ENERGY and CLIMATE WATCH

June 2023

We welcome you to the June 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 June 2023 to update the reader on the developments in the power sector. CUTS International organised an International webinar on Innovative Finance Solutions for Climate and the Planet on the 50th anniversary of World Environment Day on 5th June. A brief of this event is discussed in the CUTS AT WORK section.

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1. Andhra Pradesh Notifies Green Hydrogen and Ammonia Policy 2023

The Government of Andhra Pradesh announced the launch of its Green Hydrogen and Green Ammonia Policy 2023. The policy aims to achieve a five-year production capacity of 0.5 million tonnes per year (MTPA) of green hydrogen and 2 MTPA of green ammonia.

The programme will also stimulate the establishment of green hydrogen and green ammonia-related equipment manufacturing plants, which would help create 12,000 jobs per MTPA of green hydrogen produced. The New and Renewable Energy Development Corporation of Andhra Pradesh (NREDCAP) will serve as the policy's nodal agency.

What is it about?

Green hydrogen demand in the state is currently around 0.34 MTPA, of which 0.13 MTPA is in the refinery sector and others mostly in nitrogenous fertilisers. The industries will manufacture green hydrogen or ammonia through open access from renewable energy plants through a captive route. Developers will be reimbursed 100 percent of the net State Goods and Services Tax (SGST) on green hydrogen and green ammonia sales for the first five years after the project's completion. Renewable energy used to produce green hydrogen/green ammonia will be exempt from electricity duty for five years, beginning with the project's commercial operation date.

The cross-subsidy fee will be reimbursed for energy taken from renewable projects located inside the state to produce green hydrogen and green ammonia for five years from the date of commissioning. Priority will be given to grid connectivity to the intrastate transmission system at the generation and production end of renewable projects.

The policy provides a 25 percent reimbursement of intrastate transmission charges for five years from the date of commissioning for power obtained from renewable energy sources (with or without storage) located in the state, up to a maximum of one million MW per year of installed electrolyser capacity.

Read in detail

2. Ministry of Power Introduces ToD Tariff for Industrial and Commercial Users

The Ministry of Power made changes to the current power tariff system by amending the Electricity (Rights of Consumers) Rules, 2020. The two amendments introduced include the Time of Day (ToD) Tariff and the rationalisation of smart metering provisions. Consumers can reduce their electricity bills by utilising the ToD tariff mechanism effectively.

The Rules ensure that new electricity connections, refunds, and other services are provided in a time-bound manner and that service providers are penalised, and consumers are compensated for willful disregard of consumer rights.

What is it about?

With the ToD Tariff system, the price of electricity varies based on the time of day. During solar/off-peak hours, the tariff will be 10-20 percent less than the normal rate, while the tariff during peak hours will be 10-20 percent higher. The ToD tariff will be applicable for Commercial and Industrial consumers having a maximum demand of 10 kW and above from April 01, 2024, and for all other consumers except agricultural consumers from April 01, 2025. Time of Day tariff shall be made effective immediately for the consumers after the installation of smart meters. Consumers can plan their consumption to reduce their power costs with the usage of smart meters.

Most State Electricity Regulatory Commissions (SERCs) in India have already implemented ToD tariffs for the large Commercial and Industrial (C&I) category of consumers. The installation of smart meters will introduce ToD metering as mandated by the Tariff Policy. ToD tariffs are recognised worldwide as an important Demand Side Management (DSM) measure that incentivises consumers to shift a portion of their loads from peak to off-peak times, thereby improving the system load factor by reducing the demand during peak periods. Various statutory provisions already exist to enable and promote the implementation of ToD tariffs, such as the Tariff Policy, 2016; Electricity Act, 2003; and the National Electricity Policy, 2005.

The Ministry has also simplified the rules for smart metering to avoid inconvenience or harassment of consumers. The existing penalties for increasing the consumer's demand beyond the maximum sanctioned load/demand have been reduced. After the installation of a smart meter, no penal charges will be imposed on a consumer based on the maximum demand recorded by the smart meter for the period before the installation date. The load revision procedure has also been rationalised so that the maximum demand shall be revised upwards only if the sanctioned load has been exceeded at least three times in a financial year.

Read in detail

3. Ministry of Power Launches MAHIR to Leverage Emerging Technologies in the Power Sector

The government has launched the 'Mission on Advanced and High-Impact Research (MAHIR)' to leverage emerging technologies in the power sector and make the country a manufacturing hub. This Mission has been jointly launched by the Ministry of Power and the Ministry of New and Renewable Energy (MNRE) to quickly identify emerging technologies in the power sector and develop them indigenously.

The Mission planned for an initial period of five years, from 2023-24 to 2027-28, will follow the technology life cycle approach of an idea to a product.

What is it about?

The Mission will be funded by pooling financial resources of the Ministry of Power, MNRE and the Central Public Sector Enterprises (CPSEs) under the two ministries. Any additional funding needed will be mobilised from the Government of India's budgetary resources. By identifying emerging technologies and taking them to the implementation stage, the Mission seeks to leverage them as the main fuel for future economic growth and thus make India a manufacturing hub of the world.

The Mission will have a two-tier structure — a Technical Scoping Committee and an Apex Committee. The Technical Scoping Committee, chaired by the chairperson of the Central Electricity Authority, will identify ongoing and emerging research areas globally, recommend potential technologies for development under the Mission, justify the techno-economic advantages, provide research outlines, and conduct periodic monitoring of approved research projects. The Technical Scoping Committee will survey and identify the ongoing and emerging areas of research globally and will make recommendations to the Apex Committee.

The Apex Committee, chaired by the Union Minister for Power & New and Renewable Energy, will deliberate on the technology and products to be developed and approve the research proposals. The Apex Committee will also look into international collaborations and approve the research proposals and monitor the progress of the research.

Once the research areas are identified and approved by the Apex Committee, the proposals for outcome-linked funding will be invited from companies/organisations across the globe. The selection of the proposal shall be made through a Quality cum Cost-Based Selection (QCBS) basis. MAHIR will work towards industry-academia-government collaboration to create an ecosystem for innovation and translation of research in the power sector. The Mission will also fund pilot projects of technologies developed by Indian startups and facilitate their commercialisation through CPSEs under both ministries.

Read in detail

4. Government Notifies Draft Rules for India's 'Green Credit' Scheme

The Ministry of Environment, Forest and Climate Change (MoEFCC) notified the draft 'Green Credit Programme (GCP) Implementation Rules 2023'. Under this, individuals, industries, farmer producer's organisations (FPOs), urban local bodies (ULBs), *gram panchayats* and private sectors, among a host of other entities, will be able to earn 'green credit' for undertaking environment-friendly actions.

The programme aims to create a market-based mechanism for these entities to earn incentives in the form of green credits. The idea is to incentivise voluntary environmental actions.

What is it about?

The notification of draft rules comes almost five months after its announcement in the 2023-24 budget and around two months after the MoEFCC readied the draft contours for rolling out the GCP. The green credits will be tradable, and those earning them will be able to put these credits up for sale on a proposed domestic market platform. The draft notification is out in the public domain for 60 days to invite objections and suggestions, after which the rules will be notified.

The MoEFCC has identified eight select activities under The Environment (Protection) Act, 1986, for which green credit can be earned — tree plantation, water conservation, water harvesting and water use efficiency/savings, promoting natural and regenerative agricultural practice, waste management, air pollution reduction, mangrove conservation and restoration, eco mark-based green credit and construction of buildings and other infrastructure using sustainable technology and material. For instance, an individual who undertakes tree plantation in an area can earn green credits, which can then be sold at the trading platform after a steering committee has validated them. Similarly, a ULB can earn green credit for building waste management infrastructure. Each green credit will have a monetary value assigned.

The draft notification states that the environmental compensation will be collected by a GCP administrator and deposited in a separate dedicated account. This fund will then be utilised for taking measures for market stabilisation along with other activities related to the implementation of GCP as approved by the steering committee. Thresholds and benchmarks will be developed for each green credit activity or process for generating and issuance of green credit. Allocation of one unit of GC for each activity will be determined based on the environmental outcome achievable, the equivalence of resource requirement, parity of scale, scope, size and other relevant parameters.

The government will also develop and establish digital processes for the GCP, including self-assessment of eligible green credit activities, registration of projects, issuance of green credits and monitoring performance. The environment ministry has proposed that a steering committee headed by the environment secretary and comprising officials from concerned ministries/departments, domain experts and industry associations will govern the implementation of GCP.

Read in detail

5. Gujarat Proposes Draft Regulations for Green Energy Open Access

The Gujarat Electricity Regulatory Authority (GERC) has introduced draft regulations for Green Energy Open Access. Named the Draft Gujarat Electricity Regulatory Commission (Terms and Conditions for Green Energy Open Access) Regulations, 2023, these rules aim to provide green energy open access benefits to different categories of power consumers.

The GERC aims to facilitate the adoption of green energy by streamlining the open access process and ensuring a fair and efficient system for consumers seeking to access renewable power sources.

What is it about?

Under the proposed regulations, three types of power consumers are eligible for Green Energy Open Access: long-term consumers (12 to 25 years), medium-term users (over three months up to three years), and short-term users (as short as one month). These rules apply to consumers with a contracted demand of up to 100 kilowatts (KW). The regulations prohibit applicants from entering into a Power Purchase Agreement (PPA) or any bilateral agreement involving multiple parties for the applied capacity.

The draft rules establish a timeline for various services related to green energy open access. For captive consumers, the distribution companies (discoms) and the commission must verify the captive status of the generator and consumers within three months of receiving all necessary documents. The draft rules include the Gujarat State Load Despatch Centre (SLDC) and the State Transmission Utility (STU) as the nodal agency for granting services. The regulations prioritise green energy open-access applications over general open-access applications, with long-term consumers receiving the highest priority, followed by medium-term consumers, and short-term consumers being given the last priority.

Read in detail

6. India to Provide Incentives to States for Power Sector Reforms

The Indian government has provided financial support of ₹1.4tn to 12 states for power sector reforms. The aim of this is to improve efficiency and performance and enable states to borrow additional funds. Specifically, states can borrow up to 0.5 percent of their Gross State Domestic Product annually from 2021-22 to 2024-25 if they implement specific power sector reforms.

States must meet certain criteria to access incentives, including assuming responsibility for losses of public sector discoms, promptly submitting financial and energy accounts, and ensuring timely audits.

What is it about?

The scheme was first announced in FY22 Budget, allowing states additional borrowing space of up to 0.5 percent of the Gross State Domestic Product (GSDP) for four years from FY22 to FY25. This additional financial window is dependent on states implementing specific reforms in the power sector. The primary objective of granting financial incentives for undertaking power sector reforms is to improve operational and economic efficiency within the sector and promote a sustained increase in paid electricity consumption.

Among reforms that state governments must undertake to receive the incentives include a progressive assumption of responsibility for losses of public sector discoms, timely rendition of financial and energy accounts, and timely audit. States must also show transparency in reporting of financial affairs of the power sector, including payment of subsidies and recording of liabilities of governments to discoms. Subsidy payment by direct benefit transfer, reduction in cross-subsidies, use of innovative technology, and installation of prepaid metres in government offices are some of the other criteria that state governments must fulfil to be eligible for these incentives.

Read in detail

7. World Bank to Support India's Low-Carbon Transition

The World Bank has approved US$1.5bn in financing to help India promote low-carbon energy by scaling up renewable energy, developing green hydrogen, and stimulating climate finance for low-carbon energy investments.

The programme will support the implementation of the National Green Hydrogen Mission that aims to stimulate US$100bn in private sector investment by 2030.

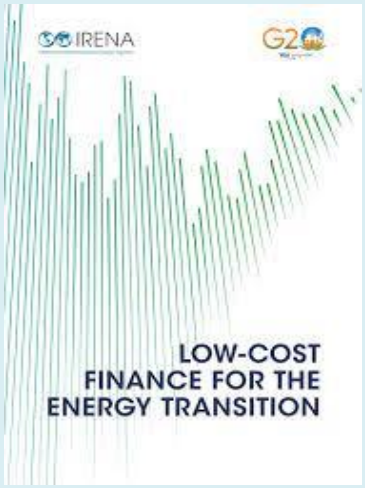
What is it about?

The programme aims to scale up renewable energy supply, thereby reducing costs and improving grid integration. This will help India reach its committed 500 GW of renewable energy capacity by 2030. It will also support policies for a national carbon credit trading scheme to launch a national carbon market.

In January 2023, India issued its first sovereign green bond. This programme will support policy actions for the issuance of $6 billion in sovereign green bonds by 2026. The US$1.44bn loan is from the International Bank for Reconstruction and Development (IBRD) and will be guaranteed by the UK's US$1bn fund aimed at boosting the World Bank's climate change financing to India.

Read in detail

8. IRENA Launches Report for the G20 on Low-Cost Energy Transition Finance



The report has been prepared by the International Renewable Energy Agency (IRENA) in close collaboration with the MNRE of India. It aims to facilitate the discussion of this vital aspect of the transition under India's G20 Presidency.

The report offers lessons from historical cost reduction trends for solar PV and onshore wind technologies, enabling innovative frameworks that can be adopted to accelerate the deployment of new and critical low-carbon technologies and projected investment requirements for the global energy transition.

What is it about?

The report highlights the need to mobilise the resources of the private sector, given the limited resources of the public sector; active private sector engagement is vital, particularly in offering low-cost capital for financing energy transition projects. The catalysing role played by the public sector is also discussed in the context of the need for deeper public-private collaboration on the journey to a net-zero future. Finally, the report stresses the importance of developing a better understanding of the key drivers of the cost of capital for different technologies and markets.

The report, which zooms in on the efforts towards the transition to green energy − Argentina, Brazil, India and Indonesia — makes a special mention of India setting up the government-owned, non-banking finance company, Indian Renewable Energy Development Agency (IREDA) in 1987. It praised India's achievement in rolling out renewable energy capacity, calling it unprecedented. It also recommends that Blended capital needs to be urgently mobilised from the domestic and international capital resources of the private and public sectors.

Domestic financial markets are critical since they provide diversified funding sources (corporate bond markets) to avoid currency risk and help mitigate macroeconomic shocks. G20 members have a wealth of experience in facilitating access to low-cost finance and can share valuable knowledge on innovative financing solutions to reduce the cost of capital.

Read in Detail

CUTS AT WORK

CUTS International organised an International webinar on Innovative Finance Solutions for Climate and the Planet on the 50th anniversary of World Environment Day on June 05, in its campaign to seek solutions to the humongous funding problems of salvaging the earth. The programme saw several distinguished panellists sharing their thoughts on the subject. The virtual session saw enthusiastic participation, with over fifty participants joining to hear the discussion.

Moderating the event, Prodipto Ghosh, former Environment Secretary of India, said that there's an inadequacy of funds to deal with the salvaging of climate and biodiversity losses, and there is a need to think of creating innovative finance solutions to create the backbone of the recovery regime.

Otaviano Canuto, a Non-Resident Senior Fellow at the Brookings Institution and former Vice President of the World Bank, mentioned how the multilateral financial architecture had been constrained by global disruptions over the last few years. Galit Palzur, a Risk Strategist and an Expert in Risk Management of Disasters, Climate Change and Extreme Events in Israel, said how the utilisation of blended finance instruments could be optimised to generate environmental finance. Blended Finance helps prospective private investors utilise public funds, building on an optimal risk-sharing model towards meeting environmental targets. It

is particularly important for de-risking projects, which carry risks at the inception stage.

Chaitnanya Kommukuri, Senior Vice President, Kotak Mahindra Bank, Head-ESG, mentioned how the private sector's contributions should be analysed from multiple perspectives. Other panellists in this webinar were Nyanyiwe Sulu, Tax Administrator, Malawi Revenue Authority and Sanjay Vashishtha, CEO, First Green Consulting Private Ltd.

Read in Detail

Power Statistics for June 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					
417.66	237.26	56.80	173.61	41.56	79.39%	18.11%	221.72	221.42	0.1%

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