

# ENERGY MATTERS

NEWSLETTER  
April – June 2024

**G**reetings from 'sizzling' Delhi, a city where the turn of season from spring to summer, which usually follows a leisurely salubrious cadence, hurtled us straight into the peak of summer heat. At breakneck speed at that! The news from around the country and across the globe is no better. Sweltering heat spells, sea level rise, severe storms, cyclones, heavy floods, severe droughts, melting glaciers - all stark reminders of the consequences of climate change. The ominous shadow of climate change that had been looming over us for years, certainly feels like a hard reality. Perhaps more so this year.

The recently released [Centre for Science and Environment's State of Environment report 2024](#) stated that 2023 was India's second hottest year on record, with 102 weather stations across 26 of 36 states/UTs witnessing record-breaking temperatures. It was also a very wet year, with 69 weather stations across 23 states/UTs registering record-breaking rainfall. The report states that from January to March 2024, at least 12 states/UTs, including Delhi, recorded their highest number of days with extreme weather events in the past three years. Of the 15 extreme weather events in Delhi in 2024, 14 were cold waves or cold days in January, while one incident of lightning and storm took place on March 3. With Delhi witnessing blistering heat in May and June, the number of extreme events is expected to rise this year.

This is a time when we cannot but be aware of the effects of climate change on our environment and our lives. While we have to accept it. Live with it. We cannot be passive spectators. We have to act. Act urgently.

In the backdrop of these tenebrous climate narratives, we marked World Environment Day 2024 on June 5, with a resolve to look for opportunities for climate solutions and action. To explore ways to reimagine our interconnection with planet Earth while taking cognisance of this year's theme of 'land restoration, desertification, and drought resilience' and the all-encompassing slogan of 'Our land. Our future'.

**"In the case of climate, we are not the dinosaurs; we are the meteor. We are not only in danger; we are the danger. But we are also the solution."**

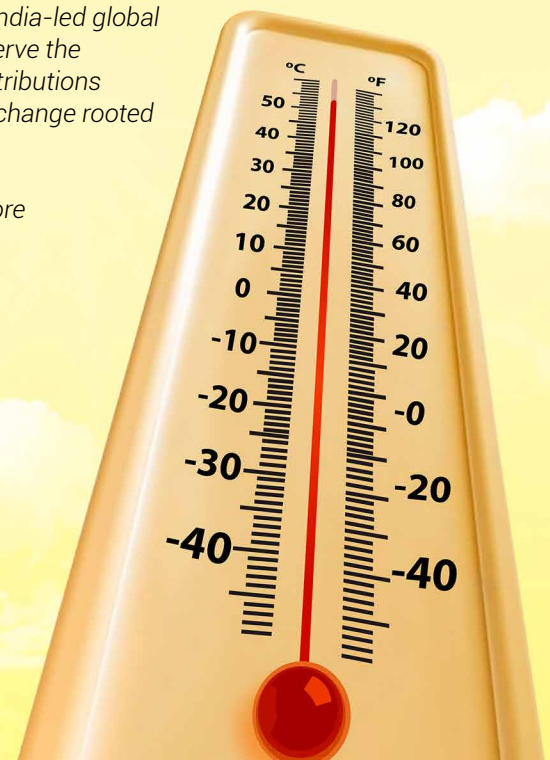
These powerful words came from UN Secretary-General Antonio Guterres' hard-hitting [speech on World Environment Day](#), where he urged leaders to heed the calls from scientists and citizens alike who are feeling the all-too-real consequences of climate inaction.

India is also leading the way in sustainability and environmental conservation as is reflected in MoEFCC's Annual Report 2023-24. Also, [Mission LiFE](#) (Lifestyle for Environment), an India-led global mass movement aims to inspire individual and community action to protect and preserve the environment. India is the first country to include LiFE in its Nationally Determined Contributions (NDCs), reflecting its commitment to combating climate change through behavioural change rooted in traditional, sustainable living.

Shakti's is geared towards climate action and solutions that will help protect and restore our planet. Join us in our endeavours towards a sustainable future.

We welcome you to read the latest edition of Shakti's newsletter – Energy Matters – where we share with you information of our endeavours towards a sustainable future, our activities and important happenings in the quarter of April to June 2024.

**Team Shakti**





# COMMUNICATING CHANGE: WORLD ENVIRONMENT DAY 2024

To mark World Environment Day 2024, Shakti launched a campaign #ShaktiForEnvironment to spread awareness and information about the challenges and solutions of climate change. A [showreel](#) capturing efforts and thoughts of Shakti team members was a 'call to action' for all to join us in our journey towards a sustainable future. Video messages posted on our Social Media platforms by [Nidhi Madan](#); [Amit Kumar Parihar](#); [Manu Maudgal](#); [Sachin Kumar](#) and [Atima Mankotia](#) shared Shakti's commitment towards environment solutions.

At Shakti office, we celebrated World Environment Day by two activities. 'Cleaning for Green' that encouraged team members to clean their work space of recyclable and non-recyclable things - and put it into the two



cartons provided for this. The idea was to learn that 'less is more' and we can manage our work by using much less. A 'Pledge Board' invited everyone to write their 'personal pledges' towards a greener, cleaner future. Shakti team, a

conscientious bunch of people, not just understands the threat of climate change but is always actively working towards overcoming these challenges.





# CHECK OUT SHAKTI'S ANNUAL REPORT 2023!

The Annual Report 2023, looks back on the year gone by and informs on the effort, effectiveness and impact of activities and initiatives of Shakti as an organisation and as a team of experts. It takes a deep dive into our various programmes in sectors which include Renewable Energy, Industry, Buildings, Cooling, Sustainable Agriculture, Electric Mobility, Critical Raw Materials and cross-cutting areas like Climate Finance and Sub-national Climate Action. Special highlights chart Shakti's role as a convener where it has taken up the mantle of

bringing together stakeholders from different areas to enable them to analyse problems, explore solutions and encourage innovative thinking. You can also read about the ACCLIMATE Challenge Fund that provides selected CSOs with technical assistance and financial support; Shakti's partnership for innovation in Green Hydrogen; and research endeavours by the Climate Insights Unit. Dedicated sections cover Human Resources and Organisational Development interventions in 2023 as well as Shakti's communication activities.

## Annual Report 2023 - Energy Dialogues,

which you can read by visiting our website, showcases our work and activities in 2023.



# CRITICAL RAW MATERIALS

According to a [working paper](#) published by the Centre for Social and Economic Progress (CSEP) on June 7, 2024, India is likely to face a significant demand for critical minerals necessary to support its clean energy transition. The report indicates that while India's domestic supply of bulk minerals like iron ore, limestone and bauxite is adequate, it will need to import substantial quantities of non-bulk critical minerals such as lithium, cobalt, nickel and graphite vital for clean energy devices and electric vehicle batteries.

India reached out to key critical mineral producers to bring in processing technology into the country, a move that comes close on the back of the government rolling out [auctions of critical mineral mines](#).

The Ministry of Mines, in collaboration with the Shakti Sustainable Energy Foundation (Shakti), Council on Energy, Environment and Water (CEEW), and International Institute for Sustainable Development (IISD), held a '[Critical Minerals Summit: Enhancing Beneficiation and Processing Capabilities](#)' from April 29 to April 30, 2024, at the India Habitat Centre in Lodhi Estate, New Delhi. The Summit was a pivotal event designed to foster collaboration, share knowledge and drive innovation in the field of critical mineral beneficiation and processing. Set against the backdrop of India's rapid economic growth and ambitious clean energy targets, the Summit underscored the urgent need for securing a domestic supply of Critical Raw Materials (CRMs) essential

for key technologies, including renewable energy systems and electric vehicles.

During the Summit, [Mines Ministry Inked an MoU](#) with Shakti for Providing Knowledge Support in the Field of Critical Minerals. A [site visit to Lohum Cleantech Private Limited](#) was also organised as part of the Summit.



Shri VL Kantha Rao, Secretary, Ministry of Mines at the inaugural session of the Summit



Secretary, Ministry of Mines, Shri VL Kantha Rao at the MoU





3 questions  
answered by Vivek  
Chandran, Director,  
Climate Insights,  
Critical Raw  
Materials



# QUESTION CORNER

## What is the reason for Shakti's recent focus on Critical Raw Materials?

CRMs are essential for manufacturing low carbon technologies such as batteries, electric vehicles, wind turbines, electrolyzers and solar panels, all of which are crucial in reducing carbon emissions and combating climate change. The long-term supply of these CRMs is a source of concern to the global clean energy transition due to the limited known resources, and extremely concentrated supply chains, that can be easily disrupted through geopolitical tensions or climate events. Shakti aims to ensuring a sustainable and resilient supply of these materials over the long-term, that is critical for meeting India's energy and climate objectives. This aligns with Shakti's mission of fostering a clean, secure, and resilient energy and climate future for India.

## What are the key efforts and activities by Shakti in the field of CRM?

Shakti is engaged in various initiatives to address the challenges and opportunities related to Critical Raw Materials.

- **Research and Analysis:** Shakti conducts in-depth research to understand the availability, demand, and supply chain dynamics of CRMs, providing a solid foundation for informed decision-making.
- **Knowledge Support:** Shakti informs the policy design and implementation process, with a focus on promoting sustainable extraction, processing, and recycling of CRMs, while ensuring environmental and social responsibility.
- **Collaborations:** Shakti collaborates with industry experts, think tanks, academia, and other stakeholders to share knowledge and best practices related to CRMs, fostering a collaborative approach to addressing CRM challenges.
- **Awareness and Capacity Building:** Shakti organises workshops and seminars to raise awareness about the importance of CRMs among stakeholders, enhancing their ability to manage CRM issues effectively.
- **Innovation and Technology:** Shakti supports the identification of innovative technologies that improve the efficiency and sustainability of CRM use and recycling and reduce the need for CRMs in the energy transition.

## How will these endeavours help our country's and planet's move towards a green and sustainable environment?

Shakti's focus on Critical Raw Materials contributes significantly to a green and sustainable environment in several ways:

- **Promoting Renewable Energy:** The stable supply of CRMs can facilitate the growth of renewable energy technologies, reducing reliance on fossil fuels and lowering greenhouse gas emissions.
- **Enhancing Resource Efficiency:** Encouraging sustainable extraction and efficient use of CRMs helps minimise environmental degradation and promotes responsible use of natural resources.
- **Supporting Circular Economy:** Initiatives to improve recycling and reuse of CRMs reduce waste and the need for new material extraction, leading to a more circular economy.
- **Fostering Innovation:** By promoting research and innovation in CRM technologies, Shakti supports the development of cleaner, more efficient production processes and products.
- **Responsible Practices:** Shakti promotes adoption of responsible ESG practices in the supply chain, and transparency in CRM sourcing thereby reducing risks to CRM projects and LCT manufactures.
- **Strengthening Resilience:** Developing a resilient supply chain for CRMs ensures the long-term availability of materials needed for sustainable technologies, toward India's energy security and climate resilience goals.

These combined efforts contribute to a sustainable and resilient energy landscape, aligning with global objectives for climate change mitigation and environmental and social protection.

# CLEAN POWER

Senior BJP leader Shri Pralhad Joshi, newly appointed as Union Minister for New and Renewable Energy, recently expressed commitment to further boost clean energy in India. Shri Joshi also emphasised the importance of working towards energy security and mentioned plans to review and enhance the sector's performance within 125 days.

## WIND ENERGY

As part of its focus on Renewal Energy, Government of India has been promoting [wind power projects](#) in the entire country through private sector investment by providing various fiscal and financial incentives. In addition, to promote installation of wind capacity in the country the following steps are being taken:

- Declaration of trajectory for [Wind Renewable Purchase Obligation \(Wind RPO\)\(2 MB, PDF\)](#) up to the year 2030,
- Waiver of Inter State Transmission System (ISTS) charges for inter-State sale of solar and wind power for projects to be commissioned by 30th June 2025,
- Issued Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Wind Power Projects with an objective to provide a framework for procurement of wind power through a

transparent process of bidding including standardisation of the process and defining of roles and responsibilities of various stakeholders. These Guidelines aim to enable the Distribution Licensees to procure wind power at competitive rates in a cost effective manner.

- Technical support including wind resource assessment and identification of potential sites through the National Institute of Wind Energy, Chennai.

In another positive move for Wind Energy in India, the [Cabinet approved Viability Gap Funding \(VGF\) scheme for implementation of Offshore Wind Energy Projects](#). This scheme aims to set up first ever offshore wind energy projects in India





नवीन एवं  
नवीकरणीय ऊर्जा मंत्रालय  
MINISTRY OF  
NEW AND  
RENEWABLE ENERGY

# Global Wind Day 2024

Pawan Urja : Powering the Future of India  
June 15<sup>th</sup> 2024, The Lalit, New Delhi

SHAKTI SUSTAINABLE ENERGY FOUNDATION | IWPA | IWMA | WIPPA | SPDA

Ministry of New and Renewable Energy (MNRE) organised 'Global Wind Day 2024' event with a central theme of 'Pawan-Urja: Powering the Future of India'.



Minister of State Shri Shripad Yesso Naik said, "Collective action required to achieve renewable energy targets and lead in Wind Energy."



Shri Bhupinder Singh Bhalla, Secretary, MNRE, said, "Combining solar and wind energy essential for reliable grid & target of 500 GW renewable energy capacity by 2030 and net zero by 2070."



Shakti collaborated with MNRE for Global Wind Day Celebrations. There were three panel discussions at the event: [The Role of Wind Energy in Meeting the Power Demand](#); [Accelerating Onshore Wind Energy Adoption in India](#) and [Offshore Wind Development in India: Bolstering India's Energy Security](#).





## EXPERT CONSULTATION ON RESOURCE ADEQUACY FRAMEWORK IN INDIA

Shakti participated in an [Expert Consultation on Resource Adequacy Framework in India](#) that served as a critical platform to gather insights from a diverse group of experts dedicated to developing a robust resource adequacy framework in India. The discussions aimed at evaluating the current state of resource adequacy, identifying challenges and opportunities, and exploring future strategies and market reforms.



The [Clean Power team](#) was invited to participate in [National Repowering and Life Extension Policy & Aggregator Business Models for Wind Power Projects](#).



The team also convened a [Bankers Conclave on Financing under PM KUSUM Scheme](#) and [Expert Consultation on Resource Adequacy Framework in India](#)



## CLIMATE INSIGHTS UNIT



### Capacity Development Initiative on Monitoring, Evaluation and Learning (MEL) for CSOs

As part of its [Capacity Development Initiative on Monitoring, Evaluation and Learning \(MEL\) for Civil Society Organisations \(CSOs\)](#), Shakti along with other partners participated in a capacity development workshop in April 2024.

### Leaders for a Developed and Sustainable India (LEADS-India)- A Shakti Initiative

LEADS-India by Shakti has been envisioned as a transformative platform aimed at surmounting the complex and overarching challenges facing climate mitigation and adaptation in India. By bringing climate considerations integrally into India's development strategy, it aspires to find climate solutions that promote economic growth and balance equitable and inclusive social development while preserving the environment and ecology.



# CLIMATE POLICY AND CLIMATE FINANCE

With [Brihanmumbai Municipal Corporation \(BMC\) unveiling India's first climate budget earmarking Rs 10,224.24 crores for climate-relevant activities](#) and publishing its first ever [Climate Budget Report](#), also known as the Green Budget book, for the financial year 2024-25, and Haryana Chief Secretary announcing the launch of the US\$ 1.2 billion (Rs. 10,000 crore), Climate action is at the forefront of sub-national and national finance and policy.

## Keeping it Local: Key to Scaling Up Climate Finance Reforms

Kartikey Sharma, Climate Finance, discusses the relationship between local currency lending and climate finance reforms and why does currency mismatch occur and why do governments and firms alike feel the need to borrow from international markets.



## Enhancing Economic Growth and Sustainable Development in India

India's commitment to achieving net-zero emissions by 2070 is not just a climate goal but a cornerstone of its economic growth strategy. Divya Bawa, Climate Policy, discusses some of the key strategies that can be adopted for fostering enhanced economic growth and sustainable development in India.





The Climate Policy and Finance team at Shakti participated in the following important events:

Climate Change  
and Future of  
Women's Work;



G20 India  
Private Sector  
Roundtable



Urban Planning as a Key Tool for Delivering Inclusive Climate Action

# CITIES AND URBAN DEVELOPMENT

The Ministry of Housing and Urban Affairs has initiated several missions to manage unprecedented urban growth and improve the quality of life for urban citizens. These missions are aligned with the Sustainable Development Goals (SDGs) to make cities future-ready and provide opportunities for all, with access to basic services, energy, housing, transportation and more.

Parking is fast becoming a problem in urban India. Today, parking is difficult to obtain for the driver, difficult to enforce for the government and has safety issues for other road users. People see parking as a service the state is obliged to provide—it should always be enough to cater to peak demand and prevent spillover. Any shortage is seen as the result of a lack of planning and foresight.

## Roadmap for Parking Reforms in Indian Cities

Report supported by Shakti highlights the importance of planning the storage of vehicles, thus making it an important subject for the future discourse on urban planning.

Urban India's Parking Woes: An Overview by ORF assesses the parking policies of Ahmedabad, Bengaluru, Delhi, Pune, and Mumbai, and discusses the likely obstacles and potential solutions to alleviate the situation.



## **Climate-focused Project Preparation and Bid-process Management Facility for Cities**

Barring a few, most cities in India are unable to tap into private sources of funding primarily due to the lack of capacity and knowledge within city governments to leverage these. To address these challenges, a Climate Project Preparation Facility (CPPF) is being set up at the National Institute of Urban Affairs (NIUA) to boost private sector involvement in developing climate-focused urban infrastructure with the potential for GHG mitigation. The facility will leverage both NIUA's and Shakti's expertise and networks to offer specialised advisory services to Urban Local Bodies (ULBs) to nurture and build their capacity to create and attract finance for mitigation-focused projects. [Read more.](#)





# ELECTRIC MOBILITY

With Shri Nitin Gadkari, Union Minister for Road Transport and Highways outlining the strategy to eliminate petrol and diesel vehicles in the next ten years, and Dr Hanif Qureshi, Additional Secretary, MHI (Ministry of Heavy Industries) saying that to accelerate the adoption of EVs (electric vehicles), the ecosystem needs to strategically plan the establishment of charging networks across the country, Electric Mobility is an important area of focus for India. The Electric Mobility Initiative programme at Shakti is working towards supporting India's transition.



## Electrifying Last-Mile Delivery: Transforming India's Postal Network for a Sustainable Future.

The Department of Post (DoP), a major player in India's transportation landscape, is perfectly poised to set the benchmark in this field. As part of the Ministry of Communications, Government of India, DoP plays a pivotal role in enabling post and parcel deliveries across the country with the largest network of 1.6 lakh post offices as stated in their [Annual report 2022-23](#). DoP relies on all four modes of transport – road, rail, water, and air – to deliver millions of posts, parcels, and mails daily. The department operates approximately 1,500 mail motor vehicles. However, like many other facets of the transport sector, DoP's operations heavily rely on diesel vehicles, contributing to pollution and greenhouse gas emissions.






The Electric Mobility Initiative team was invited to participate in the following events.




### "Junction" A Stakeholder Consultation for Promotion of Electric Freight Ecosystem;

## Panelists


**Sustainable End-of-Life Management of Electric Vehicle (EV) Batteries**




**Georg Bieker**  
Senior Researcher  
International Council on Clean Transportation (ICCT)



**Marie Carlsson**  
Vice President, Electromobility  
Business Solutions  
Volvo Buses



**Trupti Deshpande**  
Senior Programme Manager,  
Electric Mobility,  
Shakti Sustainable Energy Foundation




**ALN Rao**  
Chief Executive Officer,  
Exigo Recycling, India

Talking: Johanna Zilliacus

**Moderator**

**Jamie Leather**  
Director, Transport Sector Group  
Asian Development Bank



### Sustainable End-of-Life Management of Electric Vehicle (EV) Batteries



### EV Update Gujarat EV Summit



### Doubling the Rate of Energy Efficiency of Indian Industry by 2030





# INDUSTRY, BUILDINGS AND COOLING



## PAT sector regarding transition towards non-fossil sources and prepare Green Hydrogen Taxonomy

With the [amendment of EC Act in 2022](#), specific initiatives are being undertaken by the Bureau of Energy Efficiency (BEE) to facilitate transition of industry sector towards enhanced usages of non-fossil fuels. Shakti provided knowledge support to the BEE on specifying the minimum share of consumption of non-fossil sources as energy or feedstock for eight industry sub-sectors - Iron and Steel, Chlor Alkali, Fertilisers, Refinery, Cement, Aluminium, and Pulp and Paper, already covered under the Perform, Achieve and Trade (PAT) scheme.

India has launched the [National Green Hydrogen Mission in January 2023 with the goal of becoming a global leader in the production, utilisation and export of green](#)

[hydrogen](#). In a significant move for the [progress of the National Green Hydrogen Mission, the Ministry of New and Renewable Energy \(MNRE\), Government of India has notified the Green Hydrogen Standard for the country](#). The notification also specifies that the BEE shall be the Nodal Authority for accreditation of agencies for the monitoring, verification and certification for Green Hydrogen production projects. In tandem with the ongoing initiatives, Shakti is extending knowledge support to the BEE in preparing a taxonomy for Green Hydrogen specifically tailored to the Indian context and developing a standardised methodology for its calculation, measurement, reporting, and verification, aligning with global best practices.



Some of the important areas that Shakti is focussing on are:

## Cold Chain Energy Efficiency Policies in India

India is one of the world's largest producers of agricultural products, at the same time, high levels of food waste and losses tell a different story and pose serious social, economic and climate challenges. There are significant gaps across the entire cold chain system in the country. A robust cold chain system can enhance farmer livelihoods by increasing the shelf life of food, reducing post-harvest losses, and enabling better commercialisation of agricultural produce. The Government of India has recognised cold chains as vital component to achieve the goal of Doubling Farmers Income. Consequently, cold chain capacity is anticipated to increase substantially in near future, thereby driving increase in energy consumption. As per the [India Cooling Action Plan \(ICAP\)](#), energy demand

from the cold chains can be reduced by 20-25% over the next 20 years through policy interventions and technological improvements.

Energy Efficiency policies and their effective implementation are expected to contribute significantly towards energy saving and emission reduction potential outlined in ICAP. Effective policy implementation would require enabling inter-institutional linkages and capacity-building to ensure that cold chain stakeholders possess the necessary skills and knowledge.

The development and implementation of energy efficiency policies for the cold chain sector that involves consensus-building among stakeholders, establishing a knowledge base, and workforce training, is an important area of focus.

## Policy Pathways for Decarbonising India's Building Sector

The building sector in India is projected to experience tremendous growth in the coming years. In 2022, the overall constructed area in the residential sector was estimated to be around 20 billion square meters and is expected to swell to approximately 50 billion square meters by 2050. Similar growth trends are expected across different building types, which will significantly increase GHG emissions. This indicates a substantial carbon-saving potential in the assets that are yet to be built.

Over the last decade, India has launched several initiatives to promote energy efficiency in the buildings sector, including the introduction and update of the [Energy Conservation Building Code](#). However, code adoption and compliance, largely dependent on states, have seen limited success. A stronger focus is required on integrating thermal comfort in building design and technology upgrades, considering that most households lack access to cooling. Additionally, most zero-carbon building definitions do not account for embodied carbon, necessitating a better understanding of new decarbonisation challenges. Building upon previously identified strategies to reduce GHG emissions, there is a need to reassess these strategies in the current scenario. Initiative to identify barriers, map out strategies, and develop scenarios for decarbonising the Indian building sector in the context of 2024, are areas of priority.



Industry, Buildings and Cooling programme team members participated in [Powering India's Cold Chain through Energy Efficiency](#).





# MEET OUR NEW TEAM MEMBERS



**Meghana M**

Intern  
Climate Insights



**Satvik Jain**

Intern  
Industry, Buildings & Cooling



**Lavisha Arora**

Senior Programme Manager  
Climate Finance



**Venkat Jayagopi**

Senior Programme Manager  
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