

Supported by



Green Energy FOR a Greener WORLD



GREEN ENERGY SUMMIT 2017 WORLD EXPO & CONFERENCE

9 10 11 12 November 2017
Bangalore International Exhibition Centre

Organized by



Co-organized by





Towards a Greener & Cleaner Future

GREEN ENERGY SUMMIT 2017 - World Expo & Conference, organized by ASSOCHAM, Karnataka Chapter in association with K AND D COMMUNICATION LTD., is a renewable energy event, envisaged as a platform to showcase the immense business & transformational opportunities in renewable energy, across all segments. The event would deliberate on important issues connected with the sector with leading industry associations partnering with the event.

The Green Energy Summit brings together leading policy makers, global experts, industry captains, investors, manufacturers, start-ups and SMEs and other stakeholders, an opportunity to network, meet, learn, build business and chart the future of renewable energy in India in the solar, wind, thermal, hydel, bio and other energy efficiency sectors. It will prominently support the initiatives of Make-In-India and Skill Development taken by the Govt. of India by presenting possibilities of accelerated development of energy infrastructure and technological upgrade and human resource development respectively to promote innovative ideas in the sector.

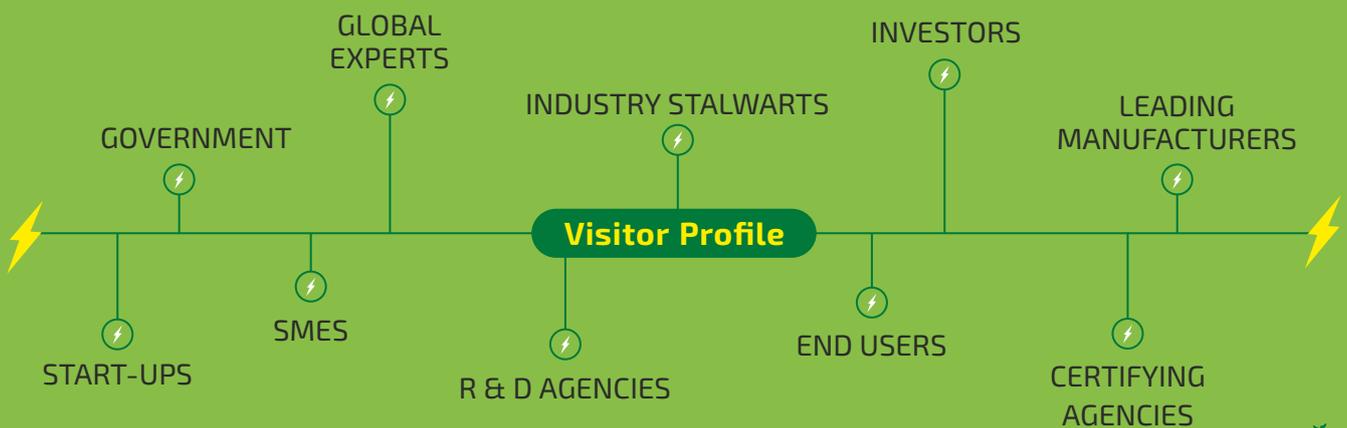
To meet the growing energy demand over the next few years, India will have to enhance its energy security by procuring energy supplies at affordable prices and develop technologically sustainable solutions. While the country has surplus refining capacity and is an exporter of petroleum products, major investments will have to be made in the domestic upstream industry and to acquire hydrocarbon reserves abroad. The Green Energy Summit 2017 shall lead the transition towards clean, efficient and secure energy future by providing a conducive forum between Government and business opportunists and investors for such discussions and deliberations. In the process, latest technological developments from the established players in other countries will also be transferred to India to ease the day-to-day operations.

The exposition shall draw in more than 40,000 trade visitors, presenting a wide range of efficient and utility based products to visitors and participants. The exposition shall focus on promoting sustainable goals alongside a lucrative database for instrumental industry networking. The exposition shall prove to catalyze by up scaling and mainstreaming the application of renewable energy resources, project innovations and enrich deliberations by providing the industry with such a unique platform.



Objectives of Green Energy Summit 2017

- 1** To create multi-fold business opportunities and employment scope in order to channelize sustained development in the renewable energy sector.
- 2** To encourage both start-ups and industry pioneers to inspire innovations and creative implementations for energy production and utilities, energy security and conservation.
- 3** To enable comprehensive networking and interactivity among the businesses and communities for enhanced visibility.
- 4** To support the initiatives of Make-in India and Skill India by enhancing the production of technologically sustainable energy solutions and developing human resources to do the same in the country.
- 5** To motivate and furnish expert inputs from the learnings of the immensely experienced minds of various industry sectors.
- 6** To stay committed to the holistic development of rural India in order to achieve a harmonious growth across the country.
- 7** To enable conservation of natural resources and boost the survival of mankind through renewable energy innovations.



MAJOR GREEN ENERGY SECTORS IN INDIA

Solar Power, Wind Power, Hydel Power & Bio-Energy

Solar Power

India quadrupled its solar power generation capacity from 2,650 MW on 26 May 2014 to 12,288.83 MW on 10 March 2017. The country added 3.01 GW of solar power capacity in 2015-2016, and 5.525 GW in 2016-2017, the highest of any year.

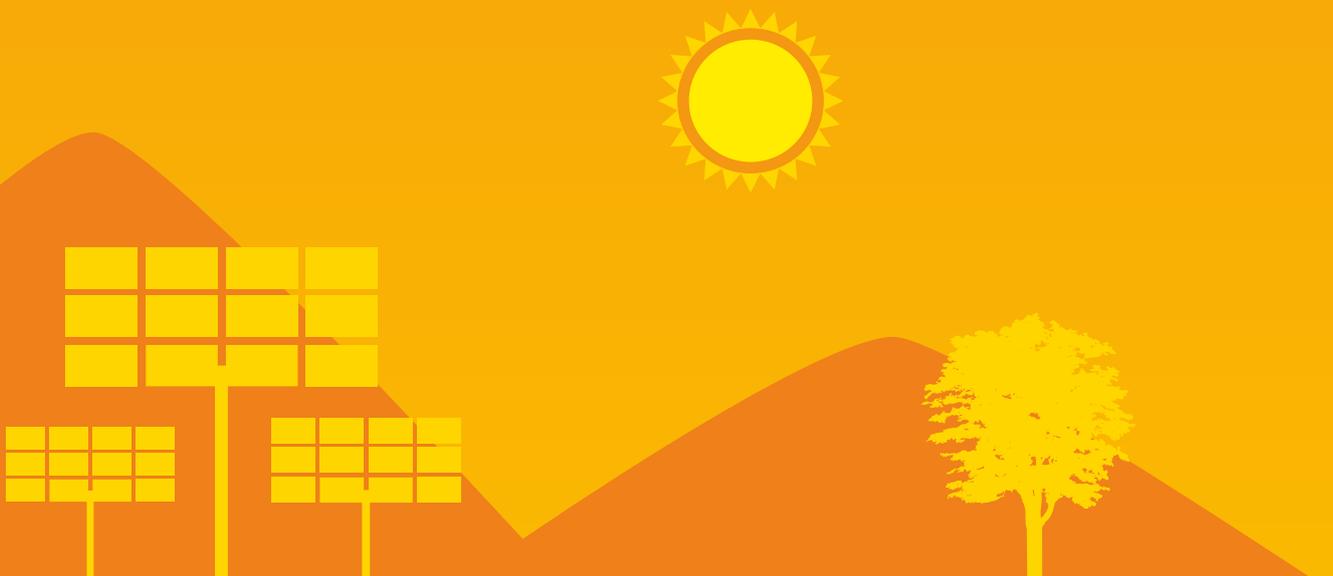
India has a poor electrification rate in rural areas. In 2016, only 55% of all rural households had access to electricity, and 85% of rural households depended on solid fuel for cooking. Solar products have increasingly helped to meet rural needs. In January 2016, the Prime Minister of India, Shri Narendra Modi, and the President of France, Mr. François Hollande laid the foundation stone for the headquarters of the International Solar Alliance (ISA) in Gwalpahari, Gurgaon. The ISA will focus on promoting and developing solar energy and solar products for countries lying wholly or partially between the Tropic of Cancer and the Tropic of Capricorn.

India's plan to ramp up solar power generation to 100 GW by 2022 is among the largest in the world. It will help bring sustainable, clean, climate-friendly electricity to millions of India's people.



The World Bank Group (WBG) is helping India deliver on its plans with more than \$1 billion in lending over FY 2017. This is the Bank's largest-ever support for solar power in any country.

India's solar potential is greater than 750 GW and its announced wind potential is 302 GW (actual could be higher than 1000 GW). India Energy Security Scenarios 2047 show a possibility of achieving a high of 410 GW of wind and 479 GW of solar PV by 2047.



Wind Power

Wind power generation capacity in India has significantly increased in the last few years and as of 31 January 2017 the installed capacity of wind power was 28,871.59 MW, mainly spread across the South, West and North regions. Tamil Nadu's wind power capacity is around 29% of India's total. The total wind installed capacity in Tamil Nadu is 7633 MW. The Government of Tamil Nadu realized the importance and need for renewable energy, and set up a separate Agency, as registered society, called the Tamil Nadu Energy Development Agency (TEDA) as early as 1985. Maharashtra is one of the prominent states that installed wind power projects second to Tamil Nadu in India. As of end of March 2016, installed wind power capacity is 4655.25 MW. Other important states include Gujarat, Rajasthan, Madhya Pradesh, Kerala, Odisha and West Bengal.

Geographic Location and Future Wind Potential

It is estimated that with the current level of technology, the 'on-shore' potential for utilization of wind energy for electricity generation is of the order of also about **1,02,788 MW** taking sites having wind power density greater than 200 W/sq. m at 80 m hub-height with 2% land availability in potential areas for setting up wind farms @ 9 MW/sq. km.
Source: Ministry of New & Renewable Energy, India.

India is blessed with 7517km of coastline and its territorial waters extend up to 12 nautical miles into the sea. The unexploited resource availability has the potential to sustain the growth of wind energy sector in India in the years to come.

India is planning to enter in to offshore wind power, with a 100 MW demonstration plant located off the Gujarat coast. In 2013, a consortium (instead of group of organizations), led by Global Wind Energy Council (GWEC) started project FOWIND (Facilitating Offshore Wind in India) to identify potential zones for development of off-shore wind power in India and to stimulate R & D activities in this area. The project action will be implemented from December 2013 to March 2018.

Several states have come up with renewable energy policies like Karnataka, Tamil Nadu and Andhra Pradesh.

With all these efforts directed towards, enhancing wind power stimulation in the country, the capacities are expected to rise at a fast pace.



Hydel Power

India is the 7th largest producer of hydroelectric power in the world ranking third worldwide in the total number of dams. As of 31 March 2016, India's installed utility-scale hydroelectric capacity was 42,783 MW, or 14.35% of its total utility power generation capacity. Additional smaller hydroelectric power units with a cumulative capacity of 4,274 MW have been installed.

Potential in India

India is blessed with immense amount of hydro-electric potential and ranks 5th in terms of exploitable hydro-potential on global scenario. As per assessment made by CEA, India is endowed with economically exploitable hydro-power potential to the tune of 1 48 700 MW of installed capacity. The basin wise assessed potential is as under

Basin/Rivers Capacity (MW)	Probable Installed
Indus Basin	33,832
Ganga Basin	20,711
Central Indian River system	4,152
Western Flowing Rivers of southern India	9,430
Eastern Flowing Rivers of southern India	14,511
Brahmaputra Basin	66,065
Total	1,48,701

In addition, 56 number of pumped storage projects have also been identified with probable installed capacity of 94,000 MW. In addition to this, hydro-potential from small, mini & micro schemes has been estimated as 6,782 MW from 1,512 sites. Thus, in totality India is endowed with hydro-potential of about 2,50,000 MW.



Bio-Energy

Bio Gas

Cattle dung: India has a potential of generating 6.38×10^{10} m³ of biogas from 980 million tones of cattle dung produced annually. In addition, 350 million tons of compost would also be produced.

Solid Waste: Every year there is an estimated 30 million tonnes of solid waste and 4,400 million cubic meters of liquid waste generated the urban areas of India.

Surplus biomass: 17000 MW

Cows manure: 1500 MW and poultry droppings

Urban Wastes: 2600 MW

Industrial Wastes: 1300 MW

Composition of MSW in India



Potential in India

Under the twelfth five year plan (2012-2017), the Government of India had set a target to set up 6.5 lakh biogas plants across the nation with a budget of Rs.650 crore, under a program called the National Biogas and Manure Management Program (NBMMP). It had been estimated that by setting up these biogas plants, about 1-6 cubic meter of biogas per day and 4745 lakh cubic meter biogas per annum could be produced.

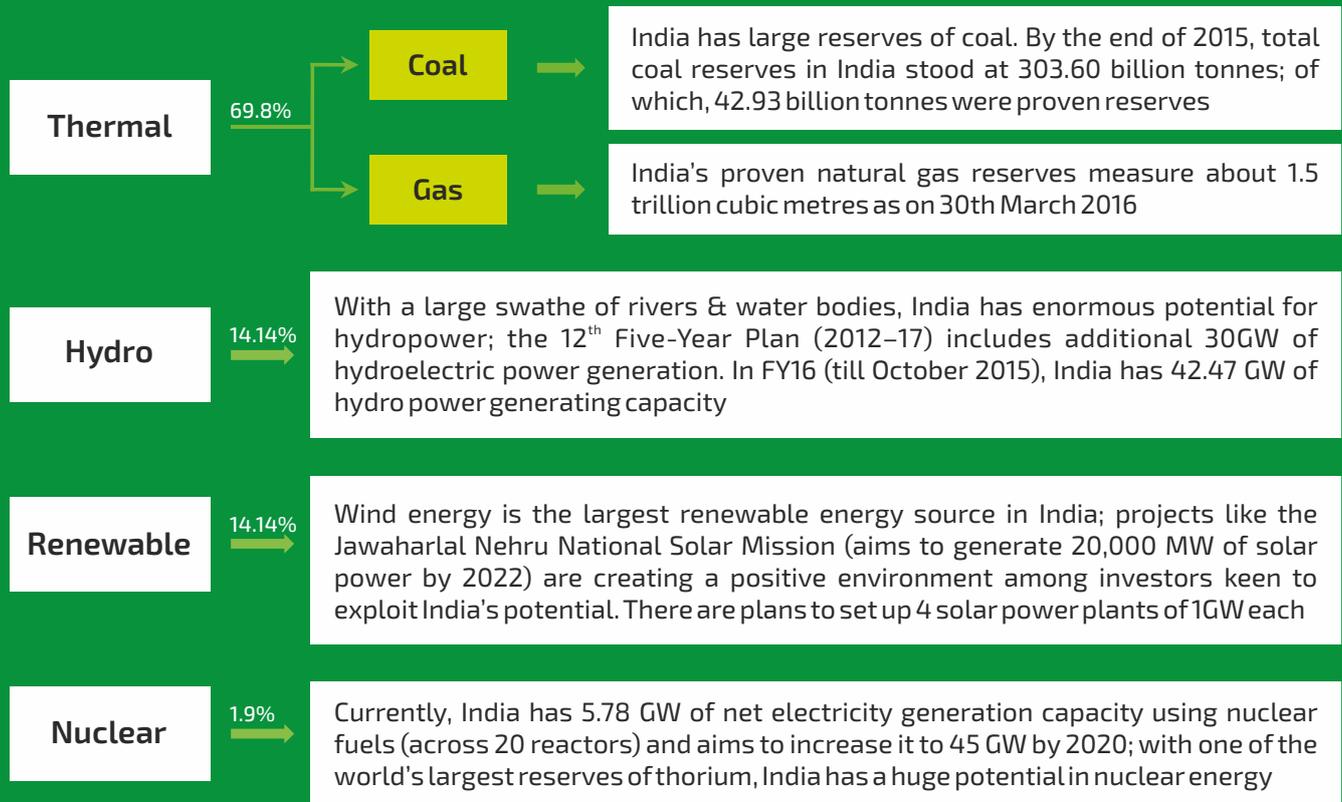
Bio Mass

Biomass is defined as bio residue available by water based vegetation, forest or organic waste, by product of crop production, agro or food industries waste. MNRE is promoting Biomass Gasifier based power plants for producing electricity using locally available biomass resources. These power plants are installed in rural areas where surplus biomass such as tiny wood chip, rice husk, arhar stalks, cotton stalks and other agro-residues are available to meet the unmet demand of electrical energy interlaid for lighting, water pumping and microenterprises counting telecom towers etc.

Various projects related to biomass power generation are installed in various state of India for fulfill energy requirement by biomass gasification. The leading state for biomass power projects are Chhattisgarh, Uttar Pradesh, Maharashtra, Andhra Pradesh and Tamil Nadu. The states which have taken position of leadership of baggase cogeneration projects are Andhra Pradesh, Karnataka, Maharashtra, TamilNadu and Uttar Pradesh

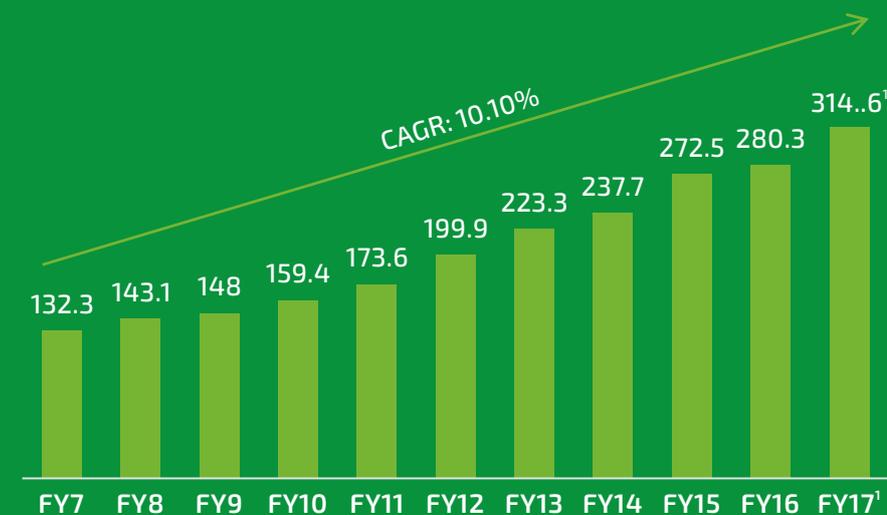


SOURCES OF POWER IN INDIA



Source: Ministry of Coal, NHPC, CEA, BP Statistical Review 2015, Corporate Catalyst India, Indian Power Sector, Ministry of Power, TechSci Research
Notes: MW - Megawatt, GW - Gigawatt

Installed electricity generation capacity (GW)



Source: CEA (Central Electricity Authority), TechSci Research
Notes: GW – Gigawatt, CAGR – Compound Annual Growth Rate
 (1) – As on January 2017



Future Potential of Green Energy in INDIA

We have a 10-year window to shift completely to renewable energy: TERI

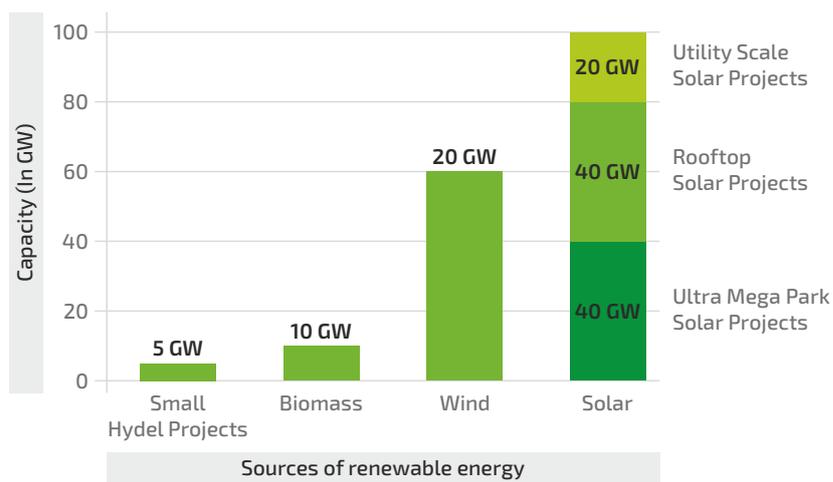
Excess power generation capacity provides India an opportunity to shift completely to green energy. If the country can halve storage technology prices in 10 years it can do without the need for new coal based plants, a study by The Energy and Resource Institute (TERI) said.

Coal imports in the country have already dropped by 25% and the Energy Minister has pledged to end India's imports of coal within a few years. The TERI report indicated that current installed capacity and the capacity under construction would be able to meet demand till about 2026, keeping India power sufficient. The report estimates that no new investments are likely to be made in coal-based power generation in the years prior to that.

At present, out of 315 GW of total power generation installed capacity, around 50 GW is from renewable sources while large hydro projects (above 25 MW) constitute 44 GW. As much as 14,000 MW (or 14 gigawatt) of solar projects are currently under development and about 6 GW is to be auctioned soon. In 2016, about 4 GW of solar capacity was added, the fastest pace till date. According to power ministry estimate, another 8.8 GW capacity is likely to be added in 2017, including about 1.1 GW of rooftop solar installations.

The government is targeting 100 GW of solar and 60 GW of wind energy capacity by 2022. Total renewable energy generation capacity is envisaged at 175 GW by 2022.

India's 2022 Renewable Energy Target



A Summit for Sustainable Ideas

GREEN Energy Summit 2017 will host an international renewable energy summit that will bring together leaders from government, industry, academia, entrepreneurs, non-governmental organizations, R & D agencies, certifying agencies, investors and other stakeholders who play a key role in defining and shaping India's energy future. The discussions will focus on technologies, applications, business models, policies and approaches that would dramatically expand renewable energy adoption, reduce the region's carbon footprint and ensure long term energy security.

Summit Sessions



Secretaries Conclave



Renewable Energy:
Current Industry Scenario and
plan by Planning
Commission



Focus on Renewable
Energy to combat
electricity shortages



CEO Conclave



The Game Changer:
Solar Revolution



India's Changing
Windscape: New Business
Opportunities



Brightness and Light from
Solar Power to build a better
India: Innovative Trends and
New Prospects



Offshore Wind -
A New Frontiers:
Innovative Trends and
New Prospects



Green Building and
Energy Conservation



Electricity act
to implement
the Renewable Energy



RE Finance &
Funding Challenges



B2B & B2G Meets



Grand Challenge



Awards Night

The Conclaves

Global CEO Conclave

The CEOs' Conclave is an exclusive, closed-door interaction between approximately 40 top Global CEOs of the Indian renewable energy sector and senior stakeholders from various concerned Ministries of the Government of India. CEO Conclave is a networking platform for CEOs, CXOs, business owners, investors,

and entrepreneurs who want to network with each other & create lifelong relationships. The list of invitees for the CEOs Conclave will be released closer to the event date.

Startup Conclave

Start-up Conclave will provide a national and international level platform to a wide array of Indian start-ups in Renewable Energy Sector to showcase their product and services, talk about their innovation, and get an opportunity to partner with Industry for funding, procurement and mentoring support. The Startup conclave is part of conference with a absolute action packed stuff like startups can hurl out, anecdote of remarkable journeys, incredible talks, intriguing panels.

Young Researcher Meet & Award: Dedicated to the next generation of professionals and experts, this session present the work and achievements of young researchers in the fields of renewable energy and energy efficiency. The best contributions will be honoured with the awards 'ASSOCHAM Best Young Researcher'.

Secretaries Conclave

Accelerating Ease of Doing Business

It shall provide to bring together precise and compatible exhibitor and visitor profiles. The conclave has a penchant for presenting best in class technology innovators from around the world; to key sector decision makers from the largest international markets.



The Lush GREEN Exhibition

The exhibition at the Green Energy Summit 2017 will be a not-to-miss opportunity for businesses and entrepreneurs in the renewable energy space. The exhibition offers unparalleled opportunities to establish and advance business interests in one of the world's most dynamic renewable energy markets." Key decision makers, policy makers, senior management & executives who have the authority to purchase or influence the purchase of products and services, as well as technologists, plant operators, engineers and consultants will be a part of the exhibition.



Exhibition Focus

- ⚡ Solar Energy
- ⚡ Wind Power
- ⚡ Mini Hydel
- ⚡ Geothermal
- ⚡ Fuel Cell
- ⚡ Bio-energy
- ⚡ Tidal Energy
- ⚡ Waste to Energy
- ⚡ Flywheel Energy
- ⚡ Energy Efficiency

Participants Profile

- ⚡ Renewable Energy Manufacturers (Industry Giants, SMEs and Start - Ups)
- ⚡ OEMs
- ⚡ Electricity Boards / Power Utilities
- ⚡ Policy-makers from energy sector
- ⚡ Environment Agencies
- ⚡ Venture Capitalists
- ⚡ Energy Managers
- ⚡ State & Central Government Officials
- ⚡ EPC Contractors
- ⚡ R&D Institutions
- ⚡ Energy Consultants
- ⚡ Energy Associations
- ⚡ Independent Power Producers (IPPs)
- ⚡ Financial Institutions
- ⚡ Operations & Maintenance Managers
- ⚡ Certifying Agencies

PARTICIPATING SECTORS

Solar Energy

Manufacturers of cell and module encapsulation, crystal growth equipments, diffusion furnaces, laminators, mounting systems, concentrators, trackers and collectors

Wire saws and consumables

Silicon feedstock, ingot and wafer manufacturing

Inverters, charge controllers, batteries and module connectors

Photovoltaic (PV) modules, hybrid systems, materials and equipments

Screen-printing and metallization equipments

Solar cells manufacturers

Solar drying and desalination systems

Solar water heating/cooling systems and solar pumps

Testing, monitoring systems, project consultants, suppliers of building (integrated)

Photovoltaic (BIPV) and solar thermal engineering

Suppliers of raw materials

System integrators, assemblers and distributors

Glass, substrates, coatings, resins, encapsulation materials, films, gasses

Software solutions and providers of irradiation data

Turnkey solution providers

Solar farm developers and owners

Annual maintenance contractors

Emission monitoring systems

Electrical test and measuring systems

Solar street and billboard lighting systems

Wind Energy

Buyers and sellers of old WEGs

Civil engineering surveyors and contractors

Component repairers (other than OEMs)

Consultants and certification agencies

Electrical and electronics items manufacturers

Freight forwarders

Hydraulic and mechanical items manufacturers and suppliers

Insurance companies, surveyors, valuers, Operations and maintenance providers

Stand-alone small aero-generator manufacturers & Training providers

WEG erection contractors, spares, components, tools and lubricants manufacturers

Wind electric generator (WEG) manufacturers

Wind monitoring and analysis systems suppliers

Assessment and forecasting service providers

Wind-Solar hybrid power system integrators

Wind farm owner

Bio Energy

Analytical instruments manufacturers and service providers

Bio-diesel / bio-ethanol distributors or refining companies

Bio-diesel dispensing and mixing equipment manufacturers

Biomass heating and drying equipment manufacturers

Bioreactor, boiler, turbine and turbo-generator manufacturers & consultants

Hydro Energy

Component manufacturers, Consultants and certification agencies

Digital simulator manufacturers

Electrical, mechanical and civil contractors

Manufacturers and suppliers of generators and control equipment manufacturers

Hydro turbine manufacturers

Mechanical and hydraulic items manufacturers and supplier

Performance testing equipment manufacturers

Geothermal Energy

Component manufacturers

Contractors

Drilling engineering consultants

Manufacturers of circuit protector devices

Manufacturers of geothermal heat and ring compressors pumps

Manufacturers of L.P drills and air drilling tools

Manufacturers of mechanical chart reader

Manufacturers of high temperature gauges

Recovered Energy Generation (REG) plant operators

Service providers

Energy Efficiency

Energy efficient equipments for power generation, transmission and distribution

Industrial and decorative lighting equipment, luminaries, fixtures and accessories

Manufacturers of motors and pumps

Manufacturers of LED and charge controllers

Green information & communications technologies (ICT)

Participation Cost

	Standard Booth	Bare Space
Indian	₹ 10,000/-	₹ 9,000/-
Foreign	\$ 300/-	\$ 275/-

Above rates are applicable per sq. mtr.

Standard Booth

The minimum stall (Booth) size is 9 sq mtr (3m X 3m with standard facilities)

Standard facilities include: Participation charges cover position, fascia with the exhibitors name, two chair, one table, one dustbin, carpet flooring, etc. Electricity charges for three spot lights and one 5 am plug. Three exhibitors badges on every 9 sq mtr stall. Organizers will arrange general security for the exhibition halls in general.

Bare Space

The minimum stall (Booth) size is 36 sq mtr (6m x 6m)

(Exhibitors have to construct their own designed stall with at least 2HP power compulsorily for general lighting)

Premium Space Cost

⚡ 2 sides open 15% extra ⚡ 3 Sides open 25% extra ⚡ 4 Sides open 30% extra

Additional Requirements

3 Phase Power (Per HP)		
	Before Expo (During stall construction)	During Expo
Indian	₹ 1500/-	₹ 3000/-
Foreign	\$ 50/-	\$ 100/-



Organisers



The Knowledge Architect of Corporate India

ASSOCHAM was established in 1920 by promoter Chambers, representing all regions of India. It initiated its endeavour of value creation for Indian industry in 1920, having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

ASSOCHAM derives its strength from its Promoter Chambers and other Industry Regional Chambers/Associations spread all over the country.

Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'. ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.



KANDD COMMUNICATION LTD.

India's leading exhibition organizing company K and D's journey is driven by values; those which have led us this far and which will lead us further ahead. K and D is actively involved in organizing national and international level trade fairs and exhibitions for a diverse industry spectrum. It is also one of the most reputed name in India. K and D has been known for connecting the dots together... dots that mean dreams values, success, growth and future.

With a humble beginning in 1997, with just a few companies and a strong desire to be the best in the business, today K and D Communication has earned its name as India's leading exhibition organizer with a tremendous success story.

Through committed endeavor and a no-compromise attitude to quality, K and D Communication Limited is on a drive to expand the scope of exhibitions – to expand to truly global platforms. K and D offers an ideal launch pad for new ideas, products and services, conducive platforms for forging joint ventures and collaborations and open marketplaces to source ideal solutions. In sum, K and D Communication is opening the doorway to the global marketplace.

Through its worldwide networking, pre-emptive planning and execution, intelligent space management and meticulous control of macro and micro level logistics, the group ensures that every participant gains from such platforms. The extraordinary care that goes into every aspect of the event and the gains that participating companies have garnered in real terms, have made K and D Communication a permanent name in corporate calendars of hundreds of companies across India and abroad.



GREEN ENERGY SUMMIT 2017 **World Expo & Conference**



GREEN ENERGY SUMMIT SECRETARIAT

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