

## Message of Director (Refineries)

# World ENVIRONMENT Day

June 05, 2025

#BeatPlasticPollution



Issue No. 73

Dear Colleagues,

On this World Environment Day, as we unite under the theme "**Ending Plastic Pollution**," I extend warm greetings and reaffirm IndianOil's commitment to environmental stewardship.

Plastic pollution stands as one of humanity's most daunting environmental challenges, threatening ecosystems, wildlife, and human health worldwide.

Despite its versatility and durability, plastic presents a profound environmental paradox. Its widespread misuse and slow degradation have overwhelmed ecosystems—only 9% of the 400 million tonnes produced annually is recycled, leaving the vast majority to pollute our ecosystems.

The consequences are dire: overflowing landfills, choked water bodies, and an existential threat to our marine life. Each year, 8–11 million tonnes of plastic enter the oceans, affecting million seabirds and marine mammals. Microplastics, formed from degraded plastic, now infiltrate ecosystems — even entering human bodies. A large share of this becomes mismanaged waste, contributing to the growing microplastics burden. Yet, significant progress has been made through policy measures like bans on single-use plastics, awareness drives, and innovation in waste management — aligned with the Hon'ble Prime Minister's vision of a 'Swachh Bharat'. Still, the road ahead demands sustained commitment.

### IndianOil Refineries: Engineering Solutions for a Greener Tomorrow

The refining sector, traditionally viewed as energy-intensive, is undergoing a paradigm shift. IndianOil Refineries are at the forefront of this change — blending innovation with responsibility as part of our Net Zero by 2046 roadmap. With Environment Management System-certified units, we are enhancing energy efficiency, reducing emissions, and advancing circular economy practices.

Our initiatives on Plastic Waste Management focus on reintegrating plastic waste into the production cycle.

#### Recycle

- **Recycled HDPE for Packaging:** IndianOil has launched Cycloplast grade rHDPE RBHD015 Black, a recycled polymer granule used for blow-molding lubricant containers combining recycled high-density polyethylene (HDPE) with up to 30% virgin HDPE to manufacture sustainable and durable containers under SERVO brand.
- **Road from Plastic Waste:** As a mindful reuse of plastic waste, bituminous roads using plastic waste have been laid outside IndianOil premise in Mathura and Digboi Refinery.
- **INDEcoP2F Technology:** IndianOil's proprietary INDEcoP2F (IndianOil Delayed Coker Plastic to Fuel) technology, validated at Digboi Refinery, exemplifies chemical recycling by converting up to 95% of plastic waste into valuable hydrocarbon fuels—showcasing how innovation can transform waste into wealth.
- PET bottle crushing machines are installed in many refinery townships.

#### Reuse

- Refineries are complying with Plastic Waste Management Rules and have successfully achieved our EPR target pertaining to plastic packaging by disposing plastic waste to authorised recyclers.

#### Reduce

- Under the "Unbottled" campaign, PET bottles are transformed into eco-friendly uniforms and garments, embodying the principles of circular economy in day-to-day operations.

### Our Sustainable Initiatives

- A 100 KLPD 2G Ethanol plant at Panipat uses paddy straw, potentially reducing CO<sub>2</sub> emissions by 0.3 MMTPA.
- Refineries have begun producing E20 fuel in line with the Government's EBP mandate. IndianOil has launched India's first Ethanol 100 fuel.
- A 10 KTPA electrolyser-based green hydrogen plant is being set up at Panipat Refinery.



- India's first commercial SAF plant (86.8 KTPA), using LanzaJet's ATJ technology and ethanol feedstock, is under development at Panipat. SAF-blended ATF production is planned from DHDS at Panipat Refinery, targeting 30 KTPA neat SAF, with up to 5% Used Cooking Oil (UCO) co-processed.

- 128 KLPD 3G ethanol plant at Panipat Refinery uses refinery off-gas to capture and convert carbon emissions.

Complementing these efforts, several other sustainability initiatives underscore the environmental leadership of the Refineries Division:

**Water Conservation:** We have embraced **innovative reuse techniques**, including large-scale utilization of treated municipal wastewater—such as 17 MLD treated water from Vadodara Municipal Corporation at Gujarat Refinery (ramping up to 40 MLD under a 15-year agreement) reducing freshwater usage by 25%, 8 MLD STP-treated water at Mathura Refinery, cutting freshwater consumption by 50%. Similarly reuse of 4 MLD STP water is under process at Haldia Refinery. Additionally, IIT Bombay's **Integrated Wetland Technology (IWT)** is being deployed for township sewage treatment at Haldia Refinery and similar initiative is being explored at Mathura Refinery. We must remain steadfast on

our goal of fresh water reduction by 5 % in FY 2025-26.

**Afforestation & Ecosystem Restoration:** Haldia's Mangrove Plantation 2.0, India's largest refinery-led initiative, shall add 30 lakh mangroves over 150 hectares, supplementing 21 lakh planted earlier in 2022. Digboi Refinery planted 1,11,111 saplings on June 9, 2024 with a plan to plant 6.25 lakh saplings in all. During FY 2024-25 3.39 lakh trees were planted in Refineries Division sequestering 204 TMT CO<sub>2</sub>e.

**Our community engagement:** At Paradip Refinery, we organize an annual Plogging Drive on the sea beach during the 'Swachhata Hi Seva' campaign—blending fitness with cleanliness and spreading awareness on marine plastic pollution.

### Refinery's Environment Protection Initiatives are Reflected in the Recognitions Bestowed:

- ❖ **Panipat Refinery** – Winner, Green Champions Award (Category I: >6 MMTPA)
- ❖ **Digboi Refinery** – Winner, Green Champions Award (Category II: ≤6 MMTPA)

These milestones are a testament to the dedication and innovation of our teams — but they are also a reminder that the road to Net Zero requires continuous effort and unwavering resolve.

### In Harmony with Nature

Our commitment to environmental protection embodies a philosophy of harmony and interconnectedness with nature, envisioning a world where every element of nature is revered and cared for.

Let us uphold this vision with responsibility and purpose—for the earth, for future generations, and for the intricate web of life that sustains us all.

Sustainability is not a goal, but a way of living — giving back more than we take, nurturing instead of exploiting.

Let us commit to this ethos — in our refineries, our homes, and our communities. Lead by example, live consciously, and inspire change.

Together, let us reaffirm our commitment to **#BeatPlasticPollution** and co-create a future where the earth breathes sweetly once more.

**My best wishes to all for a meaningful and impactful World Environment Day 2025.**

Jai Hind!

New Delhi  
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