



Market Scenario Planning: Renewable Naphtha - 2023

Market Scenario Planning: Renewable Naphtha – 2023 is one in a series of new reports published as part of NexantECA's Markets & Profitability program.

Published: March 2023

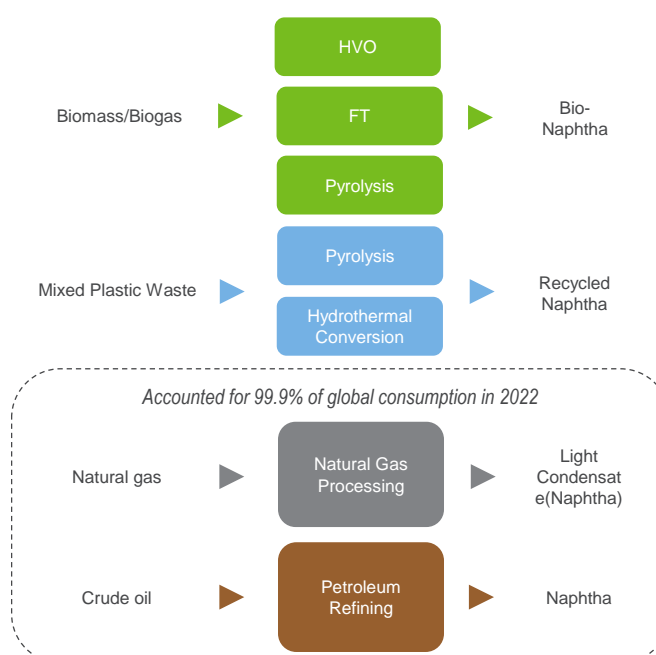
Report Abstract:

Renewable naphtha as a term encompasses several different routes to production of alternatives to petroleum-derived naphtha for use mainly as steam cracker feedstock for ethylene production into a wide range of chemicals and plastics. In this analysis, these routes are primarily divided into two categories; bio-naphtha and recycled naphtha.

- Bio-naphtha refers to the production of naphtha-equivalent fractions from “drop-in” fuel processes that focus mainly on the production of renewable diesel and sustainable aviation fuel.
- Recycled naphtha refers to the production of naphtha equivalent fractions via chemical processes aimed at converting waste plastics back to their constituent hydrocarbons, collectively referred to as chemical recycling, and led by plastic pyrolysis and hydrothermal routes.

Although production of renewable naphtha is currently estimated to be small, both biomass and recycled routes to the product are subject to market drivers that are expected to support strong growth in the coming decades. While these drivers are mainly under the common umbrella of sustainability-focused regulatory developments, they differ significantly between routes. Notably, bio-naphtha growth will be driven by the product's status as a by-product of heavily-prioritised low carbon transport fuel production, while recycled naphtha growth requires strong support for chemical recycling's position in the overall hierarchy of plastic waste disposal options. This question is as yet far from settled in all markets, and the extent to which renewable naphtha will contribute to plastic waste production alongside mechanical recycling and efforts aimed at reducing the generation of plastic waste is a key area of uncertainty.

Main Routes to Naphtha



This report provides an overview of the different routes to renewable naphtha, before discussing the range of key factors that are driving growth in both bio-naphtha and recycled naphtha production. The report includes NexantECA's analysis of announced and speculative production capacity addition for both routes, with announced projects detailed at the individual plant level.

The report addresses:

- What are the main drivers supporting increased renewable naphtha production?
- Which regions are driving the global expansion of production?
- What are the factors that will offset growth drivers?
- To what extent will renewable naphtha production growth to 2050 under three different forecast scenarios?
- What will be the key factors shaping pricing behaviour in relation to NexantECA's underlying pricing forecasts for conventional naphtha?



Market Scenario Planning: Renewable Naphtha – 2023

Table of Contents:

1. Executive Summary
2. Current Picture
 - 2.1. Global Naphtha Market Overview
 - 2.2. Bio-Naphtha Overview
 - 2.3. Recycled Naphtha Overview
3. Market Drivers
 - 3.1. Overview
 - 3.2. Policy & the Regulatory Environment
 - 3.3. Carbon Intensity Analysis
 - 3.4. Cost Competitiveness Analysis
4. Market Constraints
5. Pricing Analysis
6. Market Scenarios
7. Appendix

NexantECA defines the three market scenarios as:

- **Base:** NexantECA's expectation for biomass and recycled naphtha production given current knowledge of policy, technical and market drivers.
- **High:** NexantECA assumes that there is greater commitment to plastic waste elimination, with support for chemical routes, while use of bio-naphtha in plastic production is sufficiently incentivised to divert yields away from fuels.
- **Low:** NexantECA assumes that chemical recycling is actively discouraged on sustainability grounds, while transport fuels gain larger share of drop-in yields.

This analysis will identify the key policy, technology and market drivers shaping these scenarios.

For related analysis, please refer to:

Market Analytics: Fuels and Feedstocks

Market Insight: Hydrotreated Vegetable Oil

Special Report: Low Carbon Intensity Ethylene

Special Report: Olefins from Mixed Plastics Waste

Subscription Details:

Subscription to **Market Scenario Planning: Renewable Naphtha – 2023** includes:

- 12 month access via the NexantECA website, to:
 - Unlimited downloads of PDF reports
- Webinar presentation
- Consultation time with the project team

Contact Us:

Markets@NexantECA.com

or

www.NexantECA.com



NexantECA Subscriptions and Reports provide clients with comprehensive analytics, forecasts and insights for the chemicals, polymers, energy and cleantech industries. Using a combination of business and technical expertise, with deep and broad understanding of markets, technologies and economics, NexantECA provides solutions that our clients have relied upon for over 50 years.

Markets and Profitability tracks over 60 feedstocks, petrochemicals, polymers, chemical intermediates and fertilizers on an ongoing basis and provides regularly updated reports covering all commercial aspects of these global industries. The accompanying database provides global analysis and forecasts in two major inter-related areas: **Markets and Profitability**.

NexantECA serves its clients from over 10 offices located throughout the Americas, Europe, the Middle East, Africa and Asia.

Americas

Tel: +1 914 609 0300
44 S Broadway,
4th Floor White Plains
NY 10601-4425
USA

Europe, Middle East & Africa

Tel: +44 20 7950 1600
110 Cannon Street
London, EC4N 6EU
United Kingdom

Asia Pacific

Tel: +662 793 4600
22nd Floor, Rasa Tower I
555 Phahonyothin Road
Kwaeng Chatuchak
Khet Chatuchak
Bangkok 10900
Thailand