MINISTÈRE
DE L'ÉCONOMIE,
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REVUE DE PRESSE SECTORIELLE
ENERGIE ET DEVELOPPEMENT DURABLE

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En bref

Infrastructures

- Le Ministre des Ports et du Transport Maritime annonce vouloir développer davantage les ports indiens en portant à 6 500 Mds INR (78 Mds EUR) le montant total alloué au programme portuaire Sagarmala.
- Le Comité Central pour les Taxes Directes (CBDT) amende son système de taxes pour encourager les investissements dans le domaine des infrastructures.
- Le Ministre des Routes Nitin Gadkari annonce un objectif de construction de 18 000 km d'autoroutes pendant l'exercice fiscal 2022-2023.

Ferroviaire

- Les Indian Railways publient un appel d'offre pour la fabrication de 800 nouvelles locomotives électriques.
- Le territoire de Delhi reçoit sa première livraison de nouveaux trains à semi grande vitesse pour le réseau métropolitain RRTS, conçus par Alstom et produits dans le cadre du « Make In India » .

Développement et transports urbains

- A l'occasion de l'exposition « Plumbex India », le ministre du Logement et des Affaires Urbaines a lancé l'initiative « Bharat Tap » visant à réduire la consommation d'eau en Inde.
- La publication de chiffres officiels sur la construction de logements sociaux met en lumière le retard accumulé pendant les mois de pandémie par rapport aux objectifs fixés par le gouvernement indien.

Énergies fossiles et biocarburants

- Le volume de charbon transporté mensuellement par les Indian Railways est en-deça des objectifs gouvernementaux depuis plus d'an, alimentant la crise d'approvisionnement énergétique à laquelle fait face le pays.

Electricité et énergies renouvelables

- Les experts des énergies renouvelables en Inde soulignent l'importance de déployer des solutions de stockage d'énergie pour utiliser pleinement le potentiel du pays dans le secteur des renouvelables .
- Le conglomérat Reliance Industries consolide son portefeuille foncier dans le but de développer 100 GW de projets solaires d'ici 2030.

Mobilités électriques

- Green Cell Mobility va déployer 50 bus électriques interurbains à compter du 1er juin dans le Maharashtra.
- Le constructeur de 2- et 3-roues électriques Greaves Electric mobility et le gestionnaire de services de mobilité électrique SUN Mobility signent un accord pour développer les batteries interchangeables.
- Le constructeur de scooters électriques HOP annonce des investissements de 20 Mds INR (240 M EUR) dans les cinq années à venir dans le cadre du programme PLI du gouvernement indien.

Environnement et qualité de l'air

- L'Inde assouplit ses réglementations environnementales pour augmenter l'extraction de charbon afin de sécuriser la production d'électricité via ses centrales thermiques.
- Le National Green Tribunal demande à l'état du Kerala d'implémenter un plan d'assinissement dans les villes pour lutter contre la pollution de ses rivières.
- En avril, le taux de PM 10 dans l'air de Delhi a atteint son plus haut niveau depuis 4 ans.

Revue de presse

1. Infrastructure

Sagarmala programme enhanced to Rs 6.5 lakh crore

The Economic Times, 06/05/2022

The Shipping Ministry has increased the number of projects under the Sagarmala Programme to 1537, taking the total worth to Rs 6.5 lakh crores. This decision was taken at the National Sagarmala Apex Committee (NSAC) meeting on Friday. Addressing journalists after the event, Shipping Minister Sarbananda Sonowal said, "The new Sagarmala programme will also enhance the emphasis on holistic development of coastal areas. There are currently 802 projects worth Rs 5.5 lakh crores under Sagarmala program targeted to be executed by 2035." A senior Shipping Ministry official told ET that identification of a project under the Sagarmala scheme will result in 50 per cent of the project cost being borne by the centre.

According to an official statement, 202 projects worth Rs 99,281 crores have been completed under the Sagarmala program till now. "A total of 29 projects worth Rs 45,000 crores have been successfully implemented under the public private partnership (PPP) model. Additional 32 PPP projects worth Rs 51,000 crores are currently being implemented," the statement said. It is estimated that another 200 projects worth Rs 2.12 lakh crores are under construction and expected to be completed in 2 years, the statement added. Sonawal said that traffic handled during financial year 2021-22 at major ports reported a rise of 6.94 per cent over the last year. "Five major ports recorded their highest ever traffic during fiscal 2021-22," he said adding that this has been possible on account of various infrastructure projects such as construction of new berths and terminals, mechanization of existing berths and terminals, capital dredging for deepening of drafts for attracting large vessels in port channels.

"Overall average turn around time reduced from 96 hours in 2014-15 to 52.80 hours in 2021-22 while container average turn around time at major ports also reduced from 35.21 hours in 2014-15 to 27.22 hours in 2021-22," Sonowal said.

Center lays down for infrastructure investment tax

Mint, 07/05/2022

NEW DELHI: The Central Board of Direct Taxes (CBDT) has brought out rules laying down the formula for computing infrastructure investments of sovereign wealth funds (SWFs) and pension funds that are eligible for income tax incentives, and the way of computing tax-exempt income attributable to these investments.

In the Income Tax Amendment (Thirteenth Amendment) Rules, 2022, brought out late on Friday, the CBDT explained how investors putting their money directly or indirectly in the infrastructure sector through companies, infrastructure investment trusts, alternative investment funds, infrastructure finance companies or infrastructure debt funds could compute their eligible

investments on which tax break could be claimed.

Section 10 (23 FE) of the Income Tax Act exempts income earned from investments channelled into the infrastructure sector through these entities. Companies with two third investments in infrastructure are also eligible vehicles for this tax incentive.

The formula seeks to identify and compute the proportion of the investments through these vehicles which are eligible for full tax exemption on the income generated.

The tax incentive covers income which is in the nature of dividend, interest or long-term capital gains arising from investments made in India between 1 April 2020 and 31 March, 2024. There is a lock in period of three years for these investments to be eligible for the tax break.

The tax incentive introduced in the Income Tax Act by way of Finance Act 2020 has so far generated active interest from several SWFs and pension funds looking for long-term investment opportunities. India has been trying to create a financing stream for the infrastructure sector, which needed long term funds. Given that bank lending is for a short-term, long-term investors such as SWFs and pension funds help to fill the resource gap.

The government, too, has scaled up capital spending to provide a boost to the identified 7,000 infrastructure projects at a total cost of ₹111 trillion. Infrastructure creation is a key element of the central government's economic recovery strategy.

Government aims to build 18,000 km of highways in FY23: Gadkari

The Economic Times, 12/05/2022

The government is committed to expanding the national highway network across the country with the aim of constructing 18,000 km of highways in 2022-23 at a record speed of 50 km per day, Union minister Nitin Gadkari said on Thursday. Gadkari further said the government's overall target is to develop 2 lakh km of National Highway Network by 2025. The road transport and highways minister emphasised that constructing world class road infrastructure in a time bound and target oriented way is essential. "Ambitious targets to fulfil the ambitions of New India! Under the leadership of PM Shri @narendramodiji, we are committed to expanding the NH network across the country with the aim of constructing 18,000 km of NHs in 2022-23 at a record speed of 50km per day," he said in a tweet.

India's national highway construction slowed to 28.64 km a day in 2021-22 due to the COVID-19 pandemic-related disruptions and a longer-than-usual monsoon in some parts of the country. The pace of national highway (NH) construction in the country had touched a record 37 km per day in 2020-21. The National Highways Authority of India (NHAI) and the National Highways and Infrastructure Development Corporation Ltd (NHIDCL) are primarily responsible for the construction of national highways and expressways across the country.

2. Ferroviaire

Railways floats Rs 30k cr tender for 800 electric train engines

The Economic Times, 06/05/2022

The Indian Railways has invited bids for the manufacture and supply of 800 electric train engines under a contract worth about ₹30,000 crore. These 12,000-horsepower (HP) electric locomotives are to be supplied over the next 10 years and will be manufactured at Banaras Locomotive Works, Varanasi. The notice inviting the bid said these locomotives will be maintained at Kanpur (Uttar Pradesh), Sabarmati (Gujarat) and Tughlakabad (Delhi).

These train engines are to be utilised all over the Indian Railways and dedicated freight corridor (DFC) routes. Each engine needs to be capable of hauling 6,000 tonnes of load at an average speed of 75 kilometres per hour. The idea of such trains for freight movement was mooted in 2007-08. Normally, the freight trains were underpowered and this slowed down their movement.

The new locomotives will be much more capable to handle heavy-haul loads on the DFC, said VN Mathur, former member, traffic, Railway Board. A similar tender for 12,000-HP electric locomotives was awarded to Alstom as part of a contract worth 3.5 billion euros (about ₹28,195 crore) in 2015. The contract was to supply 800 locomotives for freight service, capable of hauling 6,000 tonnes at a top speed of 120 kmph. This has been the largest foreign direct investment project in the Indian railway sector till date. "This was the first successful public-private partnership of the Indian Railways. Alstom had bid for supplying at roughly Rs 38 crore per locomotive (plus cost escalation). The international market value was around ₹60 crore per locomotive at that time," a retired railway official told ET.

Delhi-Meerut RRTS; The fastest trainset in country built under 'Make in India'

Mint, 17/05/2022

The first trainset of India's first Regional Rapid Transit System (RRTS) was handed over to National Capital Region Transport Corporation (NCRTC) at the manufacturing factory located in Gujarat's Savli on Saturday.

Designed at Alstom's Hyderabad engineering centre and manufactured at Savli (Gujarat), these trains are 100% indigenous, in line with the government's Make in India programme and Aatmanirbhar Bharat's ambition. The propulsion systems and electricals are manufactured at the company's factory in Maneja (Gujarat). The Savli site produces bogies, car bodies and undertakes train testing.

Some of the safety and passenger comfort features on these fully air conditioned trains include ergonomically built 2×2 transverse seating, wide gangways for comfortable standing space, overhead luggage racks, CCTV cameras, fire and smoke detector, intercom, fire extinguisher, exterior camera, door status indicators, grab handles, Wi-Fi, laptop/mobile/USB charging stations, dynamic route display maps, auto controlled ambient lighting system, large windows for panoramic view and ergonomically designed areas to support disabled people and for medical emergencies.

As per the contract, Alstom will deliver 30 regional commuter trainsets of six cars each and 10 intracity mass transit trainsets of three cars each. In accordance with India's 'Aatmanirbhar Bharat' vision and the Make-in-India guidelines, these RRTS trains are 100% indigenously manufactured, with over 80% localisation and are being manufactured in Alstom's factory in Savli (Gujarat). This facility will produce the bogies, car bodies and undertake train testing. The propulsion systems and electricals are being manufactured at the company's factory in Maneja (Gujarat).

The first look of the train for India's first Regional Rapid Transit System (RRTS) was unveiled in September 2020. Inspired by Delhi's iconic monument, The Lotus Temple, the fresh, modern and advanced look of the new trains resonate a unique amalgamation of sustainability and India's rich heritage. These energy efficient semi-high-speed aerodynamic trains will incorporate latest tech features to provide a superior passenger experience, to all commuters, including the specially-abled.
These trains have been developed with the vision to transform the future of regional commute for passengers in India. The RRTS corridors will operate the fastest trains in India with a design speed of 180 kmph. Right ergonomics, safety, low life cycle costs and high recyclability also contribute towards making these trains an attractive sustainable choice to promote public transport thereby reducing traffic congestion and air pollution significantly.

Alstom's scope of work also includes designing, supply, installation, testing and commissioning of Signalling & Train Control, Supervision, Platform Screen Doors and Telecommunication Systems for this 82.15 kms corridor. This line will be the first in India to adopt the European Train Control System (ETCS) hybrid Level 2 signalling system, which is the core signalling and train control component of the European Rail Traffic Management System (ERTMS).

3. Développement et transports urbain

Close to Rs 12 lakh cr expenditure on urban schemes since 2014; 8 times than UPA: Govt

The Economic Times, 12/05/2022

Housing and Urban Affairs Minister Hardeep Singh Puri on Thursday said the government has incurred expenditure of close to Rs 12 lakh crore in the last eight years on urban development schemes as compared to Rs 1.57 lakh crore during the ten years of the UPA-rule. The minister was speaking at 'PlumbEx India', a three day exhibition on plumbing, water, and sanitation products, organised by Indian Plumbing Association (IPA) at Pragati Maidan here.
Puri launched 'Bharat Tap' initiative by IPA, which aims to reduce water consumption, and said his ministry will join this campaign to save water. Bharat Tap is a concept to use low flow tap and fixtures.

He also launched NAREDCO MAHI's (women wing of realtors body NAREDCO) initiative 'Nirmal Jal Prayaas' to save water.

"In the ten years of previous government 2004-2014, the total amount of expenditure incurred on all the urban schemes taken together was Rs 1.57 lakh crore," he said.

The expenditure under the Modi government has increased by eight times, he added. "It (expenditure on urban schemes) should be eight times, close to Rs 12 lakh crore," Puri said, adding that the number keeps changing every day.

The outlay for Amrut 2.0 and Swachh Bharat Mission 2.0 is Rs 4.71 lakh crore, the minister said.

The major programmes under the Ministry of Housing and Urban Affairs are Pradhan Mantri Awas Yojana (Urban), Swachh Bharat Mission (SBM-U), Atal Mission for Rejuvenation and Urban Transformation (AMRUT) among others.

Citing major urban development projects being undertaken across various states, Puri noted that the uraban space in India is slowly acquiring a new look.

The 'Nirmal Jal Prayaas' scheme was launched in the presence of NAREDCO President Rajan Bandelkar and NAREDCO Mahi (women wing) President Tara Subramaniam. "I am pleased to be launching NAREDCO Mahi's Nirmal Jal Prayaas Mission. I am informed that this initiative will also lead to saving almost 500 crore litre of water per year," Puri said.

Bandelkar said, "It is well-acknowledged that water conservation is the need of the hour. The real estate industry and allied stakeholders, need to be sensitized in this regard. With our quest for innovation in real estate and related accessories, NAREDCO has always strived to save every drop of water possible and promote recycling of water."

Subramaniam said The importance towards water conservation and efforts to promote saving in homes is well embedded in our plans and it is one of core targets.

The Nirmal Jal Prayaas looks into mapping ground water as it is very important to save underground water.

NAREDCO MAHI will sign an MOU with IPA. As part of the agreement, IPA will advise Naredco Mahi on the Nirmal Jal Prayaas to save 500 crore litres of water per year.

It is an initiative for awareness creation for promotion of BIS Certified Water Efficient Plumbing Fixtures that reduce the water dispensation at source, leading to a water saving of minimum 40%.

Gurmeet Singh, President, IPA, said: "The initiative of these women along with our Vanita initiatives, will work wonders together. We are all volunteers focused on this cause for not just the current generation but the generations to come."

How Covid-19 affected PM urban housing scheme

BusinessLine, 17/05/2022

Less than half of the sanctioned 122.69 lakh houses have been built

Out of ₹2,03,427 crore committed to the Pradhan Mantri Awas Yojana-Urban (PMAY-U), ₹1,18,020 has been released so far to construct houses for eligible families in Indian cities. However, Covid-19-induced lockdowns, disruption in the supply of construction material, and financial constraints slowed down the progress of the

government's ambitious urban housing scheme.

Against the demand of 112.24 lakh houses, the union government has sanctioned 122.69 lakh houses. As per government data, 58.59 lakh houses have been built as of April 25, 2022. The total expenditure on completed and ongoing construction is ₹1,09,206 crore. According to officials, work on 98.02 lakh houses came to a standstill during the lockdowns and their completion will be delayed.

Under PMAY, there is contribution from the Union government, States, urban local body (ULB), and the beneficiary. According to a reply from the Ministry of Housing and Urban Affairs to the Rajya Sabha last month, due to Covid-19 there was a strain on the finances of States and the ability of beneficiaries to contribute their share.

Post-lockdown scene

"On account of successive lockdowns, the construction activities were affected such as disruption in the supply chain of construction materials, State's ability to mobilise their share, weakening of the financial condition of beneficiaries and non-availability of construction labours due to reverse migration," the ministry stated.

According to the ministry, construction has resumed after lockdowns were lifted in phases and all efforts have been made to accelerate the pace of construction and ensure completion of the projects.
"There is still uncertainty as Covid-19 cases are still emerging across states. In major cities, not all migrants have returned to work and hence the shortage of construction labourers continues," a civic official in Maharashtra said. He added that the union government's schemes were not the top priority of municipal corporations owing to their weak financial positions.

Interest subsidy

Beneficiaries belonging to economically weaker sections (EWS), low-income group (LIG), and middle-income group (MIG) seeking housing loans from banks and housing finance companies are eligible for an interest subsidy of 6.5 per cent, 4 per cent and 3 per cent on loan amounts upto ₹6 lakh, ₹9 lakh and ₹12 lakh, respectively.

The interest subsidy of ₹55,095 crore has been released, which includes ₹35,160 crore for EWS and LIG, and ₹12,935 crore for MIG. However, experts say that EWS and LIG beneficiaries may not go in for loans now as the fear of more lockdowns looms large.

4. Energies fossiles et biocarburants

Power crisis: Railways missed coal train provision targets for over a year

Business Standard, 11/05/2022

NEW DELHI (Reuters) -Indian Railways supply of trains to Coal India for transporting coal has fallen short of its monthly targets for more than a year, government data showed, highlighting the problems behind India's worst power crisis in over six years.

Indian utilities are scrambling to get hold of coal supplies to cope with record high power demand, but Indian Railways' inability to

supply enough trains makes it difficult to boost coal stocks, which are at their lowest levels in years.

Inventories at Indian power plants fell 13% in April despite a 27.6% growth in Coal India's production, as a heatwave sent power demand soaring to a record high.

In April, state-run Indian Railways supplied 261 trains per day to Coal India for the power industry, the lowest in three months.

Indian Railways said at the end of April that it would cancel passenger trains to free up tracks and help to transport more coal to power plants.

Coal, which accounts for more than half of Indian Railways' freight revenue, makes up nearly 75% of India's power generation. State-run Coal India produces 80% of India's coal.

Indian Railways supply targets are set after deliberations between Indian Railways, the federal power ministry and Coal India.

Coal India has prioritised supply to utilities to avert a power crisis and its supplies to the non-power sector dropped to six month lows of 304,933 tonnes per day in April, 21.3% lower than the same period last year, based on government data.

Supplies to the non-power sector, which includes aluminium smelters and steel mills, were also hit by Indian Railways providing fewer trains. Coal India's supplies to the non-power sector via Indian Railways fell to its lowest level in six months, the data showed.

Officials from state-run aluminium producer NALCO filed a court case last month over a coal supply shortfall as a result of the diversion of coal supplies and a shortage of trains.

India's non-power sector have been taking more expensive power from the national grid due to a shortage in supplies of coal to their power plants, industry officials say.

5. Electricité et énergies renouvelables

View : Energy storage is key to unlocking renewable power's full potential

The Economic Times, 02/05/2022

India is increasing its reliance on renewable energy to support its net-zero ambitions, with a target to meet 50% of the country's electricity requirements through renewable sources by 2030. As the variable and intermittent renewable power takes a more predominant share in the total power mix, how can India ensure grid safety and reliability in power supply? Energy storage, with its grid balancing and renewable power optimizing services. provides businesses with the right opportunity to unlock India's clean energy potential.

As the renewable power penetration increases, the operational dynamics of the power system will change drastically, requiring a change in the system architecture as well. Energy storage is going to be a quintessential part of the new power system architecture as it not only helps to balance out the variability in generation but could also enable consumption of a higher

proportion of self-generated renewable power by consumers and reduce the need to feed excess electricity back into the grid.

"At the grid-scale level, energy storage is needed to efficiently manage the dynamics of demand and supply. This includes managing the short duration peak power requirement and maintaining the frequency when the grid is under stress," says Dr. Ganesh Das, Chief – Strategy, Collaborations, Innovation and R & D, Tata Power Delhi Distribution Limited.

While pumped-hydro storage has traditionally been the most widely used storage technology globally, its environmental and geographical limitations are already paving way for a more prominent use of new technologies like batteries and fuel-cells.

Benefits to commercial and industrial consumers

Energy storage systems have already started to support businesses in reducing their dependence on fossil fuels, such as diesel, and optimizing the use of renewable power in a commercially viable way. The commercial viability for deployment by commercial and industrial consumers depends on applicable use cases, location and type of operation, and potential access to renewable power, amongst other factors.

We recently commissioned a one megawatt-hour (MWh) battery energy storage system connected to a solar power plant in Karnataka, one of the first battery projects of this scale in the commercial and industrial segment in India. The installed system offers battery storage as a power backup during grid downtime as an alternative to a diesel generator, helping the offtaker save around 1 lakh liters of diesel annually," says Anil Bhat, CEO of Distributed Generation at Amplus Solar, a member of the PETRONAS Group.

"For commercial and industrial consumers, energy storage deployment is likely to make commercial sense if their daily diesel generation set usage is more than 20 minutes per day and electricity tariffs are upwards of INR 8 per kilowatt-hour (kWh). It will also be relevant for those with potential of installing surplus solar power and having operations in states like Karnataka, Uttar Pradesh and Tamil Nadu, where net metering is not allowed for commercial and industrial consumers," according to Anil Bhat.

The increasing limitations being introduced in various states regarding banking of surplus renewable power on the grid for later use and withdrawal of net metering incentives (i.e. being able to sell additional renewable power produced by the consumer back to the utility) are acting as catalyzers for further growth in the energy storage market.

Barriers to adoption by commercial and industrial consumers

In its report on 'Optimal Generation Capacity Mix', the key advisory body to the Union Power Ministry of India, Central Electricity Authority has rightly acknowledged that energy storage systems will play a key supporting role in meeting India's energy needs by 2030. While more than seven gigawatt-hours (GWh) of large-scale government tenders have already been issued to install battery energy storage systems (standalone or as part of hybrid renewable energy projects), commercial and

industrial consumers face a number of challenges in the adoption of energy storage.

"Aditya Birla Group is committed to achieve net-zero carbon emissions by 2050. Given our energy use profiles, renewable energy with storage has a clear role in our decarbonization roadmap. While various forecasts related to lithium-ion battery storage cost indicate a reduction of more than 60% by 2030, current prices limit the application of battery storage as a commercially viable alternative. The challenge of recycling end-of-life batteries will also impact our decision to adopt" says Deeksha Vats, Chief Sustainability Officer at Aditya Birla Group.

"Godrej Group targets to be carbon neutral in its operations by 2030 and commits to reduce its absolute emissions in line with the 1.5-degree scenario. Renewable energy and energy efficiency have been the two pillars of our decarbonization strategy, and storage is emerging as the third and perhaps the most important pillar in this push. The single biggest challenge to the large-scale adoption of energy storage technologies is the economics of the solution. Other challenges include the choice of storage technology and its reliability and maintenance costs in the long term" says Ramnath Vaidyanthan, Head, Environmental Sustainability at Godrej Industries Limited and Associated Companies.

Policy and regulatory changes for grid-scale installations

The grid-scale deployment of energy storage systems is a lot more dependent on the existence of a suitable policy and regulatory framework, as compared to the case for deployment by commercial and industrial consumers.

Two kinds of policy and regulatory changes are required to boost energy storage deployment in India. The first kind is rules needed to ensure the reliability and safety of renewable power-based grid, which will automatically support energy storage deployment. These include levying higher time-of-day tariffs for commercial and industrial consumers and developing an active ancillary services market. At present, the peak tariff in India is 15-20% higher than off-peak tariffs, while in other markets including the US, Australia and the UK, this difference can be as high as 200-400%. The ancillary services market should also be opened up further and incentivize fast response services.

The second kind is more directed towards energy storage deployment itself. The production-linked incentive scheme launched in 2021 for manufacturing of advanced chemistry cells for batteries has been a great initiative.

"A national energy storage target in line with the renewable energy target of 2030, further broken down into annual state-wise energy storage targets is critical to enable various stakeholders to optimize costs, develop innovative solutions and create demand. Moreover, specific exemptions including removal of import tariffs until quality cell supply is available locally, levy of open access charges, intrastate transmission and wheeling charges for consumers using renewable power to charge storage assets would help accelerate deployment,"opines Achal Sondhi, Vice President,Growth at APAC for Fluence.

Way forward

Among commercial and industrial consumers, there seems to be lack of awareness about the suitability of energy storage systems for their operations, predominantly due to the absence of tools to capture electricity consumption data at the frequency and duration required. For instance, many large businesses in India still lack data showing their 15-minutes electricity load profile, which is critical for the commercial evaluation of a business case to deploy energy storage.

The 2020s is the decade of action, and technologies like energy storage are going to play a critical role in supporting us to win the race against the climate crisis. There is no time left for a wait-and-watch approach. While the government is setting the stage for grid-scale deployment by working on an appropriate policy and regulatory framework, businesses should get moving. This could be done by first ensuring access to and analysis of the informative data like 15-minutes load pattern, solar power generation profile, potential for excess solar power and use of diesel on an everyday basis for power back-up, and then identifying suitable business operations for deployment to reap the commercial benefits of energy storage adoption.

RIL looks for mega land bank for 100GW solar projects

Mint, 02/05/2022

NEW DELHI: Reliance Industries Ltd (RIL) is looking to build a mega land bank to set up renewable energy parks and projects, two people aware of the development said, as the Mukesh Ambani controlled conglomerate pivots from fossil fuels to clean energy.

A land aggregation exercise is underway to set up solar power projects of 100GW by 2030, the people cited above said on condition of anonymity. It takes around four acres to set up solar panels for installing 1MW capacity. RIL unveiled a ₹75,000-crore push into clean energy over three years in June last year, including plans to spend ₹60,000 crore on four gigafactories for solar photovoltaic (PV) modules, electrolyzers, fuel cells and energy storage.

"Work is also underway to set up the gigafactories. The plan is to provide solar modules at quality better than those offered by Chinese firms and at a price cheaper than theirs. The plan is to use the equipment made at Dhirubhai Ambani Green Energy Giga Complex to set up the solar power generation capacity," one of the two people cited above said.

RIL, which generates more than half of its revenue from refining and chemicals, is pivoting to clean energy by setting up a green energy complex on 5,000 acres in Jamnagar. Its fully integrated, metallic silicon to PV panel manufacturing gigafactory at Jamnagar will initially start with 4GW per annum capacity and reach 10GW capacity per annum.

"RIL's captive electricity demand alone is to the tune of around 25GW. They have huge tracts of land in Gujarat," the person added.

In October, RIL subsidiary Reliance New Energy Solar Ltd (RNESL) acquired REC Solar Holdings AS from China National Bluestar (Group) Co. Ltd for an enterprise value of

$771 million. RNESL also acquired Faradion Ltd and a 40% stake in Sterling & Wilson Solar Ltd. In addition, RNESL inked a cooperation agreement with Denmark-based Stiesdal A/S for technology development and manufacturing of electrolyzers in India; and has invested $29 million as a strategic lead investor in Germany-based NexWafe GmbH, which supplies wafers. RNESL, along with strategic investors, also announced a $144 million investment in Ambri Inc., a Massachusetts based energy storage company.

Queries emailed to an RIL spokesperson on Friday remained unanswered till press time. Analysts say RIL is trying to become an integrated global green hydrogen major.

"RIL's plans will make it among the most integrated green hydrogen players globally. It already has made strides by acquiring REC solar for growing in-house solar panel manufacturing and got capabilities in energy storage India with ownership/stakes in Ambri (liquid metal technology), Lithium Werks (LFP) and Faradion (Sodium-Ion technology)," Morgan Stanley wrote in a 20 April report.

"RIL's solar panel capacity, once developed, can be leveraged internally to not only power its refining and chemicals complex but help the production of hydrogen, considering its proximity to the sea and existing water management infrastructure at Jamnagar. RIL would then integrate this with its own electrolyzer manufacturing in partnership with Stiesdal and use the green hydrogen output internally as well for manufacturing green chemicals and fertilizers," the Morgan Stanley report added.

India's new-age emission-free fuel strategy involves leveraging the country's landmass and low solar and wind tariffs to produce low-cost green hydrogen and ammonia for exports. The country's new green hydrogen policy has promised cheaper renewable power, a fee waiver for inter-state power transmission for 25 years for projects commissioned before June 2025, land in renewable energy parks, and mega manufacturing zones. Also, India has imposed a basic customs duty on imported solar cells and modules from 1 April to check imports from China.

There is growing interest in India's green energy economy, with Prime Minister Narendra Modi at the CoP-26 summit in Glasgow announcing plans to increase the country's non-fossil fuel power generation capacity to 500GW by 2030. Shell Plc on Friday signed a deal to acquire Actis Llp's Indian renewable energy platform Sprng Energy at an enterprise value of $1.55 billion. Recently, a consortium led by the world's largest asset manager, BlackRock, and UAE sovereign wealth fund Mubadala Investment Co. also agreed to invest ₹4,000 crore for 10.53% of Tata Power Renewables.

6.Mobilités électriques

50 electric buses to be deployed across Maharashtra from June by GreenCell Mobility

The Times of India, 16/05/2022

GreenCell Mobility is planning to deploy 50 electric buses for intercity travel across Maharashtra from 1st June. Marking the commemoration day of Maharashtra

Regional State Transport (MSRTC)'s foundation, these buses will be running on Pune-Ahmednagar route and covering the cities, namely Kolhapur, Nasik, Aurangabad and Solapur.

These electric buses, dubbed 'Shivai' will be introduced across the state in stages. The 10 buses will ply between Pune and Aurangabad as an extension of the Pune-Ahmednagar route; around 12 buses will run on the Pune-Kolhapur route; 18 buses will operate between Pune-Nashik and 10 buses will cover the Pune-Solapur route.

Powering the electric buses will be a Lithium-ion battery that takes around 90-120 minutes to get fully charged. These buses will come equipped with an air-conditioned cabin. Approximately 3,743 tons of CO2 emissions will be avoided with these buses.

"With these e-buses the aim is to promote green and sustainable public transport in the state. We are very happy to partner MSRTC in this effort and look forward to providing passengers with a comfortable, safer, and greener way of travel", says Ashok Agarwal, MD and CEO of GreenCell Mobility.

Electric bus adoption has gained traction in India and multiple cities with state governments having embarked on the journey of electrifying their bus-based transport system. This has been further accelerated by the Government of India's Faster Adoption and Manufacturing of Electric Vehicles in India (FAME) Phase – II scheme.

SUN Mobility, Greaves Electric Mobility sign MoU for battery swapping technology

Financial Express, 11/05/2022

Through this venture, Greaves Electric Mobility also aims to enhance the EV ecosystem by offering an array of Multibrand smart mobility commuting options.

SUN Mobility, the energy infrastructure and services provider for electric vehicles (EVs) and Greaves Electric Mobility (GEM), one of the leading electric mobility companies in the country, have signed an MoU to work together and evaluate the best possible solution for the EV customer in the battery swapping segment.

As part of this partnership, GEM & Sun Mobility will deploy swappable batteries for electric vehicles in the country. With the government and key industry, players recognizing Battery-as-a-Service to accelerate EV adoption, this partnership aims to further bolster EV adoption in India in the Electric 2-wheelers and 3-wheelers categories by utilizing the same charging infrastructure.

GEM has a range of Electric vehicles across 2-wheelers, 3-wheelers e-rickshaws, and e-loaders (across brands like Ampere, Ele, MLR Auto). The SUN Mobility platform would address all these vehicles using 1/2/3/4 batteries, giving customers a one-stop solution on probably the world's first truly interoperable platform.

With SUN Mobility's battery technology, GEM aims to use the infrastructure and battery for both electric 2-wheelers and 3 wheelers. With this association, the strategic partnership between SUN Mobility and Greaves Cotton looks to revolutionize

the electric vehicle ecosystem in the country.

The SUN Mobility Quick Interchange Station (SWAP POINT) network is probably the largest in India. The network is spread across 14 cities and each SWAP POINT being able to dispense about 250 batteries per day, makes it easy for GEM to quickly roll this solution nationwide.

SUN Mobility's global interoperable m obility solution involves modular SUN Mobility Smart Battery that are connected, safer, robust, and efficient. It also addresses the issue of extensive charging times and range anxiety, as the batteries can be swapped in minutes.

This solution also works on a Pay-Per-Use model that empowers individuals, e-commerce companies, and fleet operators to easily adopt electric mobility for last-mile connectivity.

Through this venture, Greaves Electric Mobility also aims to enhance the EV ecosystem by offering an array of Multibrand smart mobility commuting options, improved access to consumers' sales and service in multiple cities as part of the pilot project.

Commenting on the partnership Ram Rajappa, Chief Technology Officer, Greaves Electric Mobility, said, "Through Greaves Electric Mobility, we aim to strengthen our leadership position in the electric vehicle segment and the provide best and affordable last-mile connectivity experience to our large number of customers across the country. Together with SUN Mobility, we would be addressing one of the critical elements in EV adoption in terms of range anxiety and providing uninterrupted journey."

Anant Badjatya, CEO, SUN Mobility, said, "SUN Mobility has always been committed to bringing forth technologically superior, convenient, and sustainable solutions to the EV space and this mirrors well with Greaves Cotton's aim to bring about best products for uninterrupted future in mobility. Together, we aim to propel the common goal to accelerate the demand and adoption of EVs in the country."

HOP Electric Mobility raises USD 2.6 million: Will invest over Rs. 2,000 crore in next 5 years under PLI scheme

Financial Express, 11/05/2022

HOP Electric Mobility has received funding of USD 2.5 million as it closed a strategic round as a part of a USD 10 million pre-series fundraiser. The electric two-wheeler manufacturer has recently achieved a new milestone of establishing 105 sales touchpoints with over 6,200 electric scooters on Indian roads in 2021. With newly raised funds, the company is eyeing a 10-fold growth this year.

Ketan Mehta, Founder & CEO – HOP Electric Mobility explained the significance of the investment and the role of the investor in HOP, said "Our strategic investor, a public-listed company reaffirmed their commitment and synergies in pursuing sustainable business opportunities. The same investor has previously supported HOP Electric Mobility in becoming a successful mandate holder of the Government of India's (GOI) ambitious INR 26,058 crore

Production Linked Incentive (PLI) scheme for Auto under the New Non-Automotive Investor (OEM) category. Under this mandate, we will be investing more than INR 2000 crore in India in the next five years. The goal is to bolster India's manufacturing capacities and boost HOP Electric's chances of becoming a global energy mobility pioneer."

Currently, HOP Electric Mobility has a growth rate of 50 per cent on a month-on-month basis. Also, the brand is recruiting new talent and resources for almost all of its verticals. The company is also on its course to develop Gen 2 Smart Batteries and swallowing stations to ply with the government's idea of supporting battery swapping. By FY2023, HOP Electric Mobility will launch two new products on its global modular platform with Gen 2 batteries.

Nikhil Bhatia, Chief Operating Officer – HOP Electric Mobility said, "Investing in EV mobility is becoming the go-to choice in India. Especially because people are consciously making eco-friendly and sustainable choices. At HOP Electric Mobility, we aspire to make the entire EV ecosystem more inclusive, convenient, and cost-efficient so that everyone can become a part of this energy mobility revolution. The recently closed strategic funding is a morale booster for the entire HOP family, which is working relentlessly to provide best-in-class energy mobility solutions to your doorstep. The conviction and confidence of such prominent investors encourage us to do better every day. We are positive that this pre-seed fundraiser will soon reach its goal."

7. Environnement et qualité de l'air

Environment approvals for coal mine expansions eased to tackle fuel crisis

Business Standard, 17/05/2022

India has eased environment approvals for coal mine expansions to boost output amid fuel shortages that have triggered hours-long blackouts.

Some existing sites will be able to raise production by a further 10% without requiring new impact assessments and rules on consulting local residents have been loosened, according to a government note. The changes come after the coal ministry flagged "huge pressure on domestic coal supply," the message said.

Coal supplies at power plants are shrinking amid a grueling heat wave that's pushed electricity demand to a record in recent weeks, with several facilities operating with critical reserves of the fuel, power ministry data show. Blackouts and curbs on supply to some industries have prompted street protests.

The fuel accounts for more than 70% of India's electricity generation, and the country's coal mining and transportation infrastructure is failing to keep pace with rising demand. A lack of railway carriages to transport the fuel from mines to power plants has exacerbated the shortages.

Changes will last for six months and follow complaints that lengthy processes to win environmental approvals could hamper efforts to ease the crisis. Miners are aiming to quickly accelerate output before a rainy season arrives in late June, which can flood operations and slow down production rates.

Weakening environmental regulations could ultimately prove counter-productive, according to Sunil Dahiya, an analyst with the Centre for Research on Energy and Clean Air. Bypassing public consultation risks creating friction between mining operations and local communities, which can result in delays from protests and legal challenges.

"Policymakers think such exemptions bring an ease of doing business, whereas the reality is exactly the opposite," Dahiya said. "It's a very myopic vision by the environment regulator."

The environment ministry's exemption is valid for mines that have already won approvals to expand output by 40% and will allow them to produce as much as 50% more than the original planned capacity.

India should stick to its decarbonization goals to avoid future supply shocks, and take action including modernizing the electricity grid and adding capacity to produce solar and wind equipment, according to Vibhuti Garg, an energy economist at the Institute for Energy Economics and Financial Analysis.

"The long term solution is to build more renewable energy," she said in a Bloomberg Television interview.

NGT moots underground sewage scheme to check river pollution

The Hindu, 15/05/2022

The National Green Tribunal (NGT) has asked the Kerala government to implement an underground sewage scheme (UGSS) in local bodies to resolve the menace of dumping untreated sewage into rivers.

The Southern Bench of the tribunal led by Justice K. Ramakrishnan and expert member Satyagopal Korlapati made the recommendation while hearing a case related to the indiscriminate pollution and encroachment of the Konothupuzha in Ernakulam. The ecosystem of the 17-km river has been severely affected due to the discharge of untreated sewage from local bodies situated along the waterbody.

The Bench said the sewage lines from houses and establishments could be connected to the sewage treatment plants as part of the proposed scheme. After treatment, it can be discharged into the waterbody while ensuring the standards prescribed under the Environment (Protection) Act, 1986 and the Central Pollution Control Board.

"If any additional sewage treatment plants are required, that also must be included in action plan... If such proposals are made and forwarded to the government through proper channel, then the Chief Secretary, State of Kerala, is directed to look into the matter and take necessary steps to get administrative and financial sanction for the same and provide all assistance to the local bodies to implement it," stated the orderissued by the tribunal on May 12.

The Bench said it could be taken up as an action plan to be implemented throughout the State to resolve the problem ofriver pollution caused by the discharge of untreated sewage.

The tribunal suggested the setting up of a permanent committee at the State-level with Principal Secretary for Environment as chairman, and the secretaries of Revenue, Irrigation and Public Works departments and the local administration as its members

to prepare an action plan to prevent the dumping of untreated sewage into rivers.

Left high and dry: PM10 levels this April highest in 4 years in Delhi, finds study

The Times of India, 03/05/2022

NEW DELHI: An analysis conducted by the System of Air Quality and Weather Forecasting and Research (SAFAR), the forecasting body under the Union ministry of earth sciences, has revealed that PM10 levels in April 2022 were the highest for the month in the past four years.

The average PM10 levels last month stood at 246 micrograms per cubic metre, higher than the pre-lockdown period of April 2019, when they stood at 211 micrograms per cubic metre. SAFAR said dust-lifting episodes made PM10 the lead pollutant most of the days in 2022 as against the previous years.

Gufran Beig, founder project director, SAFAR, said while this year's PM10 levels were much higher compared to recent years, they were relatively lower in April 2020 and 2021 due to the lockdown.

"The absence of active westerly disturbances this year made Delhi dry without rain and there was no washout mechanism. Besides, the temperature touched a record high this time. High temperature, along with dry soil, led to frequent dust-lifting episodes that made PM10 the lead pollutant most of the days in 2022 as against the previous years," said Beig.

Delhi saw its most polluted April this year compared to the past few years, with AQI on most days remaining in the 'poor' category.

Tanushree Ganguly, programme lead, Council on Energy, Environment and Water, said, "In April, the city's air quality levels exceeded the permissible limits every single day of the month. According to modelled estimates from Urban Emissions, dust is currently the leading contributor to PM2.5, followed by open fires and transport. Instances of landfill blazes locally and rabi stubble burning regionally explain the contribution from open fires."

"It is evident that local challenges in the form of solid waste and dust from unpaved roads and construction activities need strong regulation all year round. As is the case in winters, pre-emptive measures to arrest polluting activities should be taken by actively using forecasts in decision-making," added Ganguly.

TOI had earlier reported that another analysis conducted by SAFAR on ozone pollution in Delhi and its adjoining areas had found that the level of ozone was unusually high from April 1 to 11. Ozone pollution was high due to high temperature and a rise in volatile organic compounds.

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