

IndianOil : Steering India's Green Agenda Forward

IndianOil shares its extensive plans to achieving Net Zero Operational emissions by 2046: In conversation with Mr Shrikant Madhav Vaidya, Chairman, IndianOil

1. How is IndianOil aiming to contribute to India's Net Zero journey?

As the Energy of India, IndianOil is committed to catalysing the country's ambitious journey to reach Net Zero emissions by 2070. Underlining that commitment, IndianOil has resolved to achieve the Net Zero Operational emissions by 2046 (Scope I & II). We are investing over Rs 2 trillion in phases across various initiatives covering the entirety of our operations, particularly in our refineries. IndianOil is focusing on greener avenues of renewable energy, green hydrogen, City Gas Distribution, Compressed Biogas, and Electric Vehicles. Beyond these endeavours, let me underscore our optimism about the groundbreaking biofuel forays poised to utilise India's agricultural waste and residue to offer new-age sustainable energy solutions, thereby boosting rural India's socioeconomic growth journey. Landmark projects like Asia's first 2G (second generation) ethanol bio-refinery and world's first 3G ethanol Plant using refinery off-gases are in the advanced stages of commissioning. We are also investing heavily in R&D to find new and innovative ways to reduce our emissions and improve our environmental performance.

2. Can you elaborate on IndianOil's Green products line up?

At IndianOil, we believe green innovations are quintessential in delighting modern eco-sensitive customers, and our futuristic product bouquet reflects that belief. I am proud of how we have been able to blend environment consciousness even in the traditional offerings while enhancing product performance. Eco-friendly diesel XtraGreen, green engine oil SERVO Greenmile, and ultra-premium high octane petrol variants like XP95 & XP100 not only boost the vehicle performance of vehicles but also reduce emissions significantly. On the LPG front, Indane XTRATEJ offers greater efficiency and significant savings.

And these innovative solutions are winning hearts and earning accolades at every level. For instance, our in-house Green Combo Solution, comprising XtraGreen Diesel and green lubricants, was awarded the National Energy Efficiency Innovation Award by the Bureau of Energy Efficiency (BEE).

3. How do you plan to make IndianOil's business operations more environmentally friendly and efficient?

At IndianOil, Refining forms the central core of our operations, and we are committed to making our refineries greener, more efficient and increasingly reliable. To begin with, we are using more gas in our furnaces and for the generation of hydrogen to reduce our carbon footprint. We are also investing in green hydrogen plants at our refineries in

Mathura and Panipat. These plants will help us further reduce our emissions and contribute to a cleaner environment.

IndianOil is also working to minimise its water footprint in mission mode. The upcoming first-of-its-kind Sewage Treatment Plants (STPs) in Mathura and Gujarat will recycle wastewater to cater to water requirements in refinery operations. The Gujarat plant is at an advanced stage of completion, and soon we will replicate this PPP-based STP model in other IndianOil refineries.

4. Please tell us about some of IndianOil's endeavors to protect India's biodiversity.

For us, going green is a comprehensive promise that extends much beyond the realms of operations. For instance, our Refineries boast of an extensive green belt of about 900 hectares that shelter an incredibly diverse variety of flora and fauna. we played a leading role in reintroducing the majestic Cheetah in India. On the national scale, we are working closely with National Tiger Conservation Authority to advance the historic Cheetah Reintroduction Project that has brought back the majestic Cheetah to Indian soil after seven decades of its extinction. As part of this project, we will contribute about Rs 50 crore over five years for various components, including Cheetah Introduction, Habitat Management & Protection, Eco Development, Staff Training and Veterinary Healthcare.

Last year, as a mark of our green commitment, IndianOil adopted the Great Indian Single Horned Rhino as our brand mascot, and we are leaving no stone unturned to catalyse Rhino conservation efforts in India. IndianOil has adopted 24 Indian single-horned rhinos at nine zoos across the country, providing them with the resources they need to live happy and healthy lives. We have also undertaken mangrove plantations in 100 hectares of Marine National Park near Narara Bet (Vadinar), Gujarat, to help shore up the fragile coastal ecosystem.

Then, IndianOil partnered with the Wildlife departments of Tamil Nadu and Odisha to protect the Olive Ridley Turtle eggs in artificial hatcheries. And in a landmark endeavour, we successfully undertook the challenging project of translocating corals when replacing our pipelines in the Gujarat coastal belt in Vadinar in partnership with the Zoological Survey of India. IndianOil is also supporting elephant rehabilitation in Mathura, Uttar Pradesh, in partnership with Wildlife SOS and has supported the construction of an elephant enclosure and essential bathing pond at the Wildlife SOS Elephant Conservation and Care Centre (ECCC) Tatrotha, Mathura. Furthermore, we have partnered with the Sundarban Tiger Conservation Foundation Trust (STCFT) to support the modernisation of patrolling in Sundarban Tiger Reserve to protect the Royal Bengal Tiger.

Let me add that IndianOil is committed to exploring more avenues for strengthening our national ecological heritage.

IndianOil's Top 10 Environmental Initiatives

1. Hydrogen Fuel:

Refineries are the major consumption centres for hydrogen. The current hydrogen production process is highly carbon-intensive. Thus, IndianOil will set up a 5 KTA (40 MW) Green Hydrogen plant at Mathura Refinery and a 2 KTA (16 MW) Green Hydrogen plant at Panipat Refinery. Also, India's first hydrogen dispensing station of 1.5 TPD has been set up in Gujarat by IndianOil, which can fuel up to 75 buses per day.

2. 2G Ethanol Plant at Panipat:

Asia's first 2G (second generation) ethanol bio-refinery, the IndianOil 2G Ethanol Plant in Panipat, will help cut down about three lakh Metric Tonnes of GHG (Greenhouse Gas) emission every year and will produce three crore litres of ethanol per annum by utilising about 2 lakh tonnes of paddy straw. It will also help in reducing air pollution caused due to stubble burning in Northern India.

3. City Gas Distribution Network:

IndianOil, along with its JV companies, is now present in 49 Geographical Areas in 105 districts spread across 21 states/UTs, making it one of the most significant CGD players in the country.

4. Compressed Biogas:

IndianOil has become the first Company in India to sell CBG under the Indigreen brand to customers through 39 retail outlets in 9 states. IndianOil has awarded 2636 LOIs for 6.5 MMTPA CBG production capacity under the ambitious SATAT (Sustainable Alternative Towards Affordable Transportation) scheme on CBG (Compressed Biogas).

5. Greener Operations, Renewable Ventures

- Enhancing operational reliability and efficiency by round-the-clock Remote turbine monitoring.
- Scaling up renewable capacity from today's 240 MW to nearly 5 GW by 2046.
- IndianOil has installed solar power units in more than 20,258 retail outlets (~60% of its total outlets, up to Nov' 22)
- Setting up a dedicated Centre for Alternative & Renewable Energy (i-CARE) at its new R&D campus.
- Partnered with NTPC to source renewable power to meet the electricity requirements (650 MW) for its approved refinery expansions.

6. Electric Vehicle Charging Stations and Battery technology:

- Setting up 10,000 EV charging stations by 2023-24. (Already set up more than 3400 EV charging stations and Battery Swapping Stations at its Fuel Stations).
- Formed a JV with Israeli company Phinergy Limited, IOC Phinergy Private Limited, to commercialise the Aluminium- Air Battery technology in India.

7. Green Product Bouquet:

Roll out of products with improved efficiency and lower carbon footprint, developed with in-house technologies, such as 100 Octane premium petrol XP100, high octane XP95, XtraGreen Diesel and Green lubricants, including SERVO Greenmile and SERVO Raftaar.

Protection of Biodiversity

1. Fuelling the Cheetah Translocation Project in collaboration with NTCA.
2. Adoption of Rhinos across Zoos in India.
3. Translocation of Corals at Vadinar, Gujarat.
4. Construction of Enclosure for Rehabilitation of Elephants at Mathura.
5. Support for the conservation of the Royal Bengal Tiger at Sunderban Tiger Reserve.
6. Plantation of Mangroves at Vadinar, Gujarat and Haldia in West Bengal to help shore up the fragile coastal ecosystem.

8. Unbottled-Recycling of PET Bottles into Garments:

IndianOil launched a special "sustainable & green" uniform for its 5 lakh Fuel Station Attendants, Indane LPG Gas delivery personnel and other special sections of stakeholders. The dress materials are made from recycled polyester derived from used

PET bottles, which supports recycling about 2,000 tonnes of PET bottles per year, equivalent to offsetting over 20 million bottles.

9. Reducing Water Footprint of IndianOil Refineries:

Upcoming first-of-its-kind Sewage Treatment Plants (STPs) in IndianOil's Gujarat and Mathura Refineries will recycle wastewater for use in the Company's refineries, reducing the need for fresh water. These STPs, built on PPP model, will soon to be replicated at other IndianOil Refineries.