ENERGY and CLIMATE WATCH

CUTS International

December 2022

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

It is vital to switch from energy systems based on fossil fuels to renewables to lessen reliance on the unpredictable fossil fuel market and combat climate change. Additionally, the use of renewable energy has the potential to increase employment across all regions, particularly in rural areas. It is essential to emphasise India's enormous renewable energy potential to attract international investments and start the Green Energy Revolution. However, the renewable sector requires comprehensive policy and regulatory framework assistance. The push from industry is also necessary to adopt new technologies and rapid 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 the number of 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 state and region, a prerequisite for informed adaptation policy.

Additionally, the newsletter captures power statistics for December 2022 to update the reader on the developments in the power sector. To celebrate the occasion of World Competition Day, CUTS organised a panel discussion on "Competition Policy and Climate Change". A brief of this event is discussed in the CUTS AT WORK section.

Contents

1. CEA Launches Transmission Network Plan for Integrating 500 GW of Renewable Energy

To aid the 500 GW renewable energy (RE) capacity by 2030, the Central Electricity Authority (CEA) launched a plan, "Transmission System for Integration of over 500 GW RE Capacity by 2030." The plan sets sights on connecting large solar parks and wind power zones with the national grid. The ambitious plan will witness an investment worth ₹2.44tn in transmission projects.

What is it about?

The transmission plan includes a transmission system required to evacuate 10 GW off-shore wind located in Gujarat and Tamil Nadu at an estimated cost of ₹0.28tn. With the planned transmission system, the inter-regional capacity will increase to about 1.5 lakh MW by 2030 from 1.12 lakh MW. The plan also envisages installing a battery energy storage capacity of 51.5 GW by 2030 to provide a round-the-clock power supply to end consumers.

It has identified major upcoming non-fossil fuel-based generation centres in the country. These include Fatehgarh, Bhadla, and Bikaner in Rajasthan, Khavda in Gujarat, Anantapur, Kurnool RE Zones in Andhra Pradesh, off-shore wind potentials in Tamil Nadu and Gujarat, RE park in Ladakh etc. Based on these potential generation centres, transmission systems have been planned. The planned transmission system projected will provide visibility to the renewable energy developers about the potential generation sites and scale of investment opportunity.

Read in Detail

2. Ministry of Power Waives off Inter-State Transmission System Charges for Hydro-Power

The Ministry of Power (MoP) issued order for waiver of Inter-State Transmission system (ISTS) charges on transmission of electricity generated from new hydro-power projects as a further step to realise the ghovernment's commitment to achieve its power requirement from renewable energy. ISTS charges on transmission of electricity generated from new hydro-power projects waived for 18 years from the date of commissioning.

What is it about?

The MoP has issued an order to waive ISTS charges on the transmission of electricity generated from new hydropower projects. The Government of India declared hydropower projects as renewable power sources in March 2019. However, the waiver of inter-state transmission charges provided to solar and wind projects had not been extended to hydropower projects. To remove this discrepancy and provide a level playing field to hydro projects, the MoP has decided to extend the waiver of ISTS charges on the transmission of power from new hydropower projects.

The construction work has been awarded. Also, power purchase agreements have been signed on or before June 30, 2025. This step is expected to boost the hydro sector. It will help improve India's water security and bring development benefits to hilly states of the North-Eastern region, Uttarakhand, Jammu and Kashmir, and Himachal Pradesh, amongst others.

Read in Detail

3. Kerala Releases State Action Plan on Climate Change

Kerala aims to become a 100 percent renewable energy-based state by 2040 and net carbon neutral by 2050. The action plan focuses on adapting to climate changes and prioritising interventions to enhance the resilience of vulnerable communities against climate-induced hazards. State Action Climate Change Plan (SAPCC 2.0) is a revised version released in 2014. It has been prepared by the Directorate of Environment and Climate Change under the Environment Department of Kerala.

What is it about?

In this action plan, important mitigation measures for 2030 include: increasing the renewable energy-installed capacity to 3.46 GW, replacing 53 percent of the lighting requirement in homes with energy-efficient lighting equipment, creating a higher share of electric vehicles in public transport, and adopting solar-based and energy-efficient strategies for the farm and industrial sectors. The action plan also lists sector-wise climate change adaptation strategies for agriculture, livestock, coastal fisheries, health, water resources, forests, and biodiversity. It envisages prudent emission reduction targets to avoid higher greenhouse gas emissions in the future due to an increase in energy demand.

The Chief Minister's Governing Council on Climate Change, supported by a State-Level Steering Committee (SLSC), will serve as the apex mechanism for the action plan. The SAPCC 2.0 is based on the common revision framework created by the Ministry of Environment, Forest and Climate Change for the States.

Read in Detail

4. Ministry of Railways Rolls Out Energy Efficiency Plan to Meet 2030 Net-Zero Targets

The Railways Ministry has rolled out a five-pronged energy efficiency plan to become carbon-neutral by 2030. It aims to reduce energy use with efficient operations and increase renewable energy usage. The objective is to induct new technology, such as artificial intelligence and the Internet of Things (IoT), to closely monitor greenhouse gas emissions. The Ministry has subsequently asked the zonal railways to chalk out plans for energy efficiency.

What is it about?

The policy is broadly centred on five action points: sustainable buildings, cloud-based data monitoring and management portal, energy efficiency in equipment and appliances, power quality and restoration, and capacity building and awareness. Non-traction end-uses account for over 2,100 GWh of electricity use per year, projected to increase by 30 percent by 2030 as the Indian Railways network and infrastructure expands.

Achieving the net zero emissions target requires an integrated approach to reducing the energy use intensity of existing and future infrastructure along with a shift to renewable energy sources. Railways are aiming to increase its quantum of renewable energy in non-traction by installing rooftop solar panels on all railway establishments

Read in Detail

5. Global Coal Consumption to Reach All-Time High in 2023

The International Energy Agency's (IEA) annual report on coal forecasts global coal consumption to rise by 1.2 percent this year, exceeding 8 billion tonnes in a single year for the first time and a previous record set in 2013. This all-time high in 2022 will remain at similar levels in the next few years if stronger efforts are not made to move to a low-carbon economy. Global coal-fired power generation is set to rise to a new record of around 10.3 TWh this year, while coal production is forecast to rise by 5.4 percent to around 8.3 billion tonnes, also an all-time high.

What is it about?

High gas prices following Russia's invasion of Ukraine and consequent disruptions to supply have led some countries to turn to relatively cheaper coal this year. Heatwaves and droughts in some regions have also driven up electricity demand and reduced hydropower. At the same time, nuclear generation has also been fragile, especially in Europe, where France had to shut down nuclear reactors for maintenance.

It also predicts that coal consumption will remain flat until 2025 as falls in mature markets are offset by continued strong demand in emerging Asian economies. Coal will remain the global energy system's largest source of carbon dioxide emissions. The most significant increase in coal demand is expected in India at 7 percent, followed by the European Union at 6 percent and China at 0.4 percent, respectively.

Read in Detail

6. Delhi Issues Draft Solar Policy, 2022

The Delhi government has approved a draft Solar Policy, 2022, which aims to enable 25 percent of Delhi's annual electricity demand to be met by solar power by 2025, a jump of nearly three times from the existing 9 percent. Toward this goal, the policy outlines a target of 6,000 MW of total installed solar capacity by 2025. The operative period of the policy will be three years.

What is it about?

The policy aims to create a unified single-window state portal managed by the Delhi Solar Cell that will provide information on the benefits of solar PV systems, process-related guidelines, and timeline. The government will provide various incentives, such as generation-based incentives (GBI) and capital subsidies. The GBI will be INR 3/kWh for residential solar systems up to 3 kW, INR 2/kWh for residential solar systems above 3 kW and up to 10kW, and INR 2/kWh for CGHS and RWAs with solar systems up to 500 kW (at 10kW per house).

For the first time in the country, consumers will have an opportunity for Community Solar and Peer-to-Peer trading. The policy also encourages distribution companies (discoms) to increase the share of solar energy procured from outside Delhi through innovative models, such as Renewable Energy-Round the Clock (RE-RTC).

Read in Detail

7. India could Soon Experience Heatwaves beyond Human Survival Limit

The World Bank report entitled "Climate Investment Opportunities in India's Cooling Sector" states that the country is experiencing higher temperatures that arrive earlier and stay far longer. According to the report, if India does not curb its carbon emissions, heatwaves are "likely to last 25 times longer by 2036-65". The report was released during the two-day "India Climate and Development Partners' Meet" organised by World Bank in partnership with the Kerala government.

What is it about?

According to the report, severe heat waves, responsible for thousands of deaths across India over the last few decades, are increasing with alarming frequency. Soon, the country could become one of the first places in the world to experience heat waves that break the human survivability limit. Up to 75 percent of India's workforce, or 380 million people, depend on heat-exposed labour, sometimes in potentially life-threatening temperatures.

By 2030, India may account for 34 million of the projected 80 million global job losses from heat stress-associated productivity decline. India showed the most considerable heat exposure impacts on heavy labour among South Asian countries, with more than 101 billion hours lost a year. India will need "massive cooling infrastructure across all sectors" to protect vulnerable workers.

Read in detail

CUTS AT WORK

To celebrate the occasion of World Competition Day, CUTS organised a panel discussion on "Competition Policy and Climate Change", in partnership with CUTS Institute for Regulation & Competition (CIRC) and Institute for Studies in Industrial Development (ISID), in New Delhi on December 05, 2022.

Speaking at the conference, Jyoti Jindgar Bhanot, Secretary (I/c), Competition Commission of India (CCI), highlighted that innovation and competition are the two most important pillars supporting and fostering growth in the economy. However, these pillars need to be supported by sustainable development for a safe, secure and liveable future. She opined that although the Commission's experience dealing with matters having an interface between environment and market competition has been limited, competition cannot remain insulated from such issues.

The panel also saw participation from Kirit Parikh, Chairperson of Integrated Research and Action for Development; Dhanendra Kumar, former Chairperson, CCI; and Augustine Peter, former Member of CCI.

Read in Detail

Power Statistics for December 2022

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					
409.16	236.02	57.68	166.36	40.65	77.53%	19.1%	187.38	187.38	0

CUTS International

D-217, Bhaskar Marg, Bani Park, Jaipur 302 016, India.
Ph: +91.141.228 2821, Fax: +91.141.228 2485, E-mail: cuts@cuts.org, Web: www.cuts-international.org
Also at Delhi, Calcutta and Chittorgarh (India); Lusaka (Zambia); Nairobi (Kenya); Accra (Ghana);
Hanoi (Vietnam); Geneva (Switzerland); and Washington DC (USA).