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From the Desk of the Patron

COP 30, Brazil: An Overview - Reflections from the Patron

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Prologue

The Conference of the Parties (COP) is the supreme decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC). Each year, representatives from nearly every country gather to review progress in addressing climate change and to negotiate new commitments for the future (WWF- Brasil, 2025). The thirtieth session, known as COP 30, is scheduled to take place in 2025 in Belém, Brazil, in the heart of the Amazon rainforest. The Amazon is often described as the "lungs of the Earth" and is crucial to global climate balance; hosting the conference there underlines the urgent need to protect ecosystems that regulate the planet's climate and sustain biodiversity (UN Geneva, 2025; Conservation International, 2025).

Elaboration

The main objective of COP 30 is to assess the progress made since the Paris Agreement of 2015 and to push nations to strengthen their Nationally Determined Contributions (NDCs), which are national plans for **reducing greenhouse-gas emissions** (WWF-Brasil, 2025). It will also aim to ensure that the global community remains on track to limit temperature rise to 1.5 °C above pre-industrial levels. The conference will **focus on issues such as deforestation, energy transition, climate finance, and global cooperation to build resilience in the face of worsening climate impacts** (UN Geneva, 2025; COP30 Press Office, 2025). As the world's attention turns to Brazil, the conference will highlight both the opportunities and the challenges facing countries that are rich in natural resources yet highly vulnerable to climate disruption.

One of the most pressing problems that COP 30 will confront is **the rapid deforestation of the Amazon rainforest.** Despite efforts by Brazil and other nations to control illegal logging and mining, large portions of the forest continue to be destroyed for agricultural expansion, cattle ranching, and resource extraction. This not only leads to the loss of precious biodiversity but also releases vast amounts of stored carbon dioxide into the atmosphere, thereby accelerating global warming (Conservation International, 2025). The degradation of the Amazon is a global concern because it affects rainfall patterns, contributes to climate instability, and threatens indigenous communities who depend on the forest for their livelihoods.

Another burning issue is the steady **rise in global temperatures**. The world is already experiencing the devastating effects of climate change—ranging from record-breaking heatwaves and forest fires to floods, droughts, and hurricanes. Many countries are still far from meeting their emission-reduction targets, and time is running out to prevent irreversible damage. Alongside this is the deepening inequality between developed and developing nations. Wealthier countries have historically contributed the most to greenhouse-gas emissions, while poorer nations bear the brunt of the consequences. A lack of adequate financial support and technology transfer has made it difficult for developing nations to adapt to climate impacts or transition toward greener economies (COP30 Press Office, 2025; BRICS Environment Ministers, 2025).

The **transition from fossil fuels to renewable energy** also presents significant challenges. While renewable sources like solar, wind, and hydropower are expanding rapidly, many economies remain heavily dependent on coal, oil and gas for both energy and employment. This dependence creates political and economic resistance to change. Moreover, the loss of biodiversity and ocean pollution continue to pose serious threats to global ecosystems. Marine life, coral reefs and fisheries are under severe pressure from plastic waste, acidification and rising sea temperatures. These interconnected crises demonstrate the urgent need for a holistic and cooperative approach to climate action.

In response to these problems, COP 30 is expected to emphasise strong remedial measures. One of the primary goals will be to strengthen **global and local policies to protect forests**, especially the Amazon. Governments must enforce stricter laws against illegal deforestation, promote reforestation and involve

indigenous peoples in conservation planning (Conservation International, 2025). The energy transition must be accelerated **by investing in renewable technologies, phasing out fossil-fuel subsidies** and developing sustainable infrastructure (COP30 Press Office, 2025). A fair and effective financial mechanism is also vital: developed countries need to fulfil their long-standing commitment to provide at least US $100 billion annually to help developing nations adapt to and mitigate the effects of climate change. Additionally, there is growing demand for a new "loss and damage" fund to assist countries that have already suffered severe climate-related disasters.

Adaptation strategies will also play a key role. Investing in **climate-resilient agriculture, water management, coastal protection and urban green spaces** can help societies withstand the effects of changing weather patterns. Building early-warning systems and improving disaster preparedness can save lives and reduce economic losses. Furthermore, the success of COP 30 will depend on international cooperation and transparency: countries must not only make ambitious pledges but also follow through with measurable actions. Strengthening accountability, fostering green innovation and creating opportunities for sustainable development will be essential to achieving lasting change (WWF-Brasil, 2025; UN Geneva, 2025).

Epilogue

In conclusion, COP 30 in Brazil represents a defining moment in the global struggle against climate change. Hosting the summit in the Amazon sends a powerful message: protecting nature is inseparable from protecting humanity's future. The challenges are immense—ranging from deforestation and rising temperatures to inequality and financial constraints—but so are the opportunities. Through collective commitment, science-based policy and genuine solidarity among nations, the world can still chart a course toward a safer and more sustainable planet. **COP 30 is not just another climate conference; it is a call for decisive action and shared responsibility at a time when the future of the Earth depends on the choices we make today.** The **CEHESH TRUST OF INDIA** expresses deep concern over the escalating climate crisis ahead of COP 30, emphasizing the urgent need for collective global action. Through its **15-acre medicinal plant conservation garden**, the Trust demonstrates sustainable ecosystem restoration in practice. It actively conducts water conservation projects, supply of safe drinking water to the tribal people and **awareness programs in schools and colleges** to educate youth on climate resilience and environmental stewardship. CEHESH urges COP 30 leaders **to prioritize grassroots initiatives that blend traditional knowledge with modern climate solutions**.

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Green Hydrogen Revolution in India: Reflections from the Patron

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Prologue

India has taken another decisive step toward realizing its clean-energy ambitions with Union Minister for New and Renewable Energy, Shri Pralhad Joshi, inaugurating the 3rd International Conference on Green Hydrogen (ICGH 2025) at Bharat Mandapam, New Delhi (Press Information Bureau [PIB], 2025). Addressing the global gathering, the Minister emphasized that the National Green Hydrogen Mission (NGHM) is propelling India's transition to a low-carbon economy while creating employment, attracting investments, and positioning the nation as a global hub for green hydrogen production and technology (Ministry of New and Renewable Energy [MNRE], 2023). The launch of the Mission's new logo selected from over 2,500 entries symbolizes public participation in the national movement toward a greener and self-reliant future. The design, integrating elements of nature, science, and innovation, embodies India's commitment to sustainability and technological excellence (PIB, 2025).

Elaboration

The Minister announced a 100 crore Call for Proposals for pilot projects aimed at developing innovative technologies to produce green hydrogen from biomass and waste materials. This initiative, to be implemented through the Biotechnology Industry Research Assistance Council (BIRAC), will encourage participation from start-ups, industries, and research institutions fostering innovation in cost- effective hydrogen production (PIB, 2025). Building on the 100 crore already allocated for start-ups under the Mission, this effort reflects the government's resolve to develop a vibrant research and industrial ecosystem around renewable hydrogen (MNRE, 2023). Shri Joshi emphasized that this initiative will strengthen domestic technological capabilities and accelerate India's march toward clean- energy independence (PIB, 2025).

Launched in 2023 with an outlay of 19,744 crore, the National Green Hydrogen Mission seeks to make India a global leader in the green hydrogen value chain (MNRE, 2023). Termed a "global solution to decarbonize hard-to-abate sectors," the Mission marks a new phase in India's energy revolution, where hydrogen is envisioned as the fuel of a new civilization. Under the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme, the government has awarded incentives for 3,000 MW per annum of electrolyser manufacturing and 8.62 lakh metric tonnes per annum of green hydrogen production (MNRE, 2023). India has already achieved the world's lowest recorded price for green ammonia at 49.75 per kg, reinforcing its competitive advantage (Press Information Bureau, 2024). Substantial investments have also been made in pilot projects, including 132 crore for green steel, 208 crore for hydrogen-fuelled vehicles and refuelling stations, and 35 crore for the first hydrogen bunkering facility at V.O. Chidambaranar Port (MNRE, 2023).

Highlighting the focus on skills, standards, and competitiveness, Shri Joshi noted that India's entire green hydrogen output will be powered by renewable energy (PIB, 2025). The government has approved 43 hydrogen-related skill qualifications and certified over 6,300 trainees while introducing robust frameworks such as the *Green Hydrogen Standard (2023)* and the *Certification Scheme (2025)*, supported by 128 technical standards (MNRE, 2023, August; MNRE, 2025). As global economies adopt carbon-border adjustment mechanisms, green hydrogen has become an economic necessity rather than merely an environmental choice positioning India at the forefront of the clean-energy value chain (PIB, 2025). The Minister emphasized that ICGH 2025 is not just a conference but a platform for global cooperation and collective action, reflecting India's readiness to collaborate with international partners in building a resilient and inclusive hydrogen economy (International Conference on Green Hydrogen, 2025).

Principal Scientific Adviser to the Government of India, Prof. Ajay K. Sood, underscored that the NGHM is advancing steadily across policy formulation, demand creation, research and development, and infrastructure enablement (MNRE, 2023). He highlighted India's cost advantage in green hydrogen production and its potential to become a major exporter

to the European Union, Japan, and South Korea an edge that will define India's leadership in the global clean-energy market (MNRE, 2023).

Secretary, MNRE, Shri Santosh Kumar Sarangi, noted that India's non-fossil installed capacity has surpassed 250 GW, including 130 GW solar, over 50 GW wind, and 17 GW bio-energy and small hydro (MNRE, 2023). Guided by the Prime Minister's vision of "One Earth, One Family, One Future," India is progressing toward its 2030 target of 500 GW renewable capacity. The Mission is projected to mobilize 8 lakh crore in investments, create six lakh jobs, and save 1 lakh crore annually in fossil- fuel imports (MNRE, 2023). The establishment of Hydrogen Valley Innovation Clusters in Jodhpur, Pune, Bhubaneswar, and Kerala further demonstrates India's commitment to fostering regional research and manufacturing ecosystems while integrating into global supply chains (MNRE, 2023).

Epilogue

The 3rd International Conference on Green Hydrogen (ICGH 2025), hosted by the Ministry of New and Renewable Energy, serves as a vital platform for global policymakers, industry leaders, and researchers to deliberate on the future of hydrogen energy (International Conference on Green Hydrogen, 2025). Through plenary and breakout sessions, the event seeks to advance dialogue on policy frameworks, emerging technologies, and collaborative strategies for a sustainable future. With strong policy support, technological innovation, and international cooperation, India stands poised to lead the world's green hydrogen revolution fuelling sustainable growth, energy security, and a cleaner planet for generations to come (PIB, 2025).

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