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Current News
மின் செய்திகள்

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Hydrogen as a fuel (Part-2)

The previous issue introduced 'Hydrogen' as a fuel and detailed the methods for producing hydrogen. This issue will explore its role and relevance across various sectors.

1. Transportation

The rapidly growing transportation industry is heavily dependent on fossil fuels which cause significant economic stress and inevitable environmental damage. To battle the perils of fossil fuel dependency, it is pertinent that the sector adequately taps the potential of alternative solutions such as electric vehicles and hydrogen-powered vehicles.

While battery-powered electric vehicles (EVs) are making strides and growing in market share, hydrogen vehicles are touted as the next disruptive technology and the future of zero-emission commuting. Unlike EVs, hydrogen vehicles hold an insignificant market share and have a long way to becoming a mainstream solution. Yet, the latter has a few advantages over the former. Hydrogen fuel can address major drawbacks of EVs including (i) the long hours required for recharging/repowering and (ii) the poor life cycle of lithium batteries which are hard to reuse/recycle.

Given that major cities around the world are working towards achieving zero diesel-powered cars and trucks by 2025, the primary focus of global transport policies should extend beyond EVs to promote hydrogen vehicles as the other alternate sustainable solution for the sector.

1.1 Passenger Cars

Hydrogen fuel cell cars are powered by an electric motor and these cars produce electricity by themselves. It implies that they have an onboard power plant. The only result of the reaction in the fuel cell is electricity, heat, and water vapor. The electricity thus generated, depending on the set-up, either flow to the motor and powers the vehicle directly or charges the battery which stores the energy until it is required by the engine. Fuel Cell Vehicles (Hydrogen-powered Vehicles) are expensive but several analyses show that their mass production would reduce the cost. The key contributor to the cost is platinum which is used as a catalyst. Daimler and Toyota have reduced their platinum content and this will help in volume scale-up. The size of the global passenger cars market is large and even a small penetration into it would be a considerable number. Fuelling cars is similar to refueling gas tanks. The refueling time is less which is around 5 minutes. Some vehicles can cover 300 miles on one tank of fuel with a fuel economy close to 70 MPGe (miles per gasoline gallon equivalent)

(To be continued)

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Green Buildings – for a better environment and a brighter future (Part - 2)

The previous issue explained the objectives and benefits of the green buildings. This section of the editorial will focus on the rating systems available for the green building in detail.

Further in order to promote the construction of green buildings a few rating systems have been developed to provide a yardstick and assess a building's performance and its impact on the environment.

The three main green building rating systems prevalent in India are briefly discussed below:

Leadership in Energy and Environmental Design (LEED):

LEED is an international green building rating system known for its standards and benchmarks set for a high-performing building structure. This system has categorized buildings into 5 groups namely (i) Building Design and Construction, (ii) Interior Design and Construction, (iii) Building Operations and Maintenance, (iv) Neighbourhood Development and (v) Homes. Under each category, the system awards ratings based on respective credit compliance. In India, nearly more than 1900 buildings have been associated with the LEED certification which includes Suzlon One earth in Pune, ITC Green centre in Gurgaon, Olympia Tech Park in Chennai, and many other retails, government buildings, offices, IT parks etc.

Image : LEED logo

Green Rating for Integrated Habitat Assessment (GRIHA):

GRIHA is an Indian based rating system developed to promote the practice and techniques of green construction. A 5-star rating system is used to rate the building's performance on various parameters such as energy efficiency, water conservation, waste management etc. GRIHA is gaining popularity as it has become the most preferred and mandated system for many of the public sector units.

Image : GRIHA logo

Indian Green Building Council (IGBC):

IGBC, a part of the Confederation of the Indian Industry,a non-profit organization which aims to enable a sustainable environment for all. The rating system is based on the five elements of nature (i.e earth, water, fire, air, sky).The rating program was developed to encourage the construction of green buildings and enhance the overall building's performance. The program is available for different categories of buildings including commercial, residential, factories etc.

Image : IGBC logo

As the present day construction activities account for a huge impact on the environment and exert a pressure on existing resources, green construction and sustainable building structures are indispensable in combating the challenges faced. This growing sector not only aids in safeguarding the environment, but is also capable of generating more job opportunities thereby improving the economy of the country. With strict policies and regulations ,the reach of the green construction techniques can be increased manifold. Providing green education and sharing the knowledge of positive outcomes to the public could benefit the promotion of green buildings and hence pave the way for a better environment and a brighter future.

(Completed)

Tamil Nadu News

Residents to pay commercial tariff for treating water, sewage: TNERC

The petition was moved by the Eden Park Residents' Welfare Association, Siruseri seeking clarity on the 2017 tariff order that restricted common power supply under the domestic tariff to common lighting, water supply and lift with the Tangedco levying commercial tariff on water and sewage treatment plants and fire hydrant system. The association argued that the tariff order refers to only facilities such as gymnasium, community hall, amphitheatres, etc, which are considered non-essential for residential purposes, but does not refer to services linked to water treatment, sanitation and life safety which are essential and integral part of the residential complex eco-system.

Pointing out that the establishment of treatment plants and fire safety equipment is mandatory for the housing projects to get DTCP approval, the association said that since the local authority does not supply water, water treatment plants and fire safety hydrants are essential for living. Responding to it, Tangedco said the applicable tariff for water and sewage treatment plants and fire hydrant systems is low tension commercial tariff as per the provision of the prevailing tariff order. In its order, the TNERC said it has clearly restricted the usage of electricity supply for common lighting, common water supply and lift only and there is no ambiguity at all. "Inclusion of the water treatment plant, sewage treatment plant and fire safety in LT tariff I-A was neither sought for nor rejected in tariff order. Moreover, any specific inclusion under a tariff category can be decided only after hearing the stakeholders at large, and it cannot be considered at the request of a petitioner when there is no imparity or ambiguity in the prevailing tariff order," it said.

The commission also expressed surprise over how three separate LT service connections with the capacity of 70 kilowatts each were effected on the same premises when there is an express provision to group them as common facilities. It directed the Tangedco to strictly adhere to TNERC's distribution code 2004 and the tariff orders issued from time to time.

Source: DTNext, August 30, 2021

India News

India's power consumption jumps 9.3% to 28.08 BU in August first week

India power consumption jumped 9.3% to 28.08 billion units (BU) during the first week of August over improved economic activities post easing of COVID-19 restrictions across states, according to power ministry data. During the same week last year, India's power consumption stood at 25.68 BU while in 2019 it was 25.18 BU during August 1-7. For the entire month of August 2020, the country's power consumption was 109.21 BU, lower compared to 111.52 BU in the same month of 2019.

Experts are of the opinion that the recovery in power consumption and demand during the first week of August is consistent and would further improve as several states have relaxed lockdown curbs for boosting economic activities. They added that power demand and consumption would witness a further improvement due to higher commercial and industrial demand in the coming days, but the only concern is another wave of pandemic which may deter this recovery. Commercial and industrial power demand as well as consumption in India got negatively affected from April onwards this year due to lockdown restrictions imposed by states to curb the second wave of the COVID-19 pandemic. Peak power demand met or the highest supply in a day stood at 188.59GW during the first week of August, which is 14% higher than 165.42 GW in the same period last year.

April 2021 saw year-on-year growth of nearly 38.5%. The second wave of the pandemic struck in the middle of the month which significantly slowed down recovery.Power consumption in the country witnessed 6.6% year-on-year growth in May at 108.80 BU despite a low base of 102.08 BU in May 2020. Power consumption in July this year grew nearly 11% to 124.42 BU compared to 112.14BU in the same month a year ago.

Source: BusinessToday.in, August, 08, 2021

Consumer Focus

The petitioner is a domestic consumer whose service connection is in the name of his late father. On 03.11.2020 at around 11:00 PM, the electric lines caught fire and caused a power outage. On 04.11.2020 around 07.30 AM, the petitioner wrote a written complaint of the incident in the Junior Engineer's complaint logbook at the section office. Since there was no response, the petitioner refiled the complaint on 05.11.2020 However, the petitioner did not get any response. He then forwarded the same to the Executive Engineer via email and also Superintending Engineer through registered post. Since the complaint was rectified only after 55 hours, the petitioner approached the Consumer Grievance Redressal Forum (CGRF) on 26.11.2020 demanding maximum compensation.

During the hearing, the TANGEDCO Officials confirmed that the petitioner registered his complaint on 04.11.2020. They further elaborated that since it happened to be the general maintenance day, there was an acute shortage of manpower and therefore the complaint could not be attended on the same day. Since the petitioner refiled the complaint on 05.11.2020 morning, TANGEDCO's lineman visited the area around 11:00 AM. During his visit, he checked and attended to the electric pole and service wires leading to the petitioner's house. Since the petitioner's house was locked, the lineman did not have a chance to visit the premises and was also not able to verify if the power outage problem had been rectified.

Subsequently, since the petitioner registered a complaint again on the evening of 05.11.2020, TANGEDCO's lineman visited the petitioner's premises on 06.11.2020. On examining the petitioner's service connection, the lineman found that the wires were damaged and disconnected. The problem was then rectified. TANGEDCO officials also stated that the petitioner's claim seeking compensation is not valid as the action was taken impartially. On hearing arguments from both parties, the CGRF ordered dismissal of the petition by stating that there were no mistakes on the part of TANGEDCO. Aggrieved by the order, the petitioner appealed to the Electricity Ombudsman.

During the Ombudsman hearing, the same set of arguments were put forth. The Ombudsman quoted DSOP Regulation 26 - Exemption: The Standard of Performance specified in this regulation shall remain suspended during Force majeure conditions or cause beyond the control of the Licensee" and accepted TANGEDCO Officials reasons for not attending the complaint on 04.11.2020. The Ombudsman informed that the lineman had checked the pole and wires but it was the petitioner's fault for not ensuring that the electricity meter was accessible to him. The Ombudsman also suggested that if the officials had sent a message of rectification on 05.11.2020, such events could have been avoided. Therefore, the Ombudsman stated that the petitioner's claim seeking compensation is not valid and dismissed the case.

Source - Ombudsman case, TNERC

ECC VOICE

சேலம் மாவட்டம், குகை பகுதியில் வசிக்கும் திரு. அருண் என்பவர், தங்கள் பகுதியில் உள்ள மின் கம்பிகள் பழுதடைந்து மிக தாழ்வாக உள்ளதாகவும் இதனால் காற்றோ, மழையோ அடித்தால் அக்கம்பிகள் விழுந்து விபத்து ஏற்படும் ஆபத்து உள்ளதாகவும் மின்வாரிய ஊழியரிடம் புகார் அளித்துள்ளார். ஆனால், அவரின் புகாருக்கு எந்தவித நடவடிக்கையும் மேற்கொள்ளப்படவில்லை. எனவே அவர், சேலம் மின் நுகர்வோர் மையத்தினை தொலைபேசி மூலம் தொடர்பு கொண்டு தங்களது பிரச்சனைகளை கூறி புகாராக அளித்தார். சேலம் மின் நுகர்வோர் மையத்தின் முதுநிலை ஆலோசகர் திரு. பூபதி அவர்கள் மின் ஆலோசகர் திரு. ஜெயராமன் அவர்களுடன் ஆலோசித்து அவ்விடத்திற்கு சென்று, தாழ்வாக உள்ள மின் கம்பிகளை பார்வையிட்டார். பின்னர் அப்பகுதி மக்கள் இப்பிரச்சனை குறித்த மனுவினை திரு. பூபதி அவர்களிடம் அளித்தனர்.

மனுவினை பெற்றுக்கொண்ட மின் நுகர்வோர் மையத்தின் முதுநிலை ஆலோசகர் திரு. பூபதி அவர்கள், அப்பகுதியின் மின்வாரிய உதவி செயற் பொறியாளரை சந்தித்து, இப்புகாரினை விவரித்தார். மேலும் அக்கம்பிகளை மாற்றி புதிய கேபிள் மின் கம்பிகளாக அமைத்து கொடுக்குமாறு வேண்டுகோள் விடுத்தார். அதன்பிறகு சம்மந்தப்பட்ட அதிகாரிகள் அந்தப் பகுதியை பார்வையிட்டு, மின்கம்பிகளை மாற்றி தருவதாக அப்பகுதி மக்களிடம் உறுதி அளித்தனர். பின்பு, அவர்கள் கூறியவாறு பழைய மின் கம்பிகளை மாற்றி, புதிய கேபிள் மின் கம்பிகளை அமைத்துக்கொடுத்தனர். நீண்ட காலமாக தொடர்ந்து வந்த இப்பிரச்சனைகளுக்கு தக்க நடவடிக்கை எடுத்து உதவிய சேலம் மின் நுகர்வோர் மையத்திற்கும், முதுநிலை ஆலோசகர் திரு. பூபதி மற்றும் மின் ஆலோசகர் திரு.ஜெயராமன் அவர்களுக்கும் திரு அருண் மற்றும் அப்பகுதி பொதுமக்கள் தங்கள் நன்றியினை தெரிவித்தனர்.

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Citizen consumer and civic Action Group (CAG) is a non-profit, non-political and professional organization that works towards protecting citizen's rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision making.

World News

Solar costs dropped more than 70% over the last decade, and Biden wants to accelerate the trend

Solar power in the U.S. has grown 4,000% percent over the last decade, but it still only accounts for 3% of electricity generation. The Biden Administration wants to change that, and on Tuesday said that solar could provide 40% of the country's electricity by 2035 — if the government enacts supportive policies. In order to meet this target, the Department of Energy said that solar's growth rate will need to triple — or even quadruple — by 2030. That means costs will have to keep dropping. The total cost of a solar system depends on variables including size, whether it's purchased outright or leased and power prices in the specific location. Solar's levelized cost of energy, which allows it to be compared to other forms of power generation, has fallen more than 70% over the last decade. But costs will need to continue to decline to meet these growth goals. The Department of Energy's goal is for the levelized cost of energy for a solar residential system to reach 5 cents per kilowatt hour by 2030, down from 50 cents in 2010. Commercial costs need to fall from 39 cents in 2010 to 4 cents by 2030, while utility-scale solar needs to decrease from 27 cents last decade to 2 cents by 2030.

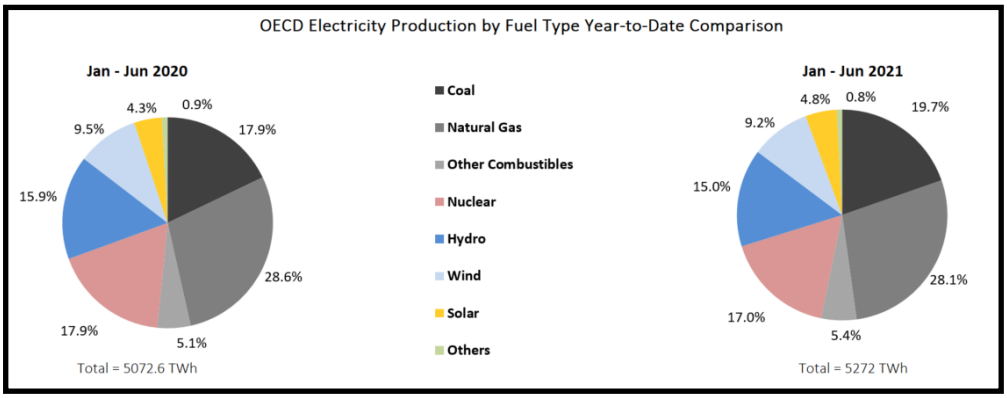
Fighting climate change is a priority for the Biden administration. On his first day in office, President Joe Biden re-entered the U.S. into the Paris Climate Accord, and he has pledged to slash greenhouse gas emissions in half by 2030. He's also called for a carbon-free power sector by 2035, for which solar growth will be instrumental. The infrastructure package passed by the Senate last week includes billions of dollars for clean energy projects, although the amounts are significantly pared down from the original American Jobs Plan unveiled in March.The administration has repeatedly said that a shift away from fossil fuels to clean energy will fuel job growth, and the memo claims the industry could employ as many as 1.5 million people by 2035.

Source: CNBC, August 17, 2021

Publications / Regulations

- Electric Bus Towards Zero emission Commuting, CSE, 2021
- Renewable energy statistics 2021, IRENA, 2021
- Carbon Capture and Storage in Industrial Applications, IEA, 2021

OECD Electricity Production by Fuel



Source: IEA