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Message from President

It is very much a timely act to notify the green hydrogen policy by the Government of India, as a step towards de carbonizing the economy. The Centre has made an ambitious target of having production capacity of five million ton by 2030. When hydrogen is manufactured by electrolysis of water through electricity from renewable energy sources, it is termed green hydrogen. The new policy announced by GOI will give fillip to renewable electricity generation as well as de-carbonization efforts. The green hydrogen will find application in industrial processes demanding high temperatures like production of cement, steel or long haul transportation by seas or air. The policy is supporting the manufacturing of green ammonia also. The policy aims at catapulting our country to the centre stage in global net zero initiative s by positioning ourselves as an export hub for green hydrogen and green ammonia.

While the thought behind green hydrogen is very much laudable, the safety precautions which are essential while dealing such explosive gas are to be an integral part of the policy during implementation of the same. It is also worth noting that the policy itself is technology agnostic which will foster innovations.

We hope that the policy will augur well for the common man providing him with cleaner fuel at competitive prices, and help in providing career opportunities to professionals and creating jobs for people.

Jai hind!

M C Jain
National President, SEEM



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View Point

Will 'Greenflation' retard race to Net zero

It is now indisputably established that the whole world have to strive towards achieving net zero emissions by the early second half of this century. Many countries including our Nation have already made commitments towards this loft goal. The energy transition which will facilitate the achievement of this goal comes at a cost.

This transition need to be very carefully planned and executed so that the growth in economy is sustained to feed and cater to the existence needs of the millions. The continuity in growth has to be sustained while the fossil fuel intensive economy transcends to a low carbon regime. The accompanying disruptions, although is a lot promising, and holding forth the vision of sustainability and growth in the long run, have the portends of debilitating economies in the short run.

This is where the word 'greenflation' enters our lexicon. This is often used to denote the cost of the energy transition which ultimately will be lot less than the cost of climate change and associated negative consequences.

The renewable energy which will be the harbinger to usher in a low carbon era will require large scale mobilization of various industrial and precious metals. The prices of metals like copper, aluminum, lithium all of which are required in good quantities to facilitate the transition from fossil fuels. The demand for other raw materials used in renewable energy also is on an upward trajectory. A combination of increase in demand and slowing of supplies majorly caused by disruptions because of the pandemic is pushing up the prices. Moreover the clamor for greening of products like iron, cement, aluminum tc also will put additional pressure on the prices.

The situation gets exacerbated with price push in energy itself. It was expected that the demand for fossil fuels will progressively decline and hence their prices will come down. Unfortunately contrary to this, the supply side concerns and the geopolitical developments have pushed up fossil fuel prices. This in turn is affecting the investments in renewable energy technologies which are very critical during this transition. This gets translated to resorting to a 'green premia' being paid for low carbon energy technologies for longer periods than anticipated to bring about the transition.

Thus there will be increase in input prices for energy generation and consumption. Simultaneously the climate change mitigation efforts also will also put demand on the available resources. Together these will have a drag on the de-carbonization aspirations.

It is going to be a great challenge to keep up the growth in GDP and at the same time to combat these conflicting forces of higher prices which are now being termed as 'greenflation' and the development needs of the nations. This needs to be handled with lot of deliberations among stakeholders, public awareness to make this transition as painless especially for the already economically deprived lot.

High prices of supporting materials, green premium, carbon taxes, and obsolescence of fossil fuel associated assets are the prices we have to pay to pave way for de-carbonization, which are the components of 'greenflation'. The consequences of not de- carbonizing and cost thereof will be much higher than what we may choose to afford as 'greenflation'.

G Krishnakumar
Immediate Past National General
Secretary & Chief Operating Officer





Report

E-Course on Compressed Air – Quality & Cost

SEEM organized an e-Course on Compressed Air Quality and Cost on 16th February 2022. Dr. R. Sivakumar, UNIDO and Life Member of SEEM Tamil Nadu Chapter was the Speaker. He explained about the basics of Compressed Air System and Best Practices of Compressed Air System. Modern Trends on Energy Conservation of Compressed Air was covered through Case studies. Also covered the topic “Techno Commercial aspects” through several case studies.

Around 75 Participants from all over the Country Participated in the training program. Mr. R. Gopalakrishna, Sr. Member participated and shared his experience.

SEEM Tamil Nadu Chapter Members involved in different activities

- ❖ Mr. Natarajan, Indian Railways shared a case study on Cost Saving through Retrofitting of Impregnated Oven in Monthly Meeting of SEEM Tamil Nadu Chapter held on January 7th February 2022.
- ❖ Dr. R Sivakumar participated in the following events during Dec 2021:
 - (a) Conducted a Webinar on Non Conventional Energy on 12th Dec for Karpagam University
 - (b) Addressed a gathering on Importance of Energy Consumption “ on Dec 14th at Dr. NGP Institute Of Technology
 - (c) Conducted a Webinar for Jansons Institute Of Technology on “Career opportunities in Energy Sector” on Dec 19th.
- ❖ Mr. Ashok Sethuraman shared a real life case study on Energy Saving on Paint Booth Blowers in the Group.

Coming soon...





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14. Work for student chapters – existing and create new ones
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"Energy manager" magazine



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SEEM's aim is to provide a clean and green earth by integrating energy efficiency and conservation of natural resources into activities

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- For Certified Energy Managers
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- Organize energy related research
- Energy Equipment Manufacturers, Distributors, Marketing Agencies

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- More than 2567 energy industry professionals
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- Building a network of student chapters



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National Presence
22 states



15 Chapters &
7 Centers



13 Student Chapters



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Contact :

Mr. Mohammed Arshad

Mob : 87448 15570

E-mail

: training@greentree.global

Registration fee:

Paper 1 – Rs. 500 + GST

Paper 2 – Rs. 1250 + GST

Paper 3 – Rs. 1250 + GST

Paper 4 – Rs. 1500 + GST

Total Cost – Rs. 4500 + GST

If you would like to register for all 4 papers, the fees will be only Rs. 4000 + GST.



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India expects fuel demand to grow 5.5% in next fiscal year

April 1, initial government estimates show, reflecting a pick-up in industrial activity and mobility in Asia's third largest economy after months of stagnation.

India's fuel consumption in 2022-23, a proxy for oil demand, could rise to 214.5 million tonnes from the revised estimates of 203.3 million tonnes for the current fiscal year ending March 2022, according to government forecasts.

The estimates were released on the website of the Petroleum Planning and Analysis Cell (PPAC), a unit of the federal oil ministry.

Local demand for gasoline, used mainly in passenger vehicles, is expected to rise by 7.8% to 33.3 million tonnes, while gasoil consumption was slated grow by about 4% to 79.3 million tonnes, the data showed.

Consumption of aviation fuel would likely increase by nearly 50% to 7.6 million tonnes, compared with the revised estimate of 5.1 million tonnes for the year ending March 2022.

Demand for petcoke, a better-burning alternative to coal, could increase 2.8% to 14.8 million tonnes, while demand for liquefied petroleum gas, used as cooking fuel, is estimated to grow 4.5% to 29.7 million tonnes, PPAC said.

The table below shows the government's estimates for the fiscal years ending March 2022 and March 2023.



Source: <https://www.moneycontrol.com/news/india/households-free-to-install-rooftop-solar-panel-by-any-vendor-under-govt-scheme-mnre-7967481.html>

India to face gas price shock in April; CNG, PNG, power prices set to rise further

New Delhi: The full force of the global gas crunch will hit home in April: domestic gas prices will double, driving up costs of cooking, commuting and electricity, while increasing the fertilizer subsidy bill for the government.

An accelerated recovery in energy demand from the covid-lows coupled with inadequate supply expansion in 2021 vaulted prices to record highs, sending shockwaves through the global economy. Domestic industries are already paying higher prices for LNG imported under long-term contracts where rates are linked to crude oil and have sharply cut purchases from the spot market where prices have been berserk for months.

But the most dramatic fallout will unfold in April when the government revises the domestic price of natural gas, which industry executives and analysts expect to rise from the current \$2.9 to \$6-7 per mmBtu. The price ceiling for gas from deep-sea fields will rise from \$6.13 to about \$10, as per Reliance Industries, which is also auctioning some gas next month from a field with no price restrictions and has set a floor rate linked to crude oil that at current prices would be about \$14 per mmBtu.

Domestic natural gas prices are determined every April and October as per a formula fed by price data from international hubs. April price will be based on international prices from Jan to Dec 2021.

Every dollar rise in domestic natural gas price would require an increase in the price of CNG by Rs 4.5 per kg, according to AK Jana, managing director of Indraprastha Gas Ltd. This means a CNG price hike of roughly Rs 15 per kg.

"For CNG vehicles, the cost arbitrage with petrol is currently around 55%. If petrol prices keep rising, arbitrage will be maintained. But if oil prices stop rising or fall, it will be different. If the cost arbitrage is 40% or more, the conversion to CNG may not be affected," said Jana.

City gas companies have the dual advantage of access to cheap domestic gas and pricing freedom for CNG that enjoys lower taxes compared to the heavily taxed competing fuels like petrol and diesel helping these firms report extraordinary profit margins year after year. Absorbing some cost increase in April can impact their margin, while fully passing it on risks turning off potential customers.

Last year's price increases – CNG rates are up Rs 13/kg, or 30%, since June in Delhi – could reduce the need for a steep hike in April, analysts say. A lower allocation of domestic gas by the government in the past five months required companies to meet the shortfall with pricey spot LNG, making price increases imperative.

From April, the share of spot LNG may decline in the overall supply as the government is expected to fix allocation gaps, reducing the overall cost," said Probal Sen, an analyst with ICICI Securities.



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But not everybody is as sure as the domestic gas supply has stagnated while demand for it is rising with the expansion of city gas. Increasing allocation to city gas at the cost of the fertilizer sector would increase the government's subsidy burden.

CNG vehicles are still a small share of the vehicles on the road and companies have primarily used the carrot of lower operating costs to lure petrol and diesel vehicle drivers. "We can always pass through, but that price would not work because, at the end of the day, we need to also keep in mind customer interest and customer affordability. Second, it could also, in the long run, be a challenge for us because consumers will start looking at the sudden rise in the prices and start moving away from PNG and CNG," Suresh Manglani, the CEO of Adani Total Gas Ltd, said on an earnings call..

Govt. plans new tech, digital infrastructure to support domestic coal mines operations

New Delhi: The government plans to implement new technologies and build digital infrastructure to support current and future coal mines operations, a move that would reduce the country's dependency on imports.

Technological advancements in coal mining are also making operations more productive. "The objective is to implement new technologies and build digital infrastructure to support current and future ramp-up for the mines," according to the government's draft technology road map for the coal sector.

This involves a strong, multi-speed backbone information technology and infrastructure system that allows rapid deployment of new technologies.

"Creation of such system would require access to new-age ecosystems (e.g., start-ups, established vendors, research institutes, etc). The technological transformation will also entail the creation of a new culture in the organisation," it said.

To reduce the dependency on imports, it is critical for Coal India Ltd (CIL) to reach the one billion tonnes (BT) target, thereby embarking on a technological transformation journey, it said.

New technologies can have a number of impacts on mining operations, including safety and productivity, environmental protection, and opportunities for women.

Safer working conditions through improved underground communication, automation, more sophisticated mineral and metal transportation, and emergency response measures are achieved by integrating technology into mining projects, it said.

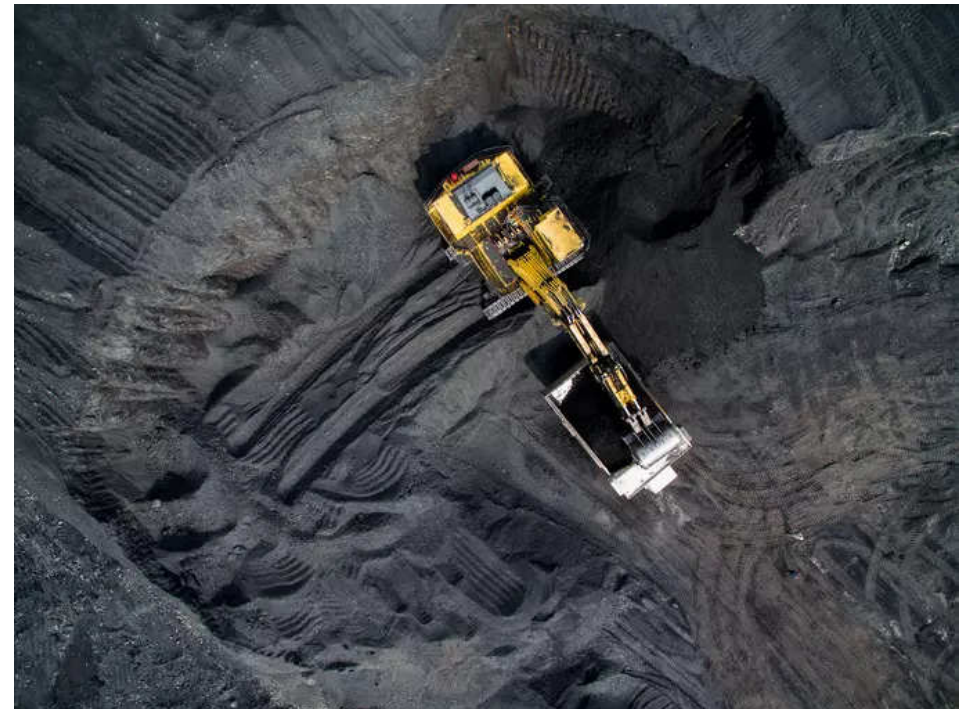
A new way of thinking will be inculcated in the entire organisation. A technology transformation team will be set in place to drive impact and sustain the programme with an established centre of excellence.

A robust tracking and change management mechanism will be deployed to ensure timely resolution and delivery.

The scope of this road map (is)...technology enablement in coal mines for transformation across business value chain, leveraging 'digital technology' as an accelerator for demonstrating performance enhancement from in the coal mines and increasing productivity, safety and sustainability while...reducing environmental impact by upgrading conventional technologies to new technologies," according to the draft road map. India had a total coal reserve of 344.02 billion tonnes. Commercial primary energy consumption in India has seen a rise of 700 per cent in the past four decades. Major factors for the increase in demand for energy are expanding economy, rising population and the improvement of quality of life.

The limited potentiality of other energy sources will lead to the continuation of coal as the primary resource in India's energy scenario for the next few decades.

However, due to the high demand and poor average quality, the country has to import coal of higher quality mainly to meet the requirements of its steel plants, cement plants and sponge iron plants, among others.



Source: <https://energy.economictimes.indiatimes.com/news/coal/govt-plans-new-tech-digital-infrastructure-to-support-domestic-coal-mines-operations/89720613>



NEWS

India to be self-dependent in coal production for thermal power generation by 2024: Secy

Nagpur: Coal Secretary Anil Kumar Jain on Tuesday said the import of coal for thermal power generation will end in India by 2024 and the domestic production of the dry-fuel is expected to rise by 10 per cent. Jain was in Nagpur for a review meeting with Western Coalfields Ltd (WCL), a subsidiary of Coal India Ltd.

WCL Chairman and Managing Director Manoj Kumar, its directors, chief vigilance officers and other senior officers were present at the meeting.

Speaking with journalists during the visit, Jain said the coal import for thermal power generation will end in India by 2024.

He said 90 million tonnes of coal for thermal power plants used to be imported. There is a possibility that this year, 60-70 million tonnes of this will be achieved domestically.

In 2023, there will be limited requirement of imported coal.

Source: <https://energy.economictimes.indiatimes.com/news/coal/india-to-be-self-dependent-in-coal-production-for-thermal-power-generation-by-2024-secy/89594488>



He further said that along with good results in productivity out of commercial mining, the production of coal by Coal India Ltd will also increase by 10 per cent.

Jain also said it is expected that demand for electricity will grow 10 per cent next year.

He also informed that Coal India Ltd's production is expected to be 630-635 million tonnes this year and will increase to 700 million tonnes during next fiscal year.

First hydrogen train in Japan to hit the rails for test run

Japan's largest railway company will begin testing the country's first hydrogen-fueled train next month in a step toward the nation's goal of becoming carbon neutral by 2050.

The two car "Hybari" train -- a combination of hybrid and the Japanese word for a lark -- cost about 4 billion yen (\$35 million) to develop and can travel up to 140 kilometers (87 miles) at a top speed of 100 km/h on a single filling of hydrogen.

East Japan Railway Co., which developed the train in partnership with Toyota Motor Corp. and Hitachi Ltd. plan to use them to replace its diesel fleet and look to export markets. Commercial services should begin in 2030.

Japan has made hydrogen a key clean-energy source to reach net zero. Toyota is aiming for a tenfold increase in the production of hydrogen-fueled Mirai cars with its second-generation model, while more fuel-cell buses and commercial vehicles are on the road.

Source: <https://energy.economictimes.indiatimes.com/news/renewable/first-hydrogen-train-in-japan-to-hit-the-rails-for-test-run/89723572>

The government has said it aims to boost hydrogen's usage amount to 20 million tons by 2050, while energy companies like Iwatani Corp. and Kawasaki Heavy Industries Ltd. are trying to build hydrogen supply chains to bring down its price.

Europe has been a pioneer in hydrogen trains, with Germany rolling out the world's first train built by Alstom SA in 2018. Siemens AG and Deutsche Bahn AG are developing new regional trains and special fueling stations and will test them in 2024.



NTPC pays interim dividend of Rs 3,879 cr for 2021-22

New Delhi: State-run power giant NTPC has paid an interim dividend of Rs 3,878.67 crore for the financial year 2021-22. The dividend paid is 40 per cent of the paid-up equity share capital of the company, it said in a statement.

This is the 29th consecutive year that NTPC has paid dividend..

The total installed capacity of the company stands at 67,832.30 MW, with 23 coal based, 7 gas based, 1 hydro and 19 renewable energy projects. Under joint ventures, NTPC has 9 coal based, 4 gas based, 8 hydro and 5 renewable energy projects.

Source: <https://energy.economictimes.indiatimes.com/news/power/ntpc-pays-interim-dividend-of-rs-3879-cr-for-2021-22/89743028>





NEWS

Tamil Nadu utility to link Aadhaar card for power connection

Chennai: Tamil Nadu Generation and Distribution Corporation (TANGEDCO) has sought state government's directive to link Aadhaar cards for new power connections.

The decision, according to TANGEDCO officers, is to prevent claiming of electricity subsidy by making multiple connections in a single residence.

The officials are expecting the state government to take a policy decision to link the electricity consumer numbers of the consumers with their Aadhaar numbers. Sources in TANGEDCO informed IANS that they had a meeting with the state electricity minister but are yet to get clearance from Tamil Nadu Electricity Regulatory Authority which has an important role in policy decisions concerning electricity in the state.

TANGEDCO officials are of the opinion that if Aadhaar is linked to the electricity numbers, the subsidy claims can be regularised and streamlined. At present, the power generation and distribution corporation is spending around 3500 crore rupees annually on power subsidies.



According to senior officials of the corporation, linking Aadhaar would be easy to identify those with multiple connections for a single residence and enjoying the benefits of subsidy in power. This according to TANGEDCO is like the Union government linking Aadhaar with LPG connections to reduce the subsidy.

Source: <https://energy.economictimes.indiatimes.com/news/power/tamil-nadu-utility-to-link-aadhaar-card-for-power-connection/89720415>

Why Budget 2022 was a watershed for India's renewable energy sector

New Delhi: The Union Budget 2022-23 was tabled by the Finance Minister on 1 February 2022 with certain key goals which included energy transition & climate action and financing of investments. It was expected that the Budget would be the foundation for India's ambitious energy transition commitments made at the 26th Conference of Parties (COP) held in November 2021. The key stakeholders of the industry also looked forward to clarifications with respect to proposed increase in imposition of customs duty on solar modules and cells. Further, an increase in the budgetary outlay for the Production Linked Incentive Scheme - 'National Programme on High Efficiency Solar PV Modules' (PLI Scheme) was awaited by the domestic module manufacturers.

Electric Vehicles: Blade Battery powers BYD India's e6 eMPV

CHENNAI: BYD India, a subsidiary of the Warren Buffett-backed Chinese EV maker BYD, announced that its eMPV e6, launched recently for the B2B segment, is powered by BYD's Blade Battery.

The e6 was launched in India in November 2021. It's equipped with both fast and slow charging function which is customised for the B2B segment. "All new energy vehicles from BYD will come with the Blade Battery," the company said in a statement. "The company will also provide its Blade Battery to other leading OEMs globally."

Launched by BYD in 2020, Blade Battery successfully passes the nail penetration test, the most rigorous way to test the thermal runaway of batteries.



Source: <https://energy.economictimes.indiatimes.com/news/power/electric-vehicles-blade-battery-powers-byd-indias-e6-empv/89738187>

The Budget appears to have delivered on some of these aspects. It has clarified that the proposed customs duty of 40% on solar modules and 25% on solar cells would be levied from 1 April 2022 onwards. Such basic customs duty will considerably reduce or eliminate the existing price gap between domestic and imported solar modules and cells. The Budget also approved an additional allocation of Rs 19,500 crore for the PLI Scheme with the vision of developing integrated manufacturing units equipped in producing raw materials such as polysilicon as well as the end product i.e., the solar PV modules.

"While undergoing nail penetration tests, Blade Battery emits neither smoke nor fire after being penetrated, and its surface temperature only reaches 30 to 60°C. Under the same conditions, a ternary lithium battery mostly exceeds 500°C and violently burns, and while a conventional lithium iron phosphate block battery does not openly emit flames or smoke, its surface temperature reaches dangerous temperatures of 200 to 400°C," said the company statement.

Test results for three types of EV power batteries after nail penetration, with eggs used to indicate the temperature on the battery's surface.

Sanjay Gopalakrishnan, head - electric passenger vehicle - BYD India, said, "This technology will now be a highlight in all BYD pure electric products and we are keen on bringing many more variants apart from the e6 when we start serving India's B2C segment equipped with blade battery technology."

In addition to solving the issue of range Blade Battery can also support fast charging.



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Accordingly, adding the Rs 4,500 Crore approved initially under the PLI Scheme, the Central Government will be providing incentives worth Rs 24,000 crores over a period of 5 years to the successful bidders undertaking such manufacturing units, post commissioning of their respective facilities. Through these initiatives, the Central Government has backed the domestic solar equipment manufacturing industry and accordingly move towards making the green energy sector self-sufficient in the country.

As per the data available on the Ministry of New and Renewable Energy website, India has a solar PV cells' manufacturing capacity of 3 GW per year and solar PV modules' manufacturing capacity of 10 GW per year. Further, India has no manufacturing units for polysilicon, wafer, ingots (raw materials/intermediary products) etc. Given that the PLI Scheme provides a preference to manufacturers who set up a fully integrated solar PV manufacturing plant, the approval of the additional allocation will help in developing such raw materials and intermediary products. Further, with this increased allocation under the PLI Scheme, about 45-50 GW of manufacturing capacity will be added.

Another crucial declaration was the issuance of sovereign Green Bonds by the Central Government to raise funds which will be utilised in public sector projects that promote decarbonisation of the economy. These projects include renewable energy projects, clean transportation, climate resilient infrastructure projects or green business activities etc. Green Bond is a fixed-income financial instrument for raising capital from investors through the debt capital market. In India, several corporates such as Yes Bank, PNB Housing Finance etc. have previously issued green bonds. However, it is important to ensure that transparency is maintained in utilisation of the funds raised. SEBI had earlier in May 2017 issued a circular stating the disclosure requirements for issuance/listing of green securities. Therefore, regulatory certainty is crucial to attract the large pool of global investors willing to integrate their investment in environmental, social, and governance initiatives to participate in such sovereign Green Bonds.

On another important aspect relating to green energy, the biggest challenges for the electric vehicle industry to gain a foothold in the nation is the lack of adequate charging infrastructure and the long charging time associated with the electric vehicle models. The Central Government has sought to address this issue by promoting establishment of battery swapping stations in the country. The NITI Aayog is currently working on a policy which will set the standards for interoperable batteries and connector dimensions, that will allow a seamless battery swapping framework for electric vehicle users in the country. The policy will also encourage companies and start-ups to enter and infuse investment in this segment of the electric vehicle business.



Apart from the above, the Central Government has announced the following policies for promoting green energy: (i) decentralised renewable energy projects under the Vibrant Village scheme; (ii) deployment of biomass pellets in thermal stations; (iii) establishment of charging infrastructure for electric vehicles on a large scale etc. which will strengthen the overall green landscape in the country.

This piece was authored by Shashwat Kumar, Partner, and Amitanshu Saxena, Associate at Shardul Amarchand Mangaldas & Co]

Source::
<https://energy.economictimes.indiatimes.com/news/renewable/g-e-renewable-energy-opens-hybrid-factory-in-vallam-tamil-nadu/89419059>

Rajasthan: Jaipur, Jodhpur, Ajmer power discoms get new MDs

JAIPUR: Ajit Kumar Saxena has been appointed the MD of JVVNL, NS Nirwan has been made the MD of Ajmer and Pramod Tak is the MD of Jodhpur discom. All are retired technocrats.

Saxena took charge on Monday evening. He has 37 years of experience in the energy sector. He said quality power supply to consumers, zero accidents and maximum revenue recovery would be his priority.

Nirwan, who was appointed managing director of Ajmer Vidyut Vitran Nigam, was the director of Rajasthan Akshaya Urja Nigam. He worked as a chief engineer in AVVNL and retired in 2020. He was appointed as director of Rajasthan Akshaya Urja Nigam on October 11, 2021. His tenure will be for a year. Nirwan worked for 36 years in Ajmer Discom and has experience of running the distribution and maintenance system.

Tak, who was appointed as the MD of Jodhpur Discom, had retired from the post of director (technical) at Jodhpur Discom. An expert in solar and wind energy, his selection for the post is being seen as a boon for the unconventional energy spectrum with a government focus on harnessing solar and wind energy in western Rajasthan.

Source::
<https://energy.economictimes.indiatimes.com/news/power/rajasthan-jaipur-jodhpur-ajmer-power-discoms-get-new-mds/89747157>





SEEM Individual Memberships Fee & Benefits

Sl.No	Membership Category	Membership Fee	Annual Fee	Total Amount (Including tax)
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- Opportunities to publicize your efficiency initiatives in the monthly e-newsletter SEEM News
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- Opportunities to constructively participate in various discussions in the energy sector
- Opportunities to become a SEEM Trainer / Expert Faculty
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- Leadership and participation opportunities in various SEEM programmes
- Networking opportunities with many energy professionals from across the country
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