Subscribe to NexantThinking™

PERP Report 2017-8: Low Density Polyethylene (LDPE)

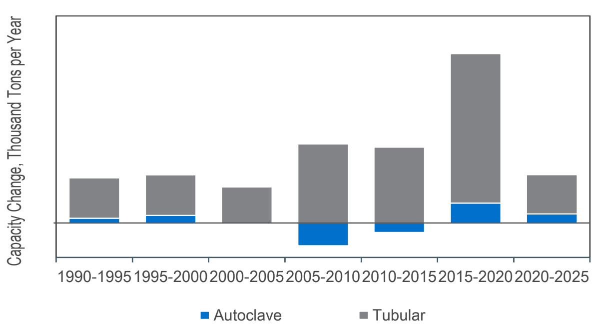
Low Density Polyethylene (LDPE)" is one in a series of reports published as part of the 2017 Process Evaluation/ Research Planning (PERP) Program.

Overview

Low density polyethylene (LDPE) is one of a number of polyolefins that are commodity plastics, which are used globally in a wide range of market segments. LDPE has been the slowest growing polyethylene due to substitution by LLDPE. However, LDPE still maintains significant market share due to product capability and economics.

After years of minimal capacity additions and multiple plant shutdowns, capacity additions have begun to increase and an unprecedented level of activity will result in more than five million tons per year of capacity being added in the next five years, including a resurgence of interest in autoclave technology.

GLOBAL LDPE CAPACITY ADDITIONS



This PERP report provides an updated overview of the technological, economic, and market aspects of LDPE, including EVA copolymers. The following issues are addressed in this report:

- What are the major technologies for LDPE production? How do the technologies differ? What technologies are available for license?
- How do the process economics compare across processes and different geographic regions?
- Who are the top 10 producers of LDPE?
- What is the current market environment for LDPE? How does its growth compare with other polyolefins? Where will new capacity be added?

Commercial Technologies

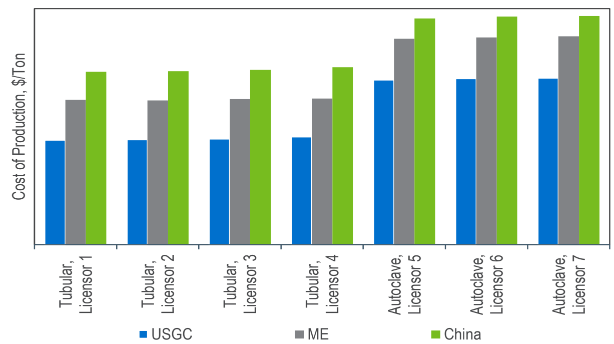
The two basic processes used for the production of LDPE are autoclave and tubular. Both can be used to produce LDPE copolymers, including EVA. The technologies are very mature with licensors focusing on cost reduction and product enhancement to differentiate their technologies.

Tubular technologies from ExxonMobil, LyondellBasell, SABIC, and Versalis, and autoclave technologies from ExxonMobil, ICI/ Simon Carves, LyondellBasell, and Versalis are described with a focus on recent developments. A list of licensees is included for each technology.

Process Economics

Detailed cost of production estimates for tubular and autoclave processes are presented for USGC, coastal China, and Middle East locations. For tubular processes estimates are developed for LDPE and EVA (18% VA), while for autoclave processes, estimates are developed for LDPE and EVA (18% and 28% VA).

REGIONAL COST OF PRODUCTION COMPARISON FOR LDPE RESINS



Commercial Market Review

Global LDPE consumption was around 21 million tons in 2016 with film applications the major end use, followed by extrusion coating and other extrusion (including wire and cable and sheet). With new global capacity, demand growth of 3.4 percent per year through 2021 is expected, which is nearly double the growth rate of the previous five years. An overview of the supply, demand, and trade of LDPE on a global and regional (North America, Western Europe, and Asia Pacific) basis is provided in this PERP report.

PERP Subscription Options

PERP Reports can be purchased as an annual subscription to the full program or on an individual basis, including reports from earlier program years. For a complete list of PERP Reports, please visit us at thinking.nexant.com

Nexant

Reimagine tomorrow.

NexantThinking™

NexantThinking reports and subscription programs 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, NexantThinking provides solutions that our clients have relied upon for over 50 years.

Global in scope, Nexant serves its clients from over 30 offices located throughout the Americas, Europe, the Middle East, Africa and Asia.

Subscribe to our thought leadership today and explore our products and services at:

thinking.nexant.com

Corporate Headquarters
Tel: +1 415 369 1000
101 2nd St Suite 1000
San Francisco
CA 94105-3651
USA

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
1 King's Arms Yard
London EC2R 7AF
United Kingdom

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