

## **NEWS ITEMS ON CAG/ AUDIT REPORTS**

### **1. Deep waters: Editorial on Chennai being battered by cyclone Michaung and the role of climate change (*telegraphindia.com*) 08 Dec 2023**

#### **Repeated flooding — Calcutta, Mumbai, Bengaluru and Chennai are on the same boat — reveals the poor investments of Indian metropolises in climate resilient infrastructure**

Citizens of Chennai are experiencing an all-too-familiar sinking feeling. In 2015, the floods had been particularly severe, claiming around 470 lives in the entire state. The battering by Cyclone Michaung has evoked memories of that earlier nightmare. Such has been the intensity of the deluge that a rainfall deficiency of 21% between October 1 and November 29 in the Chennai district had turned into an excess of 54% by December 5. Expectedly, climate change is playing a pivotal role in triggering such extreme weather events. But that should not deflect public attention from other, attendant issues. Lessons, evidently, have not been learnt from past calamities: an integrated stormwater drain network project worth Rs 3,220 crore that was to be implemented at the Kosasthalaiyar watershed remains mired in administrative and legal wrangles; numerous flaws pointed out in a report submitted in 2017 by the Comptroller and Auditor General — it called the 2015 floods a man-made disaster — remain largely uncorrected. Another reason for the widespread flooding is the gradual disappearance of natural drainage systems like lakes and canals. According to a study by the Chennai-based Care Earth Trust, only 15% of the city's wetlands survive. Felled by rampant, unfettered urbanisation, Chennai's wetlands have shrunk from 186 sq km in 1980 to 71 sq km in 2012. The chief minister of Tamil Nadu, M.K. Stalin, has argued that the damage suffered on this occasion has been far less than that in 2015: the stormwater drainage projects initiated by his party, he claims, are the reason. But there can be no doubt that the city's planning and infrastructure need to be more resilient even as EWEs gather pace. The economic losses on account of disruptions in air and railway links merit scrutiny too.

Numerous Indian cities — Chennai is on this list — are now particularly vulnerable to the ravages of climate change. The Global Climate Risk Index for 2021 placed India as the seventh worst-hit country in 2019 by incidents of extreme weather. Repeated flooding — Calcutta, Mumbai, Bengaluru and Chennai are on the same boat — reveals the poor investments of Indian metropolises in climate resilient infrastructure. Public apathy combined with municipal ignorance has aggravated the risk. But it is the pursuit of a model of development without assessing its environmental risks that is at the heart of the problem. Only sustained public demand for corrective action can save Chennai and other Indian cities from drowning.

<https://www.telegraphindia.com/opinion/deep-waters-editorial-on-chennai-being-battered-by-cyclone-michaung-and-the-role-of-climate-change/cid/1985351>

## 2. हरमू नदी की दुर्दशा: सीएजी ने अतिक्रमण हटाने की अनुशंसा की, स्मार्ट सिटी के कंट्रोल सिस्टम से निगरानी को कहा (newswing.com) 08 Dec 2023

Ranchi: हरमू नदी जीर्णोद्धार व संरक्षण कार्य में गड़बड़ी की जांच की अनुशंसा सीएजी ने सरकार से की है. सीएजी ने इसके साथ ही अपनी रिपोर्ट में हरमू नदी ओर इसकी सहायक नदियों के आसपास अतिक्रमण की पहचान कर उसे हटाने एवं निर्धारित बफर क्षेत्र को बनाये रखने के लिए आवश्यक कदम उठाने को कहा है. सीएजी ने स्पष्ट किया है कि वे रांची नगर निगम के सहायोग से हरमू नदी ओर इसके सहायक नदियों के आसपास अतिक्रमण की पहचान करें ओर दोबार अतिक्रमण न हो इसे सुनिश्चित किया जाये.

सीएजी ने अपनी अनुशंसा में कहा है कि हरमू नदी के आसपास उचित निगरानी स्मार्ट सिटी के कमांड कंट्रोल सिस्टम के जरिये भी की जा सकती है. अनुश्रवण इत्यादि का कार्य पांच साल तक करने के बाद विस्तृत योजना तैयार करने को कहा गया है. 2021 में सीएजी की इस रिपोर्ट के बाद भी अभी तक सरकार की ओर से कोई ठोस कदम नहीं उठाये गये हैं.

बता दें कि, झारखंड विधानसभा की समिति के साथ-साथ झारखंड हाइकोर्ट ने भी हरमू नदी के आसपास अतिक्रमण पर सरकार से रिपोर्ट मांगी है. इस बात पर सुनवाई चल रही है कि आखिर कैसे इस इलाके में बड़े पैमाने पर मकान-दुकान बन गये हैं. हाइकोर्ट ने स्वीकृत नक्शों की भी जानकारी मांगी है. उचित निगरानी स्मार्ट सिटी के कमांड कंट्रोल सिस्टम के जरिये भी की जा सकती है. अनुश्रवण इत्यादि का कार्य पांच साल तक करने के बाद विस्तृत योजना तैयार करने को कहा गया है.

ये भी अनुशंसा की है सीएजी ने सरकार हरमू नदी के उद्गम ओर जलग्रहण क्षेत्र के जीर्णोद्धार के लिए विस्तृत अध्ययन कर सकती है. वर्षा जल के अनुमान का पुनरीक्षण एवं एक व्यापक नीति तैयार की जा सकती है जो शहरी प्रवाह को स्पष्ट रूप से हरमू नदी के लिए जल का संभावित श्रोतश्रो माने.

सरकार जनसंख्या की वर्तमान एवं भविष्य में वृद्धि को ध्यान में रखते हुए उत्पन्न गंदे जल की मात्रा के अनुमान को पुनरीक्षित कर सकती है. गंदे जल के उतसर्जन रोकने के लिए एक निश्चित समय-सीमा के अंदर एक कार्य योजना तैयार कर सकती है.

भूमिगत गंदा जल निकासी प्रणाली के रूपांकन एवं वहन क्षमता के दोषों को दूर करने के लिए तत्काल कदम उठा सकती है तथा अतिरिक्त एसटीपी के निर्माण करा सकती है.

चिह्नित सभी बड़े-छोटे स्रोतों से गंदे जल का उत्सर्जन, गंदे जल का जल निकासी प्रणाली में बहाव, गंदे जल का एसटीपी में प्रवाह तथा गंदा जल निकासी प्रणाली के माध्यम से बहाव के बजाए सीधे नदी में बहने वाले गंदे जल की मात्रा का सर्वेक्षण और गणना किया जा सकता है. गंदे जल के आवश्यक परिष्करण के लिए उपाय किया जा सकता है.

सरकार हरमू नदी के किनारे रहने वाले आबादी को नदी में मल-जल के अनाधिकृत उत्सर्जन के प्रतिकूल प्रभावों के बारे में शिक्षित करने के लिए कदम उठा सकती है. ठोस कचरे के निष्पादन के लिए आवासीय व गैर सरकारी संगठनों को शामिल कर सकती है. रांची नगर निगम को शामिल

करते हुए ठोस कचरा के उठाव पर विचार कर सकती है. <https://newswing.com/plight-of-harmu-river-cag-recommended-removal-of-encroachment-asked-to-monitor-the-control-system-of-smart-city/673249/>

## **SELECTED NEWS ITEMS/ARTICLES FOR READING**

### **3. Govt detecting increasing amounts of GST evasion each year, but recoveries are falling short (*theprint.in*) December 7, 2023**

**Overall, GST being evaded has been rising sharply, but recovery has failed to keep pace. Maharashtra is epicentre of GST evasion, with outsized share in both absolute & relative terms.**

The government has detected an increasing amount of Goods and Services Tax being evaded each year, but recoveries have not kept pace with detection, the Ministry of Finance informed Parliament earlier this week.

Further, it looks like Maharashtra has an outsized contribution to the GST evasion being detected, both in absolute terms and also in relation to the state's share in tax collections.

The data on the amount of GST evasion the government has detected each year, the amount it has recovered, and the state-wise break-up of both was provided by the Ministry of Finance Tuesday to the Rajya Sabha in response to a question.

ThePrint's analysis of the data shows that the government detected Rs. 40,853.27 crore of GST evasion in the financial year 2019-20, and was able to recover about 45 percent of this amount (Rs 18,464.07 crore).

Since then, however, while the amount of evasion detected has increased significantly, the recovery percentage has fallen quite sharply.

In 2022-23, the government detected Rs 1.3 lakh crore of GST evasion — more than triple the amount in 2019-20 — but managed to recover only about a quarter of this amount. That is, 75 percent of the evasion detected in 2022-23 remains unrecovered.

This financial year, the government has already detected Rs 1.5 lakh crore of GST evasion in the first seven months of the financial year (April-October 2023). However, it has so far recovered just over 12 percent of this amount.

Maharashtra's GST evasion disproportionate to collection

Looking deeper at the data, it shows that the five states where the highest evasion has been detected cumulatively over the past five years account for a whopping 65 percent of the evasion detected by the government during this period. These five states are Maharashtra, Karnataka, Gujarat, Haryana, and West Bengal.

Among these, Maharashtra has an outsized contribution, accounting for 30 percent of the GST evasion detected over the past five years.

This higher share in the evasion detected would make some sense if it was proportionate to Maharashtra's contribution to total GST collections. That is, the larger the tax base, higher the chances of there being evasion.

However, the data shows Maharashtra's share in evasion detected is far higher than its share in taxes collected. Over the last two years, Maharashtra has accounted for about 17 percent of the total GST collected on behalf of the states. Over the same period, it has accounted for nearly 36 percent of the evasion that has been detected. <https://theprint.in/economy/govt-detecting-increasing-amounts-of-gst-evasion-each-year-but-recoveries-are-falling-short/1876185/>

#### **4. Reserve Bank of India raises FY24 real GDP forecast to 7% from 6.5% (*financialexpress.com*) December 8, 2023**

**The real GDP growth for the current year 2023-24 is projected at 7%, Reserve Bank of India (RBI) Governor Shaktikanta Das said on Friday.**

The Reserve Bank of India (RBI) has projected the real Gross Domestic Product (GDP) growth at 7% from 6.5%. Announcing the bi-monthly monetary policy, RBI Governor Shaktikanta Das on Friday also projected the real GDP growth for next financial year 2024-25.

“Real GDP growth for the current year 2023-24 is projected at 7% – with Q3 at 6.5% and Q4 at 6%. Real GDP growth for Q1 of 2024-25 is projected at 6.7%, for Q2 at 6.5% and for Q3 at 6.4%. The risks are evenly balanced.”

In the last RBI meeting held on October 6, Governor Das projected real GDP growth for FY24 at 6.5%, with specific quarter-wise estimate. He highlighted steady expansion in urban consumption and signs of revival in rural demand. Factors such as sustained buoyancy in services, consumer and business optimism, government's focus on capital expenditure, healthy bank and corporate balance sheets, and supply chain normalization were identified as contributors to domestic demand conditions.

Despite the positive outlook, potential headwinds included geopolitical tensions, global economic slowdown, which pose risks to the economic trajectory, Das had said. The risks, however, were deemed evenly balanced.

#### **Ministry of Statistics and Programme Implementation Q2 data**

According to data released by the Ministry of Statistics and Programme Implementation on November 30, the Indian economy grew 7.6 per cent during the July-September quarter of the current financial year 2023-24 (Q2 FY24), remaining the fastest-growing major economy in the world, according to gross domestic product (GDP) data released on Thursday, November 30.

“The real GDP or GDP at constant (2011-12) prices in Q2 2023-24 is estimated to attain a level of Rs 41.74 lakh crore, as against Rs 38.78 lakh crore in Q2 2022-23, showing a growth of 7.6 per cent, compared to 6.2 per cent in Q2 2022-23,” the data from the union ministry showed.

In a recent report by S&P Global Ratings released on December 5, it projected India to become the world's third-largest economy by 2030, with an estimated 7% GDP growth in the fiscal year 2026-27. Currently, India stands as the fifth-largest economy, following the US, China, Germany, and Japan. The report suggests stable GDP growth of 6.4% for the current financial year, climbing to 6.9% in 2024-25 and reaching 7% in 2026-27.

The three-day MPC meeting began on December 6 amid expectations of a status quo on the short-term key lending rate. With GDP growth gaining momentum and inflation under control, analysts anticipate the RBI to maintain the current interest rate. <https://www.financialexpress.com/policy/economy-reserve-bank-of-india-raises-fy24-real-gdp-forecast-to-7-from-6-5-3332821/>

## **5. Mining for critical minerals: what is the auction process, and why is it important? (*indianexpress.com*) Updated: December 8, 2023**

**Critical minerals are the resources of the future — and essential for the country's economic development and national security. The government has identified 30 of these minerals, and created a legal framework for their mining in India.**

Critical minerals This is the first time that rights related to the mining of lithium ore are being auctioned to private parties. Other minerals in the blocks include nickel, copper, molybdenum, and rare earth elements (REEs). (Express photo/Representational image)

Twenty blocks of critical minerals are currently on auction for commercial mining by the private sector. The mineral blocks contain lithium ore, which has use in batteries and electric vehicles, and another 10 of the 30 minerals that the government declared as “critical” in July.

The bidding process began on November 29, and bids can be submitted until January 22 next year. The total value of these blocks is estimated at Rs 45,000 crore, subject to further discoveries or revisions in inferred reserves.

This is the first time that rights related to the mining of lithium ore are being auctioned to private parties. Other minerals in the blocks include nickel, copper, molybdenum, and rare earth elements (REEs). All these minerals are utilised in key supply chains for vehicle batteries, energy storage devices, consumer electronics, and vital industrial processes.

“Lithium is truly a mineral of the future... In today's launch of critical mineral auctions, 2 lithium blocks have been offered. Once operational, they will help to cut down imports and build an #AatmanirbharBharat,” Minister for Mines Pralhad Joshi posted on X last month.

Where are these critical mineral blocks, and what rights are being auctioned? The Notice Inviting Tender (NIT) floated by the Ministry of Mines says the 20 blocks are spread over eight states. There are seven blocks in Tamil Nadu, four in Odisha, three in Bihar, two in Uttar Pradesh, and one each in Gujarat, Jharkhand, Chhattisgarh, and Jammu & Kashmir.

Only four of these 20 blocks are being auctioned for a Mining Licence (ML), which means that once the licence is granted, the licensee can begin mining operations after obtaining the requisite clearances.

Three of these four blocks are in Odisha, and contain deposits of nickel, copper, graphite, and manganese. The fourth block is in Tamil Nadu, and contains deposits of molybdenum.

And what sort of rights are being auctioned for the other 16 blocks?

The remaining 16 blocks are being auctioned for a Composite Licence (CL), which allows the licensee to conduct further geological exploration of the area to ascertain evidence of mineral contents.

Once the licensee collects sufficient information on mineral deposits, they can make an application to the relevant state government to convert their CL to an ML to begin mining operations pending requisite clearances. The licensee has three to five years to complete the prescribed level of exploration, failing which the licence will be withdrawn.

What are the other clearances that will be required before operations begin?

The NIT notes that out of the total concession area of 7,197 hectares (for all 20 blocks), 17 per cent or 1,234 hectares is forest land with status as per the PM GatiShakti portal, the digital platform to facilitate integrated planning and monitoring of infrastructure projects around the country.

Once granted a licence, the licensee will have to obtain 15 approvals and clearances before beginning operations. These include forest clearance, environmental clearance, Gram Sabha consent, etc.

What are the estimated reserves of key critical minerals in these blocks?

The two blocks of lithium reserves, one each in J&K and Chhattisgarh, are up for auction for a CL.

According to the NIT, the J&K block has an inferred reserve of a 5.9 million tonne (mt) of bauxite column, which contains more than 3,400 tonnes of lithium metal content. This block also contains more than 70,000 tonnes of titanium metal content.

The block in Chhattisgarh contains lithium and REEs, but no drilling has been conducted yet to estimate total reserves.

Nickel ore reserves have been found in three blocks, one each in Bihar, Gujarat, and Odisha. While no drilling has been conducted for the blocks in Bihar and Gujarat, in the Odisha block, the NIT states an inferred value of 2.05 mt of nickel ore, which amounts to 3,908 tonnes of nickel metal content.

This Odisha block is being auctioned for an ML. It is also the only block among the 20 that contains deposits of copper — amounting to 6.09 mt of copper ore and 28,884 tonnes of copper metal content.

How does India currently get its supplies of these minerals?

Minister Joshi told Lok Sabha in August that in FY23, India imported 2,145 tonnes of lithium carbonate and lithium oxide at a total cost of Rs 732 crore. Lithium carbonate contains up to 19 per cent lithium. Lithium oxide, which is usually converted to lithium hydroxide, contains 29 per cent lithium.

India also imported 32,000 tonnes of unwrought nickel at a cost of Rs 6,549 crore, and 1.2 million tonnes of copper ore at a cost of Rs 27,374 crore, in 2022-23.

India is 100 per cent reliant on imports for its lithium and nickel demand. For copper, this figure is 93 per cent.

What will happen after the ongoing round of auctions is over?

The bidding process began after the government declared 30 minerals as “critical”, and amended a key law to allow for the mining of three critical minerals, lithium, niobium, and REEs, earlier this year. To attract bidders, the government also specified new royalty rates for critical minerals, matching global benchmarks.

The bid for each block will be awarded on the highest percentage of mineral dispatch value quoted by the bidder. After the ongoing auction is over, the process to auction a second tranche of critical mineral blocks is expected to begin. It is currently unclear if this second tranche would include new lithium reserves found in Rajasthan and Jharkhand.

The Ministry has told Parliament that the Geological Survey of India has taken up 125 projects in the current fiscal to explore critical mineral reserves in the country. In the preceding eight fiscal years, a total of 625 mineral exploration projects were undertaken. The Ministry’s Report of the Committee on Identification of Critical Minerals released in June this year recommended that a Centre of Excellence for Critical Minerals should be established to frame policies and incentives for creating a complete value chain of critical minerals in the country. <https://indianexpress.com/article/explained/explained-economics/critical-minerals-auction-process-9056726/#:~:text=The%20bid%20for%20each%20block,blocks%20is%20expected%20to%20begin.>

**6. Need a more workable plan** (*financialexpress.com*) December 8, 2023

**Supply-side issues need to be resolved before we set demand-side targets**

In October this year, the government notified revised figures for renewable purchase obligations (RPOs) for the period 2024-25 to 2029-30. RPOs indicate what percentage of the power purchase should be sourced from renewable sources. RPOs have been in

existence since long as they emanate from section 86(1) of the Electricity Act 2003 (EA2003) and were only applicable to distribution companies (discoms). There is, however, a difference now. The current set of RPOs has been notified under section 14 of the Electricity Conservation Act 2021.

The implication is that these RPOs will not only be applicable to the discoms but to all ‘designated consumers’ from the sectors identified under the Electricity Conservation Act 2021. The sectors which have been identified, as of date, include aluminium, cement, chlor-alkali, iron and steel, pulp and paper, textiles, thermal power plants, railways, and discoms. This means that the requirement for renewable power will be much more now as it has to cater to several other consumers, apart from discoms.

The erstwhile RPOs were fixed by the respective state electricity regulatory commissions (SERCs) depending on the renewable potential of the state. The current set of RPOs, however, have been fixed by the Union government and are uniform across states. As is well known, solar potential in India is dispersed throughout the country but wind potential is concentrated in the coastal states. The earlier RPOs were composite in nature, meaning that a single figure would include contribution from all renewable sources put together. Now, we have separate RPOs for wind, hydro, solar, distributed generation, etc. The RPO regime left much to be desired since the SERCs never made any serious attempt to ensure their implementation. There are two reasons for this. First, when the RPOs were announced, renewable power was expensive compared to conventional coal-based power. Second, the discoms already had a lot of excess power tied up, for which fixed cost was being paid. So, buying additional renewable power was a drain on the resources of the discoms.

Incidentally, this concept of promoting renewable generation through RPOs was also introduced in the UK in 2002 and it carried on till 2017 when it was stopped for installation of fresh capacity. It is believed that this policy was extremely successful in the UK as the proportion of renewable power generation went up from 3.5% (in 2006) to almost 41% (in 2020). This policy was particularly helpful for wind-based generation whose contribution to total power generation went up from 1% (in 2006) to 24% (in 2020). This massive increase in wind-based generation led to a decrease in the wholesale price of power by 1.28 pounds per megawatt-hour because the costliest coal-based power was no longer required.

In contrast, RPOs have not been a success in India because as mentioned earlier, they were never implemented in the right earnest. However, this was not the only reason. RPOs help in only creating an artificial demand through a captive market. What about the supply side factors? There are a number of issues afflicting the renewable sector which is crippling its growth. Land acquisition is a major hurdle, getting regular payments from the discoms is another issue, getting grid connectivity is yet another struggle. On top of this, there are problems of imposition of basic customs duty, imposition of the approved list of models and manufacturers, or ALMM (though kept in abeyance for some time now), etc. Problems afflicting the solar roof-top sector are different—examples being lack of awareness, high interest rates with no innovative financing, small consumers not being able to provide collateral, people not willing to give rooftop space, poor after-sales service etc. Wind-based generation has its own set of problems which includes problems of availability of land, introduction of reverse bidding process (now suspended), dramatic fall in solar tariffs, etc.

The limited point being made is that announcing and implementing RPOs does not guarantee growth of renewable power. One has to take a holistic approach and here, there is a problem as far as India is concerned. Power is a concurrent subject, so while the central government lays down the targets, the actual implementation is done by the states. The states have to provide the correct market signals and unfortunately, they have failed on this score. To promote growth of renewable power, there has to be risk-sharing between the government and the developers. Today, practically all the risk is being taken by the latter.

Finally, whether these RPO figures are tenable will become clear with some back of the envelope calculations. The notification of October 2023 gives separate RPO figures for wind and hydro projects which will come up after March 2024 and separately for the renewable projects already existing. The notification says that, in 2024-25, 27.35% of the power will be from existing renewable sources. Let's take the case of discoms first.

Considering the fact that about 1,230 BUs of power was purchased (gross input energy of utilities) in 2021-22, the corresponding figure may become about 1500 BUs in 2024-25, assuming a yearly growth rate of 5%. With an RPO of 27.35%, it means that 410 BUs have to come from renewable sources. Renewable generation in 2022-23 was only about 200 BUs and this doubling to 410 BUs in two years is highly improbable. This means that the RPOs are not likely to be achieved for the simple reason that there will not be enough generating capacity. On top of this, if we are to add all the designated consumers to the discoms (as suggested in the government's notification of October 2023) the deficiency in generating capacity will be all the more stark.

To sum up, we need to take a holistic look and resolve the supply side issues (in addition to laying down RPOs) if we are to enhance our renewable generation. However, we need to be practical and fix RPOs in a manner that they inspire confidence and not ridicule. <https://www.financialexpress.com/opinion/need-a-more-workable-plan/3331168/>

## **7. Understanding India's renewable energy push through Energy Storage Systems Framework (*economictimes.indiatimes.com*) Dec 7, 2023**

With an ambitious target of securing 500 GW from renewable energy sources by 2030, India has made a commitment to reduce carbon emissions and contribute significantly to the international efforts towards arresting the climate crisis. In light of this, the government has been taking several significant steps to provide an impetus to the renewable energy sector in India. In August 2023, India's Ministry of Power unveiled the National Framework for Promoting Energy Storage Systems underscoring the measures taken to reduce carbon emissions intensity by 45% by 2030. The underlying theme of the framework is to strengthen round the clock availability of renewable energy and improve grid stability through deployment of energy storage systems (ESS). The framework attempts to support the development of ESS through various policy and regulatory changes, in addition to the pre-existing measures in place.

Although this can be seen as a vital step to realize India's clean energy goals, some concerns have been raised on the transition from the existing regulatory framework to the newly suggested measures. Addressing the potential challenges and bridging the gaps becomes crucial for a successful implementation process.

### Key takeaways of the new ESS framework

The ESS framework provides forward-looking measures towards integrating ESS with renewable energy projects. At a regulatory level, ESS may be granted connectivity to the nearest interstate transmission system (ISTS) on a priority basis, and connectivity with intrastate transmission and distribution systems may be facilitated by respective state commissions and transmission utilities.

Further, bidding guidelines that are technologically agnostic for long and short duration energy storage may be notified for faster and cost-efficient development of ESS projects. New renewable projects (excluding hydro power projects) which have an installed capacity of more than 5 MW, may be required to install ESS for minimum 5% of the renewable energy capacity and having at least 1 hour of storage.

With the development of a carbon credit and green credit regime, charging ESS using renewable power may also be linked with earning credits under both mechanisms. To govern quality concerns around ESS, the Ministry of Power may set out a list of approved models and manufacturers for battery ESS, mirroring the list issued by the Ministry of New and Renewable Energy for solar models and manufacturers. Such approved ESS models will be used in government projects and projects set up for sale of electricity to public utilities within India.

The framework also suggests exemption of stamp duty and registration charges when acquiring land to set up ESS and providing government land through an annual lease to developers at concessional rates.

In a similar vein, the framework also provides for fiscal incentives such as viability gap funding for ESS, additional budgetary support for pumped storage projects and green finance to ensure its commercial viability.

### Powering up – the next level

The new framework has been seen as a necessary step by the industry but there are still questions around the roll out. For example, connectivity to ISTS is governed by the Central Electricity Regulatory Commission (Connectivity and General Network Access to Inter-State Transmission System) Regulations 2022, which presently do not provide for priority in granting connectivity to ESS. Should such priority be given, treatment of pending connectivity applications especially around renewable energy generating stations with ESS, require consideration.

Earlier, the renewable purchase obligation mandated distribution licensees to purchase minimum percentage of power consumed from ESS. However, an October 2023 notification on renewable purchase obligation does not stipulate such obligation. That said, despite the removal of the renewable purchase obligation from ESS from the notification, the framework indicates the government's commitment to clean energy - mandating installation of ESS for new renewable projects which have an installed capacity of more than 5 MW.

Moreover, although the framework provides for introduction of technology agnostic bidding guidelines for development of ESS and promoting innovation, its interplay with the prevalent guidelines for procurement of battery ESS, development of pumped

storage projects and procurement of round-the-clock power from renewable energy projects remains to be seen. The framework also refers to the "must-run" rules with specific provisions to regulate arbitrary curtailment of power. However, the state load dispatch centers still have the authority to curtail power on account of grid security and technical constraints in the absence of definite guidelines governing these exceptions.

As this continues to be a significant problem for the power developers, generators and off takers, specific policies laying out checks and balances for arbitrary curtailment of power should be set out. Further, concessions on land acquisition and lease of government land for setting up ESS are also suggested under the framework, leaving the implementation to the respective state governments.

The government has already approved a scheme for viability gap funding by providing financial support of up to 40% of the capital cost to battery ESS developers. This indicates that the ball is now rolling, and the implementation of these new measures is underway, a step forward towards a greener world. <https://energy.economictimes.indiatimes.com/news/renewable/indias-renewable-energy-push-through-energy-storage-systems-framework/105819033>

## **8. Limits to pushing renewables** (*thehindubusinessline.com*) December 07, 2023

### **COP ISSUES. Hydel power expansion has its limits. This implies solar and wind power capacity will have to expand more**

The International Energy Agency (IEA) has called for governments worldwide to commit to tripling global renewable capacity by 2030, much ahead of COP28. While 118 nations pledged to do so at the ongoing COP28 sidelines in Dubai, key players such as India, China, Russia, and Saudi Arabia have not.

The plan remains aspirational, and no country-level renewable energy increase targets have been fixed. It also needed to be negotiated.

According to IEA projections, the global share of renewables in power generation is anticipated to jump from 28 per cent in 2021 to 80 per cent by 2050, while coal's contribution will dwindle to 3 per cent. Three primary renewable energy sources and their shares in global power generation are hydroelectric (16.1 per cent), wind (5.6 per cent), and solar (3.8 per cent).

The audacity of the 'Tripling the Renewables' proposal opens a dialogue on rapidly boosting the renewable energy production. Is this feasible? Let's understand the possible challenges in increasing the production of hydroelectric, wind, and solar energies in a short period.

Large dams create 90 per cent of hydroelectric energy. Constructing them is becoming increasingly difficult. The environmental advocacy groups highlight the potential ecological impact of large-scale hydroelectric projects, including their effects on wildlife and watersheds. This opposition, coupled with a need for more extensive and more suitable water bodies and regulatory hurdles, present significant challenges to expanding and relying on hydroelectric power as a primary energy source.

Hydroelectric power is 57 per cent of renewable energy. Tripling hydroelectric capacity by 2030 is unlikely. To triple renewable energy by 2030, solar and wind output must increase by at least five times. The table provides detailed data on how much solar and wind energy need to grow to achieve this for the world, the US, and India.

The COP 28 pledge focuses on boosting renewable energy but doesn't specify reducing the overall share of fossil fuels. Countries like the US, where fossil fuels are still 80 per cent of energy generation, could continue increasing fossil fuel production. In 2020, the US gave the fossil fuel industry a \$2-trillion subsidy. Fossil fuels cause over 80 per cent of greenhouse emissions. Renewables, while cleaner, face their unique challenges.

#### Solar Energy

Solar power is limited to daylight hours, causing a mismatch with evening peak energy demand. This inconsistency requires costly and efficient energy storage solutions. Large solar projects also need a lot of land, which can cause land use conflicts. The manufacturing and disposal of solar panels have environmental impacts, too, including greenhouse gas emissions and recycling challenges. Plus, many countries depend on China for solar panels or raw materials, increasing import costs.

#### Wind Energy

Wind power depends heavily on weather conditions. The best sites are used first, leaving less efficient locations. Producing wind turbines also creates significant greenhouse gas emissions due to using materials like steel and concrete.

Both solar and wind energy face the challenge of intermittency, making them unreliable for consistent baseload power. They produce electricity in fluctuating amounts. When they generate too much power, existing grids can't quickly reduce production from conventional plants, leading to an energy surplus. This was a minor issue when renewables were a small part of the grid, but managing this variability becomes more complex as they approach 30-40 per cent of total power.

This intermittency requires backup power sources or ample energy storage, affecting efficiency and cost. Storage solutions like pumped storage are often more expensive than generating electricity itself. Despite these challenges, renewable energy capacity has more than doubled globally in the past decade, with costs declining significantly. By 2035, renewable electricity generation is expected to surpass fossil fuel production.

India has made significant strides in renewable energy over the past decade. Its installed non-fossil fuel capacity has increased by about 400 per cent in the last 8.5 years and stands at more than 200 GW (including large hydro and nuclear), nearly half of the country's total capacity.

India's solar energy capacity has grown manifold over the decade to about 70 GW. India is quietly working on energy transition and may not be expected to sign an negotiated pledge.

#### Budget constraints

Nonetheless, transitioning to renewables without financial support remains a daunting task. The US's plan to invest \$370 billion in clean energy and the EU's commitment of over \$1 trillion by 2030 highlight the financial aspect of this transition. Such

investments burden poorer countries, potentially impacting their budgets for essential services like education and healthcare.

Climate discussions often overlook the limitations of current technology, the need for financial support, reliance on imports for renewable energy technology, and the financial challenges faced by less affluent countries. Despite numerous global climate meetings, worldwide emissions continue to rise.

The Industrial Revolution of the 18th century and all subsequent advances that have transformed human societies have been based on a source of cheap, concentrated energy — coal, oil or nuclear. To expect the same level of wealth in an economy based on far less dense forms of energy, such as wind and solar, is challenging at a technical level.

Complete replacement of fossil fuels with renewables would require multiple forms of new technology, which either have not yet been invented or have yet to be proven commercially.

As the world strives to increase the share of renewables in its energy mix, a hard-headed, and technologically innovative approach is imperative. We must address these challenges head-on to make a meaningful impact on reducing global emissions and achieving a sustainable energy future.  
<https://www.thehindubusinessline.com/opinion/limits-to-pushing-renewables/article67615426.ece>

## **9. NHAI's funding landscape, asset monetisation, and debt repayment strategies unveiled (*financialexpress.com*) December 8, 2023**

**Despite efforts, 167 projects face delays due to factors like land acquisition delays, tree cutting permits, utility relocation, unseasonal rainfall, and local protests etc.**

The National Highways Authority of India (NHAI), plays a crucial role in developing and managing India's national highway network. Established in 1988, NHAI acts on behalf of the government, undertaking projects with funding from various sources. These include:

**Government Budget:** NHAI receives budgetary allocations from the government for highway development.

**Borrowings:** NHAI borrows funds through internal and extra budgetary resources (IEBR). This practice has been discontinued as of FY 2023-24.

**Asset Monetization:** NHAI generates additional revenue through monetisation of its assets.

**Debt Management:** NHAI has a well-defined plan for repaying its debt. Here is a detailed breakdown of NHAI's past borrowing:

FY – Amount

2018-19 – Rs 61,217 crore

2019-20 – Rs 74,987 crore  
2020-21 – Rs 65,080 crore  
2021-22 – Rs 76,150 crore

2022-23 – Rs 798 crore (In the fiscal year 2022-23, NHAI garnered a total of Rs. 798 crore from 54EC bonds. Moreover, there is no Internal and Extra Budgetary Resources projected for the subsequent fiscal year, starting from 2023-24.)

#### NHAI Project Delays:

Despite efforts, 167 projects face delays due to factors like land acquisition delays, tree cutting permits, utility relocation, unseasonal rainfall, local protests, forest clearances, and of course, the COVID-19 pandemic.

The cost rise due to delays varies depending on the project and local factors including price fluctuations. The actual cost increase will only be known after project completion.

#### Transparency and Accountability:

NHAI collects user fees on the government's behalf. All NHAI receipts are deposited in the Consolidated Fund of India (CFI), ensuring transparency and accountability. In essence, NHAI remains committed to its mission of providing a robust and efficient highway network for India. <https://www.financialexpress.com/business/roadways-nhais-funding-landscape-asset-monetisation-and-debt-repayment-strategies-unveiled-key-details-here-3333153/>

## **10. Needed, better disclosure of loan write-offs, recoveries** (*thehindubusinessline.com*) Updated - December 07, 2023

### **Loan losses have implications for multiple stakeholders**

Every few months, a Parliament question or an RTI query forces the Finance Ministry or Reserve Bank of India (RBI) to share an update on the quantum of loans written off by banks. This gives rise to an uproar in Parliament. But the issue is soon forgotten after the Opposition has made the necessary noises and the government has shared a templated response about write-offs not equating to loan waivers or loss of taxpayer money. The script played out this week again, after the government told Parliament that banks have written off about ₹10.6-lakh crore worth of loans in the last five years.

It is about time that the RBI ended this piecemeal data-sharing and mandated that banks make more granular disclosures of their loan write-offs by category and recoveries in each accounting period. RBI can then share the aggregated picture and correlate write-offs to outstanding loans and non-performing assets. This will permit more meaningful analysis. Outrage over aggregated write-offs of ₹10.6-lakh crore is misplaced on several counts. Loans written off by a bank in any given year typically originate from a stock of doubtful loans built up over a long period. RBI regulations require banks to initiate bad loan provisions at 15-25 per cent of value as soon as a loan is 90 days overdue, with doubtful loans being fully provided for in 4-5 years. These loans are then written off at the bank's discretion. Therefore, cumulative figures do not tell you much about direction in which write-offs are trending.

To assess whether there are excessive write-offs, they need to be correlated with outstanding loans or reported NPAs. For instance, data (compiled from Parliament and RTI queries) suggest that banks have written off between ₹1-lakh crore and ₹2.3-lakh crore annually in the last seven years. Write-offs have hovered at between 1.5 per cent and 2.75 per cent of outstanding non-food credit, not an alarming number. But the question worth asking is why write-offs shot up from 1 per cent in FY15 and FY16 to 2.75 per cent in FY19 before abating to 1.6 per cent in FY22. If RBI's new dispensation on stressed assets in 2019 aided the fall, why is there a renewed uptick to 1.76 per cent in FY23? Also of concern is the rising share of large corporate borrowers in written-off loans, from 30 per cent in FY15 to over 50 per cent in FY23. This is despite the advent of Insolvency and Bankruptcy Code and the Central Repository of Information on Large Borrowers.

It is disingenuous to claim that loan write-offs are a mere accounting formality. It is a known fact that domestic banks recover less than a fifth of loans written off in their books. Loan losses have implications for multiple stakeholders in banks – from public shareholders to taxpayers. They have a right to better disclosures. <https://www.thehindubusinessline.com/opinion/editorial/needed-better-disclosure-of-loan-write-offs-recoveries/article67610999.ece>

## **11. Making sense of AI and GenAI (*livemint.com*) Dec 7, 2023**

A curated panel of industry experts, including from enterprises and startups, will discuss how they are adapting to make the best use of artificial intelligence and GenAI, while also addressing the challenges and disruptions that these technologies pose

The hundreds of millions of dollars poured into artificial intelligence over the decades have started paying massive dividends, with adoption of AI more than doubling over the past 5 years. But now, AI itself is being transformed by generative AI.

Over the past year, companies and researchers have made tremendous advancements in this emerging technology. But that has also surfaced tensions about potential dangers emerging from uncontrolled developments in GenAI—something that played out at Sam Altman's recent ouster and reinstatement at OpenAI.

At the Mint AI Summit to be held on Friday in New Delhi, a host of experts will discuss how to make the best use of AI and GenAI models, and address the challenges and disruptions that the exponential growth of these new technologies poses.

The speakers include Neeraj Mittal, secretary in the Department of Telecommunications; Amitabh Nag, CEO, Digital India Bhashini Division; Jack Hidary, CEO, SandboxAQ; Carin-Isabel Knoop, executive director, Harvard Business School; CEOs, startup founders, and chief information officers at Mahindra Group, Aditya Birla Group, and Maruti Suzuki.

Drawing from their real-world experiences, these experts will discuss how they use deep-tech and other emerging technologies to harness growth and promote 'Make in India' goods and services.

Artificial intelligence got a massive boost when ChatGPT, within two months of its release on 30 November 2022, garnered more than 100 million users. It was great news for all those who had invested in AI for decades.

The reason: Machine learning, an AI technique, was largely limited to observing and classifying patterns in content using predictive models.

The more advanced version of multimodal machine learning models relies on self-supervised learning, which involves feeding a model humongous amounts of text, images, videos, and code to enable it to generate content.

Clubbed under the broad umbrella of generative AI, it describes algorithms and large language model (LLM)-powered chatbots such as ChatGPT that, being multimodal, can not only be used to create or generate text but also audio, code, images, simulations, and videos, among other things.

ChatGPT remains the most dominant AI-powered chatbot globally, particularly in India, even as the dust settles on the corporate turmoil at OpenAI. But the battle's far from over for CEO Sam Altman and his team, with competition heating up not just from other tech companies, big and small, but also from rival technologies like the just-released Google Gemini, which is a credible rival to OpenAI's GPT-4.

In India, as in the US and Brazil, the chatbot is mostly used on mobile devices, per new reports by data.ai (formerly App Annie) and writerbuddy.ai. Of the top 50 AI platforms that writebuddy.ai analysed, including Google Bard, ChatGPT cornered a 60% share of the traffic.

ChatGPT is the most-popular AI tool in the US, followed by India and Brazil, according to the writerbuddy.ai study. But as per analytics platform data.ai, India accounted for the most ChatGPT app installations globally (18%), just ahead of the US (17.5%).

Data.ai in its 1 December report added that ChatGPT's mobile version had achieved 110 million downloads and generated about \$28.6 million in global consumer spending.

Evidently, individuals and companies across the world are embracing AI-powered tools to write blogs, reviews, resumes, and product descriptions, make short films and videos, create images, generate software code, provide templates for marketing campaigns, and even analyse broad economic trends.

These large GenAI models need a fair bit of customisation and fine-tuning. But that's not the big challenge in employing GenAI tools. The big threat remains security and privacy—challenges that both industry and researchers need to tackle head-on even as they scramble to stay up-to-date and adapt to the rapid evolution of artificial intelligence. <https://www.livemint.com/news/india/mint-ai-summit-making-sense-of-ai-and-genai-11701950885526.html>

## **12. Rich nations must prevail on the fossil fuel lobby to act in the interest of the planet (*financialexpress.com*) Dec 08, 2023**

**It is important to bear in mind that the UN's assessment of the global community's efforts since Paris (2015) makes it clear that we are completely off-track on realising the emission reduction goals.**

A draft of the Global Stocktake document being negotiated at the UN's 28th annual climate-change talks (CoP28) includes a clause committing all signatories to "an orderly and just phase-out of fossil fuels". This is significant as all previous CoPs had focused on a phase-out of only coal, thanks to the rich nations refusing to commit to weaning the globe away from other fossil fuels. At the same time, host UAE is a petro-state and CoP28 president Sultan Ahmed al Jaber, the country's industry and advanced technology minister, is also the CEO of one of its largest oil companies. So, the language of the final stocktake document can very likely bear the imprint of the fossil fuel lobby. What the petro interests would call a "just fossil fuel phase-out" may not be 'just' from a climate-action perspective.

To that end, what shape the final Stocktake document takes will also decide whether the planet can keep to the Paris Agreement pathway (limit warming from pre-industrial levels to "well below 2oC" by 2100, with a vision to limit it to 1.5oC).

It is important to bear in mind that the UN's assessment of the global community's efforts since Paris (2015) makes it clear that we are completely off-track on realising the emission reduction goals. With current efforts, the temperature rise will be close to 3oC by 2100, scientists project. And, it is the developed nations that are most in the deficit when it comes to matching intentions with actions.

What will be important, therefore, is how they work towards fixing their shortcomings. Staving off unlivable temperatures needs fossil fuels to go, something that India along with China has been demanding that the West acknowledge and act on. Even as big and rich polluters like the UAE, the US, Canada, and Australia were among the 118 countries that announced a pledge to triple renewable energy capacity by 2030, it was shocking that Al Jaber, whose appointment as president itself was questionable, held that there was "no science" showing phasing out fossil fuels is key to a 1.5oC-warming world—fossil fuels account for 80% of the global greenhouse emissions.

That there is an alignment of such views among petro states is clear from the Saudi energy minister prince Abdulaziz bin Salman telling Bloomberg TV that his country would "absolutely not" agree to any deal on phasing down fossil fuel, let alone a full phase-out. Making mere emissions the enemy without acknowledging the role of fossil fuels, as UAE energy minister Suhail al-Mazrouei sought to do earlier this week, is all too familiar a trope of evading responsibility.

With CoP28 entering its last leg, the celebratory mood after the flashy announcements of the Loss and Damage Fund and renewable-capacity/energy-efficiency targets could turn sombre if the final Global Stocktake text falls short of the talk it has sparked. The draft text gave two other options: a rapid phase-out and no text on phase-out. Given that the UAE presidency will be judged on the plan the Global Stocktake negotiations generate, it is important that it walks away from the 'no phase-out' option. Doing that

as a petro-state and Opec-plus member would make it more difficult for a Saudi or a Russia to oppose such language. For their part, rich nations, some of which are expanding fossil fuel usage at least in the near future, need to prevail on petro interests to act in the interest of the planet. <https://www.financialexpress.com/opinion/rich-nations-must-prevail-on-the-fossil-fuelnsplobby-to-act-in-the-interest-of-the-planet/3331164/>

### **13. 314 antiquities repatriated to India in last 5 years: Centre tells Parliament** (*theprint.in*) Dec 07, 2023

A total of 314 antiquities have been repatriated to India from various countries in the last five years, the Centre informed the Parliament on Thursday.

Union Minister for Culture and Tourism G Kishan Reddy shared this information about in a written response to a query in the Rajya Sabha. “314 antiquities have been repatriated during last five years,” he said.

In his response, he also shared country-wise data for the period.

In 2021, 159 antiquities were repatriated, while in 2019 the number stood at two.

The country has so far received 115 antiquities in 2023.

Asked whether the government has taken penal action against antique dealers and smugglers responsible for the theft during this period, the minister said, “Yes, central and state law-enforcing agencies take penal action as per the provisions in their respective laws.” He was also asked country-wise details of antique dealers extradited to the country during this period, to which he said, “No antiquity dealer has been extradited in last five years.” In response to a separate query, Reddy said, “The National Mission for Manuscripts has documented 5.2 million manuscripts, conserved 90 million folios and digitised 3.30 crore of manuscripts across the country from its inception in 2003 till September 2023.

“In addition to this the Mission has uploaded 1,25,000 manuscripts on its cloud platform out of which 75,000 manuscripts are available for research purposes on public domain.” Also, 344 antiquities have returned to India since 2014, the minister said in response to another query.

<https://theprint.in/india/314-antiquities-repatriated-to-india-in-last-5-years-centre-tells-parliament/1876725/>

### **14. Karnataka sees Rs 44.1k crore GST evasion in four years; only 20% recovered** (*timesofindia.indiatimes.com*) Dec 8, 2023

BENGALURU: Between April 2019 and October 2023, central tax officials detected GST evasion to the tune of Rs 44,170 crore in Karnataka, leading to the arrest of at least 30 people. However, recovery remains at only Rs 9,187 crore, accounting for only 20% of the evaded amount.

As per data from the ministry of finance, detection and recovery by the central tax administration was irrespective of the administrative jurisdiction of the registrants, which means the errant registrants included both those that come under the Centre as well as the state authorities.

According to the ministry, efforts are undertaken to curb evasion in GST with the help of inputs from the directorate general of analytics and risk management (DGARM). Further, the directorate general of GST intelligence (DGGI) and central GST field formations have initiated various measures, including checking evasion through the e-way bill mechanism and taking action on specific intelligence.

Of the Rs 44,170 crore evasion, Rs 5,043 crore was for the period between April 1, 2023 and October 31, 2023, while the highest evasion (Rs 25,839 crore) was recorded in 2022-23. So far as recovery goes, the first seven months of the current fiscal saw Rs 612.1 crore, and the highest (Rs 4,435 crore) was in 2021-22. In 2021-22, the administration managed to recover 76% of the Rs 5,850 crore said to have been evaded.

A Karnataka commercial taxes official told TOI: "This data pertains only to enforcement by the central administration guided by the Central GST Act. Issues pertaining to recovery remain more or less the same. There is a long adjudication process that often delays recovery and in several cases, the initial estimation of evasion is not the same at the end of adjudication as the assessee or registrant would have furnished documents in some cases and the final amount liable for penalty or recovery reduces."

The official said there has been a more efficient enforcement drive both at the central and state level with special focus on organised rackets and that several surprise raids are carried out based on specific intelligence too.

Nationally, the authority detected GST evasion worth over Rs 4.4 lakh crore, of which Rs 1.1 lakh crore or about 25% has been recovered. In Maharashtra, recovery stands at only 19%, while it is around 28% in Delhi. In two other big states, Gujarat and Tamil Nadu, recovery stood at 25% and 39.8%, respectively.

Recovery is by and large less than 50% in most states and union territories for all of the said years with expectations recorded in some states in a year or two. <https://timesofindia.indiatimes.com/city/bengaluru/karnataka-sees-rs-44-1k-crore-gst-evasion-in-four-years-only-20-recovered/articleshow/105824373.cms>