transmission-lines-4167964/>

<sup>3</sup> "North America Power Transmission Grid", Wikipedia, [https://en.wikipedia.org/wiki/North\\_American\\_power\\_transmission\\_grid](https://en.wikipedia.org/wiki/North_American_power_transmission_grid)