

We welcome you to the July 2023 edition of our monthly newsletter on energy and climate change. It consists of significant developments worldwide in India's energy and climate change space.

Switching from energy systems based on fossil fuels to renewables is vital to lessen reliance on the unpredictable fossil fuel market and combat climate change. Additionally, renewable energy can increase employment across all regions, mainly rural areas. It is essential to emphasise India's enormous renewable energy potential to attract international investments and start the Green Energy Revolution. However, comprehensive policy and regulatory framework assistance is required for the renewable sector. The push from industry is also necessary to adopt new technologies and rapidly transition to a non-fossil-based energy ecosystem.

Similarly, we are also focusing on the issue of climate change in this edition. India's high population density, large spatial and temporal variability in rainfall, and high poverty rates make it particularly vulnerable to the impacts of climate change. There has been an increase in the national mean surface air temperature and hot days, significant regional variations in rainfall patterns, measurable melting of Himalayan glaciers, and rising sea levels. India will need better climate adaptability models to predict impacts on states and regions, a prerequisite for an informed adaptation policy.

Additionally, the newsletter captures power statistics for July 2023 to update the reader on the developments in the power sector. CUTS International organised a webinar in June 2023 to discuss the prospects for India and the US to collaborate on revitalising the multilateral trading system with the WTO at its centre. A brief of this event is discussed in the CUTS AT WORK section.

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## 1. Amendment in Mines and Minerals Act Allows Private Players to Mine Lithium and Other Critical Minerals



The Central Government has passed the Mines and Mineral (Development and Regulation) Amendment Bill, 2023 allowing private players to mine critical minerals. With this Bill in place, private companies can now mine lithium, a crucial element of electric vehicle batteries, which was previously limited to state-owned companies.

This move aims to offer the private sector access to the recently discovered lithium reserves in the country. The Bill has also removed five other minerals from the restricted category, in addition to lithium.

### What is it about?

The Mines and Minerals (Development and Regulation) Amendment Bill, 2023 proposes to include the introduction of an exploration licence for deep-seated and critical minerals within the mining law. The licence will be awarded through auction to undertake reconnaissance and prospecting operations. With licences, junior mining companies can explore based on available baseline survey data and help in developing a prospective mine from the reconnaissance stage and bring it to the level of beginning mining operations.

Under the current Mining Act, 12 minerals have been reserved for mining and exploration by state-owned companies. With this amendment, six of the elements, namely lithium, beryllium, niobium, titanium, tantalum and zirconium, can now be mined by private players.

[Read in detail](#)

## 2. Forest (Conservation) Amendment Bill 2023 Cleared by the Government



The Forest (Conservation) Amendment Bill, 2023 seeks to amend Forest (Conservation) Act, 1980. It provides for de-reservation of reserved forests, use of forest land for non-forest purposes, assigning forest land by way of lease or otherwise to a private entity, and clearing of naturally grown trees for reforestation requires prior permission of the Central Government.

The Bill acknowledges India's international commitments and the national target set by the country for achieving Net Zero emissions by 2070 by maintaining and enhancing forest carbon stocks.

## What is it about?

It seeks to achieve India's Nationally Determined Contribution target by creating a carbon sink of an additional 2.5 to 3.0 billion tonnes of CO<sub>2</sub> equivalent by 2030 and has the vision of increasing the forest and tree cover to one-third of the land area.

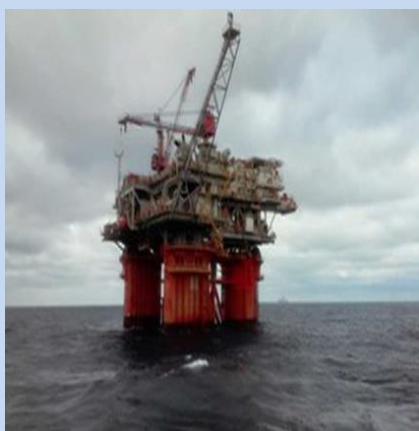
The Bill provides that the 1980 Act shall cover the land that has been declared or notified as a forest in accordance with the provisions of the Indian Forest Act, 1927 or under any other law. It proposes that the 1980 Act shall also cover the land that has been recorded as forest on or after October 25, 1980, in the government records, such as the records maintained by the Revenue and Forest Departments or any other authority, local body, community or council recognised by the State Government.

In addition to these amendments, certain exemptions, as proposed in the Bill, have also been passed by the Lok Sabha which include exemption of strategic projects concerning national security located within 100 km of distance from the International Borders, Line of Actual Control, Line of Control, 0.10 ha of forest land proposed to provide connectivity to habitation and establishments located on the side of roads and railways, up to 10 ha of land proposed for security related infrastructure and up to 5 ha of forest land in Left Wing Extremism Affected Districts for public utility projects.

Activities like the establishment of Zoo and Safaris, etc. will be owned by the government and set up as per the Plan approved by the Central Zoo Authority outside the Protected Areas. Similarly, ecotourism, as per the approved Working Plan or Wildlife Management Plan or Tiger Conservation Plan will be taken up in the forest areas.

[Read in detail](#)

## 3. Offshore Areas Minerals (Development and Regulation) Amendment Bill 2023 Cleared by the Government



The Lok Sabha passed the Offshore Areas Minerals (Development and Regulation) Amendment Bill. The Bill amends the Offshore Areas Mineral (Development and Regulation) Act, 2002. The new Bill regulates mining in maritime zones of India. It allows the government to reserve offshore areas that are not held under any operating rights.

The Bill also allows the administering authority to grant a composite licence or production lease to the government or a government company.



## What is it about?

The Act categorises offshore mining-related activities into (i) reconnaissance, which involves a preliminary survey to locate mineral resources, (ii) exploration, which includes exploring, proving, or locating mineral deposits, and (iii) production, the commercial activity of the extraction of minerals. The Act provides for the following types of concessions: (i) a reconnaissance permit for reconnaissance, (ii) an exploration licence for exploration, and (iii) a production lease for undertaking mining.

The Bill introduces a composite licence for granting rights for exploration as well as production. Under the composite license, the licensee will be required to complete the exploration within three years. This may be extended by two years upon application by the licensee. If mineral resources have been established, the licensee will be granted one or more production leases for the explored area.

The maximum area for undertaking exploration under a single composite license will be 30 minutes latitude by 30 minutes longitude. The maximum area for undertaking production under a single composite license will be 15 minutes latitude by 15 minutes longitude. Under the Act, a production lease is granted for a period of up to 30 years. It may be further renewed for up to 20 years. The Bill instead provides that a production lease, as well as a production lease under a composite licence, will be valid for 50 years.

The Bill also sets up the Offshore Areas Mineral Trust. Concession holders will be required to pay an amount to the Trust in addition to any royalty. The funds will be used for specified purposes including (i) exploration in offshore areas, (ii) research and studies about the mitigation of adverse effects of offshore mining on the ecology, and (iii) relief upon the occurrence of a disaster.

[Read in detail](#)

## 4. MNRE Notifies Guidelines for Incentives Under Electrolysers and Green Hydrogen Production



The Ministry of New and Renewable Energy has notified the guidelines for implementing its incentive schemes for green hydrogen and electrolyser production. The two schemes will provide incentives totalling ₹17,490 crores (₹13,050 crores for green hydrogen and ₹4,440 crores for electrolysers).

This expenditure will be met from the budgetary provisions under the Nation Green Hydrogen Mission approved by the union cabinet for the five years from FY 2024-25 to FY 2029-30.

## What is it about?

The MNRE has appointed Solar Energy Corp. of India Ltd (SECI) as the implementing agency for these schemes. Under incentive-based bidding, the bidders will be required to quote the annual production capacity of green hydrogen and/or its derivatives for which the incentive is sought and the incentive demanded (in ₹/kg) for each of the first three years of production. A direct incentive in terms of ₹/kg of green hydrogen production will be provided for three years from the date of commencement of green hydrogen production.

The incentives will be capped at ₹50/kg in the first year of production, ₹40/kg during the second year of production, and ₹30/kg during the third year of production. In the first round, a green hydrogen capacity of 450,000 metric tonnes (MT) per annum will be available for bidding. The maximum capacity that can be allotted to a single bidder will be 90,000 MT per annum. The minimum bid capacity will be 10,000 MT per annum.

For electrolyser manufacturing, incentives will be provided in ₹/kW for five years from the commencement of electrolyser manufacturing. Base Incentive will start at ₹4,440/kW in the first year and will gradually taper down annually to ₹1,480/kW in the fifth year.

The selection of beneficiaries will be based on the domestic value addition and performance quotient (specific energy consumption of the electrolyser produced). To qualify for bidding, specific energy consumption should not be more than 56 kWh per kg of hydrogen production. Also, the bidder must commit a minimum of 40 percent local value addition during the first year of production for alkaline electrolysers and min. 30 percent for other technologies.

[Read in detail](#)

## 5. SECI Invites Bids for Setting up 1,500 MW of Electrolyser for Green Hydrogen Production



Solar Energy Corporation of India (SECI) has floated tenders inviting bids for setting up electrolyser manufacturing capacities of 1,500 MW under the first tranche of the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme.

According to the Request for Selection (RfS) documents floated by SECI, bids have been invited for setting up production facilities for 4.5 lakh tonnes of Green Hydrogen and for manufacturing facilities of 1,500 MW for electrolysers.

## What is it about?

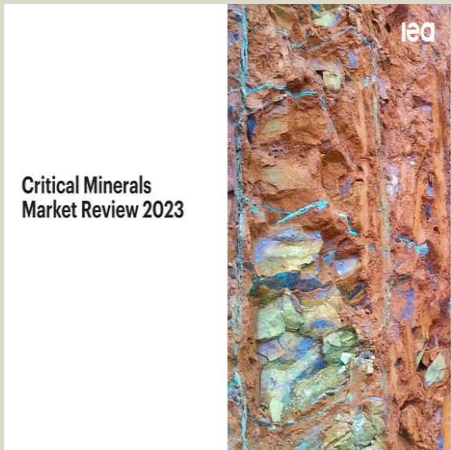
According to the tender document, the total capacity available for bidding is 4.5 lakh tonne per annum, including 4.1 lakh tonne under Technology Agnostic Pathways and 40,000 tonne under Biomass-based pathways. The total capacity to be allocated under this tender is 450,000 tonnes per annum of green hydrogen (GH<sub>2</sub>). It provided that a bidder, including its parent, affiliate or ultimate parent or any group company shall submit a single bid undertaking to set up a GH<sub>2</sub> production facility.

The SIGHT programme is a part of India's National Green Hydrogen Mission. To indigenously develop electrolyser technologies, bids are invited in two separate buckets, as per the bidding documents.

Capacity offered under the tranche for electrolyzer manufacturing capacity based on any stack technology is 1,200 MW, while the rest is for indigenously developed stack technology.

[Read in detail](#)

## 6. Clean Technology Mineral Market Soars to US\$320bn:IEA



The inaugural edition of the Critical Minerals Market Review provides a major update on the investment, market, technology and policy trends of the critical minerals sector in 2022 and an initial reading of the emerging picture for 2023.

It highlights the challenges faced by the industry. Volatile price movements, supply chain bottlenecks, and geopolitical concerns pose risks to secure and rapid energy transitions. The availability of critical mineral supplies will play a crucial role in the affordability and speed of these energy transitions.

## What is it about?

According to the International Energy Agency (IEA), the market for minerals essential to the clean energy transition reached US\$320bn in 2022. However, despite this significant growth, the industry still faces various challenges, such as fluctuating prices, supply chain issues, and geopolitical tensions.

Minerals like lithium, cobalt, nickel, and copper have experienced a surge in demand due to the increased deployment of clean technologies like solar panels and electric vehicle batteries. These minerals play a vital role in battery performance, longevity, and energy density. Copper is also essential for all electricity-related technologies.

As the world transitions towards clean energy, there is a greater need for minerals to build solar plants, wind farms, and electric vehicles compared to their fossil fuel counterparts. This surge in demand has created new opportunities for the industry, but it also comes with risks.

Prices of critical minerals rose in 2021 and early 2022 due to supply chain disruptions caused by the COVID-19 pandemic and geopolitical events such as Russia's invasion of Ukraine. While prices have stabilised in the latter half of 2022 and into 2023, they remain significantly higher than historical averages. The IEA emphasises that 2023 will be a crucial year for clean energy technology prices. The trajectory of these prices will depend on the speed of innovation and the stability of mineral markets, which experienced significant volatility in 2022 due to pandemic-related disruptions and global geopolitical uncertainty.

[Read in detail](#)

## 7. July 2023, the Hottest Month on Record



According to a report published by World Meteorological Organisation (WMO) and European Union's Copernicus Climate Change Service, the first three weeks of July have been the warmest three-week period on record and the month is on track to be the hottest July and the hottest month on record.

These temperatures have been related to heatwaves in large parts of North America, Asia and Europe, which along with wildfires in countries including Canada and Greece, have had major impacts on people's health, the environment and economies.

### What is it about?

On July 06, the daily average global mean surface air temperature surpassed the record set in August 2016, making it the hottest day on record, with July 05 and 07 shortly behind. The first three weeks of July have been the warmest three-week period on record. Global mean temperature temporarily exceeded the 1.5° Celsius threshold above the preindustrial level during the first and third week of the month (within observational error). Since May, the global average sea surface temperature has been well above previously observed values for the time of the year; contributing to the exceptionally warm July.

This month's mean global temperature is projected to be at least 0.2C (0.4F) warmer than July 2019, the former hottest in the 174-year observational record. The human toll of this intense heat is severe, with heat-related deaths and injuries rising in different parts of the world. Wildfires have claimed lives in the Mediterranean, and prolonged heatwaves in Asia are affecting food security.



Human-induced climate change is the main driver of this extreme heat, according to experts, with greenhouse gas concentrations directly influencing global air temperatures. Despite the development of El Niño, a natural climate fluctuation, it has had a limited impact on temperatures this year, but its influence is expected to play a more significant role next year, possibly leading to even higher temperatures. The situation highlights the critical need for climate action to mitigate the harsh realities of climate change and its devastating impacts on the planet.

[Read in Detail](#)

## 8. India's Climate Change Adaptation Fund Sees Gradual Decline



India's National Adaptation Fund for Climate Change (NAFCC), which was created eight years ago to support states in fighting the climate crisis, has been experiencing a gradual decline in funding. The government has released close to ₹600 crore to assist states and Union territories in implementing climate change adaptation measures.

However, the grants provided under NAFCC for high-priority resilience-building projects in areas like water management, forestry, and climate-resilient agriculture have significantly decreased over the years.

### What is it about?

The funding under NAFCC was ₹118 crore in 2015-16 but has been reduced to approximately ₹20 crore in 2022-23. In subsequent years, the funding was set at ₹94 crore in 2016-17, ₹115.36 crore in 2017-18, and ₹109 crores in 2018-19. However, after that, the funding has been consistently reduced. For the fiscal years 2019-20, 2020-21, and 2021-22, the Centre released ₹33.51 crore, around ₹43 crore, and approximately ₹60 crore respectively under NAFCC to different states. In 2022-23, the Centre provided around ₹20.94 crore to five states and one Union territory. However, the grant for 2023-24 has not been specified yet.

NAFCC, established in 2015 to support climate change adaptation projects, has so far backed 30 different adaptation projects in agriculture, water, and forestry across 27 states. Despite India's focused approach to combating the climate crisis, the declining funding under NAFCC raises concerns about the country's ability to effectively address the challenges posed by climate change.

[Read in detail](#)



## 9. UNCTAD Launches World Investment Report 2023



World Investment Report 2023 published by UNCTAD shows that much of the growth in international investment in renewable energy, which has nearly tripled since the adoption of the Paris Agreement in 2015, has been concentrated in developed countries. Developing countries need renewable energy investments of about US\$1.7tn annually but attracted foreign direct investment in clean energy worth only US\$544bn in 2022.

Total funding needs for the energy transition in developing countries are much larger and include investment in power grids, transmission lines, storage and energy efficiency.

### What is it about?

The report proposes a compact setting out priority actions ranging from financing mechanisms to investment policies to enable developing countries to attract investments to build sustainable energy systems. On financing, the report calls for the de-risking of energy transition investment in developing countries through loans, guarantees, insurance instruments and equity participation of both the public sector – through public-private partnerships and blended finance – and multilateral development banks. Also, partnerships between international investors, the public sector and multilateral financial institutions can significantly reduce the cost of capital for clean energy investment in developing countries.

UNCTAD also emphasises the need for debt relief to offer developing countries fiscal space to make the investments necessary for the clean energy transition and to help them attract international private investment by lowering country risk ratings.

The report says the investment gap across all sectors of the Sustainable Development Goals (SDGs) has increased to more than US\$4tn per year from US\$2.5tn in 2015. The largest gaps are in energy, water and transport infrastructure. The increase is the result of both underinvestment and additional needs.

[Read in Detail](#)

## CUTS AT WORK

CUTS organised a webinar to discuss the prospects for India and the US to collaborate on revitalising the multilateral trading system with the WTO at its centre. The programme saw several distinguished panellists sharing their thoughts on the subject.

Moderating the event, Pradeep S. Mehta, Secretary General, CUTS International said that leadership by India and the U.S. would be indispensable for the success of the multilateral trading system. There is a need to find ways for the two countries to collaborate and together demonstrate their shared commitment to trade multilateralism.

Rajesh Agrawal, Additional Secretary, Department of Commerce stated that a rules-based multilateral trading system is a natural corollary of India's Vasudhaiva Kutumbakam ('the world is one family') philosophy. As a global public good, the multilateral trading system has room to accommodate the interests of all countries.

Mark Linscott, Senior Advisor with the Asia Group and former Assistant U.S. trade representative stated that while collaboration between India and the U.S. Today's Paper on WTO and multilateral trade issues had been limited, highlights of positive engagement included the successful conclusion in 2013 of the Trade Facilitation Agreement and the Bali decision on public stockholding for food security in developing countries, both cases where India and the U.S.-led from the front.

Amita Batra, Professor of Economics at Jawaharlal Nehru University, sounded a cautionary note and questioned the premise of India and the U.S. coming together to promote trade multilateralism.

Other panellists in this webinar were Rajya Vardhan Kanoria, Chairman & Managing Director, Kanoria Chemicals and Industries Ltd.; Veena Jha, Chief Executive Officer, IKHDVAJ Advisers; Pritam Banerjee, Head, Centre for WTO Studies; R V Anuradha, Partner, Clarus Law Associates; Pranav Kumar, Vice-President, Reliance Industries Ltd.; and Prabhash Ranjan, Professor of Law, South Asian University.



[Read in Detail](#)

## Power Statistics for July 2023

Installed capacity (GW)	Thermal		RE (including large hydro)		Thermal power penetration in the generation mix	RE power penetration in the generation mix	Peak demand (GW)	Peak demand met (GW)	Shortage
	Capacity (GW)	As a % of the total installation	Capacity (GW)	As a % of the total installation					
421.90	237.92	56.39	176.49	41.83	72.82%	24.63%	224.10	223.29	0.4%