

# Single-step process to convert plant-derived oils and animal-derived fats into SAF

## CSIR-IIP's single reactor HEFA technology for Drop-In Liquid Sustainable Aviation and Automotive Fuels (DILSAAF™)

### Salient Features of the Technology

- Single-step catalytic HEFA process
- High feed flexibility, suitable for multiple feedstocks
- Composition similar to ATF having cyclic paraffin, paraffins and aromatics of C<sub>7</sub> to C<sub>15</sub> Carbons
- CSIR-IIP SAF has potential up to 75% blending, while other SAF are approved up to 50% blending
- Patented non-noble metal-based catalyst
- General usage authorization for the Indian Air Force (Provisional Clearance Certificate issued by CEMILAC subject to OEM concurrence)
- 1TPD plant installed in Gujarat for green diesel production
- Demo plant of 9000TPA SAF will be ready by 2027 at MRPL, Mangalore

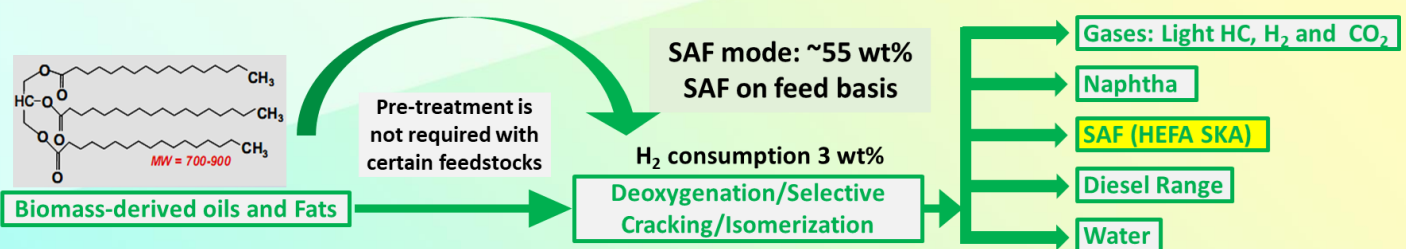


### Process Economics

- SAF produced by CSIR-IIP only ~1.5X than the conventional ATF
- Average Opex : ~0.3 \$/kg; Feed price and H<sub>2</sub> excluded
- Payback: ~4 Years (Green premium of naphtha and gases not included)

### By-product Applications

- Gases: >90% Propane (Excellent feed for green polypropylene)
- Naphtha: Highly paraffinic (Excellent feed for naphtha crackers)
- Diesel: Highly paraffinic (Cetane >75 with <5ppm S)



For detailed information please contact

Director, CSIR Indian Institute of Petroleum, Dehradun - 248005, Uttarakhand (India)

Phone: +91-135-2660205, Fax: +91-135-2660098, Email: [director@iip.res.in](mailto:director@iip.res.in), Website: [www.iip.res.in](http://www.iip.res.in)