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Subject: Energy Diary , December 2025

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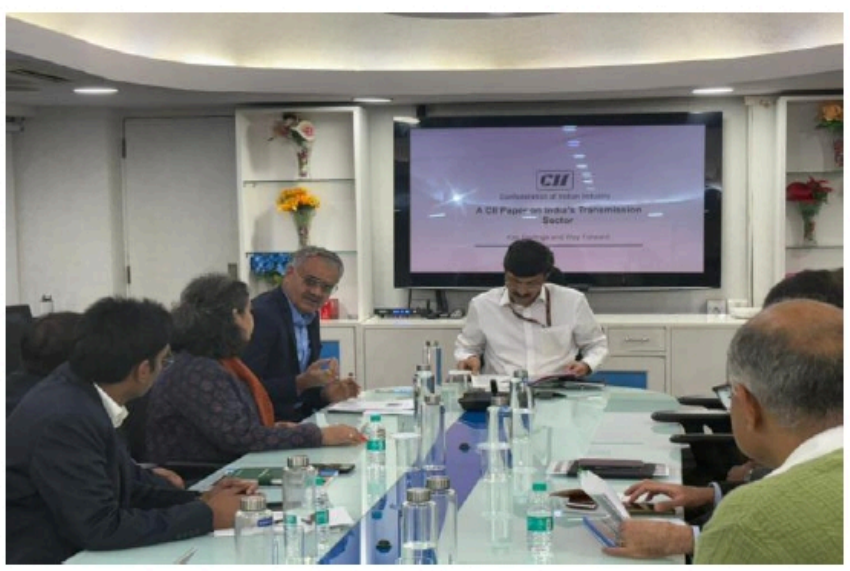
Activities

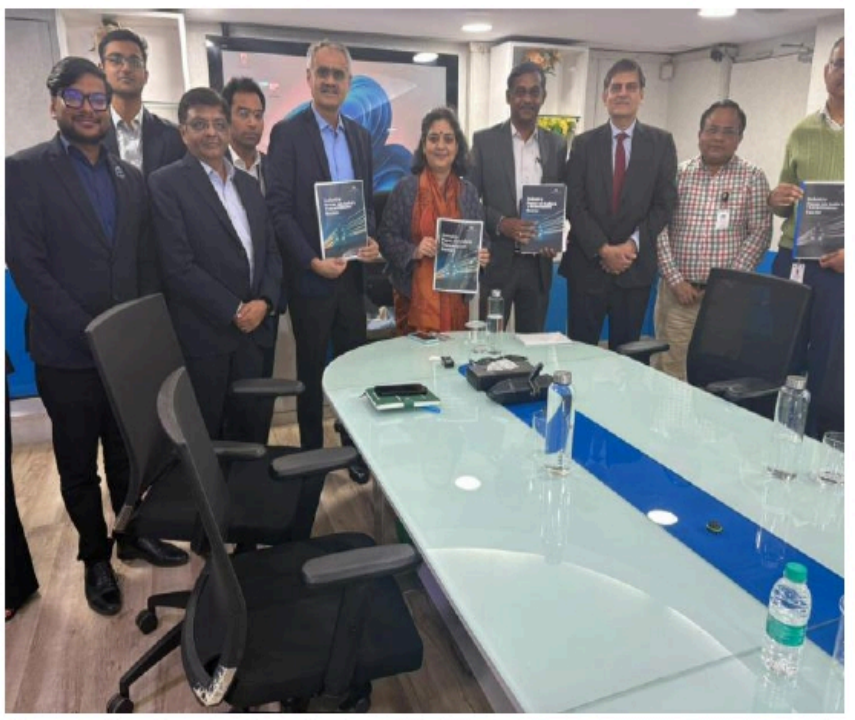
Meeting of CII Core Group on Transmission with Shri Pankaj Agarwal, Secretary, Ministry of Power

Members of the CII Core Group on Transmission met Shri Pankaj Agarwal, Secretary, Ministry of Power, to highlight key challenges and policy priorities in the transmission sector. The discussion focused on easing transformer manufacturing through removal of BIS QCO on CRGO steel, standardizing VSC-HVDC project ratings, and promoting Battery Energy Storage Systems for reliable power supply. The group emphasized the need for advanced automation and AI/ML to support large-scale renewable energy integration.

Key regulatory and implementation concerns were raised, including empowering the CTU to reduce prolonged dispute resolution, providing protection against changing laws during contract periods, and establishing a clear, time-bound framework for FRA compliance to avoid project delays. Additional suggestions included creating a dedicated Right of Way (RoW) framework under the Electricity Act and streamlining forest and environmental clearances, particularly compensatory afforestation, to ensure timely execution of critical transmission projects.



Mr Pankaj Agarwal, Secretary (Power), Ministry of Power, Government of India during an interaction with CII members.



CII members with a theme paper on transmission sector after an interaction with **Mr Pankaj Agarwal, Secretary (Power)**, Ministry of Power, Government of India

Energy Transition & Security Session at India Edge 2025

India has reached a major clean energy milestone, achieving 50% of installed electricity capacity from renewable sources five years ahead of the 2030 target, and is now poised to rapidly scale capacity to nearly 750 GW by 2030, supported by energy storage, green hydrogen, domestic manufacturing and progressive policy reforms.

Speaking at the Energy Transition and Security session at CII India Edge 2025, Shri Santosh Sarangi, Secretary, Ministry of New & Renewable Energy (MNRE), Government of India, said India's renewable energy trajectory is irreversible and will accelerate alongside strong economic growth and rising power demand

He highlighted that states such as Madhya Pradesh, Maharashtra, Gujarat, Uttar Pradesh and Rajasthan are emerging as key drivers of renewable growth, supported by innovative tenders tailored to local requirements. Distributed renewable energy is adding 12–15 GW annually, driven by flagship schemes such as PM-KUSUM, PM Surya Ghar and rooftop solarisation, while commercial and industrial (C&I) renewable installations are expected to exceed 6.5 GW this year.

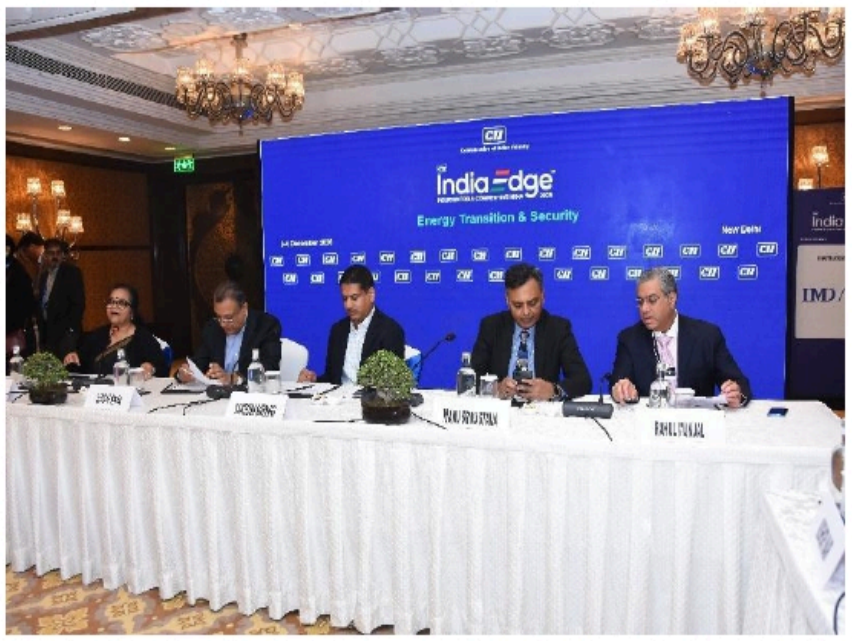
Emphasising the need to complement renewables with storage, Shri Sarangi noted that India will require around 240 GWh of battery storage by 2027, with MNRE accelerating deployment at both transmission and distribution levels. He also underscored the importance of scaling domestic manufacturing, particularly in polysilicon and wafer production, to strengthen energy security.

MNRE, in collaboration with the Central Electricity Authority (CEA) and the Ministry of Power, is advancing standards for battery storage, grid-forming inverters and harmonic filters. He added that the Deviation Settlement Mechanism (DSM) framework will be tightened to ensure grid discipline,

with an industry-friendly transition pathway under discussion. MNRE continues to hold monthly consultations with solar, wind and hydrogen manufacturers, reaffirming its commitment to collaborative policymaking.

From the states' perspective, Shri Manu Srivastava, Additional Chief Secretary, New & Renewable Energy Department, Government of Madhya Pradesh, stressed that with the rise of solar-plus-storage projects, energy-based contracts should complement power-based contracts, and DC coupled storage should be encouraged to improve efficiency and system optimisation.

He further noted that renewable targets should be guided by least-cost resource adequacy rather than rigid Renewable Purchase Obligations (RPOs), ensuring higher clean energy uptake while aligning with utility interests. Integrating renewables as partners to utilities—through solutions such as reactive power management and low-voltage injection—can enhance transformer capacity and reduce costs. Dedicated officers across state energy departments, DISCOMs and regulatory commissions are essential to address operational challenges and speed up project execution, he added. Policy measures such as extended PLI benefits, streamlined change-in-law processes, and efficient demand-side management will further ease project execution. India is also emerging as a global leader in green hydrogen and green ammonia, with inclusive programmes engaging farmers, households and industry stakeholders.



L-R: Ms Soma Banerjee, Deputy Director General, CII; **Mr Sumant Sinha**, founder, Chairman and Managing Director of ReNew and Chairman CII Council on Energy Transition and Hydrogen.; **Mr Santosh Sarangi**, Secretary, Ministry of New and Renewable Energy; **Mr Manu Srivastava**, Additional Chief Secretary, Govt. of Madhya Pradesh and **Mr Rahul Munjal**, Chairman and Managing Director, Hero Future Energies

With targeted policy support, infrastructure development and innovation, India's renewable energy sector is set to drive sustainable economic growth and strengthen the country's position as a global clean energy leader.

CII Core Group Meeting on Studying and Financing Energy Transition for Various Sectors

Members discussed India's progress towards a rate-based Emissions Trading System (ETS) covering nine industrial sectors, with agreement that, given the current scope, the Core Groups will initially focus on the cement sector and expand to other industries in the second phase of the National Council. The discussion underscored the importance of prioritising a few key sectors for near-term action, strengthening industry awareness and operational understanding of energy transition pathways, and examining cross-cutting levers such as green hydrogen, gas blending, and mobility-related interventions. Members highlighted the need for sector-wise gap assessments, global benchmarking, and identification of key constraints faced by industry. Financing emerged as a critical enabler, with emphasis on addressing structural gaps in the financing ecosystem, reducing the high cost of capital, improving project bankability, particularly for green hydrogen and providing policy and regulatory certainty to attract long-term investment. Members recommended adopting a systems-based, holistic approach to develop a comprehensive transition roadmap and agreed to initiate preparation of a detailed report covering sectoral analysis, financing requirements, policy recommendations, and implementation pathways.

L-R: Mr Kiran P Joseph, Chairperson, CII Core Group on Financing Energy Transition and **Prof Chitra Rajgopal,** FNAE, F-LEAD, FIE PSA Fellow & former DS and DG (R&M), DRDO Chair HSP & AICTE Distinguished Professional

Sectoral News

INDIA

SHANTI Bill: Bill to open up nuclear sector for private companies receives presdential assent.

Hindu Business Line | Dec 21, 2025

Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Bill was passed by Parliament during the Winter Session and received presidential assent. The legislation ushers in a 'pragmatic civil liability regime for nuclear damage' and does away with the contentious supplier liability clause (Section 46 CLND Act)- which was a big deterrent for foreign companies from building nuclear power plants in India.

Read more at:
President grants assent to SHANTI Bill that opens up nuclear sector for private participation - The HinduBusinessLine

Govt says 7.71 lakh households got zero electricity bills under PM's Muft Bijli Yojana

Economic Times | Dec 16, 2025

The PM Surya Ghar: Muft Bijli Yojana has delivered zero electricity bills to over 7.7 lakh households in the country out of the total 24.35 lakh households benefited under the scheme. The scheme was launched in February 2024.

Read more at:

https://energy.economictimes.indiatimes.com/news/renewable/over-77-lakh-households-enjoy-zero-electricity-bills-under-pms-surya-ghar-yojana/126003207?utm_source=category_listing&utm_medium=sectionListing

Biogas sector expected to see ₹5,000 cr investment in 2026-27: IBA

ET Energy World | Dec 21, 2025

The biogas sector is expected to see investments of over ₹5,000 crore in 2026-27 2026-27 buoyed by strong interest from investors and stakeholders this calender year, the Indian Biogas Association (IBA) said. more than 100 compressed biogas (CBG) plants have been commissioned, and the year 025 witnessed strong interest from investors and stakeholders and growing CBG pipeline.

Read more at:
https://energy.economictimes.indiatimes.com/news/oil-and-gas/biogas-sector-expected-to-see-5000-cr-investment-in-2026-27-iba/126104264?utm_source=most_read&utm_medium=sectionListing

IIM-N, ONGC Green join hands to power India's 10GW energy vision

Economic Times | Dec 21, 2025

The Indian Institute of Management, Nagpur has signed a MoU with ONGC to collaborate on research and policy driven initiatives with the aim of achieving 10 GW of green energy by 2030 through solar, wind, energy storage, biofuels and green hydrogen projects

Read more at:

https://energy.economictimes.indiatimes.com/news/renewable/iim-nagpur-and-ongc-green-unveil-partnership-to-achieve-10gw-green-energy-by-2030/126102863?utm_source=category_listing&utm_medium=sectionListing

New EV policy to offer subsidies & incentives

ET Energy World | Dec 21, 2025

A scrappage scheme will provide financial benefits for replacing old polluting vehicles with new EVs. Charging facilities will be expanded in residential areas. This policy aims to reduce air pollution and establish Delhi as an EV hub.

Read more at:
https://energy.economictimes.indiatimes.com/news/renewable/new-ev-policy-to-offer-subsidies-incentives/126101481?utm_source=category_listing&utm_medium=sectionListing

Mizoram to outsource seven mini hydro power plants, construct two power projects

ET Energy World | Dec 22, 2025

Mizoram government has decided to privatise or outsource seven small hydel power plants due to high maintenance costs. The decision was taken with the belief that it will yield benefits for the state.

Read more at:
https://energy.economictimes.indiatimes.com/news/renewable/mizoram-government-plans-to-outsource-hydropower-plants-amid-high-maintenance-costs/126115176?utm_source=category_listing&utm_medium=sectionListing

Sectoral News

WORLD

India weighs Mongolian coking coal imports despite transport hurdles

ET Energy World l Dec 2, 2025

India is assessing the viability of importing coking coal from Mongolia despite transport bottlenecks, a source with direct knowledge of the matter said as New Delhi seeks to diversify supplies of the key steelmaking ingredient.

Read more at:

https://energy.economictimes.indiatimes.com/news/coal/india-considers-coking-coal-imports-from-mongolia-amidst-transport-challenges/125712559?utm_source=category_listing&utm_medium=sectionListing

US launches critical tech and minerals coalition, minus India

ET Energy World l Dec 13, 2025

In a significant step, the US has launched Pax Silica, a US-led strategic initiative to build secure, prosperous and innovation driven silicon supply chain from critical minerals and energy inputs to advanced manufacturing, semiconductors, AI Infrastructure. The inaugural Pax Silica Summit convenes counterparts from Japan, Republic of Korea, Singapore, he Netherlands, the UK, Israel, the UAE, and Australia.

Read more at:

https://energy.economictimes.indiatimes.com/news/coal/us-launches-critical-tech-and-minerals-coalition-minus-india/125943234?utm_source=category_listing&utm_medium=sectionListing

India a preferred destination for data centres on back of strong power grid: Piyush Goyal

ET Energy World l Dec 15, 2025

Goyal noted that India now operates a single, integrated national power grid, ma king it one of the largest in the world. India has the potential to become a preferred global destination for data centre.

Read more at:

https://energy.economictimes.indiatimes.com/news/power/piyush-goyal-india-set-to-become-global-data-centre-hub-with-robust-power-grid/125975862?utm_source=category_listing&utm_medium=sectionListing

PM Modi suggests five new projects in green energy sector with Oman

ET Energy world l Dec 18, 2025

At the India-Oman Business Summit, Prime Minister Narendra Modi highlighted that India-Oman joint investment fund has attracted investments in both the countries in multiple sectors including energy, oil and gas, fertilizers, health, petrochemicals, and green energy. He outlined 5 potential areas for future collaboration which included Green Hydrogen, Green Ammonia, Solar Parks, Energy Storage, and Smart Grids.

Read more at:

https://energy.economictimes.indiatimes.com/news/renewable/pm-modi-unveils-ambitious-green-energy-projects-with-oman-at-business-summit/126054553?utm_source=most_read&utm_medium=sectionListing

India and Russia push JVs in critical minerals, rare earths

ET Energy World l Dec 20, 2025

Joint projects are set to involve hundreds of millions of dollars. This partnership is vital for green energy and modern technology.Russia holds significant rare earth deposits. India's interest is growing due to electric mobility and wind energy sectors.

Read more at:

https://energy.economictimes.indiatimes.com/news/coal/india-and-russia-push-jvs-in-critical-minerals-rare-earths/126087378?utm_source=category_listing&utm_medium=sectionListing

China's power reforms, global data centre buildout usher in battery boom

ET Energy World l Dec 22, 2025

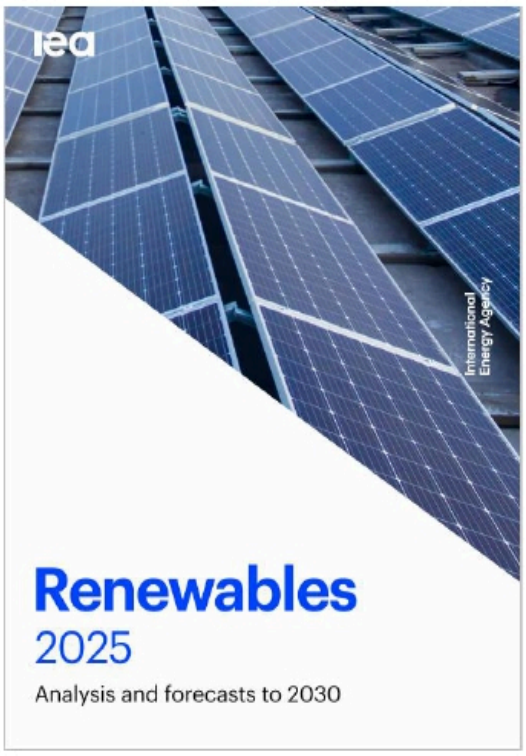
Chinese firms are set for a significant jump in global shipments of lithium-ion battery cells for energy storage, cementing their dominance in a vital sector for renewables and data centres.

Read more at:

https://energy.economictimes.indiatimes.com/news/power/chinas-power-reforms-global-data-centre-buildout-usher-in-battery-boom/126112421?utm_source=category_listing&utm_medium=sectionListing

Global Report Watch

IEA Global renewables 2025 Analysis and Forecasts to 2030



Renewables 2025 is the IEA's main annual report on the sector. It presents the latest forecasts and analysis, based on recent policy and market developments, while also exploring key challenges and opportunities facing the sector.

This year's edition provides forecasts for the deployment of renewable energy technologies in electricity, transport and heat through 2030. It also examines notable developments in key areas of the sector, including policy changes, manufacturing trends, and the financial health of different parts of the industry.

Global renewable power capacity is expected to double between now and 2030, increasing by 4 600 gigawatts (GW). This is roughly the equivalent of adding China, the European Union and Japan's power generation capacity combined to the global energy mix. Solar PV accounts for almost 80% of the global increase, followed by wind, hydropower, bioenergy and geothermal. In more than 80% of countries worldwide, renewable power capacity is set to grow faster between 2025 and 2030 than it did over the previous five-year period. However, challenges including grid integration, supply chain vulnerabilities and financing are also increasing

The increase in solar PV capacity is set to more than double over the next five years, dominating the global growth of renewables. Low costs, faster permitting and broad social acceptance continue to drive the accelerating adoption of solar PV. Wind power faces supply chain issues, rising costs and permitting delays – but global capacity is still expected to nearly double to over 2 000 GW by 2030 as major economies like China and the European Union address these challenges. Hydropower is set to account for 3% of new renewable power additions to 2030. The faster growth of pumped storage plants between 2025-30 leads to a much greater increase in hydropower compared with the previous five years.

In 2030, annual geothermal capacity additions are expected to reach a historic high, triple the 2024 increase, driven by growth in the United States, Indonesia, Japan, Türkiye, Kenya and the Philippines.

The forecast for growth in global renewable power capacity is revised down slightly, mainly due to policy changes in the United States and China. The renewable energy growth forecast for the 2025-2030 period is 5% lower compared with last year's report, reflecting policy, regulatory and market changes since October 2024. The forecast for the United States is revised down by almost 50%. This reflects several policy changes, including the earlier phase out of federal tax credits, new import restrictions, the suspension of new offshore wind leasing and restricting the permitting of onshore wind and solar PV projects on federal land. China's shift from fixed tariffs to auctions is impacting project economics and lowering growth expectations. Nonetheless, China continues to account for nearly 60% of global renewable capacity growth and is on track to reach its recently announced 2035 wind and solar target five years ahead of schedule, extending its track record of early delivery.

The renewable energy growth forecast for the 2025-2030 period is 5% lower compared with last year's report, reflecting policy, regulatory and market changes since October 2024.

Read more at:
https://www.iea.org/reports/renewables-2025

Policy Advocacy

The draft **Electricity (Amendment) Bill, 2025** aims to improve the financial sustainability of the power sector, support industrial growth, accelerate India's clean energy transition, and strengthen regulatory efficiency. The central focus of the amendment is ensuring cost-reflective tariffs, in line with the Supreme Court's 2025 judgment, and empowering regulators to revise tariffs on time by allowing suo motu determinations if utilities delay filings. To improve service quality, the Bill enables the prescription of uniform minimum performance standards across the country.

To enhance economic competitiveness, the amendments mandate the elimination of cross-subsidies for Manufacturing Enterprises, Railways, and Metro Railways within five years, reducing energy costs for industry and transport. The Bill also allows State Commissions, in consultation with State Governments, to exempt distribution licensees from supplying power to consumers with loads above one megawatt, thereby enabling large consumers to procure cheaper electricity through open access. In addition, clearer rule-making powers are provided for captive generation to promote industrial energy security.

Supporting India's energy transition, the Bill formally defines Energy Storage Systems and integrates them into the power system. It strengthens non-fossil energy obligations by requiring State Electricity Regulatory Commissions to set minimum consumption targets that are at least as high as those prescribed by the Central Government. The Bill also empowers regulators to design market-based instruments—such as contracts for difference—to attract investments and accelerate renewable capacity addition beyond traditional DISCOM-led power purchase agreements.

To improve ease of living, the assessment period for unauthorized electricity use is capped at twelve months, and the mandatory deposit required for appeals is reduced from one-half to one-third of the assessed amount, with flexibility for further reduction in cases of hardship. On regulatory governance, the Bill expands grounds for removal of members of CERC and SERCs to include willful violations and gross negligence, mandates that commissions dispose of cases within 120 days, and increases the strength of the Appellate Tribunal for Electricity from three to up to seven members to speed up adjudication.

Finally, the Bill introduces broader structural reforms, including the creation of an Electricity Council comprising Union and State Power Ministers to build consensus on reforms. It provides a complete legal framework for securing right-of-way for electric lines, incorporates cybersecurity requirements for the integrated power system, and allows distribution licensees operating in the same area to share networks to avoid duplication and reduce costs.

Policy Speak

HYDROCARBON & BIOENERGY DESK, ENERGY DEPARTMENT

Positioning India as a Leader in Sustainable Fuels: Aligning Domestic Policies with Belém 4x

The recently concluded COP 30 in Belem, Brazil, marked a pivotal moment in global climate negotiations. Leaders from across the world gathered to discuss the most talked-about topic of the current time- Climate Change and assess progress on their Nationally Determined Contributions (NDCs) under the Paris Agreement, with discussions ranging from climate finance to implementation of key Articles. Developing countries reiterated their demand for stronger financial support from developed nations to accelerate their transition.

Amidst the pre-deliberations of COP 30, Brazil announced the ***Belem 4x Initiative,*** an ambitious plan to quadruple global sustainable fuel production by 2035. Backed by the International Energy Agency's report *Delivering Sustainable Fuels – Pathways to 2035,* the initiative seeks to mobilise political will and technological innovation to achieve global transition goals. It focuses on scaling up hydrogen and its derivatives, biogases, biofuels, and synthetic fuels, thereby enabling a phased shift away from fossil fuels.

By aligning its domestic policies with the Belem 4x vision, India can not only meet its clean energy goals but also cement itself as a frontrunner in the global climate change discourse.

Its leadership in the bioenergy ecosystem is already well-established, particularly through its success story in ethanol. Ethanol blending in petrol rose from 1.5% in 2014 to nearly 20% in 2025, achieving the E20 target ahead of schedule. This has contributed significantly to reducing crude oil imports and increasing farmer income.

But can India rely solely on ethanol-blended petrol to anchor its biofuel growth story? Beyond ethanol, India has significant potential in Compressed Biogas (CBG) and biodiesel, which need to be developed in parallel for continued growth.

As of now, the government is proactively promoting biodiesel use by permitting its direct sale, setting an indicative blending target under the National Policy on Biofuels, and reducing the GST rate for procurement of biodiesel for blending from 12% to 5%. Yet, national biodiesel blending remains below 1%. Opportunities lie in tapping used cooking oil (UCO) and Distillers' Dried Grains with Solubles (DDGS) derived oils. Targeted policy interventions include incentivising feedstock collection by expanding the Repurpose Used Cooking Oil (RUCO) program and promoting non-food oil crops on degraded land. Removing double taxation (GST and VAT) and offering viability gap funding for biodiesel plants can also make the segment cost-competitive.

On the Compressed Biogas (CBG) front, India has made significant strides under the SATAT program and has commissioned over 100 CBG plants according to the SATAT portal (August 2025). The government has also recently announced its plan to launch a National Integrated CBG Promotion Scheme (NICPS), with an aim to establish an enabling ecosystem for the production, supply, and utilisation of CBG. On the local level, Indian states like Uttar Pradesh and Maharashtra have also been working on their own biofuel policies to ensure round-the-year feedstock availability.

The twin levers, finance and infrastructure, will play a crucial role in providing loans and credit guarantees for setting up large-scale CBG plants and integrating CBG into the national gas grid. Imposing penalties for non-compliance with CBG blending obligations (CBO) in city gas networks, as set by the government, can be another enabling measure. Additionally, the feedstock strategy should prioritise waste and residue-based sources like used cooking oil (UCO) and agro-residues, restricting energy crops to degraded lands to avoid food versus fuel conflicts.

On the aviation front, India has already announced Sustainable Aviation Fuel (SAF) blending targets of 1% by 2027 and 5% by 2030, which will require scaling Hydroprocessed Esters and Fatty Acids (HEFA) based production using used cooking oil (UCO) and non-food oils, alongside ethanol-to-jet and Fischer-Tropsch pathways.

To ensure that the Belem 4x goals are met without unintended consequences, India must adopt sustainable and inclusive policy interventions. For India, it is a chance to lead the world in the fight against climate change while creating jobs and securing energy independence, but what India needs to do is seize the right opportunities.

Mapping India's Energy Transition

CII Dashboard on Energy Transition Investment Monitor (ETIM)

Your Gateway to India's Clean Energy Future!

Launched by Shri R.K. Singh, Hon'ble Union Minister for New & Renewable Energy and Power, the CII Energy Transition Investment Monitor (ETIM) is a dynamic analytics platform tracking 900+ renewable energy projects across India.

With nearly **5,000 registered members**, ETIM offers a one-stop view of India's renewable energy pipeline, from project investments to technology supply chains. The data is publicly sourced, company-validated and regularly updated, empowering policymakers, investors, and industry leaders with credible, real-time insights.

As India races toward clean energy leadership, ETIM strengthens domestic supply chains, drives local manufacturing, and enables transparent, data-driven decision-making.

Explore ETIM and see how India's energy transition is unfolding - project by project.

To read more please visit:

https://etim-india.com/

Portfolio of Services

The Energy Department at the Confederation of Indian Industry (CII) plays a pivotal role in engaging with both government and industry stakeholders across diverse segments of the energy ecosystem, including power, renewables, hydrocarbons, biofuels, green hydrogen, and sustainable mobility. Through a structured network of committees, sub-committees, and task forces, the department identifies sector-specific challenges and drives focused interventions to address them effectively.

CII's Energy Department fosters strong national and international collaboration, serving as a platform for dialogue, knowledge exchange, and strategic partnerships. It regularly develops reports, theme papers, and policy representations that contribute to thought leadership and informed decision- making in the sector.

To keep pace with the rapidly evolving energy landscape, the department organizes high-impact conferences, summits, and seminars, facilitating strategic discussions and on-ground stakeholder engagement. In alignment with the Hon'ble Prime Minister's vision of *Viksit Bharat*, the department also supports international cooperation by coordinating with parent ministries and accompanying official delegations.

Through its initiatives, the Energy Department at CII acts as a catalyst in advancing India's energy agenda and strengthening the Indian industry's role in the global economy.

To read more about our work please visit:

https://www.cirre.in/index.php

https://www.cii.in

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