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CEF Insights - Annual Issue 2023

How did renewable energy, electric mobility, industrial decarbonisation and instruments & regulations evolve over 2023 to advance the energy transition in India?

Under our newly launched “CEF Insights” feature, we tracked and unpacked 120 energy transition developments over 12 months in 2023, each in a concise, under 150-word format. The CEF Insights Annual Issue brings them all together in one place to reflect on the year gone by, as well as to focus on what to look out for in the months ahead in light of each development.

January

Renewable Energy

Cheer for wind sector: MNRE to drop reverse bidding, tender 8 GW annually

Author
Ruchita Shah

Notable Because

The rate of wind capacity addition since the introduction of reverse bidding in 2016 has remained moderate. The actual installed capacity has fallen short by ~20 GW compared to the 2022 target of 60 GW. One often-cited reason is that reverse auctions fostered excessive competition, leading to irrationally low tariff discovery. This move by the MNRE could give wind capacity addition a much-needed boost.

What to look out for in the months ahead

(a) Tariff, which is discovered under single-stage closed-envelop bidding
(b) renewable purchase obligations (RPO) compliance as per the new trajectory notified by the Ministry of Power, which has a carve-out for wind projects commissioned after March 31, 2022.

Source - The Hindu Business Line , 01 January 2023

Others

India's maiden sovereign green bonds yields set 6 bps below current benchmark bond

Author
Amlan Bibhudatta

Notable Because

While there have been many green bond issuances by Indian companies in international bond markets, this was the first sovereign issuance by India worth INR 16,000 crore. In doing so, India joins a list of approximately 25 other countries that have issued similar bonds. The results of the first tranche of INR 8000 crore are priced at yields below comparable sovereign non-green bonds, indicating a greenium (green-premium).

What to look out for in the months ahead

The range of activities and projects for which proceeds can be used is fairly comprehensive. Will there be a skew towards those activities (such as adaptation) that find raising capital on commercial terms challenging?

Source - Money Control , 01 January 2023

Others

Tamil Nadu sets up Rs 1,000-crore Green Climate Fund

Author
Priti Dubey

Notable Because

Many states have State Action Plans for Climate Change but they tend to rely on national sources for their climate finance needs. Tamil Nadu is the first state to establish a dedicated fund. The broad spectrum of activities it will be able to target includes those that may not be readily financeable with capital on commercial terms. This is a welcome move, given that India's net zero target requires USD 10.1 trillion in investments.

What to look out for in the months ahead

Financial instruments that will be used to raise funds, participation from global and private players, actual activities & projects that are backed by the fund, and return expectations as compared to traditional sources.

Source - The Hindu Business Line , 01 January 2023

Electric Mobility

Electric vehicles steal the limelight at Auto Expo 2023

Author
Apoorv Minocha

Notable Because

India's mobility transition is advancing, as electric vehicle (EV) sales exceeded one million units in 2022. E-2W and e-3W are primarily leading the transition. In contrast, e-4W volumes lagged for several reasons, including the lack of variety in models.
The launch of new varieties of e-4W models by top automakers featuring various seating capacities and driving ranges should provide the e-4W segment with a much-needed boost.

What to look out for in the months ahead

Installing additional charging infrastructure and introducing consumer finance alternatives for reasonably priced EVs will be crucial next steps.
Can more EV models be made available to the public to encourage the growth of the EV ecosystem as a whole?

Source - Livemint , 01 January 2023

Industrial Decarbonisation

India sets targets for green hydrogen use by some industries

Author
Gagan Sidhu

Notable Because

This development comes with the approval of India's National Green Hydrogen Mission by the Union Cabinet. The targets for green hydrogen consumption can kick-start the deep decarbonisation of India's industrial sector, which accounts for approximately 20 per cent of the national greenhouse gas emissions. Decarbonising the sector by 2070 to align it with the national net zero target requires investments of USD 1.5 trillion over the next 50 years.

What to look out for in the months ahead

(a) What do the targets actually look like (notification expected 2023–24)?
(b) How stringently will they be enforced? In the case of renewable energy purchase obligations (RPO), we have seen many instances in the past where discoms (the primary obligated entities) have managed to circumvent their obligations.

Source - Reuters , 01 January 2023

Electric Mobility

CESL invites bids for 3,500 electric cars

Author
Arjun Dutt

Notable Because

The public sector can be a key enabler in scaling India's transition to electric mobility. While the sector has not made any significant investments in charging infrastructure and public transport fleets, government departments' demand for electric mobility services could inject further momentum into the mobility transition en route to realising India's USD 206 billion EV consumer opportunity.

What to look out for in the months ahead

Can scaling government demand for electric mobility make it a meaningful and predictable source of demand for electric vehicles, similar to the market for rooftop solar, where the public sector accounts for ~15 percent of installations?

Source - Livemint , 01 January 2023

Electric Mobility

How Indian EVs zipped past the 1 million mark in 2022

Author
Meghna Nair

Notable Because

India's EV market is now on the global map, having sold over one million units, contributing 12% of global EV volumes in 2022. It has exceeded prominent EV markets such as the US. The greening of India's auto sector (along with power and industry) is critical to India's decarbonisation efforts, representing a USD 206 billion market.

What to look out for in the months ahead

India appears to be a bright spot in an otherwise weak global economy. Many countries are heading into what is expected to be a sluggish year for economic activity and growth. Continued and active policy push (e.g. more states introducing EV policies) and a comparatively cushioned economy may see the Indian EV market achieve an even larger share of global volumes over the next 12 months.

Source - Livemint , 01 January 2023

Others

Coal Production target at more than 1 billion ton for FY24

Author
Dishant Rathee

Notable Because

India saw record power demand in Q2 of FY22 due to increased economic activity, causing prices rises in the day ahead and real time market. Shortages of coal exacerbated the situation as thermal power represents 72% of India's electricity mix. To meet the growing demand, India aims for a one billion tonne coal production target for FY24, an 11% increase from FY23, and plans to end the import of 219 million tons of coal by FY24.

What to look out for in the months ahead

Will the production target alone meet the country's peak demand during the summers? Continued reliance on imports would expose India to further global supply chain risks at a time when such supply chains remain fragile across several product and commodity categories.

Source - Business Standard , 01 January 2023

Others

Municipal bond fund-raising trebles in 5 years; over Rs 6,000 cr mopped up

Author
Vaibhav Pratap Singh

Notable Because

The ongoing and upcoming diversification of sources of debt capital across various layers of governmental structures and government-controlled companies is a welcome sign. It points to a rebalancing of market structures in the broader economy as well the financial functioning of the issuers. The state governments have increased their exposure to bonds in the past couple of years.

What to look out for in the months ahead

The government''s broadening of the debt product base could, in turn, widen the investor base and create benchmarks for various issuances such as the InvITs, AIFs, and Muni bonds. States may even begin tapping the masala bond market.
The move could help iron out potential barriers to corporates broadly adopting these instruments.

Source - Business Standard , 01 January 2023

Renewable Energy

India, UAE to connect power grids

Author
Gagan Sidhu

Notable Because

This move comes amidst the increasing penetration of variable renewable energy (RE) in India's electricity mix, which touched 10.4 per cent in Q3 FY 2023. Once built, the linkage would add to other RE-specific international interconnections, such as the under-construction Viking Link between the UK and Denmark. Most significantly, it will be a significant step towards the One World, One Sun, One Grid (OSOWOG) initiative put forth by India.

What to look out for in the months ahead

Will the next move be eastward? Both synchronous and asynchronous grid linkages already exist between India and some neighbouring countries. But expanding further east could place India at the centre of a grid that connects the oil-rich Gulf states with the dynamic, fast-growing economies of Southeast Asia.

Source - Livemint , 26 January 2023

February

Industrial Decarbonisation

Indian Energy Exchange to launch High Price Day Ahead Market segment next month

Author
Ruchita Shah

Notable Because

The existing cap (INR 12/kWh) on the market clearing price (MCP) has traditionally restricted high variable cost generators from participating in power exchanges. The Ministry of Power's high-price day-ahead market (DAM) segment will provide a platform for these generators, including battery energy storage systems, to sell costlier electricity on power exchanges. In return, buyers can access high-price DAM during high-demand periods.

What to look out for in the months ahead

The launch of high-price DAM in March coincides with the onset of the summer season. It will be interesting to see how high-price DAM addresses supply–demand mismatches in the upcoming high-demand months.

Source - The Economic TImes , 01 February 2023

Electric Mobility

India's first double-decker AC electric bus hits Mumbai roads, gets mixed response

Author
Amlan Bibhudatta

Notable Because

Like many other countries, India has been rolling out electric vehicles, including e-buses, for urban public transport. The appeal of these buses is that they have minimal costs of operation. However, this is the first time a double-decker e-bus has been launched in the country, that too on a gross cost contract (GCC) basis.

What to look out for in the months ahead

There have been quite a few e-bus deployments in various cities in India, but financing these vehicles has been a herculean task in itself. Therefore, it would be interesting to see what types of financing mechanisms the government and private players adopt. That being said, it is imperative to track the footfall in double-decker buses to determine whether they are profitable.

Source - India Today , 01 February 2023

Instruments & regulations

EIB commits 1-bn-euro funding for large-scale green hydrogen projects in India

Author
Priti Dubey

Notable Because

Green hydrogen production requires large capital investments and policy support to transform India into a global hub. Funding for large-scale green hydrogen projects is at a nascent stage, and the European Investment Bank's (EIB) funding support can help lower the risk perception among investors, thereby expediting the decarbonisation of the economy.

What to look out for in the months ahead

What will be the eligibility criteria for large-scale hydrogen projects for receiving this funding?
What will be the cost of borrowing under the separate credit facility that aims to commercialise upcoming green hydrogen technologies?

Source - The Economic TImes , 01 February 2023

Instruments & Regulation

Budget 2023: Rs 35,000 cr for green energy transition initiatives

Author
Apoorv Minocha

Notable Because

The allocation of INR 35,000 crore (~USD 4.2 billion) is a priority capital investment towards the energy transition, net zero objectives, and energy security. However, it is noteworthy that of the total allocation, INR 30,000 crore was capital support to oil marketing companies (OMCs), and INR 5,000 crore was earmarked to augment India's strategic petroleum reserves.

What to look out for in the months ahead

What activities do OMCs eventually fund against the INR 30,000 crore allocation? A range of activities will ultimately need to be financed to close the estimated average annual USD 28 billion investment gap to achieve net zero by 2070.

Source - Livemint , 01 February 2023

Industrial & Regulations

Indore Municipal Corporation's green bonds oversubscribed 5.91 times on final day

Author
Gagan Sidhu

Notable Because

Although not India's first sub-sovereign green issuance, it comes soon on the heels of India's maiden issuance of INR 16,000 crore (~USD 2 billion) worth of sovereign green bonds in two tranches. The pricing advantage achieved in the sovereign issuance and the 5.91x oversubscription garnered by the Indore Municipal Corporation are powerful indicators of the appetite for green at all levels.

What to look out for in the months ahead

A record USD 3.6 billion was raised by Indian RE developers in international debt capital markets in the first six months of 2021, but that was during a low dollar interest rate environment. With rising USD interest rates, raising money overseas has become increasingly expensive. Will this sub-sovereign issuance also spur growth in the domestic INR corporate green bond market?

Source - The Economic TImes , 01 February 2023

Others

India finds big lithium reserve in J&K

Author
Arjun Dutt

Notable Because

Lithium is a key mineral used in producing lithium-ion batteries, which are essential for advancing the energy transition. India's domestic industry requires access to a predictable supply of critical minerals to become more self-reliant in clean energy manufacturing. These minerals are often concentrated in geographies characterised by unfavourable commercial regimes or political instability. In this context, the lithium deposits could translate into reserves that meet a portion of these needs.

What to look out for in the months ahead

It remains to be seen what scale of reserves these deposits yield. Besides lithium, domestic industries require reliable access to several other minerals, such as cobalt and nickel (used in storage), palladium (used in electrolysers), and rare-earth metals, to support the indigenisation of domestic clean energy manufacturing. For this purpose, India needs a concerted strategy to secure these minerals to further its energy security.

Source - Livemint , 01 February 2023

Electric Mobility

Punjab cabinet approves EV policy

Author
Meghna Nair

Notable Because

Punjab became the sixteenth Indian state to provide consumer incentives to its EV buyers. States with EV subsidies have shown 2X higher growth in EV volumes compared to states without them. With the FAME II policy ending soon, the onus now rests on state policies, such as the one introduced by Punjab, to drive India's EV transition.

What to look out for in the months ahead

Punjab's EV sales trends have plateaued over the last year. The introduction of subsidies for its e-2W and e-rickshaw segment, which together form 95 per cent of all EVs in the state, can be expected to boost the state's EV volumes and penetration over the next year.

Source - Times of India , 01 February 2023

Instruments & Regulations

India finalises 13 activities under 3 heads for trading of carbon credits

Author
Dishant Rathee

Notable Because

This list of activities eligible to generate credits for carbon trading under Article 6.2 is expected to attract investments from international sources and facilitate the adoption of emerging technologies. It has the potential to close the investment gap of USD 3.5 trillion that India will face in achieving net-zero by 2070.

What to look out for in the months ahead

Japan and Singapore have expressed interest in cooperating with India under Article 6.2. It will be interesting to note which other countries will follow suit and, out of the 13 activities, which activities will attract the most investment.

Source - Business Standard , 17 February 2023

Others

Sebi notifies stronger framework for green bonds; introduces concept of blue, yellow bonds ..

Author
Vaibhav Pratap Singh

Notable Because

India needs over USD 10 trillion in investments sourced from conventional and non-conventional pools of capital to meet its 2070 net zero targets. Defining the various subcategories of green, social, and sustainable (GSS) bonds is essential to building domestic markets for such securities. These bonds can play a part in financing India's Nationally Determined Contribution (NDC) targets and beyond, especially in sectors such as water and others in their infancy.

What to look out for in the months ahead

Who will issue and subscribe to these subcategories of green bonds?
What features, sizes, and benchmarks can be created for each subcategory?
The role and usage of these securities in the process of building up national green infrastructure will be interesting to note.

Source - The Economic TImes , 04 February 2023

Renewable Energy

Focus on green energy transition at the core of union budget 2023

Author
Roktim Chakraborty

Notable Because

India's significant and expanding energy needs, coupled with its projected population overtaking China's, make it a crucial player in global climate change targets, as highlighted by the World Economic Forum (WEF). Recognizing the urgency of transitioning to green alternatives and reducing reliance on fossil fuels, India's latest Budget demonstrates the government's commitment to propel the economy, create new sectors, boost GDP, and ultimately achieve net-zero carbon emissions by 2070.

What to look out for in the months ahead

What potential impact do industry officials foresee as a result of the budget allocation of Rs 35,000 crore for green energy transition and the additional benefits for the renewable sector?

Source - The Economic TImes , 01 February 2023

March

Renewable Energy

Govt allocates 39,600 MW domestic solar module manufacturing capacity under PLI tranche-II

Author
Ruchita Shah

Notable Because

India has limited solar module manufacturing capacity, which has resulted in a significant dependence on imported modules for solar installation. To become self-reliant, the Indian government launched the Production-Linked Incentive (PLI) scheme for high-efficiency solar modules in 2020 and allocated 8,737 MW capacity under Tranche I in 2022. With the recent allocation of 39,600 MW under Tranche II, India is gearing up to achieve 48 GW of domestic manufacturing capacity by 2026.

What to look out for in the months ahead

(a) Will there be a mandate to provide demand security for these high-efficiency solar modules, such as the domestic content requirement (DCR) for these high-efficiency solar modules, at least in government tenders to provide demand security?
(b) India aims to become a solar module exporter eventually. Hence, it is critical to monitor the cost-competitiveness of domestically manufactured solar modules in domestic and international markets.

Source - The Economic TImes , 28 March 2023

Electric Mobility

Extend FAME subsidy scheme for EVs by two years: Panel

Author
Amlan Bibhudatta

Notable Because

Since Phase 2 of the Ministry of Heavy Industry's FAME policy for electric vehicles (EV) is ending in 2024, there is anxiety in the market regarding the uptake of EVs. In this context, a Parliamentary Committee has suggested not to scrap it entirely but extend it by two years to address concerns and uncertainty in uptake and the instability of all the new start-ups in the industry that may have to shut down

What to look out for in the months ahead

The FAME subsidy(s) have led to a significant rise in sales and start-ups in its nine years of existence. However, the subsidy has failed to produce an organic and indigenous supply chain in the country.
Moving forward, it would be interesting to see how EV subsidies are designed to address this issue, given India is considered a leader in automobile manufacturing.

Source - Times of India , 25 March 2023

Industrial Decarbonisation

L&T signs agreement with France's McPhy for electrolyser manufacturing

Author
Priti Dubey

Notable Because

This partnership demonstrates a growing interest in green hydrogen in India. Considering that there are only a handful of electrolyser manufacturers in India, the agreement between L&T and McPhy Energy is a step forward in meeting India's domestic electrolyser requirement of 60 GW, as estimated by NITI Aayog.

What to look out for in the months ahead

About 35 per cent of the price of green hydrogen is the electrolyser cost. How will L&T raise finance for the planned gigawatt-scale manufacturing facility? Will it be eligible to access funding provided under the Strategic Interventions for Green Hydrogen Transition Programme (SIGHT) programme of the Green Hydrogen Mission?

Source - The Economic TImes , 23 March 2023

Renewable Energy

Solar Boost: Govt lifts ALMM mandate for projects commissioned by March 2024

Author
Apoorv Minocha

Notable Because

The lifting of the mandate allows the use of solar modules manufactured by foreign manufacturers (beyond those in the earlier approved list) for government projects, schemes, and programmes, as well as open access and net-metering projects. This solar push will benefit projects of ~25 GW granted before the Approved List of Models and Manufacturers (ALMM) was introduced, but whose commercial date was set after it. The government has also imposed a 40 per cent basic customs duty on module imports and a 25 per cent duty on cell imports.

What to look out for in the months ahead

Some overseas manufacturers are introducing superior and efficient products at an even lower cost. When can our indigenous manufactured units at least match international quality and pricing? How can the government continue pushing for solar energy while promoting domestic manufacturing?

Source - Money Control , 11 March 2023

Electric Mobility

Three wheeler EV makers seek 50% hike in subsidy

Author
Gagan Sidhu

Notable Because

EV registrations have crossed the one million mark in FY 22–23, and the transition is being led by e-2W and e-3W. However, a closer look reveals stark differences. FAME II approved models account for approximately 93 per cent of e-2W sales since FY20. In contrast, only 12 per cent of e-3W volumes were FAME II approved models. Further, as of September 30, 2022, approximately 70 per cent of the FAME II subsidy allocation remained undisbursed.

What to look out for in the months ahead

Can the higher incentives for e-3W spur volume growth in approved models? Evidence shows that states that offered higher incentives to e-2W benefitted from a more than 4x higher e-2W volume growth compared to states that offered lower incentives.

Source - The Economic TImes , 16 March 2023

Renewable Energy

RBI accords 'infra finance company' status to IREDA

Author
Arjun Dutt

Notable Because

Reserve Bank of India (RBI) rules require that a minimum of 75 per cent of non-banking financial companies – infrastructure finance company (NBFC-IFC) assets be deployed in infrastructure loans. As an NBFC-IFC, Indian Renewable Energy Development Agency (IREDA) can take higher exposure to eligible infrastructure categories, such as electricity generation. This should ensure that IREDA remains focused on lending to segments such as renewable energy (RE), thereby better supporting India's energy transition.

What to look out for in the months ahead

India's erstwhile 450 GW RE target by 2030 required investments in generation totalling USD 200 billion between 2020 and 2030. Investments needed for the revised 500 GW non-fossil fuel capacity by 2030 target are comparable. The overall exposure of all domestic banks and NBFCs to the power sector is approximately USD 160 billion. Opening up the domestic bond market could help ease potential financing constraints.

Source - Livemint , 13 March 2023

Electric Mobility

Tata Motors joins hands with SBI to offer loan structured schemes for new Ace EV

Author
Meghna Nair

Notable Because

India's transition to EVs will be led by categories such as e-2W and commercial vehicles, that are most amenable to electrification. The availability of easy finance for these vehicles is key to their mass adoption. The State Bank of India (SBI), one of the first movers in EV financing, through its 'green car loan', has extended the contours of its EV portfolio beyond passenger vehicles. This can be expected to have ripple effects among other financiers.

What to look out for in the months ahead

The growing popularity of EVs, especially for commercial use, may encourage more industry players to come together and forge such partnerships. Innovative financing that is jointly made available by original equipment manufacturers (OEMs) and financiers could play a key role in combating the inherent cost disadvantage of EVs, thus making them more accessible to the end consumer.

Source - Business Today , 01 March 2023

Others

India aims to become global hub for green ship building by 2030: Sonowal (Union Minister of Ports, Shipping and Waterways)

Author
Dishant Rathee

Notable Because

The announcement comes in the wake of India's Green Hydrogen Mission, launched in January 2023, which aims to drive the production of 5 MMT of green hydrogen annually by 2030.
The announcement, which includes plans to convert all tugboats in the country to non-fossil fuel-based alternatives by 2030, is expected to drive domestic demand for green hydrogen. Further, greening of tugboats powered by hydrogen and its derivatives is a key step in decarbonising India's maritime sector.

What to look out for in the months ahead

What technology will be championed in the initial hybridisation of tugs? How will hydrogen and its derivatives-fuelled tugboats overcome cost challenges? Further, retrofitting tugboats poses particular challenges, and it will be interesting to see how the government extends support to mitigate them.

Source - Livemint , 22 March 2023

Others

Fix 'obsolete' climate funding or risk disaster, warns UN fund chief

Author
Vaibhav Pratap Singh

Notable Because

The developing world needs investments of USD 2.4 trillion annually by 2030 to build climate-related infrastructure. Of these investments, more than half would need to come from developed economies, which today are contributing far below the promised USD 100 billion. In this scenario, the role of multilaterals with improved products, essentially grants and improved speed of deployment, would be critical for the finance to flow into economies like India.

What to look out for in the months ahead

Will the diversion of funds from developed economies to meet global climate objectives happen? Can the scale of ambition of countries such as India, which alone needs ~USD 527 billion just for its power sector by 2030, be attractive to overseas investors? How the multilaterals would respond to solve this investment challenge, provide support in increasing the capital flow, and aid in de-risking investments remains to be seen.

Source - Devex , 06 March 2023

Electric Mobility

India should aim at 100% E2W, E3W sales in 5 years: Amitabh Kant

Author
Roktim Chakraborty

Notable Because

To establish itself as a global electric vehicle manufacturing leader, India should focus on 100 per cent electrification of its two- and three-wheelers and their sales within the next five years. Such efforts will not just place India at the forefront of global EV manufacturing but also aid in achieving its larger climate goals.

What to look out for in the months ahead

We may see increased research and development of electric vehicle components and partnerships between Indian companies and global manufacturers.
The future of green mobility in India looks promising, and we can expect to see continued progress towards a cleaner and more sustainable transportation system.

Source - The Economic Times , 06 March 2023

April

Others

Global pension funds in fray for Mahindra Susten InvIT stake

Author
Ruchita Shah

Notable Because

Most installed renewable energy (RE) capacity is financed through traditional financing sources, which may not be sufficient to finance upcoming RE capacities. This is where infrastructure investment trusts (InvITs) can come in to fulfil investment requirements. As of April 2023, Virescent Renewable Energy Trust is the only RE InvIT in India, and the success of Mahindra Susten's InvIT could encourage RE developers to explore InvITs as an alternative financing source.

What to look out for in the months ahead

To achieve its 500 GW RE target by 2030, the Ministry of New and Renewable Energy (MNRE) has directed RE implementing agencies to conduct 50 GW of RE bids each year till 2027–28 to augment RE capacity addition. Given this, the investment requirement will go up. To fulfil it, will RE developers explore the InvITs route?
Valuation of InvITs and investors' shares in it will be interesting factors to watch out for.

Source - The Economic TImes , 26 April 2023

Renewable Energy

Govt unveils plans to add 250GW renewable energy capacity in next five years

Author
Amlan Bibhudatta

Notable Because

In FY2022, just about 15 GW of RE was auctioned in India. Beginning in 2023, the MNRE plans to auction 50 GW of utility-scale RE capacity for the next five years to achieve approximately 250 GW of new additions by 2028. This is a mammoth task in terms of sheer scale, almost comparable to what China achieved with solar last year (~53 GW in 2021), when they ended solar subsidies.

What to look out for in the months ahead

The plan also includes setting up at least 10 GW of wind power. Since the government has pulled the plug on reverse auctions, it would be interesting to see what bidding arrangements and regulations the Ministry of Power (MoP) and MNRE adopt this time.
Another key factor is how the indigenisation of the supply chain plays into this. Prima facie, it seems that current indigenous manufacturing of this scale (50GW per annum) is almost impossible to imagine.

Source - The Economic TImes , 05 April 2023

Voluntary carbon market governance body proposes regulations to stamp out greenwashing

Author
Priti Dubey

Notable Because

India already has a thriving voluntary carbon market, and the core carbon principles will further advance its growth by ensuring the integrity, reliability, and credibility of offsets/ credits. A robust and well-governed voluntary carbon market enables transparency and accountability, which are essential for maintaining investor confidence in the market and unlocking additional investments for low-carbon projects.

What to look out for in the months ahead

The quality and integrity of carbon credits will depend on the uptake of core carbon principles by project developers.
Will implementing these principles drive significant climate finance towards the sustainable development needs of India?

Source - DownToEarth , 10 April 2023

Electric Mobility

PFC fuels e-mobility growth with Rs 633 cr loan for 6,000 EVs

Author
Apoorv Minocha

Notable Because

Power Finance Corporation (PFC) is one of the major financing schemes for electric vehicle (EV) assets in the country. It aims to diversify in the E-mobility space using debt financing for early-established start-ups like BluSmart. This will boost the government's efforts towards achieving its 'net zero' emission target. In FY23, EV sales for the passenger 4W(C) were just over 7000 units. This scheme aims to deploy and acquire 5,000 passenger and 1,000 cargo EVs by BluSmart.

What to look out for in the months ahead

Will investments by central public sector undertakings (CPSUs) such as the PFC spur growth for other start-ups in the e-mobility space?
Will other non-banking financial companies (NBFCs) be encouraged by this move from the leading power sector lender?

Source - Livemint , 21 April 2023

Renewable Energy

Firms may soon get govt nod to use blended finance instruments for green projects

Author
Gagan Sidhu

Notable Because

India's energy transition financing needs are significant, and achieving its targets depends on getting private capital to flow towards the transition at a significant pace. Blended finance involves leveraging scarce public capital to mobilise private capital, many times the quantum of the public capital. This can effectively bridge the large investment gap on the road to India's 2070 net zero target.

What to look out for in the months ahead

Blending usually requires the public capital portion to be offered as grants or on concessional terms. Will developed countries that have significantly under-delivered on their promise of providing USD 100 billion per year of climate finance to developing countries seize this opportunity to make up for lost time?

Source - The Economic TImes , 23 April 2023

Others

India Inc should prepare for a national carbon market

Author
Arjun Dutt

Notable Because

A national carbon market will have wide-ranging implications for Indian corporates. It should be considered against the context of an ecosystem where Scope 1 and 2 emissions disclosure will become mandatory for large listed companies under SEBI's Business Responsibility and Sustainability Report (BRSR) reporting. Internal carbon pricing can be a valuable tool for corporates looking to direct capital towards internal low-carbon investments and, in the process, lowering external capital outflow requirements for carbon credit purchases.

What to look out for in the months ahead

Shadow carbon credits already exist in the form of renewable energy certificates (REC), which assign a value to the green component of electricity. What will be the price of carbon that is eventually crystallised on the carbon market, and how will fungibility work between carbon credits and RECs?

Source - Livemint , 21 April 2023

Electric Mobility

Odisha hikes incentives to promote EVs

Author
Meghna Nair

Notable Because

Odisha has amended its 2021 EV policy to provide higher purchase incentives to EVs across all categories to boost EV adoption in the state. It now extends INR 5,000/kWh to e-2W and INR 10,000/kWh to e-4W, with ceilings of INR 20,000 and INR 1.5 lakh, respectively. E-3W will also receive a flat subsidy of INR 30,000.

What to look out for in the months ahead

A CEEW-CEF analysis demonstrates that states with higher incentives record superior EV volume growth. Tthis move towards higher subsidies may see a more successful greening of Odisha's transport sector, which currently sees low EV volumes and penetration levels of just 5 per cent. Presently, only 80 out of the country's 500 EV original equipment manufacturers (OEMs) operate in the state,
this move may provide greater confidence to them to enter this market.

Source - Times of India , 26 April 2023

Electric Mobility

BIS rolls out standards and tests for electric vehicle charging infrastructure

Author
Dishant Rathee

Notable Because

The introduction of these standards by the Bureau of India Standards (BIS) may improve customer usability and increase the charger utilisation rate for charging point operators (CPOs). It could also reduce some of the financial risks associated with the EV sector. Furthermore, the interoperability of the charging network will increase the EV penetration, and widespread EV roaming may be achieved.

What to look out for in the months ahead

Will this standardisation build confidence for the EV financiers? Whether these standards further trickle down to standardisation of one or two types of chargers as per the power requirement of an EV?

Source - The Economic TImes , 20 April 2023

Others

Gujarat clears 1.99 lakh hectare land for green hydrogen production

Author
Vaibhav Pratap Singh

Notable Because

Approving the land policy for green hydrogen (GH) production and earmarking land towards identified corporates in Gujarat can provide a big push toward achieving the national 5 MMT GH production target by 2030. Per estimates, the allocation could support almost 4 MMT of GH and 100 GW of RE production in the state. However, the actual implementation and deployment pace for these projects will depend on the economics, incentives, GH demand, and other factors.

What to look out for in the months ahead

What other incentives (beyond land) would be required for increasing GH projects on the ground? Who will be the consumers of GH? How will the financing manifest, and what will be the terms?

Source - Times of India , 28 April 2023

Renewable Energy

Jackson Green to develop green hydrogen refuelling station in New Delhi Source: ET Energy

Author
Roktim Chakraborty

Notable Because

Developing a green hydrogen fuelling station, established by Jackson Green, can hasten India's progress toward achieving net zero emissions. Once operational, it is projected to offset 3.7 tonnes of carbon dioxide every day, reinforcing hydrogen's crucial role as a new energy transition fuel. This will reduce India's dependence on imported crude oil, minimise pollution, and aid Indian efforts towards a greener tomorrow.

What to look out for in the months ahead

Sufficient production of green hydrogen, secure storage solutions, and distribution networks need attention.
We can look forward to how it will leverage a part of the new power technology mix in the Indian automobile industry.

Source - The Economic TImes , 18 April 2023

May

Renewable Energy

Share of solar, wind energy in generation capacity mix rise to 26 per cent as of March 2023: CEA

Author
Ruchita Shah

Notable Because

In its latest nationally determined contributions (NDCs), India committed to achieving 50 per cent of the installed generation capacity from non-fossil fuel-based resources by 2030. As of FY23, the share of non-fossil-fuel-based generation capacity crossed the 40 per cent mark, and the share of coal-based generating capacity continued to decline. In GW terms, the non-fossil fuel-based generation capacity reached 172.1 GW versus the 500 GW target.

What to look out for in the months ahead

In a move to achieve the 500 GW target, in April 2023, the Ministry for New and Renewable Energy (MNRE) announced the RE bidding trajectory. It directed implementing agencies to conduct bids of 50 GW annually till FY28. What steps will be taken to increase the share of variable RE in the grid and ensure the grid''s security and reliability?

Source - The Economic TImes , 09 May 2023

Electric Mobility

SIDBI launches new financing solution for electric vehicle space

Author
Amlan Bibhudatta

Notable Because

Access to finance seems to be a major concern for electric vehicles (EVs). In this context, after extensive consultation with various stakeholders in the EV space, the Small Industries Development Bank of India (SIDBI) has launched a pilot scheme that aims to scale up EV adoption among small businesses. It plans to offer attractive terms of finance such as low interest rates for purchase, charging infrastructure, and swapping. The project is co-run by the World Bank under their EV4ECO programme.

What to look out for in the months ahead

What will be the exact terms of financing for micro, small, and medium enterprises (MSMEs) (interest rates, tenures, eligibility criteria etc.) under the pilot scheme?
Will MSMEs, often plagued by inadequate capital, be able to access this money successfully? And if so, under what conditions?

Source - The Economic TImes , 14 May 2023

Renewable Energy

Tamil Nadu sets up Rs 1,000-crore Green Climate Fund

Author
Priti Dubey

Notable Because

In light of the evolving wind turbine generator technology, MNRE published the draft wind repowering policy in October 2022 to incorporate latest technology, improve land utilisation, and increase wind power generation capacity. However, to facilitate the repowering of old wind turbines, challenges such as evacuation infrastructure modification, decommissioning costs, and lack of a conducive regulatory environment need to be addressed.

What to look out for in the months ahead

As of April 2023, the installed wind power capacity in India was 42.8 GW and MNRE estimates it to reach 100 GW by 2030. Since wind rich sites are scarce and existing good wind resource sites have already been utilised by older turbines with lower CUF, what steps will the government take apart from releasing a policy to make wind repowering a financially appealing case to the developers and reach the 100 GW target?

Source - The India Express , 28 May 2023

Renewable Energy

Govt cut application fee by 80 percent for solar equipment makers, doubles enlisting period under approved list

Author
Apoorv Minocha

Notable Because

The recent reforms to the 'Approved List of Models and Manufacturers for Solar Photovoltaic Modules' (ALMM) by MNRE should significantly impact the solar manufacturing industry. With an 80 per cent reduction in application fees and relaxed time constraints, domestic manufacturers will be encouraged to enter the market. This could increase domestic manufacturing capabilities, introduce a wider range of module options, and generate more employment opportunities.

What to look out for in the months ahead

Will these reduced application fees and streamlined enlisting procedures entice foreign manufacturers to start operations nationwide?
How might such steps eventually contribute to increasing industry competition and aid in lowering module prices?

Source - The Economic TImes , 15 May 2023

Renewable Energy

India to roll out first offshore wind energy tender soon: MNRE Secretary

Author
Gagan Sidhu

Notable Because

The announcement came during a side event of the Energy Transition Working Group (ETWG), which falls under the Sherpa Track of the G20. The new renewable purchase obligation (RPO) trajectory announced in July 2022 features a dedicated wind RPO for projects commissioned after March 31, 2022. It also features an energy storage obligation (ESO). A balanced mix of renewables and storage is essential as the share of renewables (including hydro) has crossed 40 per cent of installed capacity.

What to look out for in the months ahead

Given that offshore wind is an expensive technology, viability gap funding (VGF) will be on offer. Bidders with the lowest VGF bids will win capacity, which is then expected to be sold to off-takers. Tamil Nadu and Gujarat are reportedly willing to purchase power at INR 4.0 per unit.
At what price will VGF eventually come in? That will indicate the actual cost of offshore wind.

Source - The Economic TImes , 18 May 2023

Others

More likely than not' world will soon see 1.5 degrees Celsius of warming, World Meteorlogical Organization says

Author
Arjun Dutt

Notable Because

While temporarily breaching the 1.5o C warming threshold in the next five years is not the same as a long-term 1.5o C increase in global temperatures, the World Meteorological Organization (WMO) report indicates that sufficient progress has not been made in cutting emissions. As a result, managing climate risks is increasingly important for financial institutions, as noted in a July 2022 Reserve Bank of India discussion paper on climate risk and sustainable finance.

What to look out for in the months ahead

With financial supervisors noting that climate risks threaten financial stability, it would be interesting to see how regulation facilitates the management of climate risks by financial institutions. Lending and investment mandates for financiers and concessions on regulatory requirements (such as capital adequacy) for climate-aligned investments are some possibilities regulators could consider

Source - Reuters , 17 May 2023

Electric Mobility

Govt to cut FAME II subsidy on electric 2-wheelers from June

Author
Meghna Nair

Notable Because

A CEEW-CEF publication shows that e-2W are better placed to reach their FAME policy targets than other categories. The policy initially provided incentives worth INR 10,000/kWh to e-2W, subject to a cap of INR 20,000/vehicle. In 2021, this was increased to INR 15,000/kWh, up to 40 per cent of the e-2W cost. The recent amendment reduces the e-2W subsidy back to INR 10,000/kWh, which is up to 15 per cent of the vehicle's cost today.

What to look out for in the months ahead

As FAME II nears completion, it has met only 56% of its e-2W target. Lowering unit subsidies is an attempt at subsidising a larger volume of the country's most successful EV category. With an increase in the total allocation from INR 2,000 crore to INR 3,500 crore, it remains to be seen whether 4,00,000 e-2W can be subsidised by March 2024.

Source - The Economic TImes , 23 May 2023

Others

India sets deadline of 2035 to establish green hydrogen bunkering

Author
Dishant Rathee

Notable Because

The recent announcement emphasises India's commitment to transitioning its maritime sector towards cleaner fuels, further advancing the earlier commitment to convert all tugboats to non-fossil fuel-based alternatives by 2030.
The integrated approach may create domestic demand for green hydrogen, which aligns with India's comprehensive Green Hydrogen Mission, which aims to produce 5 MMT of green hydrogen annually by 2030.

What to look out for in the months ahead

What policy incentives will be introduced to address the concerns of financiers regarding the high costs associated with hydrogen bunkering, considering it is a novel technology?

Source - Business Standard , 10 May 2023

Electric Mobility

Cholamandalam to tread cautiously in EV Financing in the near Term

Author
Vaibhav Pratap Singh

Notable Because

EV sales have been continuously multiplying in the country. EV penetration, which was around 1% at the beginning of FY23, topped 5% by the end. However, financing, which acts as an enabler, may grow at a tepid pace impacting overall adoption rates. The risk matrices for EVs as a lending class are yet to crystalise, and there's no secondary market for them, unlike traditional vehicles, impacting the appetite of financiers.

What to look out for in the months ahead

What policy measures will come up to allay the fears of financiers?
Can some instruments like the World Bank–SIDBI First Loss Guarantee kick-start the EV financing revolution in the country

Source - The Hindu Business Line , 22 May 2023

Renewable Energy

Power, environment ministries to develop carbon credit trading scheme for decarbonisation

Author
Roktim Chakraborty

Notable Because

India's carbon credit trading scheme reflects its dedication to decarbonisation and clean energy sources, representing a significant step towards establishing a domestic market. Drawing from experiences such as the Clean Development Mechanism and the voluntary market, the government has taken informed steps to make this semi-voluntary initiative a reality. While it will require time to activate the market fully and set mandatory targets, it demonstrates India's proactive approach and commitment to addressing climate change.

What to look out for in the months ahead

There are three ways of pricing carbon: establishment of a domestic carbon tax, use of an emissions trading system, and application of an import tariff on the carbon content.
How is India planning to price carbon emissions?

Source - The Economic TImes , 11 May 2023

June

Industrial Decarbonisation

Ohmium, NTPC to partner on largest-ever deal for green hydrogen electrolysers in India

Author
Ruchita Shah

Notable Because

Earlier this year, the Cabinet approved the National Green Hydrogen Mission. It aims to set up at least 5 MMT per annum of green hydrogen production facilities by 2030 which will require a renewable energy (RE) capacity addition of ~125 GW. NTPC's deal with Ohmium for proton exchange membrane (PEM) electrolysers is a significant contribution towards the achievement of the national target as well as NTPC's target of 60 GW RE by 2032.

What to look out for in the months ahead

Will this deal act as a catalyst in the development of green hydrogen production facilities in India and enable its path towards a green hydrogen powerhouse?
It will be interesting to see who NTPC will sign the buy-side contract with.

Source - The Economic Times , 01 June 2023

Industrial Decarbonisation

Ministry unveils Rs 175 billion for electrolyzers, Green Hydrogen production

Author
Amlan Bibhudatta

Notable Because

After the announcement of the much talked about National Green Hydrogen Mission (NGHM), this is the most significant policy announcement concerning green hydrogen. The document outlines incentive programs that will be implemented between 2025-26 and 2029-30 respectively as part of the NGHM. It is worth mentioning that the total outlay of Rs 175 billion is broken down to Rs 44 billion for electrolysers and the rest to support GH2 manufacturing.

What to look out for in the months ahead

It will be interesting to see, how much of the outlay is actually used and by what type of firms and industries?
Additionally, what will be the bureaucratic bottlenecks and loopholes concerning reimbursement of these incentives and how the government aims to tackle those is very crucial.

Source - Mercom India , 29 June 2023

Renewable Energy

India has raised $43 billion in the hidden universe of Green Bonds since 2014: Report

Author
Priti Dubey

Notable Because

Realising India's clean energy ambitions requires capital mobilisation of at least USD 200 billion. RE projects are typically financed by conventional sources which may not have sufficient headroom left for further lending. Green bonds offer a lucrative alternative to meet RE financing needs owing to medium and longer tenors and greenium among other benefits. Indian developers see substantial interest in international green bond issuances as they have been oversubscribed by 3.6 times on average.

What to look out for in the months ahead

Will the introduction of a framework for sovereign green bonds (SrGB) in 2022 and the USD 2 billion SrGB issuance in Q1 2023 enhance market confidence?

Will green bond issuances, both domestic and international, be able to fill the financing gap for RE deployment in India?

Source - The Economic Times , 06 June 2023

Electric Mobility

EV registrations in Delhi crosses one lakh mark

Author
Apoorv Minocha

Notable Because

This significant milestone, coupled with a notable 14% EV penetration in the previous month of May, highlights the effectiveness of the Delhi government's incentives and policies. However, the distribution among EV categories remains unchanged. Electric four-wheelers (E4Ws) account for only around 11% of total EV sales, while electric two-wheelers (E2Ws) dominate with 65%. Moreover, the Delhi Government has an ambitious target of achieving 25% EV penetration by 2024, to accelerate the transition

What to look out for in the months ahead

What measures will the government take to ensure fulfillment of this ambitious target?
With increasing EV penetration, the need for improved and robust charging infrastructure is even more crucial. What more steps are required to accelerate it?

Source - The Economic Times , 14 June 2023

Renewable Energy

Power Play: Can dynamic tariffs tackle India's rising electricity demand?

Author
Gagan Sidhu

Notable Because

As the share of variable renewable energy (RE) increases, so does the need for solutions that balance out its intermittent nature. In FY 23, variable RE accounted for 11.8% of India's electricity generation. Going forward RE capacity addition is expected to be dominated by solar, which sees peak generation during daytime hours. Measures that make electricity cheaper when it is plentiful can be an efficient way to balance the grid.

What to look out for in the months ahead

To what extent can measures such as dynamic tariffs, acting in concert with innovative procurement formats such as round-the-clock (RTC), limit the need for expensive storage solutions, including pumped hydro?

Source - India Today , 29 June 2023

Others

Govt comes out with draft rules of Green Credit programme

Author
Arjun Dutt

Notable Because

While market mechanisms pertaining to emissions abatement already exist (REC, PAT, and the emerging CCTS scheme), this is the first such mechanism that targets broader environmental attributes. This can potentially be a starting point for a broader structured push for using fiscal and financial regulation to advance sustainability.

What to look out for in the months ahead

Will the proposed voluntary nature of the demand of these green credits be sufficient to generate demand?

Will financial regulators issue complementary regulation that targets broader environmental considerations than climate?

Source - The Economic Times , 28 June 2023

Electric Mobility

Electric 2-wheelers to get more expensive from today; here's why

Author
Meghna Nair

Notable Because

The Ministry of Heavy Industries recently announced that the INR 15,000/ kWh FAME II subsidy on e-2Ws, was to be revised downwards to INR 10,000/ kWh from 1st June. The policy previously subsidised up to 40% of the cost of an EV, which in some cases helped reverse its inherent price disadvantage. The reduction in subsidy amount is expected to hike up e-2W prices, thus impacting their demand.

What to look out for in the months ahead

The reduction in subsidy amount has already negatively impacted the demand for e-2Ws. May witnessed an e-2W sales peak of 1,05,283 units. However, less than a quarter of that has been sold as of 22 June. E-2W sales, and by extension EV sales as a whole may see a sudden dip over the next few months. However, as more states release their EV policies, we may see the segment recover in time.

Source - Business Today , 01 June 2023

Electric Mobility

Chandigarh's big EV push: Fossil fuel-based four-wheeler registrations to stop by Dec

Author
Dishant Rathee

Notable Because

Chandigarh becomes the first city to ban ICEV 2W and 4W registration, once the registration target for this financial year is reached under its pioneering EV policy. To promote wider EV adoption, the policy integrates command and control regulations, incentives, and a dedicated consumer category for EV charging. Chandigarh's proactive approach in leading the transition to green mobility sets an exemplary model for other regions to follow.

What to look out for in the months ahead

The suddenness of the policy decision may disrupt the market. Buyers may instead opt to register their ICEV in the neighbouring states to circumvent the ban. It remains to be seen how the state administration will effectively manage the potential challenge and enforce the ban?

Source - The Indian Express , 10 June 2023

Others

IFU invests in UGRO Capital to support green finance for MSMEs in India

Author
Vaibhav Pratap Singh

Notable Because

The development is notable as it aims to address the capital constraints typically faced by Micro, Small, and Medium Enterprises (MSMEs) and emphasizes the importance of their green transition in India. MSMEs not only contribute significantly to greenhouse gas emissions but also have the highest employment footprint. The collaboration between IFU and UGRO Capital holds the potential to drive sustainable practices by providing essential financial support, promoting eco-friendly initiatives, and fostering green entrepreneurship in the country.

What to look out for in the months ahead

In the coming months, it will be worth looking forward to the tangible outcomes of the collaboration between IFU and UGRO Capital. Specifically, keep an eye on the innovative green financing solutions that will be offered to Micro, Small, and Medium Enterprises (MSMEs) in India. The partnership aims to support the green transition of these businesses, so tracking the implementation and impact of the provided financial support on MSMEs' sustainability efforts.

Source - The Economic Times , 21 June 2023

Others

India to produce 55 million tonnes of green hydrogen in 2050

Author
Roktim Chakraborty

Notable Because

It is tough to decarbonize various sectors including heavy transportation with the present low-carbon or carbon-free technology, such as solar, wind, lithium-ion batteries, etc. The domestic output for green hydrogen is predicted to increase to a whopping 55 MT by 2050, Hydrogen is expected to alleviate these challenges and help decarbonize these difficult-to-abate industries.

What to look out for in the months ahead

Will India establish any policy or regulatory framework to promote the growth and implementation of hydrogen technologies in various industries?

Source - The Economic Times , 19 June 2023

July

Renewable Energy

Union Cabinet Clears Commercial Mining of Lithium & 5 Other Critical Minerals

Author
Ruchita Shah

Notable Because

Till recently, the private sector was not allowed to mine minerals such as lithium, beryllium, niobium, tantalum, titanium, and zirconium. Approval for mining these critical minerals comes on the heels of the recent announcement by the Ministry of Mines, which has specified 30 minerals, including those which are critical for the energy and mobility transition. A composite licence to conduct exploration, undertake prospecting operations, and operate mines can encourage more private investment in the sector.

What to look out for in the months ahead

How will the government ensure sustainable and responsible mineral exploration and mining? Given the criticality of these minerals, will the regulations governing their mining substantially differ from those for other minerals? This amendment is intended to attract private players. However, how the licences will be allotted (auctions or direct allotment) remains to be seen.

Source - The Print , 12 July 2023

Renewable Energy

NTPC Renewable Energy Ltd Issue Tender for Supply of 2 GW of Pumped Hydro Energy Storage (PHES) Project(s) Anywhere in India

Author
Amlan Bibhudatta

Notable Because

The importance of energy storage in mitigating the inherent intermittency of renewable energy (RE) is well documented. Despite being one of the key storage technologies, pumped hydro has not gained much traction in India until very recently. With this tender of 2 GW, the National Thermal Power Corporation's (NTPC's) RE wing aims to carry out an in-depth exploring pumped hydro as an energy storage solution.

What to look out for in the months ahead

Pumped hydro is capital-intensive and has environmental implications. Additionally, construction takes several years to complete, many of which are spent on assessments, studies, land acquisition, and planning. In that context, it is susceptible to regulatory vagaries and cost overruns. It will be important to see how regulatory and clearance issues are handled and environmental considerations accounted for and how long it takes for the project to be completed.

Source - EQ International , 13 July 2023

Others

World Bank approves $1.5 billion for green energy in India

Author
Priti Dubey

Notable Because

The Central Electricity Authority expects India's energy needs to grow 1.7 times by 2030, from 2022 levels. To strike a balance between its energy security and decarbonisation objectives, India needs substantial deployment of low-emissions technologies. If effectively deployed as blended finance, this amount of USD 1.5 billion can aid in scaling up such technologies, as it is estimated that setting up 450 GW of RE generation capacity would require USD 200 billion.

What to look out for in the months ahead

This investment aims to address viability funding gaps and off-taker risks and boost grid integration. Considering that solar and wind technologies are commercially viable, will it focus on financially underserved technologies such as offshore wind and storage? Will the investment be able to suitably de-risk and stimulate private capital flows to such emerging technologies?

Source - The Indian Express , 05 July 2023

Electric Mobility

FAME 3.0: Govt considering a renewed subsidy plan to support EV industry

Author
Apoorv Minocha

Notable Because

FAME (Faster Adoption and Manufacturing of Electric Vehicles) has catalysed the growth of India's electric vehicle (EV) ecosystem by incentivising both demand and supply. Despite robust EV sales, some gaps remain. The ecosystem still requires support till EVs gain wider consumer acceptance. The continuation of FAME will boost EV adoption and could herald the emergence of a robust indigenous supply chain.

What to look out for in the months ahead

Will FAME lll set an official EV target – something the first two versions did not incorporate? Will it feature higher per-vehicle incentives to spur volume growth of approved electric three-wheeler models? Will it introduce incentives for light-duty vehicles?

Source - Business Standard , 13 July 2023

Electric Mobility

8,738 Public Charging Stations for Electric Vehicles Operational in the Country

Author
Gagan Sidhu

Notable Because

India's electric mobility transition has so far been dominated by just two categories – namely, two-wheelers and e-rickshaws. Together, they account for ~95% of EV volumes. As these vehicles can be easily charged in a residential setting or even in unorganised charging hubs, their volumes have grown without much recourse to organised public charging infrastructure. However, a holistic transition will require volumes to grow across all categories, including four-wheeler passenger cars.

What to look out for in the months ahead

Achieving India's vision for electric mobility by 2030 (as presented by NITI Aayog) would require a formidable USD 206 billion in terms of consumer spending. In comparison, the investment requirement for corresponding charging infrastructure is estimated to be USD 2.9 billion. Can meeting the relatively modest investment requirements of charging infrastructure organically catalyse the far larger consumer spend amount?

Source - The Economic Times , 22 July 2023

Industrial Decarbonisation

VOC Port Allots Land to ACME for Rs 52,474 Cr Green Hydrogen Plant

Author
Arjun Dutt

Notable Because

India's National Green Hydrogen Mission envisions the development of India as a global hub for the production and export of green hydrogen. This represents the first occasion when a port has allocated land for this purpose. Projects primarily targeting export markets would be well suited for international debt financing.

What to look out for in the months ahead

What will be the share of international versus domestic off-takers for the green hydrogen produced? Would certain geographies dominate the international demand? Will the project be able to secure international debt financing?

Source - The Economic Times , 22 July 2023

Electric Mobility

Tamil Nadu May Attract 35% of All EV Investments Till 2030

Author
Meghna Nair

Notable Because

As a leading auto manufacturing state, Tamil Nadu could play a vital role in India's EV transition. It provides multiple incentives to promote investments as capital and turnover subsidies, reimbursements, and exemptions, all of which have helped it attract investment commitments worth INR 43,000 crore (~USD 5 billion) for EVs in the last two years alone. In comparison, India expects total EV investments worth USD 191 billion in vehicle production, battery manufacturing, and charging infrastructure by 2030.

What to look out for in the months ahead

In addition to providing manufacturing subsidies, how else can Tamil Nadu signal its EV readiness to investors, including subsidies for charging infrastructure? Will this further spur EV adoption in the state, which is currently the sixth-largest market by volume in the country, but has an EV penetration of just 4%?

Source - Business Standard , 06 July 2023

Renewable Energy

Central govt amends electricity rules, introduces ToD.

Author
Dishant Rathee

Notable Because

In FY23, the share of RE (including hydro) in the total generation mix stood at 22.8%. As per the RPO trajectory, this percentage would need to grow by two times to 43.3% by 2030. As most of the growth is estimated to come from variable RE, the introduction of solar Time-of-Day (ToD) tariffs will encourage the efficient use of solar energy by shifting loads to solar hours and offering cost savings to consumers

What to look out for in the months ahead

Smart meters are a prerequisite as per the ToD amendment. However, of the 250 million smart metres expected to be deployed by 2025–26, only about 5.5 million have been installed as of February 2023. What steps will the government be taking to accelerate the deployment of smart meters for commercial and industrial consumers by 2024, and for residential consumers by 2025, so that more consumers can take advantage of this development?

Source - The Economic Times , 23 June 2023

Renewable Energy

Power Finance Corporation to Lend Rs 2.37 Lakh Crore to 20 Clean Energy Projects

Author
Riddhi Mukherjee

Notable Because

India would require INR 13.9 lakh crore (~USD 200 billion) to install 450 GW of RE by 2030. PFC can play an important role in bridging the gap between the required and current finances available to RE technologies. In PFC's loan portfolio, the share of conventional generation sources is steadily declining, with a shift in focus to RE-based generation. In addition, PFC's commitment will also cover projects related to green hydrogen and battery storage.

What to look out for in the months ahead

PFC as an entity has been historically lending to state-owned gencos and discoms. Will its ongoing shift towards RE also coincide with a shift in balance towards the private sector? PFC plans to invest in offshore wind, pumped hydro storage, and solar module and cell manufacturing. Will investments in such technologies be increasingly routed through the PFC's GIFT City subsidiary, which is currently awaiting RBI approval?

Source - The Economic Times , 07 July 2023

Renewable Energy

India in Talks to Link Grid with Singapore to Trade in Green Power

Author
Gagan Sidhu

Notable Because

India is already looking westward by exploring a link with the UAE. Connecting with Singapore on the east will position India at the centre of two regions that are home to fast-growing and dynamic economies. It can also mitigate grid integration challenges that will inevitably follow as the share of RE (including hydro) generation doubles from 22.8% in FY23 to 43.3% by 2030, per the RPO trajectory.

What to look out for in the months ahead

Can linking transmission lines to transport electricity have a wider geopolitical impact? Supply chains for oil and gas have traditionally been associated with stronger links between countries at various points of the chain. Will the same repeat in the case of RE?

Source - EQ International , 31 July 2023

August

Electric Mobility

India approves $7 billion plan for electric buses in nearly 170 cities

Author
Ruchita Shah

Notable Because

The shift to electric vehicles (EVs) is largely dominated by two-and three-wheelers. Electrification of public transport has remained subdued, with only ~5,000 e-buses on-road (August 2023). By approving the PM-eBus Sewa scheme, the government targets to achieve two purposes: catalysing the adoption of e-buses and providing an organised public transport system to underserved cities. The scheme has a target of 10,000 e-buses and associated infrastructure in 169 cities under the public-private partnership model.

What to look out for in the months ahead

Will this scheme complement the much-awaited FAME-III scheme or act as a substitute for subsidies it may provide to e-buses? Who will lead the deployment of e-buses under this scheme? Will the special emphasis on establishing charging infrastructure help catalyse the electrification of public transport? The scheme will cover cities with a population above 0.3 million; what other criteria will be employed to select the cities that will benefit from this scheme?

Source - The Economic Times , 16 August 2023

Renewable Energy

Delhi's draft climate action plan aims to reduce dependence on hydropower

Author
Amlan Bibhudatta

Notable Because

India's electricity consumption is touching record numbers. This is also evident in the growing electricity demand in the national capital. The state's draft action plan on climate change aims to diversify its electricity mix by reducing the dependency on hydropower and shifting towards energy storage. Given the scale of electricity demand and the current status of battery storage technology, such a step is both bold and pioneering.

What to look out for in the months ahead

Since electricity demand is only set to grow from here, what other steps could the Delhi government take to deal with peak demand? Will moving away from hydropower lead to power outages? What will be the quantum of investment required for the installation of the additional storage capacity to offset the reduction in hydropower dependency, and who will bear it?

Source - The Economic Times , 07 August 2023

Renewable Energy

Centre sets the ball rolling for offshore wind projects

Author
Priti Dubey

Notable Because

As per the Central Electricity Authority, the wind energy sector could account for 140 GW of capacity by 2030. In an effort to realise the potential of onshore wind projects, the government released the draft wind repowering policy in 2022. With the government's announcement to conduct bidding of offshore wind energy projects and provide viability gap funding (VGF) for the same, the offshore wind sector can also contribute to achieving the 140 GW.

What to look out for in the months ahead

To lower the cost of offshore wind projects and boost their adoption, the government waived off the Inter-State Transmission System (ISTS) charges for such projects in May 2023. With the announcement of VGF for offshore wind projects, the costs can come further down. Will these incentives be enough to attract developers to bid for these projects?

Source - Livemint , 18 August 2023

Others

SECI to call tender for Electrolyser Manufacturing units for Green Hydrogen soon

Author
Apoorv Minocha

Notable Because

India's National Green Hydrogen Mission aims to position the nation as a global centre for both, the production and export of green hydrogen. An essential step in producing green hydrogen from water is electrolysis. Fostering the growth of domestic electrolyser manufacturing through such tenders, and concurrently implementing incentives like exemptions on transmission charges and banking fees could help India achieve its target of producing 5 MMT per annum of green hydrogen production capacity by 2030.

What to look out for in the months ahead

How can demand aggregation be effectively managed to promote the penetration of green hydrogen in the domestic economy?
What measures will be required to achieve export ambitions as a part of India's National Green Hydrogen Mission?
What will be the geographic composition of the domestic participation for this tender?

Source - The Economic Times , 18 August 2023

Renewable Energy

Centre sets Rs 4,350 cr as target for IREDA in operating revenues

Author
Gagan Sidhu

Notable Because

In March 2023, India announced a bidding trajectory for renewable energy (RE), which envisages bid issuance of 50 GW per year for five years commencing FY 24. This is more than 2x the capacity that has been auctioned in recent years. As RE projects are often ~75% debt financed, lenders such as IREDA will need to significantly enhance the scale of their operations if bid issuance is to translate into incremental on-the-ground RE capacity addition.

What to look out for in the months ahead

While auctions for RE capacity have picked up pace in Q1 of FY 24, they remain slightly below the average of 12.5GW per quarter rate that annual bids of 50GW per year translate into. Will we see a further pick up in the pace of auctions flowing from the enhanced bidding trajectory in the coming quarters?

Source - Business Standard , 22 August 2023

Instruments & Regulations

Centre may allow overseas trading of carbon credits with other countries

Author
Arjun Dutt

Notable Because

This is an indication that India is willing to engage with other countries for trading carbon credits. However, it is unclear whether such engagement would proceed solely through Article 6 of the Paris Agreement or if India is open to linking the domestic carbon credit trading scheme (CCTS) with international markets. The interoperability of the CCTS with Article 6 could further streamline the flow of capital from international carbon markets.

What to look out for in the months ahead

Which sectors will the emerging CCTS cover? Will the rules governing the CCTS provide for interoperability with Article 6 and international cap and trade systems?

Source - The Economic Times , 04 August 2023

Electric Mobility

Subsidies under EV policy extended, says Delhi Transport Minister Gahlot

Author
Meghna Nair

Notable Because

Delhi's EV market has seen ~3x volume growth since the introduction of its EV policy which subsidises e-2Ws, e-3Ws and e-4Ws. The policy, which was due to end in July 2023, has now been extended till a revised version is introduced. States with consumer subsidies have experienced 2x better EV volume growth than states without. Delhi's subsidy extension is an attempt to keep the momentum on its mobility transition going, without any breaks.

What to look out for in the months ahead

While e-2Ws and e-rickshaws have led Delhi's EV volumes, commercial e-4Ws have led penetration at ~53%. Delhi's transport department is working towards releasing a revised EV policy in the coming few months. We look forward to its many features, such as the targets it may set and the categories it may incentivise.

Source - Indian Express , 08 August 2023

Instruments & Regulation

India notifies standard for green hydrogen

Author
Dishant Rathee

Notable Because

There has been a lack of clarity on the definition of green hydrogen and what its GHG emissions threshold should be across the value chain. This notification brings clarity for the buyers on these two aspects and will thus advance the National Green Hydrogen Mission. However, these standards could be further improved by: (i) specifying granular details around GHG emissions scope type, (ii) acceptable biomass sources, and (iii) the definition of other green hydrogen production technologies.

What to look out for in the months ahead

Certain standards in the notification may need further refinement to align with international standards. How will India plan to synchronise these standards with its potential trade partners in the near future?

Source - The Hindu , 19 August 2023

Renewable Energy

Banks may ease lending norms for solar power units

Author
Riddhi Mukherjee

Notable Because

Free trade agreements (FTAs) have resulted in increasing duty-free imports from Southeast Asian countries like Vietnam. India has been heavily dependent on imported solar PV modules. The small and medium scale (SME) indigenous solar panel manufacturers, comprising half of India's solar PV manufacturing capacity, receive tough competition from imported modules. Easier lending norms would ensure capital flow to the SME solar manufacturers, who have the potential to catalyse thousands of additional jobs in the sector.

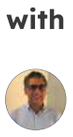
What to look out for in the months ahead

To encourage domestic manufacturers, 39.6 GW of manufacturing capacity was allocated in Tranche-II of the production-linked incentive (PLI) scheme in March 2023. On the other hand, India's ongoing FTAs are resulting in rising imports and outflow of foreign exchange. In the current puzzle, apart from easing the lending norms, what other measures could the government take to ensure the prosperity of the domestic SME module manufacturers?

Source - The Economic Times , 18 August 2023

Renewable Energy

Adani Green Energy tying up funds over $1 billion with international banks



Author
Gagan Sidhu

Notable Because

This news comes close on the heels of another Adani Group entity, Adani Energy Solutions (AES), securing a $1 billion loan for a green high voltage direct current (HVDC) link project. Adani Green is one of the few publicly listed RE developers in India and with it now in advanced stages of tying up $1 billion for itself, the group appears to be recovering from the Hindenburg Research overhang.

What to look out for in the months ahead

The consortium behind the earlier $1 billion loan to AES was made up of European, Japanese, and Singaporean banks. Will we see a similar geographic make-up of the consortium behind the reported $1 billion being raised by Adani Green for RE project capacity addition?

Source - The Hindu , 18 August 2023

September

Others

Govt announces 25 per cent incentive for critical mineral exploration by public and private agencies

Author
Ruchita Shah

Notable Because

A list of 30 minerals that are critical to the energy and mobility transitions was released in July this year. To facilitate self-sufficiency on the critical minerals front, the Ministry of Mines announced a financial incentive for exploration, equivalent to 25% of the project cost, for public as well as private agencies. Incentivising domestic exploration for critical minerals is crucial to reaching India's long-term goal of net-zero by 2070.

What to look out for in the months ahead

What will be the criteria and schedule for availing the incentive? India has approved 15 private exploration agencies as of now. Will this incentive attract more private agencies to participate in exploration activities? Even though 100 per cent foreign direct investment (FDI) is allowed in the mining and exploration sector, currently, the sector has not received significant FDI. Will Government's efforts encourage international agencies to participate in mining and exploration activities in India?

Source - The Economic Times , 13 September 2023

Renewable Energy

India's first offshore wind projects to come up across Tamil Nadu coast

Author
Amlan Bibhudatta

Notable Because

Wind power, although immensely critical for India's clean energy goals, has hit a roadblock in the last few years. Its revival will rest on adopting a multi-solution strategy. In this regard, the government has proposed a bid to allocate seabed sites along the coast of Tamil Nadu for the development of offshore wind projects. Since this would be the first offshore wind bid in India, the government also plans to provide some additional incentives.

What to look out for in the months ahead

Given that offshore wind is still an expensive source of electricity, it will be interesting to see what the bid entails In addition, what will be the technical rigour of the feasibility studies that will be conducted at the selected sites? Ultimately, will this bid lead to a flourishing offshore wind market in India?

Source - Moneycontrol , 28 September 2023

Instruments & Regulations

G20 Summit: India seeks new financing instruments to steer Sustainable Development Goals

Author
Priti Dubey

Notable Because

Installation of 500 GW RE generation capacity, in pursuit of SDGs 7 and 13, would require at least ~USD 200 billion. The exposure of Indian banks and NBFCs to the power sector, as of April 2020, stood at USD 160 billion. Considering that conventional sources may face headroom challenges, and even though innovative financial instruments such as InvITs and thematic bonds exist, more will be necessary to mobilise finance for the rapid deployment of RE.

What to look out for in the months ahead

So far, there is only one RE InvIT and no issuance of transition bonds in India. What additional measures are needed to trigger the roll-out and uptake of new financial instruments at scale?

Source - Business Today , 09 September 2023

Renewable Energy

ONGC, NTPC Green tie up for domestic and international renewable energy projects

Author
Apoorv Minocha

Notable Because

Globally, many corporations have adopted greening strategies and are venturing into clean energy. In a significant move, two of the largest government-owned enterprises in India, Oil and Natural Gas Corporation (ONGC) and NTPC, have signed a memorandum of understanding (MoU) focussed on RE, storage, and green hydrogen projects. This should help ONGC diversify its portfolio and, ultimately, mitigate transition risks. This may also encourage other enterprises to take similar steps to decarbonise and contribute to India's 2070 net zero target.

What to look out for in the months ahead

The MoU envisages a potential joint venture in the future. Since both these organisations have distinct business specialisations, it will be interesting to see how they collaborate to decarbonise collectively.

Source - Livemint , 27 September 2023

Renewable Energy

G20 aims to triple renewable energy capacity; no mention of fossil-fuel phase-out

Author
Riddhi Mukherjee

Notable Because

Declaration encourages G20 countries to triple their installed RE capacity by 2030. In India's case, this would mean that its 178.4 GW installed RE capacity (as of August 2023) will grow to surpass the existing target of 500 GW by 2030. If this increase is dominated by variable RE, it may require significant deployment of energy storage solutions beyond the levels currently anticipated.

What to look out for in the months ahead

How will existing issues such as land acquisition, adequate financing, responsible deployment, and grid infrastructure, among others, be tackled?
Will tripling their installed RE capacity by G20 countries also give a push to transnational grid interconnections such as the One Sun, One World, One Grid (OSOWOG) initiative?

Source - Deccan Herald , 09 September 2023

Renewable Energy

PM Modi-Biden nod to joint $1 billion fund for renewable energy infrastructure in India

Author
Arjun Dutt

Notable Because

The cost of debt finance required to deploy battery storage technologies to support RE integration remains elevated due to associated risk perceptions. These perceptions stem from limited track records of technology performance and, in turn, contribute to reduced cost-competitiveness of RE deployed in tandem with storage. A technology de-risking fund that mitigates technology underperformance risk for lenders can help lower the cost of finance and help generate a track record of deployment.

What to look out for in the months ahead

What kinds of solutions will the proposed fund finance? Which types of storage projects will be eligible for support?

Source - The Times of India , 12 September 2023

Electric Mobility

India to draft new policy in push for EV investment, minister says

Author
Meghna Nair

Notable Because

A policy directing investment towards manufacturing EVs in India will be invaluable to the growth of this emerging segment. Such a policy could augment existing policies, such as FAME, and highlight the government's commitment to this transition. It will provide confidence to new players looking to enter this market and established auto players, alike. India's EV segment provides a USD 206 billion opportunity which a policy of this nature could help catalyse.

What to look out for in the months ahead

Will the proposed policy encourage domestic and international EV original equipment manufacturers (OEMs) to invest in India at scale?
As more policies encourage greater localisation of the EV supply chain, movement towards market consolidation may be seen.
Technology partnerships between domestic and international auto brands.

Source - Reuters , 13 September 2023

Instruments & Regulations

Union Cabinet approves VGF for Battery Energy Storage Systems

Author
Dishant Rathee

Notable Because

As the share of variable RE increases, the need for solutions to balance its intermittent nature grows. In FY 23, RE (including hydro) accounted for 22.8% of India's electricity generation. As per the RPO trajectory, it needs to grow ~2x to reach 43.3% by 2030. As most of the growth is expected to be dominated by variable RE, BESS could be one of the ways to enhance grid stability and maximise RE generation.

What to look out for in the months ahead

Is VGF sufficient to achieve the desired levelised cost of storage (LCOS) to make the technology financially viable?
Will this VGF be sufficient to mobilise capital to fund 208 GWh of BESS by 2030, as projected by the Central Electricity Authority (CEA)?

Source - The Hindu , 06 September 2023

Electric Mobility

Delhi govt to deploy electric scooters and e-cycles in Dwarka for last-mile connectivity

Author
Riddhi Mukherjee

Notable Because

The Delhi government had earlier announced a public e-scooter and e-cycle sharing facility (PeSS and PeCS, respectively) to increase sustainable last-mile connectivity. The sharing facilities were planned for 150 locations across the city. Its first pilot, consisting of 3,000 e-two-wheelers (e-2Ws) in Dwarka, available across 90 locations, comes at an estimated cost of INR 18 crore. In the past few years, EVs have played a pivotal role in bridging last-mile connectivity in several states.

What to look out for in the months ahead

In other states, last-mile connectivity efforts have been led by e-rickshaws, which largely run on lead-acid batteries. Will the Delhi government's e-2W–based efforts lay the path for an alternative to existing last-mile connectivity options?
A strategic selection of drop-off locations will be crucial to the success of this pilot.

Source - The Economic Times , 22 September 2023

Renewable Energy

Indian lenders step up fundraising via infrastructure bonds as spending rises

Author
Gagan Sidhu

Notable Because

The domestic bond market is an attractive route for highly rated issuers to raise capital in large volumes. The recent spurt in issuances by lenders comes within months of India's announcement of its annual 50 GW RE bidding trajectory over five years. Achieving India's 2030 RE targets will require USD 200 billion for generation alone, and the capital raise by lenders should contribute to increased lending to finance these targets.

What to look out for in the months ahead

Infrastructure spans a wide canvas. How will the capital thus raised be split between RE and other infrastructure categories that also need capital expenditure urgently?
Solutions that allow issuances that are presently unable to access the bond market directly may be invaluable in mobilising capital to achieve India's RE targets.

Source - Reuters , 27 September 2023

October

Renewable Energy

Govt introduces solar panel standards & labelling programme

Author
Ruchita Shah

Notable Because

The Standards and Labelling (S&L) scheme – aimed at raising awareness about energy efficiency, was introduced in 2006 to empower consumers to make well-informed decisions when purchasing energy-consuming appliances. The S&L Program for solar panels will enable prosumers to select panels based on effective efficiency (Neff). While the labelling covers both domestic and imported panels, it could promote the manufacturing of high-efficiency panels domestically.

What to look out for in the months ahead

How many manufacturers will be approved under higher star–rated categories? How will the S&L Program operate in tandem with List-I of the Approved List of Models and Manufacturers of Solar Photovoltaic Modules (ALMM).

Source - The Economic Times , 20 October 2023

Renewable Energy

IREDA IPO to be completed by March next year

Author
Amlan Bibhudatta

Notable Because

After filing its draft IPO papers recently, the Indian Renewable Energy Development Agency Limited (IREDA) – India's premier renewable energy non-bank financial company (RE NBFC) – has announced that it plans to publicly sell a 25% stake in the company, no later than March 2024. The agency plans to use the capital from the new issue portion of the share sale for the expansion of its businesses. This is a significant move given that, currently, the scale of capital seems to be an issue for RE deployment. Till now, IREDA has reportedly disbursed over INR 1 trillion towards ~ 22 GW worth of projects.

What to look out for in the months ahead

IREDA's expansion has been ongoing for the last few years – its loan book reported a 30% CAGR between FY21 and FY23.
To what extent will loan growth exceed the figures recorded in recent years, and will the portfolio mix see significant changes?

Source - Financial Express , 13 October 2023

Renewable Energy

India, Saudi Arabia tie up for electrical interconnections, green hydrogen

Author
Priti Dubey

Notable Because

As per the RPO trajectory, India's RE generation is expected to grow to 43.3% by 2030, largely dominated by variable RE. Integrating the national transmission network with other nations can reduce the need for RE storage technologies to mitigate grid integration challenges. Additionally, this MoU can help advance India's 500 GW RE target and the National Green Hydrogen Mission by establishing reliable and resilient supply chains of materials used in RE and green hydrogen.

What to look out for in the months ahead

The MoU aims for the co-development of green hydrogen and RE projects. Will it be accompanied by financial and/or technical contributions from Saudi Arabia?

Source - The Economic Times , 08 October 2023

Renewable Energy

Union Cabinet approves 13 GW renewable energy project in Ladakh

Author
Apoorv Minocha

Notable Because

The Green Energy Corridor (GEC) is crucial for India's energy transition, especially the power sector subtransition. Ladakh became the eighth state to join the Inter-State Transmission System (ISTS GEC-II) with this 13 GW project. The Power Grid Corporation (PGCIL) will be the implementing agency for this particular project.
The project will help in developing long-term energy security, promoting sustainable growth by reducing carbon footprint, contributing to India's 500 GW non-fossil fuel target for 2030.

What to look out for in the months ahead

How many other RE-rich states will be encouraged to join the ISTS GEC-II?
How will challenges such as complex geography and harsh weather concerns be addressed and managed throughout the project?

Source - The Economic Times , 18 October 2023

Others

NIIFL launches $600-mn bilateral India-Japan fund to invest in renewable energy, e-mobility biz

Author
Gagan Sidhu

Notable Because

The scale of India's energy transition is such that it will require capital from both domestic and overseas sources. The fund's focus on RE and e-mobility means that it will be targeting sectors that together account for ~50 per cent of India's greenhouse gas (GHG) emissions. The additional emphasis on waste management and water should also bring circular economy opportunities into investor focus.

What to look out for in the months ahead

India's RE sector is well established, and e-mobility is fast emerging. Both these sectors thus benefit from a large number of players and business models. However, circular economy businesses may either be less established or operate on an unorganised basis. How rapidly will funding enable such businesses to mainstream themselves?

Source - The Economic Times , 04 October 2023

Electric Mobility

Govt to introduce another PLI scheme for batteries: Union Minister R K Singh

Author
Arjun Dutt

Notable Because

Building on the existing Performance-linked Incentive (PLI) Scheme for Advanced Chemistry Cells (ACC), the reported second PLI scheme could accelerate cost reduction in indigenous battery manufacturing. In tandem with the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme Phase-II and the PLI scheme for automobiles and auto components, it could further accelerate the development of the domestic electric vehicle (EV) manufacturing ecosystem and promote EV uptake.

What to look out for in the months ahead

The existing PLI scheme, which promotes domestic battery manufacturing, is technology agnostic. Thus, it could end up advancing manufacturing based on lithium-ion technologies, which are the most commercially viable option but also rely on global value chains for the sourcing of mineral raw materials. Could the reported second PLI scheme include a dedicated allocation for promoting technologies that rely on raw materials that are abundantly available in India?

Source - The Economic Times , 16 October 2023

Electric Mobility

Indian Electric Vehicle Exports Surge, with Europe and Nepal leading the demand

Author
Meghna Nair

Notable Because

Indian EVs, which have seen considerable domestic uptake in recent years, have now begun to make strong headway in international markets. The segment reportedly witnessed a 2.5x growth in value terms in the first seven months of 2023. This demand was led primarily by Nepal and a few European nations, such as France and Germany, which have emerged as stable and growing export markets for Indian EVs.

What to look out for in the months ahead

How will domestic EV policies influence India's small but emerging EV export market in the coming months?
Will EV exports mirror the trends previously observed in internal combustion engine vehicle (ICEV) exports? Which countries and vehicle categories will emerge as frontrunners?

Source - The Economic Times , 03 October 2023

Electric Mobility

BIS approves India's first AC and DC combined charging connector

Author
Dishant Rathee

Notable Because

Light electric vehicles (LEVs), which include e-2Ws, e-3Ws, and e-rickshaws, have dominated India's EV market, comprising a staggering 93.5% of the total EV sales in FY23, as of October. The BIS approval should instil further confidence in the sector. Furthermore, it may also enhance EV roaming, provide versatile charging for LEVs, and eliminate the need to carry bulky chargers, making EV adoption more convenient.

What to look out for in the months ahead

How will charging point operators (CPOs) and original equipment manufacturers (OEMs) streamline the existing infrastructure with the new standardised connector, and who might emerge as the short-term winners?
Considering the convenience this approval brings, can it translate into a significant increase in EV sales?

Source - Financial Express , 18 October 2023

Renewable Energy

Small renewable energy projects get renewed push

Author
Riddhi Mukherjee

Notable Because

The introduction of the distributed renewable energy (DRE) component in the renewable purchase obligations (RPOs) trajectory is expected to give a push to India's target of achieving 40 GW of rooftop solar (RTS) capacity by 2026. As of Q2 FY24, RTS stood at ~11 GW. Further, the RPOs for wind and hydro are mandated to be fulfilled by the projects commissioned after March 31, 2024. This would translate into greater demand certainty for the upcoming projects.

What to look out for in the months ahead

Will this lead to further announcements of state-centric DRE policies and regulations?

Since their inception, RPOs have largely remained unmet. With the recent inclusion of the RPO trajectory under the Energy Conservation Act, 2001, will we see increased RPO compliance?

Source - The Economic Times , 25 October 2023

Electric Mobility

Tata Motors unveils new R&D facilities to develop hydrogen propulsion technologies

Author
Riddhi Mukherjee

Notable Because

In September 2023, Tata Motors delivered two first-of-its-kind hydrogen fuel cell–powered buses to Indian Oil Corporation Limited. This marks the beginning of the transition to hydrogen vehicles, which could cater to the long-route travel and heavy-duty freight segments. The freight sector is expected to grow 5x by 2050, and with their lower tailpipe emissions, longer range, higher payload capacity, and quicker refuelling, hydrogen vehicles can be instrumental in India's clean mobility transition.

What to look out for in the months ahead

India's EV transition has been fuelled by incentives provided by central and state governments. Will we see similar incentive strategies for hydrogen vehicles?
India's domestic demand for hydrogen is expected to quadruple by 2050, with the transport sector contributing to ~22 per cent of this demand. How will infrastructure be scaled up to meet the incremental demand from the transport sector?

Source - The Economic Times , 23 October 2023

November

Renewable Energy

Part of ACC battery PLI sops may go to supporting renewable energy

Author
Ruchita Shah

Notable Because

Recently, the Ministry of Heavy Industries announced that 20 GWh of the PLI scheme for ACC battery manufacturing, approved in May 2021, will be retendered. It is expected that half of it may be dedicated to supplementing RE capacity addition. Given that, 208 GWh of battery energy storage (BESS) would be required to support ~400 GW of projected solar and wind installations by 2030. This move could be instrumental in fulfilling India's BESS demand domestically.

What to look out for in the months ahead

Will it prompt the government to launch an exclusive PLI scheme for manufacturing grid-scale BESS?

Source - The Economic Times , 17 November 2023

Renewable Energy

IREDA IPO: Issue sees 4.56 times subscription on Day 2

Author
Amlan Bibhudatta

Notable Because

In a boost to India's clean energy industry, IREDA's IPO saw almost a 5x oversubscription on day 2 of bidding. After filing its IPO papers recently, the company invited bidding for shares worth ~USD 260 mn, comprising an offer for sale as well as a fresh issue of equity. IREDA became the first public-sector undertaking (PSU) to conduct an IPO in the last 18 months.

What to look out for in the months ahead

In an earlier announcement, IREDA had stated its plans to go public by next March, but it brought its IPO forward. Will a successful issuance prompt other PSU lenders to tap public markets through follow-on fresh issuances of equity?

Source - Moneycontrol , 22 November 2023

Renewable Energy

India developing Digital Public Infrastructure for climate finance, a historic clean growth initiative

Author
Priti Dubey

Notable Because

The lack of information on climate-vulnerable areas that require climate finance has been one of the pressing challenges in effectively directing finance to climate action. The development of digital public infrastructure (DPI) can be a significant step in reducing information asymmetry by collating climate and weather data from multiple agencies. It can enable effective fund allocation by identifying areas and communities that are most vulnerable to climate change.

What to look out for in the months ahead

What will be the climate data indicators that will be gathered by DPI? What steps will the government take to ensure the quality of the data collected?

Source - The Economic Times , 13 November 2023

Electric Mobility

Himachal Pradesh announces fifty per cent subsidy on e-taxis and e-buses

Author
Apoorv Minocha

Notable Because

This is the first of its kind initiative by any state government to amalgamate youth employment goals and green initiatives. Himachal Pradesh has registered only ~160 e-4W(C) and e-buses as of November 2023, underscoring the untapped potential of the state's EV market. The state aims to establish charging stations along six identified corridors to address charging challenges and plans to replace the entire fleet of about 3,000 HRTC buses with e-buses.

What to look out for in the months ahead

Will states facing disparate development challenges be encouraged to emulate Himachal Pradesh's strategy of addressing different challenges simultaneously to address development holistically?

Source - The Economic Times , 20 November 2023

Renewable Energy

Amazon surpasses 1.1 GW clean energy capacity in India

Author
Gagan Sidhu

Notable Because

Contracting RE through open access has emerged as one of the most popular routes for corporates to decarbonise. There are several factors spurring them to green their power purchases. Cost is one of them. The open access route can result in significant savings for corporates even after accounting for various surcharges and duties. Regulatory push is another, with Scope 2 emissions featuring as a mandatory disclosure item under SEBI's BRSR framework.

What to look out for in the months ahead

India's RPO trajectory mandates obligated entities, primarily discoms, to procure 27.08% of their electricity purchases from sources such as wind, solar, and hydro by 2023–24. This will progressively rise to 43.33% by 2029–30.
Will the appetite of corporates to independently contract RE through open access diminish as the embedded green in the power they purchase from discoms increases as per the RPO trajectory?

Source - The Economic Times , 01 November 2023

Others

Amplus founder, I Squared capital set up Hexa Climate Solutions

Author
Gagan Sidhu

Notable Because

With a firmly entrenched energy transition underway in India, a variety of innovative business models have emerged that go beyond those pursued in the early phases of the transition. A company that spans RE, water, and carbon offsets has the potential to expand the canvas further by framing business opportunities under the broader 'climate' umbrella.

What to look out for in the months ahead

While RE as a sector has seen significant growth with the emergence of some dominant players, water remains a fragmented business. Can the experience of RE be replicated in water?

Source - Livemint , 29 October 2023

Instruments & Regulations

India tightens climate goals with new carbon credit trading compliance draft

Author
Arjun Dutt

Notable Because

India notified its domestic Carbon Credit Trading Scheme (CCTS) in June 2023. However, the operationalisation of the CCTS required an elaboration of procedures, including the specification of obligated sectors, trajectories, and targets. The publication of the 'Draft Detailed Procedure for Compliance Mechanism Under the CCTS' is a step in this direction. The formalisation of the draft procedure should provide greater clarity with regard to the implementation of the CCTS.

What to look out for in the months ahead

The draft procedure contains text that suggests that renewable energy certificates (RECs) will be excluded from the CCTS. If finalised, how would this provision affect the existing market for RECs?

Source - The Economic Times , 17 November 2023

Renewable Energy

CEA advocates for EVs as energy storage in national grid support

Author
Dishant Rathee

Notable Because

As per the RPO trajectory, renewable energy (RE) share needs to reach 43.33% by 2030, dominated by variable RE. The usage of EVs as energy storage is a timely discussion in this context. The vehicle-to-grid (V2G) system could mitigate the high balancing costs of intermittent RE. The recent introduction of solar time-of-day (ToD) tariffs could also nudge consumers to charge during off-peak hours and supply to the grid through V2G during peak hours.

What to look out for in the months ahead

Considering it is a novel technology, how can infrastructure be tailored to meet the technical requirements of V2G?

Given the recent push for E-buses, will they emerge as the centrepiece for this proposal?

Source - The Economic Times , 08 November 2023

Renewable Energy

Thermal power to stay till round-the-clock renewable energy is available: R K Singh

Author
Riddhi Mukherjee

Notable Because

In September 2023, India touched the highest-ever single-day electricity consumption of 5,224 MU. The nation's growing power demand highlights the importance of round-the-clock (RTC) power supply from RE resources. Thermal capacity, both individually and bundled with RE, can solve the problem of intermittency in RE power by providing RTC supply. The call to add ~80 GW of thermal power by 2031–32 can be viewed in this context

What to look out for in the months ahead

The per unit cost of RE RTC with storage is significantly high. With viability gap funding support, announced in September 2023, the levelised cost of storage for battery energy storage (BESS) could go down to INR 5.50–6.60/kWh, further lowering the cost of RE RTC. To ensure RTC supply beyond adding more thermal capacity, what other steps would be taken by the government to make BESS cost-competitive?

Source - The Economic Times , 06 November 2023

Renewable Energy

Coal ministry to convert de-coaled mines into hydro power storage in renewable push

Author
Riddhi Mukherjee

Notable Because

The 200 de-coaled mines identified by the Ministry of Coal feature the prerequisites for pumped storage projects (PSP), i.e., they have land, reservoirs, and head of water. The diversification of these mines would be a two-pronged solution to the just transition issue – providing economic diversification as well as employment opportunities.

What to look out for in the months ahead

Just energy transition partnerships (JETPs) in some countries have focused on scaling up energy storage and diversifying stranded coal assets. Would projects like these pave the path for an announcement of JETP in India as well?

Source - The Economic Times , 10 November 2023

December

Others

Kerala allocates over Rs 12,500 cr for phase-I green hydrogen valley, green transport corridor

Author
Ruchita Shah

Notable Because

Kerala has allocated INR 12,400 crore for greening existing economic trade corridors by providing opportunities for e-mobility, industry, renewable energy, transport, tourism, and trade. Additionally, it has allocated INR 90 crore for phase-I of the green hydrogen (GH2) valleys project. Kerala is the second state, after Gujarat, to plan GH2 valleys under the Mission Innovation initiative. GH2 valley projects bring the entire hydrogen value chain – production, storage, distribution, and utilisation –in close geographical proximity.

What to look out for in the months ahead

Will more states follow Kerala's footsteps and earmark budgets to transform trade corridors?
Which other states will take up GH2 valley development projects?
Additionally, in case the end consumers and RE resources are dispersed across neighbouring states, will there be collaborations between states in developing GH2 valleys?

Source - The Economic Times , 04 December 2023

Renewable Energy

Adani Group setting up world's largest green energy park in Gujarat will generate 30 GW of power

Author
Amlan Bibhudatta

Notable Because

After seeing considerable success over the last decade, India's energy transition now faces a challenge of scale as RE capacity must grow 3x in the next seven years. Recently, Adani Green announced that it is setting up a 30 GW solar park over 726 sq km in Gujarat. Once functional, the plant will power over 20 million homes and serve as the world's largest solar park, overshadowing the current largest by over 10 times in terms of capacity

What to look out for in the months ahead

When will the mega plant commence operations? And how many jobs will it generate during and beyond its EPC (Engineering, procurement, and construction)?

Source - Hindustan Times , 07 December 2023

Electric Mobility

Bharat Petroleum, Tata Electric Mobility join forces to install 7000 EV chargers

Author
Gagan Sidhu

Notable Because

India's mobility transition has so far been dominated by the e-2w and e-rickshaw segments, which do not necessarily need access to public charging infrastructure. If the country is to increase penetration of categories such as electric passenger cars, public charging implementation is imperative. A partnership model can help defray the investment requirements of deploying charging infrastructure, estimated at USD 2.9 billion till 2030.

What to look out for in the months ahead

As per the CEEW-CEF Electric Mobility Dashboard, the states with the highest private e4-wheeler registrations are Maharashtra, Karnataka, and Kerala. Will charger deployment mirror this pattern?

Source - The Economic Times , 08 December 2023

Electric Mobility

Karnataka New EV Policy 2023-28: EV stakeholders eye buyers-centric subsidies

Author
Apoorv Minocha

Notable Because

Karnataka stands out as one of the leading states in terms of electric vehicle (EV) registrations. The recently revised draft of Karnataka's EV policy sets an ambitious goal of attracting ~$6 billion in investments, with the potential to generate employment opportunities for 100,000 individuals. However, stakeholders have also been advocating for manufacturing and consumer incentives to catalyse the targeted investments.

What to look out for in the months ahead

A CEEW-CEF analysis indicates that states offering incentives are likely to experience higher growth in EV sales volumes. However, the current iteration of Karnataka's EV draft policy does not specify the inclusion of direct consumer incentives.
Will such incentives feature in the final draft? If incentives are introduced, what degree of EV growth will follow?

Source - Livemint , 06 December 2023

Electric Mobility

Bihar EV Policy 2023: Upto Rs 1.25 lakh incentives, tax subsidies and more

Author
Arjun Dutt

Notable Because

The eventual introduction of Bihar's EV policy could accelerate the uptake of EVs in the state. States with policies and consumer incentives for EV buyers have experienced superior volume growth compared to states without such policies. While it is not clear what the incentives on two-wheelers and personal cars will translate to on a per kilowatt-hour (kWh) basis, larger per kWh incentives have translated into higher volume growth in other states.

What to look out for in the months ahead

To what extent will EV sales grow post the introduction of this policy?
Will the policy facilitate the rapid rollout of charging infrastructure in the state?

Source - The Times of India , 06 December 2023

Renewable Energy

Govt rolls out policy for upgrading old wind turbines

Author
Riddhi Mukherjee

Notable Because

NIWE estimates India's wind potential to be 695 GW at 120m hub height. However, at present, the wind turbines installed at some of India's best wind sites are of lower rated capacities at ~50m hub heights. To harness the estimated potential, it is crucial to repower these old wind turbines. The latest wind repowering policy is an instrumental step in creating a conducive environment for repowering and upgrading wind turbines.

What to look out for in the months ahead

With a change in the eligibility criteria from up to 1 MW to 2 MW or below, a higher number of wind turbines will qualify for repowering. Who will be the first movers to repower wind projects? Would decommissioning old turbines and repowering them be financially profitable for private players?

Source - The Economic Times , 11 December 2023

Electric Mobility

Indian Oil Corporation launches first electric vehicle battery-swapping station in Calcutta

Author
Riddhi Mukherjee

Notable Because

As states continue to introduce time-of-day tariffs for EV charging, charging costs during peak hours are expected to increase. Battery swapping provides an opportunity to utilise the lower tariffs for charging during the off-peak hours while simultaneously reducing the added burden on the grid caused by EV charging during peak hours. Furthermore, these EV batteries can also act as energy storage, which is in line with CEA's recommendations on the vehicle-to-grid concept.

What to look out for in the months ahead

The Ministry of Road, Transport, and Highways recently highlighted its intention to formalise the draft battery-swapping policy released in 2022. However, the industry's concerns regarding the standardisation of battery technologies and interoperability remain. What steps will be taken to bridge these gaps and further the battery-swapping business model?

Source - The Telegraph , 04 December 2023

Industrial Decarbonisation

Submit bids for green hydrogen, electrolyser manufacturing projects under SIGHT Scheme by December 12: R. K. Singh

Author
Dishant Rathee

Notable Because

Electrolysers constitute ~36% of green hydrogen's levelised cost. SECI, under SIGHT Component-I, invited tenders for 1.5 GW of electrolyser manufacturing capacities, with an outlay of INR 4,440 crore. SIGHT-I aims to promote indigenous electrolyser manufacturing and reduce the levelised cost of hydrogen production. The deadline was extended to December 12 to allow broader market participation. Adani New Industries, Green H2, and Larsen & Toubro Electrolysers have already submitted bids, indicating significant industry engagement.

What to look out for in the months ahead

The principle behind electrolysis remains the same across technologies. However, technologies differ based on various physical, chemical, and electrochemical aspects. It will be interesting to see which electrolyser technology will emerge as the winner.
Will complimentary state-level incentives drive the creation of electrolyser manufacturing hubs in India?

Source - The Times of India , 07 December 2023

Renewable Energy

IREDA hits 20% upper limit; stock up 166% against issue price in 11 days

Author
Gagan Sidhu

Notable Because

In March 2023, India announced a bidding trajectory targeting 50 GW of RE per year over five years. Financing for RE projects is typically ~75% debt-financed, and IREDA is one of the country's only listed pure-play RE or green-focused lenders. It therefore represents a unique proxy, allowing investors to participate in the growth of RE-related financing in India without gaining exposure to non-green assets such as thermal power.

What to look out for in the months ahead

Will other lenders who operate across green and non-green segments seek to carve out their green-lending portfolios into distinct businesses along the lines of some power-sector players and auto manufacturers, who have done so for their RE and EV businesses, respectively?

Source - Business Standard , 11 December 2023

Others

Climate Finance Leadership Initiative India announces finance solutions to mobilise over $6.5 bn

Author
Priti Dubey

Notable Because

India aims to reach net-zero emissions by 2070. To realise this goal at pace, the transition of the three highest carbon-emitting sectors, power, industry, and mobility, is necessary. These three sub-transitions will require investment support of USD 1.4 trillion to mobilise USD 3.5 trillion. In this regard, the proposed climate finance solutions, for areas spanning e-mobility, renewable energy, and green hydrogen, could help narrow the financing gap.

What to look out for in the months ahead

What will be the total investment corpus provided by the members of the Climate Finance Leadership Initiative (CFLI) to mobilise climate finance?
So far, CFLI members have announced climate finance solutions for EVs and municipal infrastructure.
Which sector(s) will attract the most amount of investment from the members?

Source - The Economic Times , 01 December 2023

CEEW-CEF acts as a non-partisan market observer and driver that monitors, develops, tests, and deploys financial solutions to advance the energy transition. It aims to help deepen markets, increase transparency, and attract capital in clean energy sectors in emerging economies. The CEEW Centre for Energy Finance (CEF) is an initiative of the Council on Energy, Environment and Water (CEEW), one of Asia's leading think tanks.

Explore the annual issue on the CEF website