

# SustainEdge

*IEM Sustainability Monthly e-Newsletter*

*Issue 3  
February 2026*

*Publisher*

Office of Sustainability  
Institute of Engineering & Management  
School of University of Engineering and Management, Kolkata  
Management House, D-1, Sector - V, Salt Lake,  
Electronics Complex, Kolkata, West Bengal, India PIN- 700091

*Editor-In chief*

Prof. (Dr.) Rahul Baidya  
Email: rahul.baidya@iem.edu.in

*Associate Editors*

Dr. Somdipta Bagchi  
Email: somdipta.bagchi@iem.edu.in  
Mr. Anirban Mukherjee  
Email: anirban.mukherjee@iem.edu.in

# Sustainability News Points Global



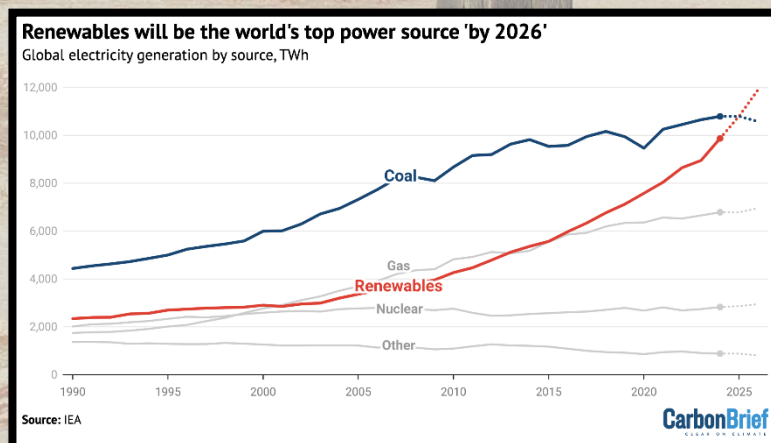
## CBAM operational in EU

The EU Carbon Border Adjustment Mechanism launched fully on January 1, 2026, imposing carbon tariffs on steel, cement, aluminium, fertiliser, hydrogen, and electricity imports. This prevents carbon leakage by matching EU carbon costs for foreign producers. Exporters from China, India, and Russia face 20-35% cost increases, sparking factory upgrades, WTO disputes and 18% import drops in Q1. Advocates praise climate trade leadership; critics warn of protectionism. CBAM's expansion to 12 sectors by 2028 could trigger US, UK, Canada versions, fundamentally reshaping global supply chains and decarbonisation incentives across heavy industry.



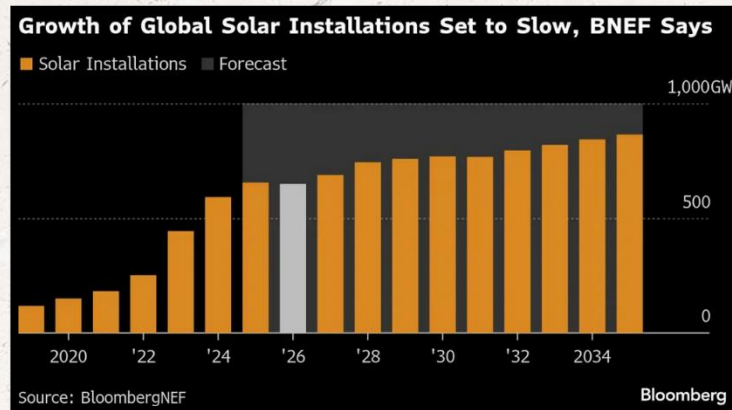
## Renewables surpass coal globally

The IEA forecasts renewables overtaking coal as the world's top electricity source by 2026 (~36% vs 32% share), with the milestone already hit in H1 2025 per mid-year data. Solar and wind output surges, meeting over 90% of demand growth in 2025, while costs continue falling 12-25% amid battery advances tackling intermittency. Leaders like India (~22% share), Brazil, and Vietnam contrast laggards such as Poland and Indonesia. Global emissions peak or stabilize, as grids require \$400-700B annual investments for integration.



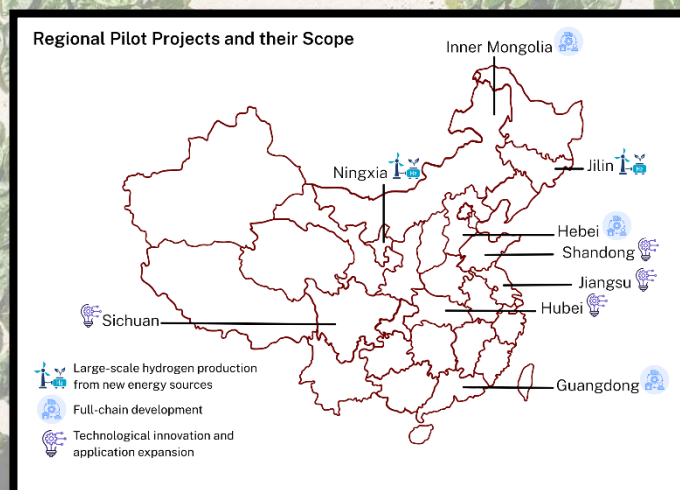
## Global solar growth halts first time

Solar PV additions dropped 12% to 350GW in 2026, first decline since 2012, triggered by China's 60% market oversupply, 200+ bankruptcies, and module prices crashing to \$0.09/W. US Inflation Reduction Act, EU Net Zero Industry Act boosted domestic manufacturing. Tandem perovskite cells hit 35% efficiency commercially. India grew 15% to ~50 GW, Australia expanding. Industry lesson: maturation demands quality over volume, with floating solar, bifacials solving land constraints while storage unlocks 50% penetration economically.



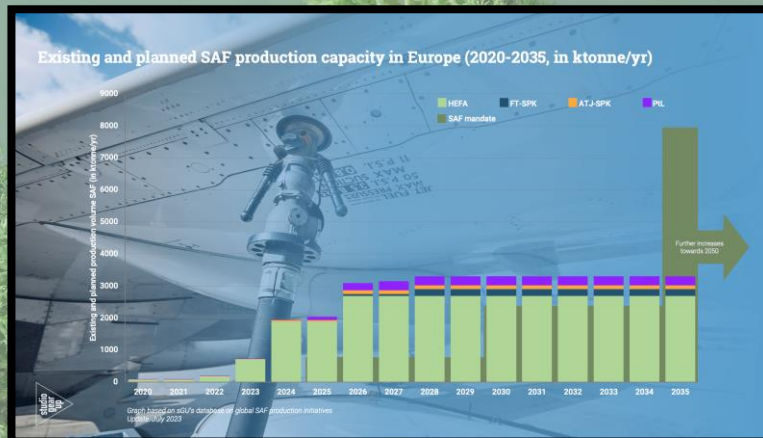
## China dominates green hydrogen exports

China leads green hydrogen with rapid electrolyser growth (GW-scale projects), exporting at ~\$2-3/kg amid costs ~\$1.8/kg unsubsidized to Asia/Europe. Steel DRI cuts ~92% emissions; chemicals scaling pilots. ~\$33B subsidies (to 2030) tackle water via desalination. EU CBAM curbs dirty imports; India eyes Chinese electrolysers/deals. Global green H2 market ~\$12B (2025). West struggles at \$5+/kg vs. China's solar-integrated edge (90% renewables), pushing ammonia/policy shifts.



## SAF capacity surges 35% amid mandates

Sustainable aviation fuel (SAF) production grew ~35% in 2026 to ~3 billion liters, led by Asia/US but covered only 1.8% jet demand. EU ReFuelEU mandates (rising to 6% by 2030) and US IRA credits (\$1.75/gallon max) boosted it. HEFA from waste oil leads, despite \$3.20/L costs vs. \$0.82 fossil fuel. Airlines such as Delta/United reached 5% blends; algae remains early. Needs 1,200 billion liters by 2030; airlines face \$200B/decade bill without carbon pricing. SAF is aviation's key Paris path.



## \$1.3T climate finance target advances

COP30 in Belém (Nov 2025) set the Baku-to-Belém Roadmap for \$1.3T/year climate finance by 2035, with \$300B NCQG from rich nations and tripled adaptation to \$120B. Banks pledged reforms after 2024's \$137B record, using Article 2.1(c) for private funds. Loss and Damage Fund began grants, with accelerators for action. Yet 2026 gaps remain (\$115B in 2024), adaptation low at 20-30%, India advances green bonds, and Global South demands \$500B+/year by 2028 due to donor debts.

Breakthrough in Baku delivers  
**\$1.3 Trillion** "Baku Finance Goal"  
with new core finance goal of  
**\$300 Billion**

#BakuBreakthrough

COP29  
Baku  
Azerbaijan

## COP31 Antalya tests fossil phase-out

COP31 is hosted by Türkiye (Nov 9-20, 2026, Antalya), focusing Belém Adaptation Indicators and Just Transition Mechanism from COP30. Russia-Ukraine tensions fuel gas disputes; Saudi pushes abated fossil loopholes. Türkiye emphasizes methane cuts (30% global pledge), Black Sea forests. NDC updates due; ~45 countries submitted early. Finance fight: \$1T/year demands vs. ~\$300B offers. US midterms (Nov 2026) risk commitments. Success: 2035 fossil phaseout signals (risking 2.8°C otherwise). ~80,000 delegates, \$200M cost as largest UNFCCC.



## CCPI 2026 ranks climate leaders

The Climate Change Performance Index (CCPI) 2026 ranks Denmark (4<sup>th</sup>), UK (5<sup>th</sup>), and Morocco (6<sup>th</sup>) highest, leaving top 3 spots vacant as no country excels fully. Petro states: Saudi Arabia (67<sup>th</sup>), Iran (66<sup>th</sup>), and US (65<sup>th</sup>) rank lowest due to fossil fuel reliance. India dropped from 7<sup>th</sup> to 23<sup>rd</sup> ("medium") despite solar gains, hit by rising coal use. China (54<sup>th</sup>) leads absolute emissions cuts; 112 nations now have net-zero targets. Global renewables reached ~32%; per capita emissions fell 4%, but policies project 2.4°C warming.



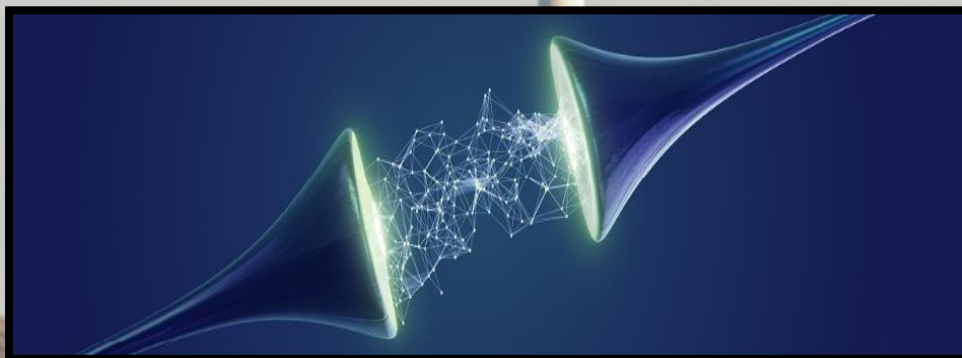
## Carbon majors emissions dominance report

A 2024 InfluenceMap report reveals 57 fossil fuel and cement producers caused 80% of global CO<sub>2</sub> emissions from 2016-2022, with state-owned firms like Saudi Aramco (4.8%), Gazprom (3.3%), and Coal India (3.0%) topping the list. Despite Paris 2015, most expanded production, generating ~\$4T cumulative profits. The 57 entities include 22 state-owned, dominating post-Paris emissions. Global divestment hit trillions; Norway's \$1.6T fund excluded majors. Dozens of lawsuits target firms like ExxonMobil; 12+ insurers restricted fossil support. Released April 2024, it covers to 2022 data, with updates pending.



## Perovskite tandems commercialise

Oxford PV shipped first 500MW perovskite-silicon tandems at 34.5% efficiency in Q1 2026. Building-integrated PV, EV roofs, agrivoltaics targeted first. 25-year warranties via encapsulation breakthroughs. Costs: \$0.28/Wp vs. \$0.35 silicon. US, Japan follow Q3. Lab records hit 36.2%. Degradation <0.3%/year. Production scaled to 2GW by 2027. BIPV market explodes 8 times as architects specify 40% efficient modules. Silicon supply constraints solved. Solar costs halve again, threatening utility-scale economics.





# **Sustainability News Points India-Focused**

## Budget 2026 renewables \$4B hike

Union Budget 2026 allocated ₹32,915 crore to MNRE (+31%), green hydrogen ₹1,566 crore, battery storage ₹3,200 crore. PM Surya Ghar got ₹22,000 crore for 10GW rooftops. Offshore wind ₹8,700 crore pilots Gujarat. Carbon market regulations notified. Economic Survey warned ₹57 lakh crore losses 2030-2050 without action. 500GW non-fossil capacity target reaffirmed. Coal India forced 20% wash capacity. Rooftop solar tariffs fell to ₹1.99/unit. Industry welcomed execution focus over announcements.



## PM Surya Ghar scales rooftop solar

PM Surya Ghar: Muft Bijli Yojana commissioned 2.3 GW rooftops by January 2026, powering 28 lakh households with 300 free units per month. ₹22,000 crore budget targets 10 GW total. Portal approvals: 28 lakh; 82% subsidies disbursed (₹16,000 crore). Bills cut 58%; women self-help groups installed 35%. Module costs ~\$0.22 per watt-peak. Distribution companies earned ~₹1,800 crore peer-to-peer sales. Gujarat leads (22%); Bihar rising. Needs 100 GW rooftops by 2030 for 50% renewable energy. Scheme cuts aggregate technical and commercial losses 3%.



## Economic Survey: climate core to growth

The Economic Survey 2025-26 frames climate action as core to Viksit Bharat development, stressing 98% domestic adaptation funding needs boosting through resilient infrastructure, crop insurance, water markets, building codes, and carbon credit pilots. Lifestyle (LIFE) initiatives are key for 2070 net-zero alongside 500GW non-fossil capacity by 2030, with renewables rising amid coal transition. It projects 8% sustained growth essential for 2047 Viksit Bharat, balancing climate urgency with energy security and rapid development.



## Compliance carbon market launches midyear

India's Carbon Credit Trading Scheme (CCTS) launches early 2026, shifting from Perform, Achieve, and Trade (PAT) to GHG intensity targets across 9 sectors (steel, cement, aluminium, fertilizers, pulp/paper, chlor-alkali, refineries, petrochemicals, textiles). First Carbon Credit Certificates (CCC) trades hit October 2026 on Indian Energy Exchange (IEX)/Power Exchange India Limited (PXIL) via baseline-credit, domestic-only for Nationally Determined Contribution (NDC) goals. Central Electricity Regulatory Commission (CERC) stabilizes prices. Inter-State Transmission System (ISTS) waivers to 2030 aid green H2/storage.



## Panchamrit execution ramps for 2070 net zero

India's Panchamrit commitments—500 GW non-fossil capacity (50% achieved early 2025), 50% renewable generation, and 45% emissions intensity reduction by 2030—propel 2026 execution amid coal capacity nearing peak with sharply falling imports. EV penetration reaches ~6% for two-wheelers in Q1 FY26 (cars lower), metro networks expand over 300 km by year-end, and green hydrogen policy targets steel decarbonisation around 5 MMT annually. Carbon market and rooftop solar initiatives accelerate progress despite persistent DISCOM financial strains and land acquisition hurdles, while 2070 net-zero demands ~\$10 trillion investment equivalent to 7% cumulative GDP, led by states like Gujarat.

### PM MAKES FIVE PLEDGES

- 1 India will increase its non-fossil energy capacity to 500GW by 2030
- 2 India will meet 50% of its energy requirements from renewable energy by 2030
- 3 India will reduce the total projected carbon emissions by one billion tonnes from now to 2030
- 4 By 2030, India will reduce the carbon intensity of its economy by 45% (from a previous target of 35%)
- 5 By 2070, India will achieve the target of net zero

### WHAT IS NET ZERO?

Net zero refers to a balance where emissions of greenhouse gases are offset by the absorption of an equivalent amount from the atmosphere. Experts see net zero targets as a critical measure to successfully tackle climate change and its devastating consequences

### PLEDGES BY TOP THREE EMITTERS



**CHINA:** Beijing announced no new pledges on Monday. It previously pledged net zero by 2060.



**UNITED STATES:** The US touted domestic legislation to spend \$555bn to boost renewable power and electric vehicles. It has pledged net zero by 2050.



**INDIA:** The country's economy will become carbon neutral by the year 2070

