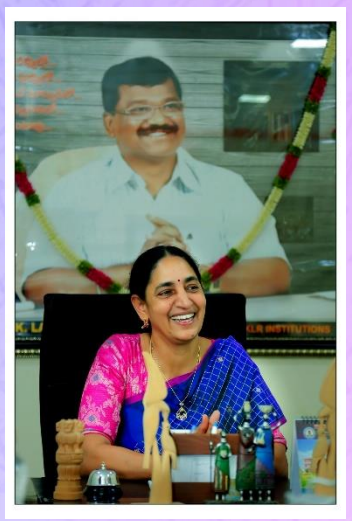
VIBJUTI

DEPARTMENT OF ELECTRICAL AND ELECTRONICS

KLR COLLEGE OF ENGINEERING AND TECHNOLOGY



I am glad to know that the students of KLR Institution of Engineering and Technology, are bringing out a college magazine "VIBJUTI" for 2018. Bringing out a magazine is not an easy task but it is a venture of the combined efforts of students & faculty. I am so grateful to have these students in our institution. So, I take the opportunity to congratulate the students.

We aim to cultivate talents by closely nurturing them throughout the whole program. In this magazine, we all share the achievements of the students & faculty & programs are conducted at the same time. I would like to convey my deep appreciation to all the stakeholders of KLR Institution of Engineering and Technology students who struggled through these trying times with immense zeal and commitment in quickly adapting to the changing situation. I congratulate the committee members on having successfully brought out the magazine in a very useful way.

I convey my best wishes for the success of this magazine "VIBJUTI".

MRS.NAGAMANI

(HON'BLE CHAIRPERSON)

Education is the manifestation of love and my most cherished possession. Education drives away ignorance and illumination. Innovation requires passionate explorers who propel transformation at the workplace it emboldens a man to righteous thought and action. It empowers a woman and enlarges the horizon of her mind. If energies a society and enables a man to earn his living with respect and praise.

it is a matter of pride that the college magazine committee of KLR Institutions of Engineering and Technology has put in their best efforts to bring out the magazine for the academic year. The magazine, I feel will mirror the creative and the faculty. The articles published in it. I hope, will be of contemporary relevance. I wish the best of fortune, peace and prosperity to all those who contribute to the noble task of spreading education and its manifest qualities, aims and objectives.

I congratulate the convener and the committee members on having successfully brought out the magazine in a very useful way.

DR.M. SURENDRA KUMAR

(HON'BLE PRINCIPAL)

We the department of EEE are glad to bring forth the newsletter "VIBJUTI" which is a symbol of team work with which the department has been flourishing for years and to go.

The department emphasize the welfare of students both in their academics and personality as budding Engineers of future India.

We the faculty abide by the mission and vision of the department so that it reflects our harmony in the department.

We inculcate to the students that discipline and technology are the seeds for the growth of an individual in the society. I as HOD feel proud to work with the faculty in the department who

always obeyed and supported for the small but new innovative such as Research Lab, training programs, mini and major projects etc.

DR.T. RAKESH

(HEAD OF THE DEPARTMENT)

KLR COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF

ELECTRICAL AND ELECTRONICS ENGINEERING

Vision of the Department:

To become a Centre of Excellence and source of cutting-edge technologies in Electrical and Electronics Engineering and allied fields

Mission of the Department:

M1: To enhance career and inculcate spirit of research attitude, foster entrepreneurship through emerging technologies and industry-institute Interaction

M2: To impart high quality technical education with problem solving capabilities by innovative pedagogy in emerging technologies.

M3: To imbibe ethical values and leadership skills among student community.

Contents

Women's Day

International Women's Day is an annual event where people across the globe celebrate women's achievements, raise awareness about gender discrimination and take action to drive gender parity.

The annual event started in 1911 but takes it's roots from the gender equality protests in New York in 1908, calling for better pay, working conditions and the right to vote. The date was unanimously accepted at the International Conference of Working Women in 1910 and in 1975, the day was formally adopted by the United Nations.

The theme for IWD23, is 'DigitALL: Innovation and technology for gender equality'. The event will focus on the advancement of transformative technology and digital education to help bridge the economic and social inequalities which are still present.

This year's theme resonates strongly with Lepra's work in marginalised communities in India and Bangladesh. Neglected Tropical Diseases (NTDs) like leprosy and lymphatic filariasis are thought to disproportionately affect women. Although infection rates are likely similar between men and women, many social factors persist which mean that detection, treatment and recovery for women remains significantly more challenging. Tackling healthcare inequality, deeply held prejudice and fear of the social implications of a diagnosis are a central aim of Lepra's work in affected communities, and women are leading the fight in our innovative projects and programmes.

Lepra takes great pride in the inspirational women who are leading the fight against leprosy and NTDs. Through the development of pioneering projects, new innovation and technology, our female

Placement's week

"Placements week" in college typically refers to a specific period when companies visit the campus to recruit students for various job positions. This week or period is crucial for students as it offers them opportunities to secure employment before, they graduate.

Here's what typically happens during placements week:

1. Preparation: Before placements week begins, colleges often conduct workshops, seminars, and training sessions to prepare students. This includes resume building, interview skills, aptitude tests, and group discussions to enhance their employability.

2. Company Visits: During placements week, various companies visit the campus to conduct recruitment drives. They may give presentations about their organization, job roles, and career opportunities.

3. Recruitment Processes: Companies conduct a series of recruitment processes which may include:
   - Written Tests: Assessing aptitude, technical skills, and general knowledge.
   - Group Discussions: Evaluating communication, leadership, and problem-solving abilities in a group setting.
   - Interviews: Technical interviews, HR interviews, or panel interviews to assess candidates' skills, knowledge, and suitability for the role.

4. Job Offers: Successful candidates receive job offers or placement offers from the companies that participated in the recruitment process.

5. Career Guidance: Colleges often provide career guidance and counseling services to help students make informed decisions about job offers, career paths, and future opportunities.

Placements week is a significant event in a college student's life as it marks the beginning of their professional career. It's a time when students put their best foot forward to secure job offers from reputed companies and kickstart their professional journey.

K L R COLLEGE OF ENGINEERING AND TECHNOLOGY

PLACEMENT DRIVE

SPR

Human Capital Solutions

ELIGIBILITY: CIVIL,EEE,MECH,ECE

DATE
FRIDAY,23, JUNE

TIME
11.00 AM

SALARY PACKAGE: UPTO 2.6 LAKHS CTC

For Admission queries
Contact:7661938267 www.cet.klr.ac.in

K L R COLLEGE OF ENGINEERING AND TECHNOLOGY

PLACEMENT DRIVE

NALSOFT

DATE
FRIDAY,23, JUNE

TIME
11.00 AM

SALARY PACKAGE: 5 LAKHS CTC

Eligibility: 7.5 and above CGPA

CSE,ECE

For Admission queries
Contact:7661938267 www.cet.klr.ac.in

K L R GROUP OF INSTITUTIONS

K L R COLLEGE OF ENGINEERING AND TECHNOLOGY

Palvancha - Telangana

Placement drive

Salary 5 LAKHS CTC

Eligibility: B.Tech - CSE, ECE,
with 7.5 CGPA, 2023 passed out

NALSOFT

Job Role:
Trainee Software Engineer

Date of Virtual Drive on 23/06/23

Any queries contact: klrcetplacements@gmail.com

K L R GROUP OF INSTITUTIONS

K L R COLLEGE OF ENGINEERING AND TECHNOLOGY

Palvancha - Telangana

Placement Drive

3i Infotech®
LIMITLESS EXCELLENCE

Eligibility:
B.Tech - All branches

Job Role:
Process Executive - Non voice

Salary
2.2 Lakhs CTC per year

VENUE: CDC, KLRCET

DATE OF DRIVE
24-06-2023, 11.00 AM

Any queries contact: klrcetplacements@gmail.com

FAIRWELL

An evening dedicated to rejuvenate all the memories of college life. A light-hearted event, which would flood the memories from the past and allow you to relive them all over again and much more to make the evening worth cherishing. Farewell is used to express good wishes on parting. The colorful memories of the days spent by the students were gathered to share again before they cast away from the campus of Alva's Institute of Engineering and Technology to start a promising career.

KLR organized it's farewell function for the outgoing batch of B.Tech outgoing students participated in the event. The function was inaugurated by Chairman Madam – Nagamani , along with our principal M.Surendra Kumar. Followed by this, a pledge was taken by all the final year students of B.Tech as a promise to execute their duties with courage, compassion and determination. The best projects of the final year students were rewarded by the institution. Students shared their experiences spent in the campus and also gave a quick review of the memories they cherish from the campus. As a token of remembrance, a memento was also distributed to all the students.The Parents, Invitees & staffs of KLR witnessed this momentous occasion, The programme ended up with scrumptious dinner.

Haritha Haram

Haritha Haram is a large-scale tree-planting initiative in the Indian states of Telangana and Andhra Pradesh. The term "Haritha Haram" translates to "Green Necklace" and signifies the aim to increase the green cover and forest area in these regions.

This initiative involves planting millions of saplings across the states to combat deforestation, improve the environment, and promote ecological balance. It's not just about planting trees but also about nurturing them to ensure their growth and sustainability.

Haritha Haram involves participation from various sectors of society, including government bodies, educational institutions, NGOs, and the general public. The initiative focuses on environmental conservation, awareness campaigns, and the active involvement of communities in the plantation drives.

The goal is to increase the green cover, improve air quality, prevent soil erosion, and create a sustainable environment for future generations.

Talent Test

Eenadu Paper were conducted a talent test to the students regarding the current affairs and some general knowledge questions.

For every winner they will give a gift hamper. They are eligible to that hamper because their intelligence won the perfect thing to them .

సృజనకు పదును

పాల్వంచ పట్టణంలోని కేఎల్‌ఆర్ ఇంజినీరింగ్ కళాశాలలో శనివారం 'ఈనాడు' ఆధ్వర్యంలో ప్రతిభా పాటవ పోటీల్లో భాగంగా 'క్విజ్' పోటీల్లో పలు కోర్సుల విద్యార్థులు ఉత్సాహంగా పాల్గొన్నారు. ప్రథమ, ద్వితీయ, తృతీయ స్థానాల్లో ఎస్‌కే సఫీయా, ఈ.జగన్‌కుమార్, జి. సుమాపెల్సిన్ నిలిచారు. వీరికి కళాశాల వైస్‌ప్రిన్సి

పల్ రాజేంద్రప్రసాద్, అధ్యాపకుడు రమేశ్ ప్రశంసప త్రాలు, బహుమతులు అందజేశారు.

– పాల్వంచ విద్యావిభాగం, స్యూటుడే

News Articles

Modi underl ines opportunities from renewable energy sources

Prime Minister Narendra Modi said on Thursday that the potential of solar, wind and biogas in India is no less than any gold mine or oil field for our private sector.

Addressing a webinar, Mr. Modi said that India's future development would be based on three pillars for green growth and energy transmission. Increasing the production of renewable energy; reducing the use of fossil fuel in the economy and finally, moving towards a "gas-based economy" in the country, he added.

This approach undergirded the announcement of schemes such as ethanol blending, Pradhan Mantri Kisaan Urja Suraksha Evam Mahabhiyan (PM-KUSUM, a scheme for solarising agriculture), incentives for solar manufacturing, rooftop solar scheme, coal gasification, and battery storage in the Budgets of the past few years.

2,56,980 electric vehicles registered in India in 2023 (till 15.03.2023)

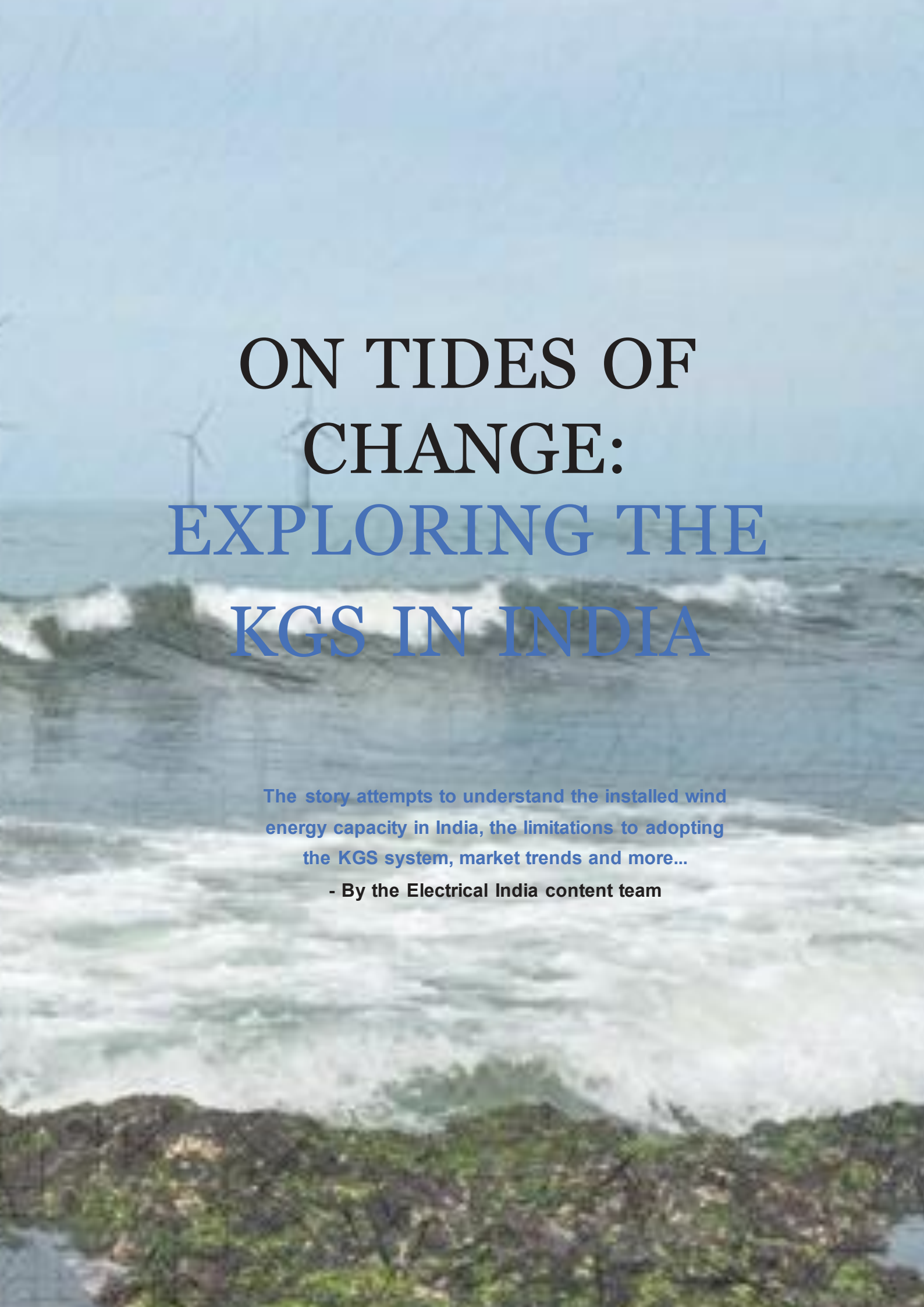
The Union Minister of State for Heavy Industries, Shri Krishan Pal Gurjar in a written reply to a question in Lok Sabha today informed that as per e-vahan portal, Ministry of Road Transport and Highways, the details of number of electric vehicles registered in India since 2020 to 2023 (till 15.03.2023) are as under:

Year	Total Count
2020	1,23,092
2021	3,27,976
2022	10,15,196
2023 (till 15-03-2023)	2,56,980

The Ministry of Heavy Industries has given incentives to buyers and manufacturers of electric vehicles through following three schemes:

Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME India): The Government notified Phase-II of FAME India Scheme initially for a period of five years commencing from 1st April, 2019 with a total budgetary support of Rs. 10,000 crore. Under FAME-India Scheme phase-II, incentives are provided to buyers of electric vehicles in the form of an upfront reduction in the purchase price of electric vehicles.

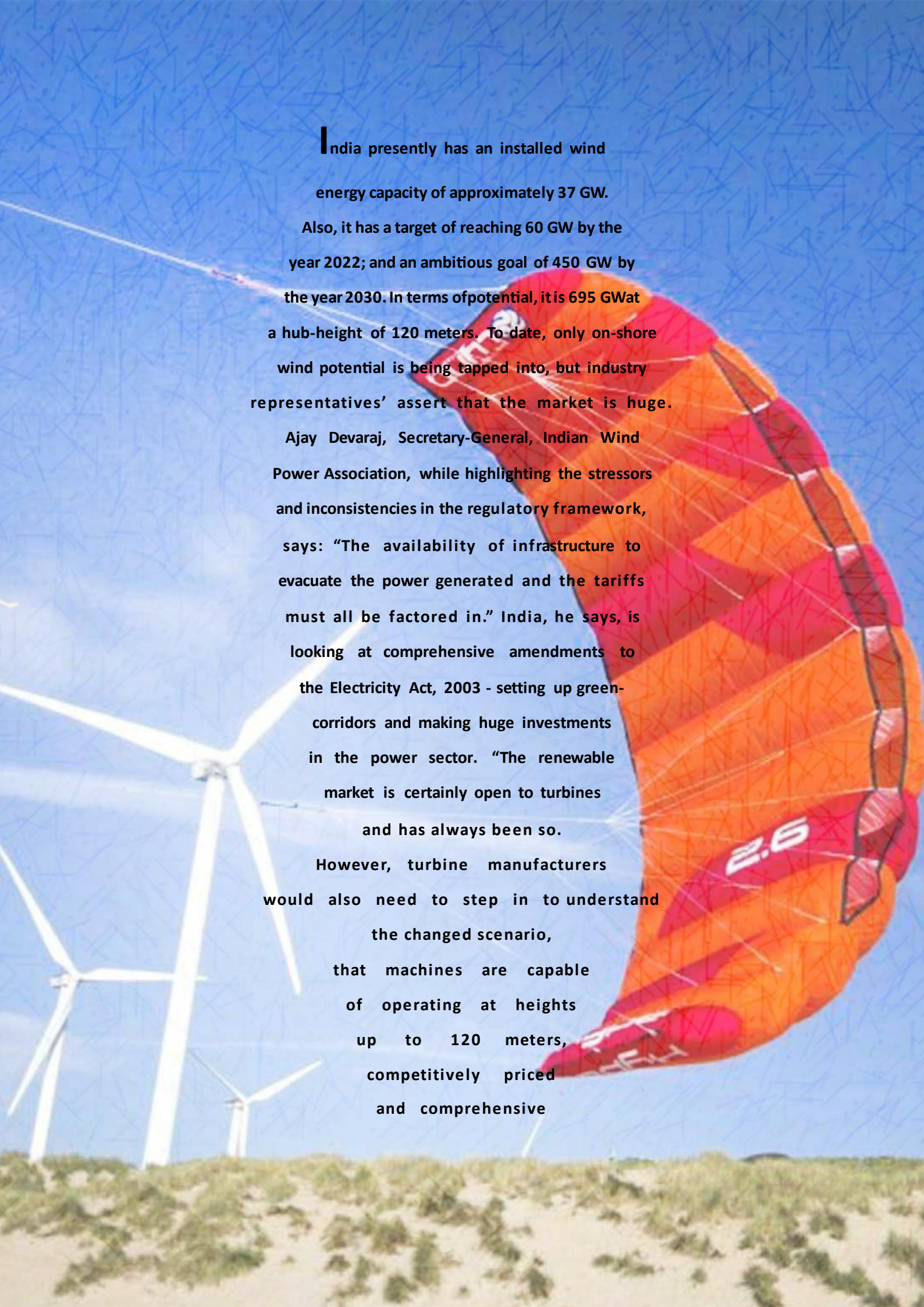
The incentive is linked to battery capacity i.e. Rs. 10,000/KWh for e-3W and e-4W with a cap 20% of the cost of vehicle. Further, the incentive/ subsidies for e-2W has been increased to Rs. 15,000/KWh from Rs. 10,000/KWh with an increase in cap from 20% to 40% of the cost of vehicle w.e.f. 11th June, 2021.



ON TIDES OF CHANGE: EXPLORING THE KGS IN INDIA

The story attempts to understand the installed wind energy capacity in India, the limitations to adopting the KGS system, market trends and more...

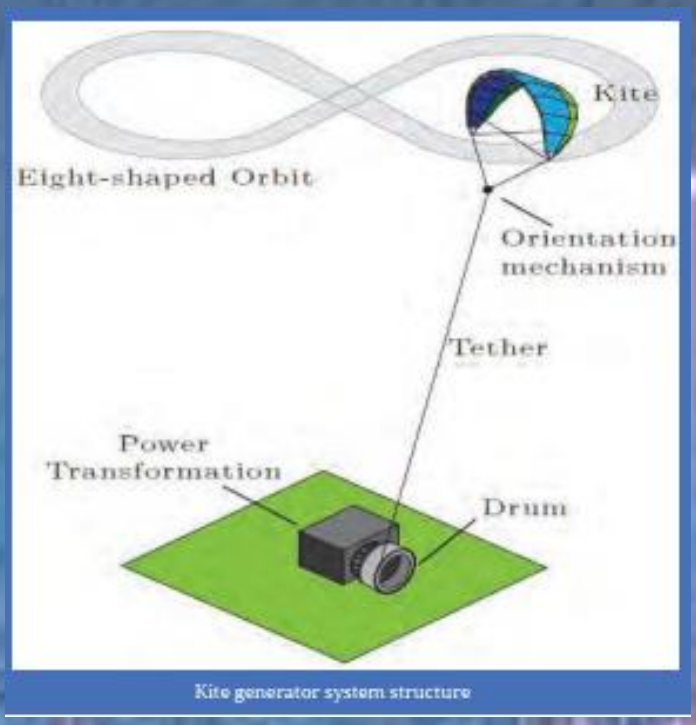
- By the Electrical India content team



India presently has an installed wind energy capacity of approximately 37 GW. Also, it has a target of reaching 60 GW by the year 2022; and an ambitious goal of 450 GW by the year 2030. In terms ofpotential, it is 695 GWat a hub-height of 120 meters. To date, only on-shore wind potential is being tapped into, but industry representatives' assert that the market is huge. Ajay Devaraj, Secretary-General, Indian Wind Power Association, while highlighting the stressors and inconsistencies in the regulatory framework, says: "The availability of infrastructure to evacuate the power generated and the tariffs must all be factored in." India, he says, is looking at comprehensive amendments to the Electricity Act, 2003 - setting up green-corridors and making huge investments in the power sector. "The renewable market is certainly open to turbines and has always been so. However, turbine manufacturers would also need to step in to understand the changed scenario, that machines are capable of operating at heights up to 120 meters, competitively priced and comprehensive

Get acquainted with the KGS system

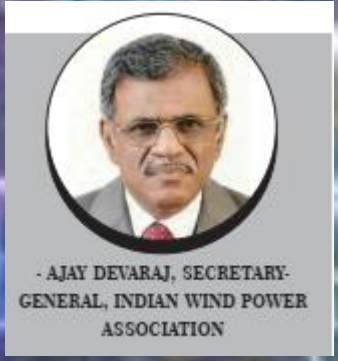
In the May 2020 issue of the Electrical India magazine, Singh stated that KGS is the future of the renewable energy market. There is already a heavy demand as well as a tough competition in the international market for KGS technology. While further explaining the basic elements of the KGS system, he says: "On the top is the kite in the shape of a parachute. The natural path followed by this kite is upward with the wind in an eight-shaped orbit. The tether is a cheap rope made of fibre having good mechanical strength. The one end of the tether is connected to the kite and the other end is wounded on a drum. The drum rotates to unroll the tether and the kite goes upwards. An electromechanical energy conversion (EMEC) device is connected on the same shaft as the drum through a gearbox. Hence, the linear kinetic motion of the kite is converted in rotational motion of the drum and is used to generate electricity using an EMEC device." Also, he says that the KGS is a Relaxation Cycle System; it is composed of a traction phase. In the traction phase, the kite goes up following an eight shaped orbit, hence drum unrolls and the EMEC



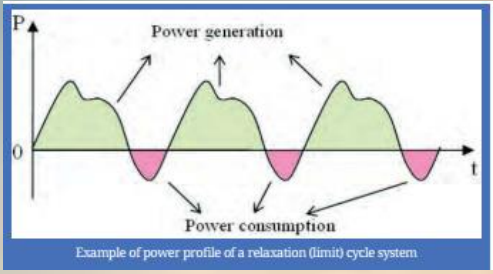
Kite generator system structure

O&M, availability of spares throughout the entire useful life of the machine, etc."

Siddharth Singh, Data Analyst & Machine Learning Engineer, IBM, speaks about the market for wind energy in India while also pointing at the competition in the market. He says: "Many companies in Europe, Northern America and China have generated significant value in its intellectual property (IP) related to the Kite Generator System (KGS) in the form of patents, prototypes, design reports, simulations, technical results, market reports and more." These IPs, he adds, were acquired from various research institutes initially, and have been enhanced to achieve its final form as a product. "To be honest, I believe, only the biggest private players in India can afford the cost of borrowing the technology. Further, there is an urgent requirement in the country to improve its infrastructure and education system. This will accelerate research and innovation as well as it will provide the Indian market with competent manpower," he adds. Speaking of the emerging trends concerning the KGS system, Singh says: "The advancement in technology has led to the decrease in the cost and the size of communication devices. Today, the equipment can be mounted on power kites and they can be used as boosters, repeaters and antennas. Hence this will improve the accessibility to various communication networks in the remote areas.


- AJAY DEVARAJ, SECRETARY-GENERAL, INDIAN WIND POWER ASSOCIATION

HAWE technology and the limitations to its adoption



Example of power profile of a relaxation (limit) cycle system

Michael Perlberger, Founder, Brainwhere GmbH, speaks on High Altitude Wind Energy Systems (HAWE). He says: "With the growing population and energy need on the one hand and the availability of enormous amounts of high altitude wind energy, India is a country that will explore with new technology." While highlighting the limitations to the KGS system, he says that the industry is doing enough to research, experiment and find solutions concerning performance. He says: "The winds across the Himalayas are pretty constant in speed and direction (from west to east). The KGS system operates above the clouds therefore snow or rainfall is not so much of an issue. Air traffic is handled using classical Traffic Avoiding Collision Systems. The power electronic circuitry to act as an intermediate between the grid and the generator is easily available." Singh is also in agreement with Perlberger. He says: "Even if the product gets market-ready, approval from Aviation Authorities and other concerned government bodies is another challenge. The proposal of UAV and drones has already been device acts as Generator. "In the recovery phase, the electrical energy is consumed to bring the kite back down, the EMEC device acts as a motor to deliver the power to the shaft and the drum rolls back the tether," he adds.

The need to operate the Kite in a specific range of height (generally 350 to 500m) is explained in fig. 3. The figure shows the different kite power region which is in the shape of a quarter sphere, considering the direction of wind going into the page. There is a lower limit under which the kite is having the risk of falling. Little above comes the maximum power region where we get a peak in power curve then comes the medium power region where power output is almost constant with increase in height. The efficiency above a certain height is low. Hence as soon as kite reaches minimum power region, a relaxation cycle is initiated to bring the kite back in the maximum power region of operation.

Can the KGS system be enhanced and modified via IoT?

Singh asserts that there is no doubt that IoT can be used to implement the control scheme. He says: "Various sensors will be required to identify the trajectory, orientation and curvature of the kite. Wireless communication is required to transmit the signals received from these sensors to the controller module." He adds and says that the data collected at higher altitudes can be sent to data centres for research and analysis, to predict the weather and generation and to predict time-varying price of the wind power by various electricity aggregators. He says that companies such as Makani Power, Kitepower, Kitegen, Kitemill, Magenn, Swiss Kite power, Sky Wind Power, Skysails, Joby Energy etc. have already launched such out-performing models in form of market-ready finished products. "The National Renewable Energy Laboratory (NREL) of the U.S. Department of Energy publishes an annual report which could be found at www.nrel.gov/publications " Singh adds. Singh says that presently the system is still being developed and we are looking at funding for the next stage. We are open to investment from India as the country is a primary market for the solution. Our solution, in particular, can be used as an 'energize platform,' serving multiple purposes. Hence, we are not limiting ourselves to energy production.


- SIDDHARTH SINGH, DATA ANALYST & MACHINE LEARNING ENGINEER, IBM