

CHEMSYSTEMS POPS PROGRAM

Report Abstract

Executive Report Global Commercial Analysis

Global Polyolefins Market Dynamics, Polyethylene (LDPE, LLDPE, HDPE), Polypropylene (PP), Supply, Demand, Trade, Economics

April 2010

CHEMSYSTEMS POPS PROGRAM

Report Abstract

Executive Report Global Commercial Analysis

April 2010



Griffin House, 1st Floor South, 161 Hammersmith Road, London W6 8BS, UK Tel: +44 20 7950 1600 Fax: +44 20 7950 1550

This Report was prepared by Nexant, Inc ("Nexant") and is part of the PolyOlefins Planning Services Program. Except where specifically stated otherwise in this Report, the information contained herein is prepared on the basis of information that is publicly available, and contains no confidential third party technical information to the best knowledge of Nexant. Aforesaid information has not been independently verified or otherwise examined to determine its accuracy, completeness or financial feasibility. Neither NEXANT, Subscriber nor any person acting on behalf of either assumes any liabilities with respect to the use of or for damages resulting from the use of any information contained in this Report. Nexant does not represent or warrant that any assumed conditions will come to pass.

The Report is submitted on the understanding that the Subscriber will maintain the contents confidential except for the Subscriber's internal use. The Report should not be reproduced, distributed or used without first obtaining prior written consent by Nexant. Each Subscriber agrees to use reasonable effort to protect the confidential nature of the Report.

Copyright © by Nexant Inc. 2010. All rights reserved.

Executive Report – Global Commercial Analysis

INTRODUCTION

Late 2008 and 2009 proved to be a challenging period for the leading economies in Western Europe, North America and Japan as governments and central banks were forced to adopt emergency fiscal and monetary policies following the collapse of the financial markets and rapid slowdown of consumer and industry spending. Global GDP is estimated to have contracted by 2.1 percent in 2009 during the worst recession in decades. However, China and certain emerging economies actually showed good growth despite a reduction in economic activity in their traditional export markets.

Against this backdrop, global polyolefin consumption fell by only 0.14 percent in 2009, which was due to the growth in consumption in China and certain emerging markets offsetting the drop in consumption in the mature markets of Western Europe, North America and Japan.

The analysis in the report anticipates that demand is expected to improve slightly over 2009 figures in 2010, but not returning to 2007 or 2008 levels for certain regions while operating rates will fall considerably in 2010 compared to 2009.

Looking further ahead beyond 2010, low operating rates are forecasted to be a continuing issue as the increased rate of net capacity additions, particularly in the Middle East and Asia, will exceed corresponding increases in demand as the global economy recovers.

Another key issue in the report is the global trade picture, which will evolve noticeably in the medium-term as the United States and Western Europe become large net importers of LLDPE, HDPE and polypropylene, and the Middle East develops into the role of supplier to the world. Western Europe and North America will continue to be net exporters of LDPE.

Demand

Global polyolefins demand is estimated at 111 million tons in 2009, a decline of 0.14 percent compared to 2008. However, this compares favourably against the corresponding fall of 2.1 percent in global GDP as an increase in demand from China and other emerging economies offset the reduction in demand from Western Europe, North America and Japan.



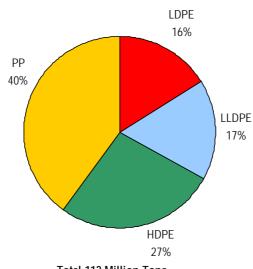


FIGURE 1 - Global Polyolefin Consumption 2009

Total 113 Million Tons

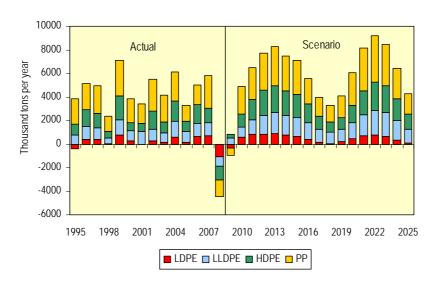


FIGURE 2 – Polyolefins Consumption Growth (1995-2025)

The demand growth for LDPE in 2009 was negative 1.9 percent due to the effects of the global economic downturn and sustained competition from LLDPE. In comparison, the demand for LLDPE grew an estimated 2.6 percent in 2009 after experiencing negative 4.2 percent growth in 2008 and it increased its penetration in the combined LLDPE/LDPE market from 50 percent in 2006 to 52 percent in 2009 as a result of competitively priced conventional and second generation grades. LLDPE demand is forecast to grow by 6.2 percent per year over the period to 2015.



Global HDPE demand grew by 1.1 percent in 2009 compared to 2008. HDPE growth in the period 2009-2015 is projected to be approximately 5.5 percent, of which Asia and the Middle East are forecast to contribute over 40 percent of total growth. Bimodal HDPE will continue to be a focus for much of this consumption growth based on an expanding product performance envelope and the potential for single gas phase reactor production which would have a lower capital and production cost.

Global polypropylene demand is estimated to have declined by 1.4 percent in 2009, a more moderate figure compared to 2008 which saw a decline of 3.1 percent due to de-stocking of the value chain. North America and Western Europe were especially affected, while the Asian market saw minimal growth in 2009. The growth in the emerging economies of Central and Eastern Europe, Middle East and Africa was ahead of that seen in the more mature markets of North America, Western Europe and Japan. However, the outlook for polypropylene is much better in the period 2009-2015 as consumption is forecast to grow by 5.7 percent per annum with over half of this volume growth focused in the Asian markets, particularly China and India.

Supply

Total polyolefins capacity increased by 47 million tons in the period 1999-2009 with approximately seven million tons of additional capacity being available in 2009. 2010 should also see significant capacity increases as nine millions tons of polyethylene and six million tons of polypropylene are due to come on-stream, pending project delays and closures of existing uncompetitive assets.

On a regional basis, investments have been made in locations of advantaged feedstock such as the Middle East, or regions of high market growth such as Asia. Consequently, the share of global polyolefins capacity in the Middle East and Asia has increased from a combined 36 percent to 49 percent over the period 1999-2009, mostly replacing existing capacities in North America and Western Europe, which have fallen from 52 percent to 39 percent in the same time period.

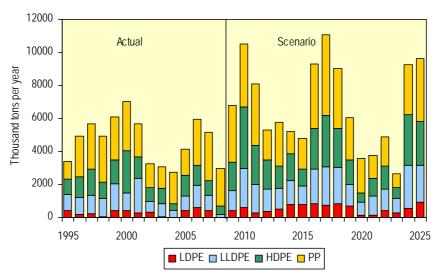


FIGURE 3 - Polyolefins Capacity Growth (1995-2025)



LDPE capacity additions up to 2009 have been minimal, but the period 2010-2015 is expected to see capacity growth as projects currently under construction come on-stream. This will have a profound effect on operating rates and 250 000 tons of speculative capacity will close in 2010. Up to 2015, closures are forecast of smaller, old and less competitive assets in the more mature markets of Western Europe, North America and Japan.

2009 saw 2.9 million tons of additional HDPE and LLDPE capacity after moderate increases earlier in the same decade. As with LDPE, significant capacity additions are due in the period 2010-2013 with corresponding negative speculative capacity following closures of uncompetitive facilities and unexpected project delays.

The period 2010-2011 will be the peak of a defined investment cycle in polypropylene capacity growth with an average of five millions tons coming on-stream. However, the industry is forecast to be under pressure at a time of slow recovering demand resulting in falling operating rates and the forced closures of older and less competitive assets.

Trade

The outlook presented in the report show significant consequences for global polyolefins trade. The Middle East will continue to be an attractive location for capacity additions due to advantaged feedstocks as will Asia to keep up with increasing demand in the region.

Consequently, the Middle East will become a net exporter of polyethylene and propylene increasing from 11 million and three million tons respectively in 2015 to 16 million and five million tons respectively in 2025.

Western Europe and North America will become net importers of polyethylene and polypropylene as domestic capacity is closed down and recovery from the financial crisis continues. This is demonstrated for Western Europe, below, which, with the exception of LDPE, demonstrates and quantifies the increasing dependency on imported resin. Asia (excluding Japan) will remain a net importer.



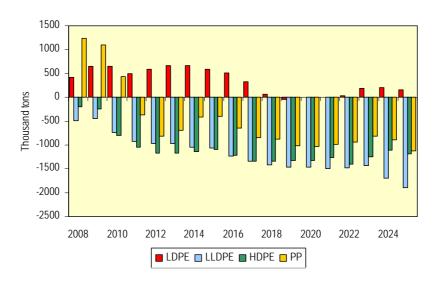


FIGURE 4 – West European Polyolefin Net Trade

The report *PolyOlefins Planning Service: Executive Report, Global Commercial Analysis* is published by Nexant as part of its ChemSystems POPS program. Subscriptions or single copies of the report are available from www.chemsystems.com.





Nexant, Inc.

San Francisco London Tokyo Bangkok New York Washington Houston Phoenix Madison Boulder Dusseldorf Beijing Shanghai Paris

www.chemsystems.com