

# CHEMSYSTEMS

## PolyOlefins Planning Service

*Get the Competitive Edge*

***CHEMSYSTEMS Return on Analysis***

2010 Program (April 2010 - March 2011)

**Prospectus**

[www.chemsystems.com](http://www.chemsystems.com)

# CHEMSYSTEMS<sup>®</sup>

**PROSPECTUS** April 2010

## **PolyOlefins Planning Service 2010 Program (April 2010 – March 2011)**

Griffin House, 161 Hammersmith Road, London W6 8BS, UK  
**tel:** +44 20 7950 1600, **fax:** +44 20 7950 1550

Nexant<sup>®</sup>, ChemSystems<sup>®</sup> and ChemSystems Online<sup>®</sup> are registered trade marks of Nexant, Inc.

*CHEMSYSTEMS – a brand owned by Nexant, Inc. that provides support to decision makers in the petroleum, chemical and petrochemical industries*

# CONTENTS

<b>SECTION</b>	<b>PAGE</b>
1 Introduction to the Program	1
2 Value of the Program	4
3 Scope of the Program	5
4 Detailed Description of the Program	6
5 Costs and Subscription	8

<b>APPENDIX</b>	<b>PAGE</b>
A Subscription Terms and Conditions	9
B Contact Details	11
C Illustrative Tables and Contents (Executive Report Global Commercial Analysis)	12

## SECTION 1.



# Introduction to the Program

## The Program

The ChemSystems PolyOlefins Planning Service (POPS) has provided the most detailed, accurate and insightful analysis, of the global polyethylene and polypropylene business since its first publication in the 1990s.

The service is regarded by many in the industry as the definitive analysis and forecast program for polyolefins. By means of an annual Executive Report, Quarterly Business Update reports, three special topic reports per year plus a tri-annual Technology analysis, the program delivers a comprehensive commercial analysis of the industry.

The analysis in the program is developed by Nexant's polyolefins consultants based on detailed research and field work for all global regions. The forecasts are developed using Nexant's ChemSystems Simulator, the state-of-the-art simulation model of the global petrochemical industry, ensuring that the forecasts are compatible with and integrated to forecasts of olefins and of competing commodity plastics. Subscriptions to the ChemSystems Simulator are also available allowing subscribers to develop private scenarios and forecasts.

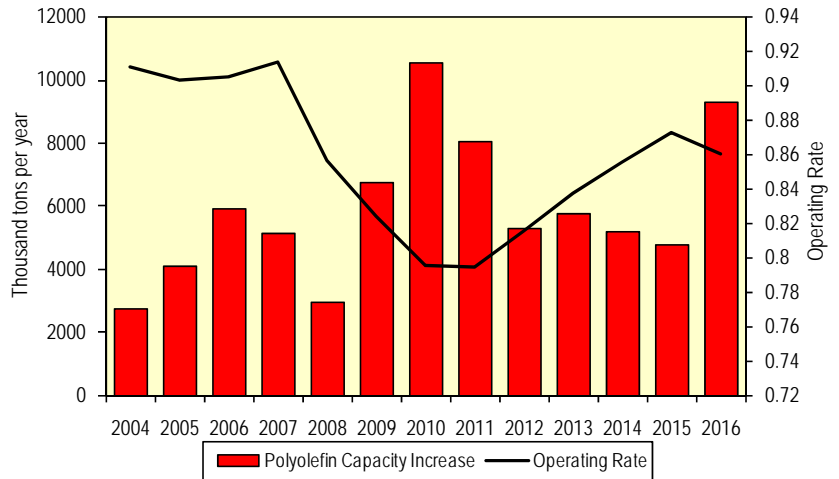
## Key Industry Issues

The polyolefins industry continues to be in a period of immense challenge. After a very volatile 2008, by the start of 2009, many of the regional economies around the world had gone into recession and the financial crisis in the banking sector had forced many governments to increase the supply of money in order to stimulate lending and economic recovery. By the second half of 2009, several of the economies in North America and Western Europe had started to emerge from recession with a subsequent modest increase in polyolefin demand. Meanwhile, the Chinese economy, although impacted by the falling demand in some key export markets, continued to show good growth and helped provide some positive news for the global polyolefin demand picture. However, against this global background of poor demand, polyolefin producers have struggled financially and the rate of polyolefin capacity rationalisation was high in 2009.

The economic outlook is set to improve in 2010 although the extent of the economic recovery remains fragile with fears remaining in some quarters of a return to recession in some quarters. In addition to the modest demand picture for 2010, 2010 is set to deliver the highest level of new plant capacity additions the industry has ever seen. Much of this is located in China and the Middle East and represents a significant competitive threat to the existing industry. Thus, the investment cycle, as often witnessed for the petrochemical industry, is likely to continue to deliver very strong supply availability in 2010. The current 2010 and 2011 outlook is therefore one of significantly declining operating rates with industry profitability expected to follow accordingly (see Figure 1).

However, better times will return as the industry comes out the other side of the downturn. Throughout these periods, companies will be making important decisions on investments, marketing and product strategies. It is the purpose of the POPS program to serve as a valuable resource in these key decisions.

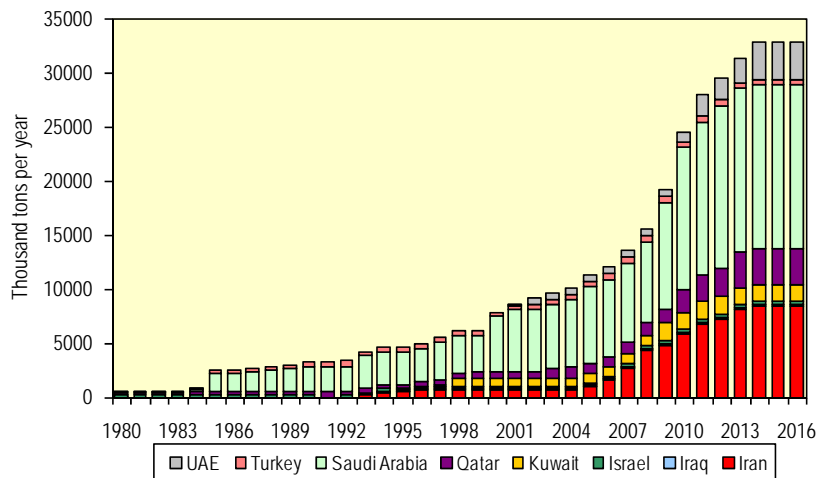
Figure 1 The Next Cycle



Below we outline several important issues for the polyolefins industry.

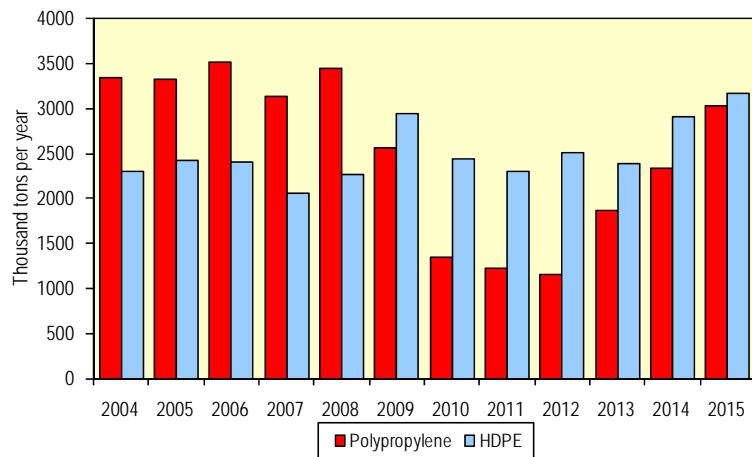
- The economic recession in many parts of the world has caused significant reduction in polyolefin demand in some countries. How quickly will demand recover and when will consumption be restored to at least historic consumption levels?
- In the short term, operating rates will fall significantly and profitability is set to further decline. In this context, and against a background of a fragile world economy, what degree of capacity rationalisation might be anticipated if industry margins and profitability are to recover?
- Middle East capacity development: The Middle East is currently the main investment focus for many companies. While some of these have been delayed for a variety of reasons, they are now coming to fruition and this will have a strong impact on world trade. Moreover, the number of countries building new plants is also increasing (Figure 2).

Figure 2 Steam Cracker Capacity Growth in the Middle East



- China: Demand growth for polyolefins has been very strong in recent years. The question remains as to what demand growth will look like in the coming years. There is also a strong indication for further significant increase in polyolefins capacity. While a significant proportion is likely to come from the two domestic producers, Sinopec and PetroChina, foreign joint ventures (existing and new) should also be prominent. A key issue is whether this additional capacity will lead to a declining import requirement or whether strong Chinese domestic demand growth will maintain imports at high levels. Our POPS reports will have the latest supply, demand and trade analysis.

**Figure 3 Chinese Imports of Selected Polyolefins**



- Other regional issues include:
  - Role and position of India: With its strong GDP growth, domestic demand has been increasing sharply. In response, domestic companies have announced the development of new capacity, both existing and new producers. With tariffs coming down, will India become a good export opportunity or will the new capacity be sufficient to meet domestic demand growth or even allow for some exports?
  - Future of Western Europe and the United States: With imports of finished goods and commodity polyolefin grades on the increase, the challenges facing United States and West European producers during the next downturn are anticipated to be very difficult ones. What is the outlook then for United States and West European producers during the next downturn and how will the combination of demand and supply issues impact on industry operating rates?
  - The outlook for Eastern Europe: This region has the benefit of extensive petrochemical feedstocks. With growing demand, the report will look at a view of capacity development in the region and the result on trade flows.
- Technology development: Most of the focus has been in the single site/metallocene area but there are other developments that will impact the business, including LyondellBasell's SPHERIZONE technology and Univation's gas-phase single reactor bimodal HMW HDPE. The Executive report will provide a detailed outlook for single site/metallocene products, developed for all regions to determine the global demand outlook for these products.

## SECTION 2.



# Value of the Program

---

The POPS program is used by, amongst others, Business Managers, Corporate and Business Planners, Industry Analysts, and Investors to understand the dynamics of this global business so that they may improve business performance and shareholder returns.

### Our 2010 POPS Program:

We update our commercial database annually. This is based on fieldwork, published statistics and other publicly available information. The fieldwork is conducted in each region and consists of discussions with a variety of industry participants including polyolefin resin producers, fabricators, end users, trading companies, compounders, and trade associations. These contacts will be in commercial, technical, R&D and various other roles in order to get a detailed and concise set of data and understanding of the key issues.

### Polyolefins Producers

Most of the global and regional polyolefins producers subscribe to the POPS program, relying on it to provide detailed market analysts and forecasting. In the complex world of polymer substitution, a reliable source of market forecasts is valuable and provides competitive advantage.

### Polyolefin Consumers

Processors and component manufacturers need a sound understanding of their suppliers and the polyolefin industry. POPS provides the global benchmark for supply and market development.

### Financial

The financial community has a need to understand polymer markets both through its role in project financing of polyolefin projects and in trading of polyolefin company bonds. The introduction of polymers futures on the London Metals Exchange has brought banks into the polymer business as traders of polyolefin paper.

## SECTION 3.



# Scope of the Program

---

The POPS program provides analysis of the technical and commercial polyethylene and polypropylene industries. The three polyethylenes: low density polyethylene (LDPE), linear low density polyethylene (LLDPE), and high density polyethylene (HDPE), and polypropylene (PP) are analysed with consumption for both conventional and metallocene grades. Production of LLDPE with co-monomers of butene, hexene and octene are presented. Consumption of polypropylene for homopolymer, random copolymer, impact copolymer and metallocene grades are presented.

Consumption of the four commodity polyolefins is analyzed by segmentation of the markets in each country into first level applications:

- Film - food packaging, non-food packaging, retail bags, trash bags, shrink and film wrap, and others as appropriate to each polyolefin
- Fibre
- Blow moulding - liquid food bottles, non food bottles, industrial drums, gas tanks, and others as appropriate to each polyolefin
- Injection moulding - lids, caps and closures, housewares, tubs & containers, crates/totes, pails, and others as appropriate to each polyolefin
- Extrusion coating - flex packaging and laminates, paper board, and others as appropriate to each polyolefin
- Rotomoulding
- Other extrusion uses - wire & cable, sheet, and others as appropriate to each polyolefin
- Other applications - including adhesives, coatings, and others as appropriate to each polyolefin

Consumption drivers for each country and trading region are discussed. The industry is global and trade from low cost producing regions to regions of high consumption is highly influential on regional balances and prices. Consequently the program analyses the industry in:

- North America
- South America, Central America and the Caribbean
- Western Europe
- Central Europe
- Eastern Europe
- The Middle East
- Africa
- Asia

Developments in the industry are discussed quarterly including consumption, production, pricing and trade, new capacity developments and company news.

## SECTION 4.



# Detailed Description of the Program

---

Our 2010 POPS program has been structured to meet the information and analysis needs of our subscribers and to reflect the changing nature of the industry. All of our reports and databases will be available electronically and in printed form. Subscription to the program is corporate, allowing as many employees access to the data and reports as required. POPS 2010 will provide timely topical data and valuable insights with commercial and technical information to support your company's competitive positioning in the industry. This will consist of the following:

- **An Annual Executive Report** covering commercial aspects of the global polyolefins business (LLDPE, LDPE, HDPE, polypropylene and second generation technology products (metallocene, bimodal, etc.). This will include global, regional and country-by-country supply, demand, net trade, production, and operating rates.
- **Quarterly Business Updates (QBUs)** provide an executive level analysis of key developments in the polyolefins industry. The reports include data reflecting quarterly demand, trade and pricing for selected regions, an updated table of new capacity additions, and a listing and assessment of important industry events (mergers, acquisitions, outages, etc.). Special topics of interest and strategic importance to the polyolefins industry will also be analysed in each QBU (consolidation, restructuring, technology shifts, feedstock issues, etc.). These will be published in the month following the close of each quarter.

Our POPS 2010 program is aimed at providing in-depth coverage plus topical analysis and commentary information. Three **supplements** will be provided covering in-depth analysis of key issues and developments that will likely impact the polyolefins businesses. The three supplements included in our POPS 2010 program are:

- **Supplement I – United States Polyethylene Cost Structure.** The U.S. petrochemical industry utilises a selection of feedstocks including ethane from natural gas sources. This Supplement will commence from natural gas in the U.S building an analysis of ethane availability and pricing scenarios and its subsequent implications for polyethylene operating rates and investment.
- **Supplement II – Global Metallocene LLDPE Review:** This Supplement will provide a global review of the metallocene LLDPE market, looking at supply, demand and trade for the m-LLDPE market. The analysis will include an analysis of market drivers, supply analysis, capacity developments, and key commercial issues.
- **Supplement III – Middle East Export Analysis:** The Middle East is increasingly exporting significant quantities of polyolefins. This Supplement will provide an analysis and commentary on target destinations for Middle East exports and will discuss the logistics and freight implications.

## SECTION 4.

### Detailed Description of the Program

In addition to the print reports subscribers are provided with a CD containing the **Global Database**. Our database will include demand, supply (capacity by location and technology), production, net trade, and operating rate for each major country, while regional and global summaries will also be prepared. More specifically, our database will have a detailed demand analysis by processing category (film, injection molding, blow molding, pipe, fiber, etc.). It will also include estimates for both new (speculative) capacity additions by country/region that will be needed and the demand for second generation technology (single site/metallocene and non metallocene) for all of the polyolefins.

Support for the program is provided through our **Presentation/Consulting** service: Companies will be entitled to a half-day presentation of the program results along with a half day of discussion in smaller groups or workshops. Each presentation will be tailored to the individual company. Travel expenses are not included and will be invoiced at cost.

## SECTION 5.

# Costs and Subscription

---



The cost of the 2010 POPS Program is US\$30,000. All amounts are net of all local taxes, duties, and other applicable charges. Companies will be invoiced upon authorization payable within 30 days of receipt of the invoice. POPS 2010 can be ordered using the form provided with this prospectus or online at our web site: [www.chemsystems.com](http://www.chemsystems.com).

### Technology Report:

Our latest POPS Technology Report was published in August 2008. This report consists of an in-depth analysis of all key polyolefins technologies employed in the industry. The cost of the POPS Technology Review report is US\$12,000 and is priced separately from the main POPS program.

## Subscription Terms and Conditions

---

This Subscription Agreement (this "Agreement") is by and between the undersigned (the "Subscriber") and Nexant, Inc. ("Nexant"). Pursuant to this Agreement, Subscriber will purchase the ChemSystems PolyOlefins Planning Program (POPS) (the "Subscribed Report") for the 2010 subscription year (the "Subscription Year"), produced by Nexant in accordance with the following terms and conditions.

1. Subscribers to the Subscribed Report will receive three (3) copies in published form and access to the Subscribed Report via a password-protected area from [www.chemsystems.com](http://www.chemsystems.com). All rights and limitations described above apply equally to hard copy and electronic versions of the reports. Nexant will provide up to eight hours in a single day of consulting services, at cost to be invoiced separately, provided by a senior study manager consisting of a half-day summary presentation of the Subscribed Report and a half-day of individual/small-group focused meetings organized by the Subscriber. Travel expenses are not included and will be invoiced at cost. All amounts invoiced are net of all local taxes, duties, and other applicable charges. Additional published copies of the Subscribed Report are available at US\$1,000.00 (one thousand U.S. dollars) each.
2. While the information supplied by Nexant to Subscriber in connection with the Subscribed Report will represent an original effort by Nexant, based on its own research, it is understood that portions of the reports will involve the collection of information available from third parties, both published and unpublished. Nexant does not believe that such information will contain any confidential technical information of third parties but cannot provide any assurance that any third party may, from time to time, claim a confidential obligation to such information.
3. The information disclosed in the Subscribed Report is for the sole and confidential use of Subscriber and any 51 percent or greater owned affiliates and subsidiaries of the Subscriber ("Affiliates") except those Affiliates which are engaged in the business of marketing research, management consulting, or publishing or are subsidiaries of such firms ("Permitted Users"). However, the Permitted Users may use such information in their own research and commercial activities, including loaning the data on a confidential basis to third parties for temporary and specific use for the sole benefit of the Subscriber. Breach of this covenant of use shall entitle Nexant to terminate this Agreement immediately with no obligation to return any portion of the Subscription Fee. It is the responsibility of the Subscriber to notify Nexant from time to time of the Permitted Users who will require access to the information disclosed in the Subscribed Report in accordance with Clause 4 below.
4. Subscriber further agrees that it will use reasonable efforts to keep the Subscribed Report for its sole use; however, this restriction shall not apply to information which is or becomes generally available to the public in a printed publication, which is already in the possession of subscriber, or which is received by Subscriber in good faith from a third party without an obligation of confidentiality.
5. Subscriber shall not republish any portion of the Subscribed Report except within its own organization or that of its 51 percent or greater owned affiliates. Subscriber further agrees to refrain from any general publication of the Subscribed Report, either directly or through its affiliates, so as to constitute passage of title into the public domain or otherwise jeopardize common law or statutory copyright in the Subscribed Report.
6. In consideration of the Subscribed Report, Client will be billed by and shall pay to Nexant a total subscription fee of US\$30,000.00 (thirty thousand U.S. dollars), the Base Subscription Fee. If Client selects to also purchase the POPS Technology Report (2008), Client will be billed by and shall pay to Nexant an additional subscription fee of US\$12,000.00 (twelve thousand U.S. dollars). Client shall be invoiced upon signature of this Agreement. Amounts are due upon receipt of invoice and payable within thirty (30) days. Late payments shall accrue interest at the rate of 1.5% per month. Fees quoted do not include any applicable sales tax, or use or value added tax, all of which are for the account of Client.
7. The obligations of paragraphs 3 and 4 shall terminate five (5) years from receipt of reports.
8. Unless specified otherwise, there are no warranties of any kind for reports and consulting services provided under this Agreement. Nexant's total liability under this Agreement is limited to the total amount paid to Nexant for the reports.
9. A person who is not a party to this Agreement shall have no right under this Agreement.
10. This Agreement will be governed by the laws of the State of New York, United States of America.
11. By signing below, Nexant and Subscriber agree that this is the complete agreement between them regarding the Subscribed Report. No change, modification, extension, termination or waiver of this Agreement, or any of the provision herein, shall be valid unless made in writing and signed by duly authorized representatives of the parties.

If the foregoing terms are acceptable, please sign below to confirm subscriber's agreement and return to Nexant.

**AUTHORISATION**

**AGREED TO AND ACCEPTED:**

**AGREED TO AND ACCEPTED:**

**SUBSCRIBER:**.....

**NEXANT, INC.**

Name: .....

Name: .....

Title: .....

Title: .....

Address: .....

Address: .....

Phone: .....

Phone: .....

Fax: .....

Fax: .....

Email: .....

Email: .....

Date: .....

Date: .....

Signature: .....

Signature: .....

2010 POPS Program .....	US\$30,000
POPS Technology Report 2008 .....	US\$12,000 (check here to purchase report) _____
Additional Printed Copies .....	@ US\$1,000 per set
Total Cost: .....	US\$_____

If your company requires a purchase order number, please provide the number below:

Purchase Order Number: \_\_\_\_\_

NEXANT, INC., CHEMSYSTEMS POPS PROGRAM  
44 SOUTH BROADWAY, 4th Floor  
WHITE PLAINS, NY 10601-4425, U.S.A.  
FAX: 1-914-609-0399

## Contact Details

---

### EUROPE

#### **Nexant Ltd.**

Griffin House  
161 Hammersmith Road  
London, W6 8BS  
United Kingdom  
Attn: David Alston  
POPS Executive  
Tel: + 44 (20) 7950 1544  
Fax: + 44 (20) 7950 1550  
Email: [dalston@nexant.com](mailto:dalston@nexant.com)

### AMERICAS

#### **Nexant, Inc.**

44 South Broadway  
White Plains, NY 10601-4425  
U.S.A.  
Attn: Heidi Junker Coleman  
Multiclient Programs Administrator  
Tel: + 1 (914) 609 0381  
Fax: + 1 (914) 609 0399  
e-mail: [hcoleman@nexant.com](mailto:hcoleman@nexant.com)

### ASIA

#### **Nexant Asia Ltd**

22nd Floor, Rasa Tower 1  
555 Phahonyothin Road  
Kwaeng Chatuchak, Khet Chatuchak  
Bangkok 10900  
Thailand  
Attn: Maoliosa Denye  
ChemSystems Marketing Manager  
Tel: + 66 2 793 4626  
Fax: + 66 2 937 5145  
Email: [mdenye@nexant.com](mailto:mdenye@nexant.com)

## Illustrative Table of Contents (Executive Report Global Commercial Analysis)

### APPENDIX C.

Section	Page
<b>1 Global Overview</b>	
1-1	
1.1 Introduction	1-1
1.2 Business Summary	1-3
1.2.1 Economic Outlook	1-3
1.2.2 Demand	1-5
1.2.3 Supply	1-11
1.2.4 Trade	1-16
1.3 Market Dynamics Forecasting Methodology	1-18
1.3.1 Capacity Availability and Forecasting	1-18
1.3.2 End-Use Consumption Forecasting	1-18
1.3.3 Monomer Consumption Forecasting	1-21
1.3.4 Production and Trade Forecasting	1-22
Appendix A - Global Overview	A-1
<b>2 North America</b>	2-1
2.1 Regional Summary	2-1
2.1.1 Regional Economies	2-1
2.1.2 Supply	2-2
2.1.3 Consumption	2-4
2.1.4 Trade	2-4
2.2 Canada	2-6
2.2.1 Economic Overview	2-6
2.2.2 Supply and Project Overview	2-6
2.2.3 Market Overview and Key Drivers	2-7
2.3 Mexico	2-9
2.3.1 Economic Overview	2-9
2.3.2 Supply and Project Overview	2-10
2.3.3 Market Overview and Key Drivers	2-11
2.4 United States	2-12
2.4.1 Economic Overview	2-12
2.4.2 Supply and Project Overview	2-13
2.4.3 Market Overview and Key Drivers	2-14
Appendix B - North America	B-1
<b>3 South America, Central America and Caribbean</b>	3-1
3.1 Regional Summary	3-1
3.1.1 Regional Economics	3-1
3.1.2 Supply	3-2
3.1.3 Consumption	3-2
3.1.4 Trade	3-3
3.2 Argentina	3-5
3.2.1 Economic Overview	3-5

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

3.2.2	Supply and Project Overview	3-5
3.2.3	Market Overview and Key Drivers	3-6
3.3	Brazil	3-7
3.3.1	Economic Overview	3-7
3.3.2	Supply and Project Overview	3-8
3.3.3	Market Overview and Key Value Drivers	3-9
3.4	Venezuela	3-11
3.4.1	Economic Overview	3-11
3.4.2	Supply and Project Overview	3-11
3.4.3	Market Overview and Key Drivers	3-12
3.5	Other South America	3-14
3.5.1	Economic Overview	3-14
3.5.2	Supply and Project Overview	3-16
3.5.3	Market Overview and Key Drivers	3-17
3.6	Central America and the Caribbean	3-19
3.6.1	Economic Overview	3-19
3.6.2	Supply and Project Overview	3-19
3.6.3	Market Overview and Key Drivers	3-20
Appendix C - South America		C-1
<b>4</b>	<b>Western Europe</b>	
4-1		
4.1	REGional ECONOMICS	4-1
4.2	Supply	4-3
4.2.1	LDPE	4-3
4.2.2	LLDPE	4-4
4.2.3	HDPE	4-4
4.2.4	Polypropylene	4-4
4.3	Consumption	4-6
4.3.1	Second Generation	4-9
4.4	Trade	4-12
Appendix D - Western Europe		D-1
<b>5</b>	<b>Central Europe</b>	5-1
5.1	Regional Summary	5-1
5.1.1	Economic Overview	5-1
5.1.2	Supply	5-2
5.1.3	Consumption	5-4
5.1.4	Trade	5-9
5.2	Bulgaria	5-10
5.2.1	Economic Overview	5-10
5.2.2	Supply and Project Overview	5-10
5.2.3	Market Overview and Key Drivers	5-10
5.3	Czech Republic	5-12
5.3.1	Economic Overview	5-12
5.3.2	Supply and Project Overview	5-12
5.3.3	Market Overview and Key Drivers	5-12
5.4	Southern Central Europe	5-14

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

5.4.1	Economic Overview	5-14
5.4.2	Supply and Project Overview	5-14
5.4.3	Market Overview and Key Drivers	5-15
5.5	Hungary	5-16
5.5.1	Economic Overview	5-16
5.5.2	Supply and Project Overview	5-16
5.5.3	Market Overview and Key Drivers	5-16
5.6	Poland	5-18
5.6.1	Economic Overview	5-18
5.6.2	Supply and Project Overview	5-18
5.6.3	Market Overview and Key Drivers	5-18
5.7	Romania	5-20
5.7.1	Economic Overview	5-20
5.7.2	Supply and Project Overview	5-20
5.7.3	Market Overview and Key Drivers	5-21
5.8	Slovakia	5-22
5.8.1	Economic Overview	5-22
5.8.2	Supply and Project Overview	5-22
5.8.3	Market Overview and Key Drivers	5-22
Appendix E - Central Europe		E-1
<b>6</b>	<b>Eastern Europe</b>	6-1
6.1	Economic Overview	6-1
6.1.1	Supply	6-2
6.1.2	Consumption	6-4
6.1.3	Trade	6-9
6.2	RUSSIA	6-11
6.2.1	Economic Overview	6-11
6.2.2	Supply and Project Overview	6-11
6.2.3	Market Overview and Key Drivers	6-13
6.3	OTHER Eastern Europe	6-15
6.3.1	Economic Overview	6-15
6.3.2	Supply and Project Overview	6-15
6.3.3	Market Overview and Key Drivers	6-16
Appendix F - Eastern Europe		F-1
Appendix G- Europe		G-1
<b>7</b>	<b>Middle East</b>	7-1
7.1	Economic Overview	7-1
7.1.1	Regional Economies	7-2
7.1.2	Supply	7-4
7.1.3	Consumption	7-5
7.1.4	Trade	7-9
7.2	Iran	7-11
7.2.1	Economic Overview	7-11
7.2.2	Supply and Project Overview	7-12
7.2.3	Market Overview and Key Drivers	7-14
7.3	Iraq	7-15

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

7.3.1	Economic Overview	7-15
7.3.2	Supply and Project Overview	7-15
7.3.3	Market Overview and Key Drivers	7-15
7.4	Israel	7-17
7.4.1	Economic Overview	7-17
7.4.2	Supply and Project Overview	7-17
7.4.3	Market Overview and Key Drivers	7-17
7.5	Kuwait	7-19
7.5.1	Economic Overview	7-19
7.5.2	Supply and Project Overview	7-19
7.5.3	Market Overview and Key Drivers	7-20
7.6	Qatar	7-21
7.6.1	Economic Overview	7-21
7.6.2	Supply and Projects Overview	7-21
7.6.3	Market Overview and Key Drivers	7-23
7.7	Saudi Arabia	7-24
7.7.1	Economic Overview	7-24
7.7.2	Supply and Project Overview	7-25
7.7.3	Market Overview and Key Drivers	7-27
7.8	Turkey	7-28
7.8.1	Economic Overview	7-28
7.8.2	Supply and Project Overview	7-28
7.8.3	Market Overview and Key Drivers	7-29
7.9	United Arab Emirates	7-31
7.9.1	Economic Overview	7-31
7.9.2	Supply and Project Overview	7-32
7.9.3	Market Overview and Key Drivers	7-32
7.10	Oman	7-34
7.10.1	Economic Overview	7-34
7.10.2	Project Overview	7-34
7.10.3	Market Overview and Key Drivers	7-34
7.11	Other Middle East	7-35
7.11.1	Bahrain	7-35
7.11.2	Jordan	7-36
7.11.3	Syria	7-37
7.11.4	Lebanon	7-37
7.11.5	Yemen	7-37
Appendix H - Middle East		H-1
<b>8</b>	<b>Africa</b>	8-1
8.1	Regional Summary	8-1
8.1.1	Regional Economies	8-1
8.1.2	Supply	8-2
8.1.3	Consumption	8-3
8.1.4	Trade	8-7
8.2	Algeria	8-8
8.2.1	Economic Overview	8-8

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

8.2.2	Supply and Project Overview	8-8
8.2.3	Market Overview and Key Drivers	8-9
8.3	Egypt	8-10
8.3.1	Economic Overview	8-10
8.3.2	Supply and Project Overview	8-10
8.3.3	Market Overview and Key Drivers	8-11
8.4	Libya	8-12
8.4.1	Economic Overview	8-12
8.4.2	Supply and Project Overview	8-12
8.4.3	Market Overview and Key Drivers	8-13
8.5	Nigeria	8-14
8.5.1	Economic Overview	8-14
8.5.2	Supply and Project Overview	8-14
8.5.3	Market Overview and Key Drivers	8-15
8.6	Republic of South Africa	8-16
8.6.1	Economic Overview	8-16
8.6.2	Supply and Project Overview	8-16
8.6.3	Market Overview and Key Drivers	8-17
8.7	Other Africa	8-19
8.7.1	Kenya	8-19
8.7.2	Morocco	8-20
8.7.3	Sudan	8-21
8.7.4	Tanzania	8-22
8.7.5	Tunisia	8-23
8.7.6	Uganda	8-24
8.7.7	Zimbabwe	8-25
Appendix I – Africa		I-1
<b>9</b>	<b>Japan</b>	9-1
9.1	Economic Overview	9-1
9.2	Market Overview And Key Drivers	9-2
9.2.1	Supply	9-3
9.2.2	Consumption	9-3
9.2.3	Trade	9-5
Appendix J - Japan		J-1
<b>10</b>	<b>Asia Pacific</b>	10-1
10.1	Regional Overview	10-1
10.1.1	Regional Economies	10-1
10.1.2	Supply	10-2
10.1.3	Consumption	10-4
10.1.4	Trade	10-6
10.2	Australia	10-7
10.2.1	Economic Overview	10-7
10.2.2	Supply and Project Overview	10-7
10.2.3	Market Overview and Key Drivers	10-9
10.3	China	10-10
10.3.1	Economic Overview	10-10

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

10.3.2	Supply and Project Overview	10-11
10.3.3	Market Overview and Key Drivers	10-14
10.4	India	10-18
10.4.1	Economic Overview	10-18
10.4.2	Supply and Project Overview	10-18
10.4.3	Market Overview and Key Drivers	10-20
10.5	Indonesia	10-22
10.5.1	Economic Overview	10-22
10.5.2	Supply and Project Overview	10-22
10.5.3	Market Overview and Key Drivers	10-23
10.6	Malaysia	10-24
10.6.1	Economic Overview	10-24
10.6.2	Supply and Project Overview	10-24
10.6.3	Market Overview and Key Drivers	10-25
10.7	New Zealand	10-26
10.7.1	Economic Overview	10-26
10.7.2	Supply and Project Overview	10-26
10.7.3	Market Overview and Key Drivers	10-26
10.8	Philippines	10-27
10.8.1	Economic Overview	10-27
10.8.2	Supply and Project Overview	10-27
10.8.3	Market Overview and Key Drivers	10-28
10.9	Singapore	10-29
10.9.1	Economic Overview	10-29
10.9.2	Supply and Project Overview	10-29
10.9.3	Market Overview and Key Drivers	10-30
10.10	SouthKkorea	10-31
10.10.1	Economic Overview	10-31
10.10.2	Supply and Project Overview	10-31
10.10.3	Market Overview and Key Drivers	10-32
10.11	Taiwan	10-35
10.11.1	Economic Overview	10-35
10.11.2	Supply and Project Overview	10-36
10.11.3	Market Overview and Key Drivers	10-37
10.12	Thailand	10-39
10.12.1	Economic Overview	10-39
10.12.2	Supply and Project Overview	10-39
10.12.3	Market Overview and Key Drivers	10-40
10.13	Other Asia	10-42
10.13.1	Pakistan	10-43
10.13.2	Vietnam	10-44
10.13.3	Bangladesh	10-46
10.13.4	Sri Lanka	10-47
10.13.5	Other Asia	10-48
Appendix K - Asia Pacific		K-1

Figure	Page
1.1 World Economic Performance	1-4
1.2 World Economic Performance and Outlook	1-4
1.3 Global Polyolefin Demand	1-5
1.4 Polyethylene Demand Growth	1-6
1.5 Global Combined LLDPE and LDPE Consumption Growth	1-7
1.6 Global HDPE Consumption Growth	1-8
1.7 Polypropylene Demand Growth	1-10
1.8 Global Polypropylene Consumption Growth	1-10
1.9 Polyolefins Capacity Growth (1999-2009)	1-11
1.10 Polyolefins Capacity Growth by Region	1-12
1.11 LDPE Capacity Additions	1-13
1.12 LLDPE and HDPE Capacity Additions	1-14
1.13 Polypropylene Capacity Additions	1-15
1.14 Polyethylene Net Trade – 2000-2025	1-16
1.15 Polypropylene Net Trade – 2000-2025	1-17
1.16 End Use Consumption Drivers	1-19
1.17 Monomer Consumption Drivers	1-21
1.18 Trade Considerations	1-22
2.1 North American GDP Outlook	2-2
2.2 North American Polyolefin Net Trade - 2009	2-5
3.1 South America, Central America and Caribbean GDP Outlook	3-1
3.2 South American Polyolefin Net Trade	3-3
4.1 West European Economic Growth(Annual Change in Real GDP)	4-2
4.2 Polyethylene Sack and Bag Imports, Western Europe	4-8
4.3 Metallocene LLDPE Film Applications - 2009	4-10
4.4 West European Net Trade	4-13
5.1 Central European Economic Growth	5-2
5.2 Polyolefins Capacity by Producer - 2008	5-3
5.3 LDPE Consumption	5-5
5.4 LLDPE Consumption	5-6
5.5 HDPE Consumption	5-7
5.6 Polypropylene Consumption	5-8
5.7 Regional Net Polyolefins Trade	5-9
6.1 East European Economic Growth	6-2
6.2 Polyolefins Capacity by Producer - 2009	6-3
6.3 LDPE Consumption	6-5
6.4 LLDPE Consumption	6-6
6.5 HDPE Consumption	6-7
6.6 Polypropylene Consumption	6-8
6.7 Regional Net Polyolefins Trade – 2000-2025	6-10
7.1 Impact of Crude Oil Price Changes on GDP of Major Middle Eastern Oil Exporting Countries <sup>1</sup>	7-2
7.2 Economic Growth - Major Middle Eastern Countries	7-3
7.3 Polyolefin Capacity Additions in Middle East	7-4

**APPENDIX C.****Illustrative Tables and Contents (Executive Report Global Commercial Analysis)**

---

7.4	LDPE Consumption and Growth in Major Middle Eastern Markets	7-6
7.5	LLDPE Consumption and Growth in Major Middle Eastern Markets	7-6
7.6	HDPE Consumption and Growth in Major Middle Eastern Markets	7-7
7.7	Polypropylene Consumption and Growth in Middle Eastern Markets	7-8
7.8	Middle Eastern Polyolefin Net Trade	7-10
7.9	Middle Eastern Polyolefin Net Trade	7-10
7.10	West Ethylene Pipeline	7-12
8.1	Economic Growth - Major African Countries	8-1
8.2	LDPE Consumption and Growth in Major African Markets	8-4
8.3	LLDPE Consumption and Growth in Major African Markets	8-4
8.4	HDPE Consumption and Growth in Major African Markets	8-5
8.5	Polypropylene Consumption and Growth in Major African Markets	8-6
8.6	African Polyolefin Net Trade - 2009	8-7
9.1	Japanese Economic Growth	9-1
9.2	Japanese Net Trade – 2000-2025	9-5
10.1	Major Asian Countries – Economic Outlook	10-2
10.2	LDPE Consumption and Growth in Major Asian Markets	10-4
10.3	LLDPE Consumption and Growth in Major Asian Markets	10-5
10.4	HDPE Consumption and Growth in Major Asian Markets	10-5
10.5	Polypropylene Consumption and Growth in Major Asian Markets	10-6
10.6	Asian Polyolefin Net Trade	10-6
10.7	Australian 2008 Polyethylene Imports by Sources	10-8
10.8	Australian 2008 Polypropylene Imports by Sources	10-8
10.9	Polyolefin Capacity Expansion in China	10-12

# CHEMSYSTEMS

## ChemSystems Programs

### **ChemSystems Online**

Providing online databases and tools for analysis and forecasts of the markets and economics of the petroleum and petrochemical industry.

### **Petroleum & Petrochemical Economics (PPE)**

Providing regular analysis and forecast reports on the profitability, competitive position, and supply/demand trends of the global industry.

### **ChemSystems Simulator**

Providing a state-of-the-art simulation model for the entire global petroleum and petrochemical market – including technology, costs, supply/demand, and profitability.

### **Process Evaluation/ Research Planning (PERP)**

Providing analysis and economic models of the existing and developing process technology used by the industry.

### **ChemSystems Training**

Providing in-house and public training courses on the industry, its chemistry and on the planning and analysis methodologies.

### **PolyOlefins Planning Service (POPS)**

Providing detailed market and technology evaluation of the global polyolefin industry.

### **Special Reports**

Providing reports on topical issues and aspects of the industry.

### **Strategic Business Analysis (SBA)**

Providing regular reports on the strategic trends that will shape the industry, including reviews of markets, pricing, technology and delivered cost competitiveness

[www.chemsystems.com](http://www.chemsystems.com)