



Conference on

# CLEAN BUSES IN INDIA

Spotlight on CNG, Electric and Hybrid Buses

February 20-21, 2019, The Grand, Vasant Kunj, New Delhi

Organisers:



"Early Bird" discount ends on January 29, 2019

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# CLEAN BUSES IN INDIA

## Mission

- Indian cities are increasingly looking to deploy cleaner modes of transportation (CNG-fuelled, electric buses and hybrid buses) to improve air quality and reduce greenhouse gas emissions. While CNG buses are already widely used in the country, electric buses (pure and hybrid) are also gaining popularity.
- A proactive policy framework has been the driving factor for the adoption of clean buses in India. Incentives offered under the Faster Adoption and Manufacturing of Hybrid & Electric Vehicles (FAME) scheme have motivated states to formulate plans for the adoption of electric vehicles. The state transport undertakings (STUs) of Maharashtra, Himachal Pradesh, Goa, Delhi, Telangana and Kerala have adopted several electric buses, placed new orders, announced major plans and introduced state-level policy changes to facilitate the deployment of such buses.
- However, transport being a public service, factors like affordability, high upfront cost, and limited local manufacturing capacity can adversely impact the adoption of clean buses. Besides, the high cost of batteries and a non-existent charging infrastructure limit the adoption of hybrid and electric buses.
- The government is taking action to resolve these issues. FAME II, which is expected to be launched in March 2019, will lay emphasis on the development of charging infrastructure and local manufacturing of lithium-ion batteries. In March 2018, the Ministry of Power clarified that charging stations do not require separate licences, clearing the ambiguity around this issue, which was holding back private investments in this space. This development is expected to help speed up the installation of charging stations by private parties across the country. Meanwhile, non-fiscal incentives in the form of tax waivers and GST reductions have been extended and are likely to act as long-term incentives for both STUs and manufacturers.
- Overall, India is an attractive market for players in the clean bus industry. Several global players such as Goldstone-BYD and Eicher have entered the Indian market while domestic manufacturers such as Tata Motors and Ashok Leyland are making innovations in this area.
- **The mission of this conference is to explore the emerging trends and developments in the clean bus market and discuss the outlook for the future. It will examine the opportunities, issues and challenges in the clean bus segment; assess the electricity needs and requirements; discuss the plans and requirements of key stakeholders; examine charging and other infrastructure requirements; and showcase noteworthy solutions and technologies. It will also provide a platform for the industry to share experiences, and exchange views and opinions.**

## Target Audience

The event is expected to draw participation from executives, managers and decision-makers from:

- Public transport authorities and operating companies
- State government agencies
- Bus manufacturers
- Charging solution suppliers and battery manufacturers
- Multilateral agencies
- Funding agencies
- Academic institutions
- Transport associations
- Government transport departments
- Policymaking and regulatory bodies
- Suppliers of bus components
- Energy providers
- Banks and financial institutions
- Leasing companies
- Research and development organisations
- Consultants, etc.

## Previous Participants in Related Conferences

The participants in some of our related annual events on E-mobility and Charging Infrastructure, Smart Cities in India, City Gas Distribution in India and Urban Rail-based Transit Systems have included: ABB, Accenture, ACME Cleantech Solutions, ACVA Solar, Adani Energy, AECOM, Agra Development Authority, Ahmedabad Municipal Corporation, Alstom Transport, Ambit Capital, AMW Motors, Arup, Atkins, Barco Electronic, BASF, Bechtel, Bharat Heavy Electricals Limited, Bharat Petroleum Corporation, Bhopal Municipal Corporation, Black & Veatch, Bosch, CEA, Central UP Gas, CESC, Chennai Smart City, CISCO Systems, Coslight, Customized Energy Solutions India, Danfoss, Dehn India, Deloitte, Delta Electronics, DNV-GL, EESL, EFACEC, EMBARQ, EnerBlu, Essel Gas, EV Motors India, Fichtner, Fortum, Gall, GE, Gebauer & Griller, GIZ, Goa Natural Gas, Gujarat Gas, Gujarat State Petroleum Corp, Haridwar Natural Gas, Haryana City Gas, HBL Power Systems, Hero Future Energies, Hitachi, Honeywell, HUBER+SUHNER, ICF International, ICICI Bank, IFC World Bank, Indian Oil - Adani Gas, Indraprastha Gas, IPower Batteries, Jaipur Smart City, Japan Bank for International Cooperation, KPMG Advisory Services, L&T Construction, Louis Berger, Lucas, Mahanagar Gas, Mahindra Electric Mobility, Microchip Technology, Minda Industries, Ministry of Power, Mynores, NEC Technologies, NEDO, New Delhi Smart City, NITI Aayog, NTPC, Orange Renewable, Panasonic, Petronet LNG, Pollution Protection Systems, POSOCO, Powergrid, PRS Permaceel, Rajkot Smart City, Ramboll, Reliance Infrastructure, Rosenberger, Sanford C Bernstein, SBI Caps, Schaltbau, Schnelder, Shell India, Siemens, Sterlite Power, Suzlon Power Infrastructure, Tata Consultancy Services, Tata Motors, Tata Power, Tata Power DDL, Tata Projects, Thane Smart City, The World Bank, Tractebel Engineering, URS Scott Wilson, UTTIPEC, VE Commercial Vehicles, Vertiv Energy, Virgo Consultant, Volvo, Waaree Energies, ZR Renewable Energy, etc.

## AGENDA/STRUCTURE

### RECENT TRENDS AND MARKET OUTLOOK

- ❖ What are the emerging trends in the clean bus segment?
- ❖ What are the barriers to the adoption of clean buses in India?
- ❖ What are the demand and supply projections and the future outlook for this segment?

### POLICY DIRECTION, INCENTIVES AND PLANS

- ❖ What are the current policies and standards for the deployment of clean buses?
- ❖ What has been the progress under the National Electric Mobility Mission Plan 2020?
- ❖ What has been the progress under FAME I?
- ❖ What are the expectations from FAME II?

### NITI AAYOG PERSPECTIVE: SPOTLIGHT ON MCA FOR PPPs IN ELECTRIC BUSES

- ❖ What is the potential for the introduction of electric buses on a PPP basis under the opex model?
- ❖ How has been the industry's response to the model concession agreement (MCA)?
- ❖ What are the long-term objectives and targets for the deployment of clean buses?

### BUYERS' PERSPECTIVE: STATE/CITY-LEVEL INITIATIVES AND PLANS

- ❖ What is the perspective of state transport corporations on the deployment of zero-emission clean buses? How has been the experience so far?
- ❖ What are their fleet deployment plans? What are the key issues and challenges?
- ❖ What are the new business models (lease or outright purchase) being explored?

### MANUFACTURERS' VIEWPOINT

- ❖ How has been the experience so far?
- ❖ What are manufacturers' expectations from the government, especially with regard to charging infrastructure?
- ❖ What are the key risks and challenges?

### FINANCING AND PROCUREMENT STRATEGIES

- ❖ How has been the experience so far with regard to financing?
- ❖ What are the various business models for the procurement of clean buses?
- ❖ What are the key risks and challenges? What is the outlook?

### CHARGING INFRASTRUCTURE FOR ELECTRIC BUSES

- ❖ What are the charging infrastructure requirements to align with the clean bus deployment plans and targets?
- ❖ What are the interventions needed to support requirements such as fast charging stations and shared charging infrastructure?
- ❖ What are the business models for EV charging stations (battery rentals, battery swapping points, etc.) that are most suited for Indian needs?
- ❖ What are the standards required for charging infrastructure?

### ADVANCEMENTS IN BATTERY TECHNOLOGIES

- ❖ What are the recent advances in batteries used for electric buses?
- ❖ What is the cost economics involved in the use of these batteries?
- ❖ What is the potential for local manufacturing of lithium ion batteries?

### ELECTRICITY NEEDS AND REQUIREMENTS

- ❖ What are the opportunities and challenges for generators?
- ❖ Is the grid ready to handle the electricity demand from electric buses?
- ❖ What measures can be taken to reduce the stress on the grids?

### FOCUS ON RENEWABLE ENERGY

- ❖ What is the potential for the use of renewable energy for charging? What are its expected benefits?
- ❖ What are the key issues and challenges?
- ❖ What are the global best practices?

### CLEAN BUS TECHNOLOGIES

- ❖ What are the recent technology advancements?
- ❖ What is the expected impact on cost and efficiency?
- ❖ What is the potential for the deployment of smart electric buses?

### SEGMENT FOCUS I: HYBRID BUSES

- ❖ What is the business case for the deployment of hybrid clean buses across cities in India?
- ❖ How has been the experience so far?
- ❖ What are the key issues and challenges? What is the future potential?

### SEGMENT FOCUS II: ELECTRIC BUSES

- ❖ How has been the experience so far?
- ❖ What are the key issues and challenges?
- ❖ What are the key measures required to make these buses financially viable for STUs?

### SEGMENT FOCUS III: GAS-BASED BUSES

- ❖ How has been the experience with regard to the deployment of CNG, LNG and ethanol buses across Indian cities?
- ❖ What are the key issues and challenges?
- ❖ What is the future outlook?

### RETROFITTED CLEAN BUSES

- ❖ What is the potential for the retrofitting of the existing fleet of buses?
- ❖ How has been the experience so far?
- ❖ What are the key issues and challenges?

## Organisers

The conference is being organised by **India Infrastructure Publishing**, the leading provider of information on the infrastructure sectors. The company publishes **Indian Infrastructure** (a magazine on infrastructure policy and finance). It also publishes **Power Line** and **Renewable Watch** magazines. It publishes a series of reports on the transportation sector including **Clean Bus Market in India: Hybrid, Electric, Gas-Based, Smart Cities in India; CGD Market and LNG Market in India; and Urban Rail in India**. The company organises over 50 conferences a year with topics ranging from **Smart Cities 2.0, E-mobility and Charging Infrastructure to City Gas Distribution**.

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## Registration Form

I would like to register for the conference. I am enclosing Rs \_\_\_\_\_ vide cheque/demand draft no. \_\_\_\_\_ drawn on \_\_\_\_\_ dated \_\_\_\_\_ Company GST No. \_\_\_\_\_ in favour of **India Infrastructure Publishing Pvt. Ltd.** payable at New Delhi.

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## Registration Fee

Delegates	Discounted fee (before January 29, 2019)				Fee without discount (after January 29, 2019)			
	INR	GST @ 18%	Total INR	Total USD	INR	GST @ 18%	Total INR	Total USD
One delegate	20,000	3,600	23,600	393	25,000	4,500	29,500	492
Two delegates	32,000	5,760	37,760	629	40,000	7,200	47,200	787
Three delegates	44,000	7,920	51,920	865	55,000	9,900	64,900	1,082
Four delegates	56,000	10,080	66,080	1,101	70,000	12,600	82,600	1,377

- There is a 20 per cent "early bird" discount for those registering before January 29, 2019.
- There is a fee of Rs 7,000 per participant for state transport corporations, ULBs, and academic and research institutions. GST @ 18 per cent is applicable on the registration fee
- Registration will be confirmed on the receipt of payment.
- To register online, please log on to <http://indiainfrastructure.com/conf.html>

### Payment Policy:

- Full payment must be received prior to the conference.
- Conference fee includes lunch, tea/coffee and conference material.
- Payments for "early bird" registrations should come in before the last date of discount. Discount offers cannot be combined with any other offer.
- Conference fees cannot be substituted for any other product or service being extended by India Infrastructure Publishing Pvt. Ltd.

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