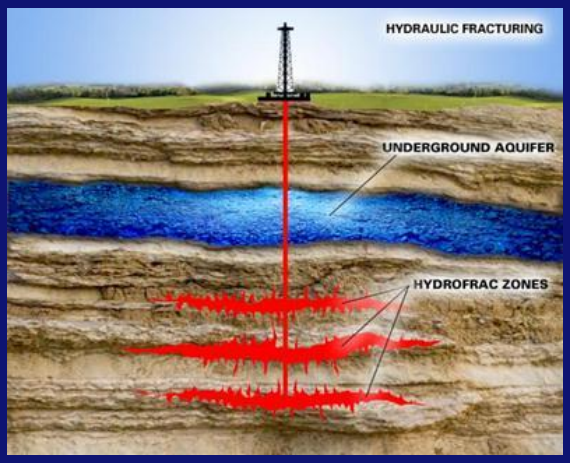

PROSPECTUS

North American Shale Gas: Opportunity or Threat for Global Ethylene Producers?

Nexant

PROSPECTUS August 2012

North American Shale Gas: Opportunity or Threat for Global Ethylene Producers?

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Nexant®

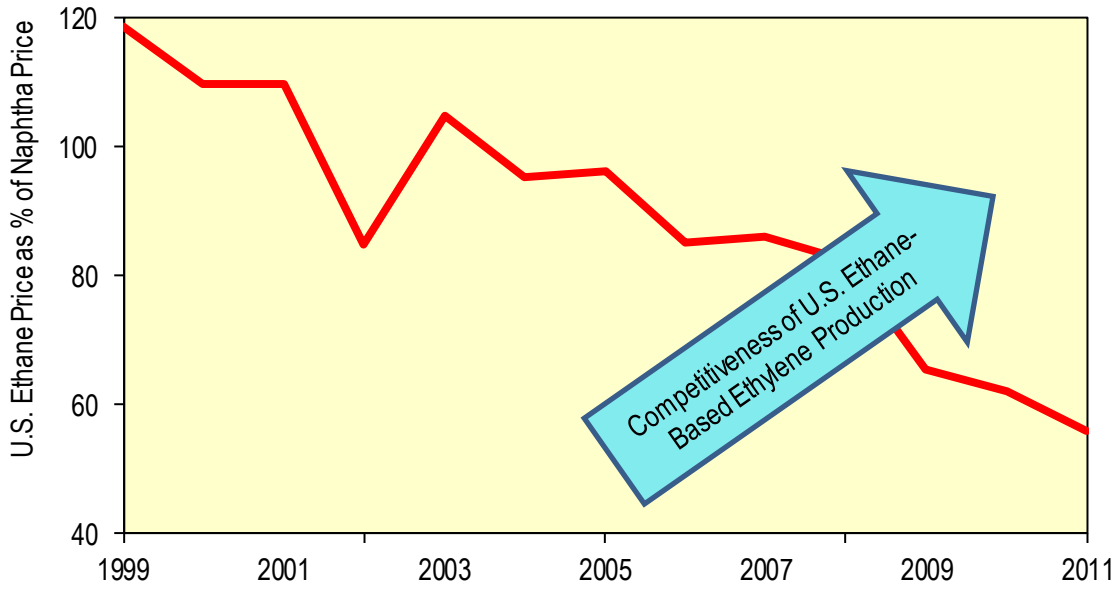
Contents

Section			Page
1	**Introduction**		1
	1.1	OVERVIEW	1
	1.2	BACKGROUND	3
		1.2.1 North American Petrochemical Industry Turnaround	3
		1.2.2 North American Shale Gas Production Trends	3
		1.2.3 Regulatory Issues	4
		1.2.4 North American Shale Gas Production Economics	5
		1.2.5 NGLs Production Trends	6
		1.2.6 Steam Cracker Feedstock Trends	7
		1.2.7 Implications for the Global Chemical Industry	7
2	**Study Scope**		9
	2.1	NORTH AMERICAN SHALE GAS PRODUCTION TRENDS	9
	2.2	NORTH AMERICAN GAS PRICES	9
	2.3	NGLS PRODUCTION TRENDS	10
	2.4	STEAM CRACKER FEEDSTOCK TRENDS	10
	2.5	ETHYLENE PRODUCTION SCENARIOS	10
	2.6	IMPLICATIONS FOR GLOBAL ETHYLENE PRODUCERS	10
3	**Table of Contents**		11
4	**Methodology**		15
	4.1	GENERAL APPROACH	15
	4.2	WORLD GAS MODEL	15
	4.3	NEXANT'S GLOBAL CHEMICAL SIMULATOR	16
5	**Nexant's Experience**		18
	5.1	GENERAL	18
	5.2	SPECIFIC EXPERIENCE RELEVANT TO SHALE GAS	20
	5.3	SPECIFIC EXPERIENCE IN OLEFINS AND POLYOLEFINS	21
6	**Contact Details and Subscription Information**		23
	6.1	CONTACT DETAILS	23
	6.2	AUTHORIZATION FORM, TERMS AND CONDITIONS	24

1.1 OVERVIEW

The fall in natural gas prices and increases in gas liquids production, driven by dramatic increases in North American shale gas production during the past five years, has been the primary driver for renewed profitability and growth in the North American petrochemical industry. In response to rising margins and their enhanced global competitiveness due to attractively priced ethane relative to the cost of the naphtha, the principal steam cracker feedstock in other major markets (Figure 1.1), firms are considering major capacity additions in the United States for the first time in decades. Specifically, multiple brownfield capacity additions are being considered as well as several greenfield projects at the U.S. Gulf Coast and in the U.S. Northeast near the Marcellus shale gas resource. These major capacity additions are being developed even though growth in North American demand for ethylene derivatives over the next 5-10 years is not expected to be able to absorb more than minor increases in regional production.

Figure 1.1 U.S. Ethane Pricing versus Naphtha Pricing [1]
Price Ratio on Weight Basis



[1] Average of Northwest Europe and Northeast Asia naphtha prices

Although the remarkable turnaround in the competitive position of the North American (NA) olefins industry has improved its prospects, its future remains subject to many new uncertainties. These include:

- Will currently low natural gas prices negatively impact future growth in NA shale gas production?
- Will environmental concerns lead to new regulations that will limit NA shale gas production increases?
- How will different NA shale gas production scenarios impact the availability of ethane as a petrochemical feedstock?
- Which export markets will be able to absorb increased NA production of ethylene derivatives and which regions supplying these markets will be most impacted?

Nexant recently completed a new multi-client study that profiles and assesses current and future North American shale gas production and analyzes its future impact on global ethylene producers. This multi-client report builds on Nexant's extensive array of intellectual capital in the area of shale gas production issues, North American NGL supply, petrochemical market dynamics, and regional competitiveness of ethylene production.

This prospectus describes the study that addresses why increased North American shale gas production has improved the competitiveness of regional producers of certain petrochemicals, the scope of the report, the methodology used, and Nexant's qualifications to perform such a study.

The study was completed in July 2012. The cost of the study is US$20,000 (twenty thousand U.S. dollars).

1.2 BACKGROUND

1.2.1 North American Petrochemical Industry Turnaround

The North American petrochemical sector's fortunes looked grim in the early to mid-2000s, as high natural gas prices and forecast indigenous supply constraints reduced its global competitiveness. These changes had eroded North America's traditional competitive advantage based on secure access to abundant and cheap natural gas and natural gas liquids (NGL) supplies. Natural gas is used not only to fuel petrochemical facilities, but ethane recovered from natural gas is a key feedstock for the North American petrochemical industry. Unlike its European and Asian counterparts, whose petrochemical production facilities are largely naphtha based, the North American industry has a broad capability to crack significant quantities of ethane, propane, butanes, naphtha, and gas oil. The rapid development of shale gas production over the last six or seven years and the resulting increase in NGL production have transformed North America's petrochemical prospects.

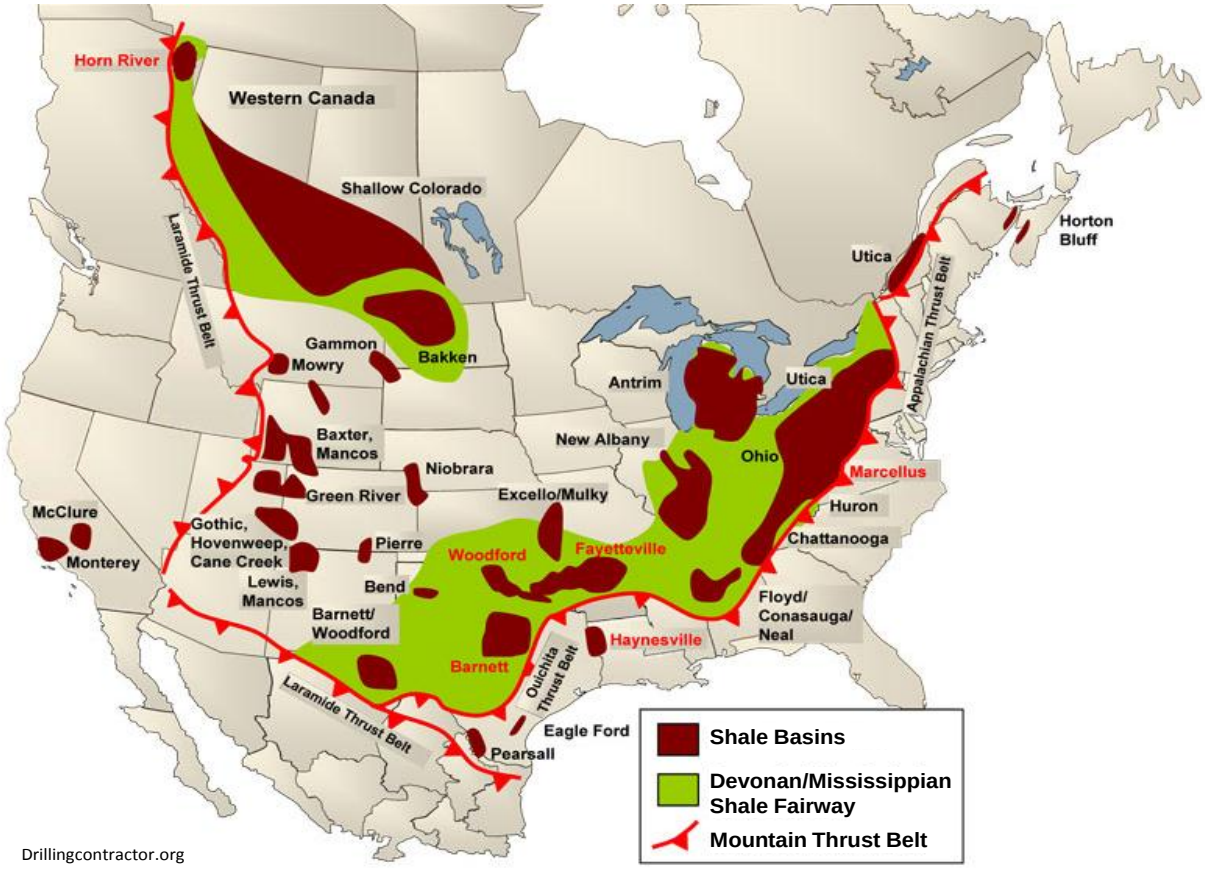
U.S. natural gas prices have fallen well below crude oil prices over the last few years, thanks largely to increased North American shale gas production but also due to decreased demand due to the economic downturn. This decoupling of oil and gas prices has encouraged North American upstream players to acquire and develop liquids-rich or 'wet' shale gas acreage. Better returns from extracting and marketing liquids provide an added incentive for shale investment beyond profits arising from the thermal value of natural gas from shale deposits. This has resulted in increased ethane production, on the order of roughly 20 percent since 2005. Midstream energy companies have been quick to respond, and are investing heavily in the requisite infrastructure, such as gas processing plants and pipelines, to process and distribute natural gas and NGL production from shale gas formations.

Upstream and midstream energy companies are not the only entities profiting from increased North American shale gas and NGL production. Petrochemical companies are also beneficiaries. Greater supplies have depressed regional natural gas and NGL prices relative to heavier feedstock prices, improving the competitiveness of U.S. ethylene producers. Ethane-based U.S. ethylene producers now are much more cost competitive than Northeast Asian and West European naphtha-based ethylene producers and have a cost position approaching that of the lowest cost producers in the Middle East. Several ethylene producers already have converted their facilities to enable the cracking of lighter feeds to take advantage of lower priced NGLs, especially ethane. Additional evidence for this can be seen in recent dramatic increases in U.S. chemical exports.

1.2.2 North American Shale Gas Production Trends

Although shale gas has been produced for years with natural fractures, North American shale gas production – the overwhelming majority of which is located in the United States - has increased dramatically over the last five years due to advances in hydraulic fracturing (fracking) and horizontal drilling techniques. North America's principal shale deposits are large, span much of the continent, as shown in Figure 1.2, and hold significant production potential.

Figure 1.2 North American Shale Gas and Shale Oil Plays



1.2.3 Regulatory Issues

North American shale production prospects are positive, but optimism must be tempered by the fact that development has attracted its fair share of environmental opponents, especially in the United States. Public concerns about the effects of shale gas drilling are numerous, ranging from the contamination of ground water, risks to air quality, the migration of gases and hydraulic fracturing chemicals to the surface, and the potential mishandling of waste. The U.S. Environmental Protection Agency (EPA) is pursuing the following initiatives:

- The issue of potential water contamination has attracted by far the most attention in the United States. Water contamination stems from the presence of chemicals in the water used to fracture a well. The EPA is executing a comprehensive study of potential adverse impacts of hydraulic fracturing on water quality and public health, which is scheduled for completion in 2014

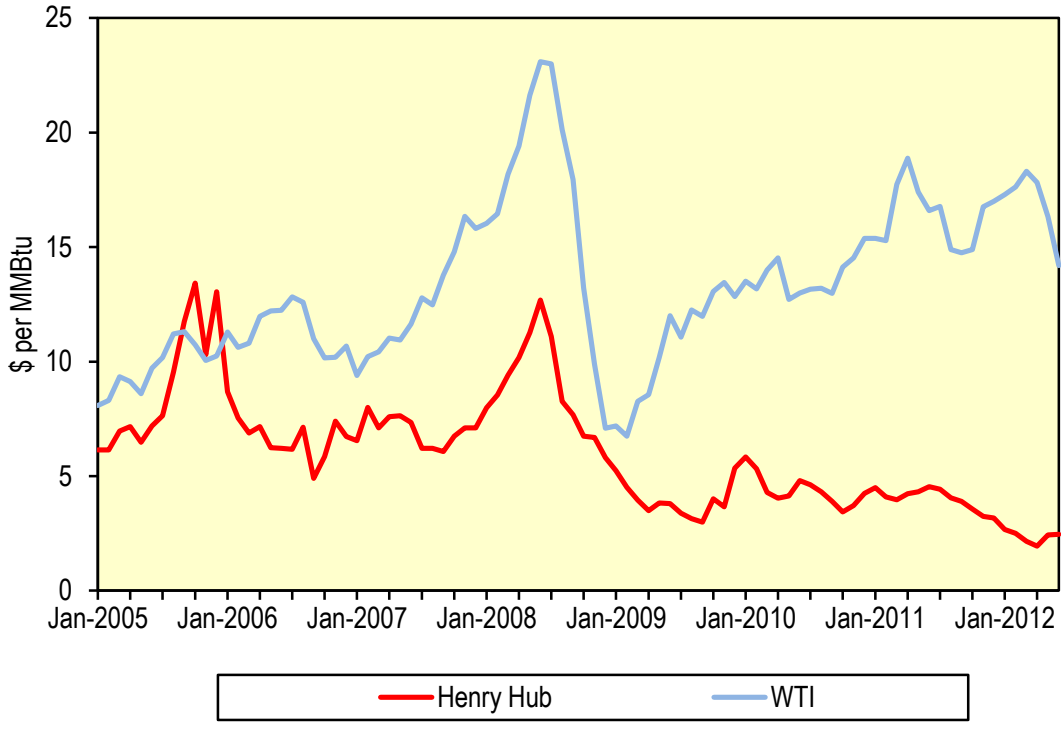
- Concerns that the production of shale-based hydrocarbons could result in increased greenhouse gas emissions could also affect the scope and timing of output. In April 2012, the EPA issued the first federal air standards for hydraulically fractured natural gas wells, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level. The rules will be fully implemented in 2015

Owing to public concerns, some municipal and state/provincial authorities in North America have enacted fracking bans. In the eyes of some North American legislators, organized interest groups and interested members of the public, increased federal oversight is required to regulate shale gas drilling operations. The consensus among petroleum industry players is that states/provinces already do a sufficient job of regulating hydraulic fracturing operations.

1.2.4 North American Shale Gas Production Economics

Surging North American shale gas production coupled with sluggish U.S. recovery from the economic recession has substantially depressed regional gas prices. Henry Hub prices have essentially decoupled from crude oil prices (Figure 1.3), a trend that Nexant believes will continue for the foreseeable future.

Figure 1.3 Henry Hub versus West Texas Intermediate (WTI) Prices: 2005-June 2012



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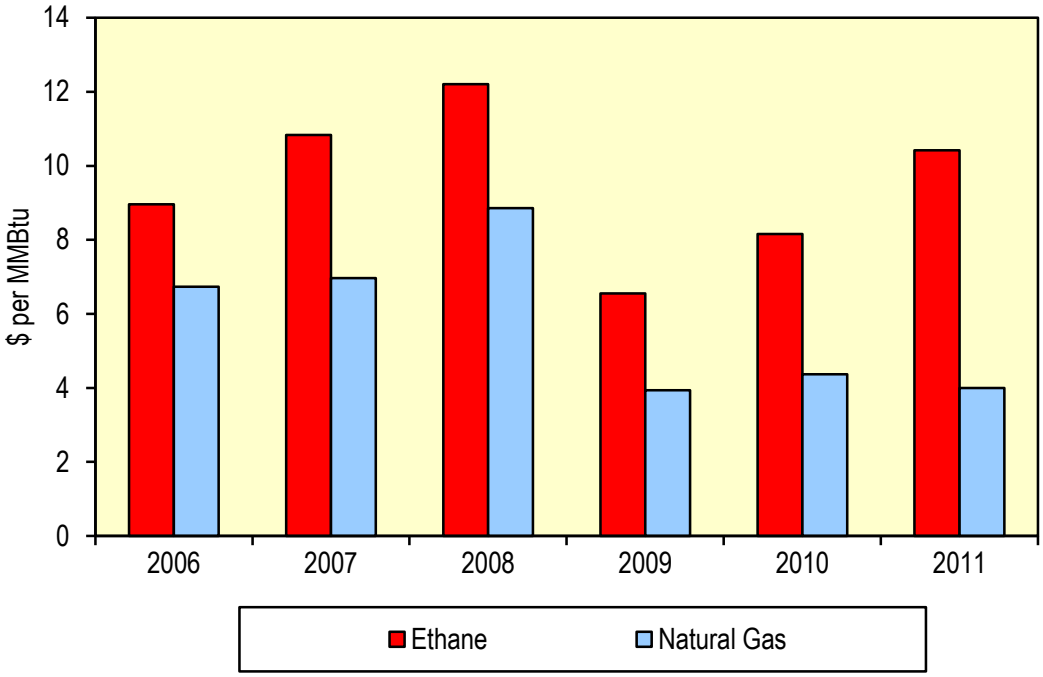
North American shale gas breakeven prices vary significantly from play to play, and often *within* a given play. Consequently, it is difficult to make blanket statements about the feasibility of North American shale gas production at current low gas prices. However, operators can achieve considerable economies of scale once a project is commissioned. The effect of NGL production on shale gas output is also significant. In some plays such as the Eagle Ford and North Barnett Shale in Texas, the breakeven cost for natural gas has fallen to zero, and natural gas has essentially become a by-product of oil and NGL drilling. That is because NGL prices have been increasing with the oil market.

1.2.5 NGLs Production Trends

The current disconnect between Henry Hub prices and crude oil prices has favored increased U.S. shale-based NGL production. The favorable outlook for NA ethylene production rests upon this dynamic. To date, low natural gas prices and high oil prices have encouraged upstream players to focus on liquids-rich shale gas plays, resulting in high levels of ethane output.

Figure 1.4 United States Ethane and Natural Gas Pricing



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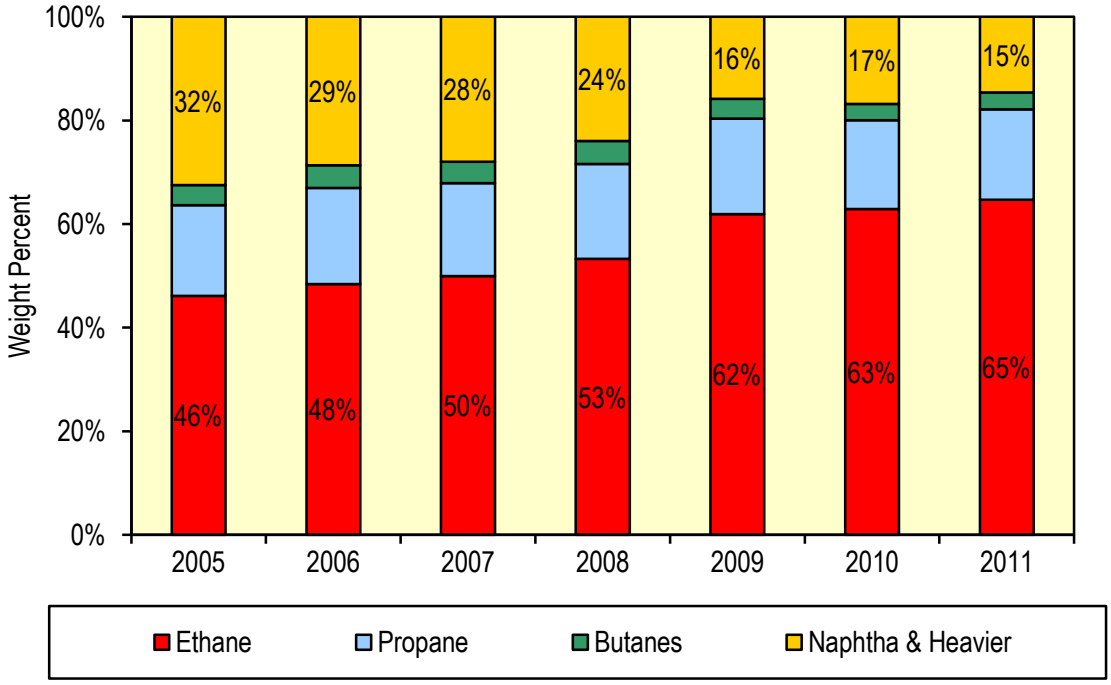
By contrast, petrochemical production centers in the Middle East, traditionally the world's lowest-cost producers, are facing gas supply constraints in view of declining indigenous production and soaring domestic demand. Nexant believes that new steam cracker investments in the Middle East will become increasingly dependent on less advantaged feedstock. Thanks largely to increasing NGL-rich shale gas production, ethane-based U.S. ethylene producers' cost position is projected to remain attractive in the future.

1.2.6 Steam Cracker Feedstock Trends

North American ethylene crackers have gone "light", driven by cheap feedstock availability. "Light" refers to lighter feedstocks such as ethane, propane and ethane/propane (E/P) mixes. Approximately 75 percent of all United States based crackers are now light feedstock capable. Ethane has steadily increased as the feedstock of choice for ethylene, displacing C_5+ liquids, as shown in Figure 1.5. United States ethylene producers have been taking advantage of the increasing ethane supplies, with 65 percent of 2011 United States ethylene production being ethane-based.

Figure 1.5 U.S. Ethylene Feedstock Sources, 2005-2011
(Percent of Ethylene Production)



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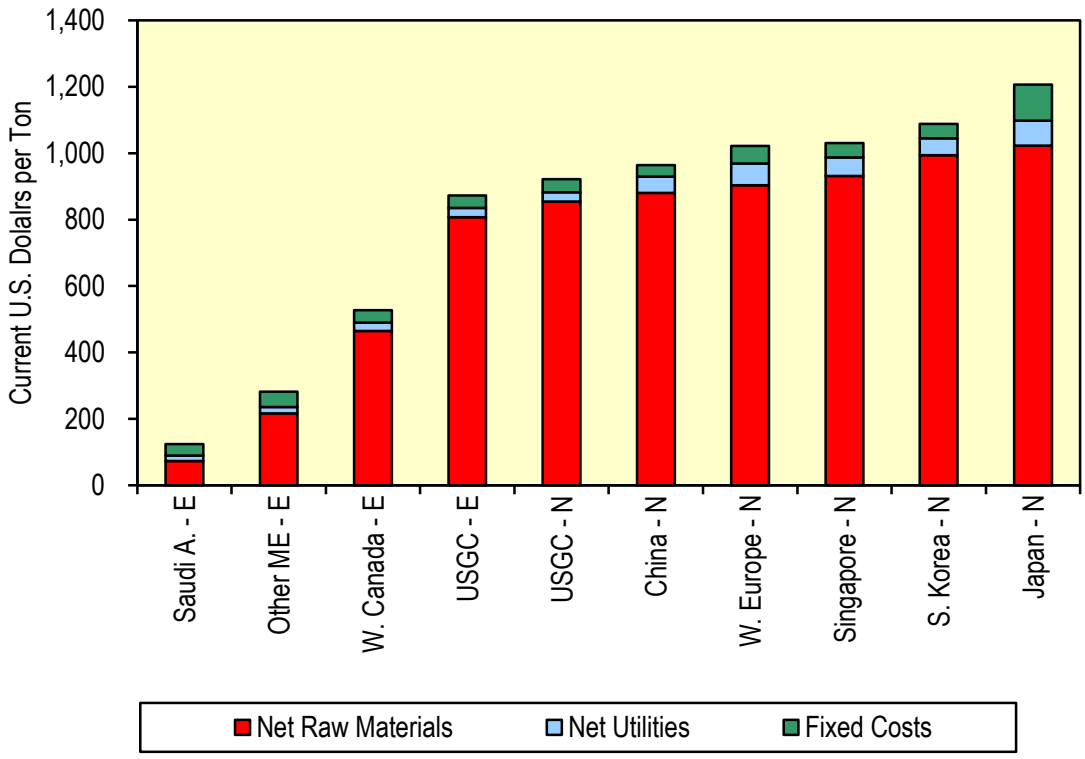
1.2.7 Implications for the Global Chemical Industry

The result of the new developments in feedstock availability in North America has been a significant increase in the competitiveness of U.S. petrochemical manufacturers in global markets, as evidenced by the high density polyethylene (HDPE) cash cost of production for U.S. crackers (shown in Figure 1.6) using ethane feedstock during 2011, relative to other key producers around the world.

Figure 1.6 Regional HDPE Cash Cost of Production, Integrated Ethylene, 2011



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The enhanced competitiveness of U.S. producers is also seen in U.S. chemical export trends, where the country has gone from a major net importer of LLDPE and HDPE five years ago, to a balanced to net export position today.

Section 2 Study Scope

The objective of this multi-client study is to profile and assess current and future North American shale gas production and to analyze its future impact on the North American and global petrochemical industry. To that end, the report forecasts North American shale gas output and determines the effect on natural gas pricing and NGL production. The report also analyzes future trends in the mix of North American steam cracker feedstocks, scenarios for the North American ethylene industry and the implications for the global industry. For the purposes of this study, North America includes only the United States and Canada.

This study covers North American developments relating to:

- Shale gas production
- NGL production
- Steam cracker feedstock mix
- Ethylene production
- Global competitiveness of ethylene production

2.1 NORTH AMERICAN SHALE GAS PRODUCTION TRENDS

The report includes an analysis of current shale gas production from major shale gas plays (such as Barnett, Haynesville and Marcellus) along with drilling activity in emerging plays in the U.S. and western Canada. Nexant also reviews shale-related environmental issues such as water contamination and greenhouse gas emissions that have resulted in new state or federal standards that may affect the rate and cost of forecast shale development.

To determine the effects of constrained shale gas production on global gas prices, Nexant also developed a shale gas output sensitivity: namely, a 20 percent reduction (relative to Nexant's defined Base Case) in global shale gas production capacity. This constrained shale gas supply scenario may be the result of one or more factors, such as new government regulations on shale gas producers that drive up the cost of compliance and adversely affect the scope and trajectory of forecast production; public opposition that limits land access to shale gas-bearing acreage; and/or overly-optimistic reserve estimates that result in lower-than-anticipated shale production levels.

Nexant also forecasts U.S. natural gas demand through 2030, showing demand across all major end use sectors, consisting of residential, commercial, industrial, power generation, and LNG and pipeline exports.

2.2 NORTH AMERICAN GAS PRICES

The report presents Henry Hub prices associated with each shale gas production scenario considered. Projections are made through 2030.

2.3 NGLS PRODUCTION TRENDS

The study forecasts North American production of ethane, propane and butane. These forecasts are consistent with the study's Base Case outlook for North American shale gas production. U.S. regional level NGL supply and demand balances highlight expected changes in ethane movements within the United States, and between the United States and Canada. In addition, the report presents an alternative North American ethane production scenario with higher levels of ethane production after 2015.

Nexant also reviews key NGL pipeline and other midstream infrastructure projects, such as natural gas processing plant capacity additions, being developed to handle increased North American NGL production.

2.4 STEAM CRACKER FEEDSTOCK TRENDS

The study forecasts the impact of increased ethane availability on the feedstock mix for steam cracker in the United States and Canada.

Nexant also considers whether future increases in U.S. ethane supplies will be used to further lighten the feedstock mix for existing steam cracker capacity in addition to increasing capacity through debottlenecking projects or the construction of new steam crackers in the U.S. and Canada.

2.5 ETHYLENE PRODUCTION SCENARIOS

The report includes a global ethylene market analysis, with details provided for the following markets: North America, South America, Western Europe, China, Asia Pacific excluding China, Middle East, Eastern and Central Europe, and Africa.

In addition to a Base Case outlook for global ethylene production, the study presents an alternative ethylene production scenario for the alternative North American ethane production scenario. This enables clients to identify the locations around the world that would be most significantly impacted by a higher level of North American ethylene production.

2.6 IMPLICATIONS FOR GLOBAL ETHYLENE PRODUCERS

The report provides an analysis of ethylene and polyethylene production costs by region for the years 2010, 2015 and 2020. As a measure of regional competitiveness, delivered costs for polyethylene to the major import market of China are estimated from each major production region, including tariffs and transportation costs.

Delivered to China cost sensitivities were performed for several key exporters to China, including South Korea, Japan and Singapore, for the pricing of major cracker by-products (e.g., propylene and butadiene) that affect the cost of ethylene and polyethylene production.

Section			Page
1	**Executive Summary**		1-1
	1.1	INTRODUCTION	1-1
	1.2	SHALE GAS PRODUCTION IN NORTH AMERICA	1-2
		1.2.1 Overview	1-2
		1.2.2 Base Case Gas Supply/Demand Outlook	1-2
		1.2.3 Regulatory Issues	1-3
		1.2.4 Lower Shale Gas Production Scenario	1-4
	1.3	NGL PRODUCTION AND PRICING TRENDS	1-5
		1.3.1 NGL Processing and Fractionation	1-5
		1.3.2 NGL Pipelines	1-5
		1.3.3 United States NGL Supply, Demand, and Trade	1-6
		1.3.4 Canadian NGL Supply, Demand, and Trade	1-8
		1.3.5 Natural Gas and NGL Pricing	1-9
	1.4	STEAM CRACKER FEEDSTOCK TRENDS	1-12
		1.4.1 United States	1-12
		1.4.2 Canada	1-13
	1.5	ETHYLENE PRODUCTION SCENARIOS	1-14
		1.5.1 Global Ethylene Supply/Demand Balance	1-14
		1.5.2 North American Supply/Demand Balance	1-15
		1.5.3 Alternative U.S. Ethylene Production Scenario	1-16
		1.5.4 Ethylene Co-product Production Trends	1-17
	1.6	IMPLICATIONS FOR THE GLOBAL CHEMICAL INDUSTRY	1-17
2	**Introduction**		2-1
3	**Shale Gas Production in North America**		3-1
	3.1	SHALE GAS BASICS	3-1
		3.1.1 Introduction	3-1
		3.1.2 Shale Gas in a North American Context	3-3
		3.1.3 Factors Driving North America's Shale Success	3-10
	3.2	CURRENT PRODUCTION AND DRILLING ACTIVITY	3-12
		3.2.1 Bakken	3-12
		3.2.2 Barnett	3-22
		3.2.3 Eagle Ford	3-27
		3.2.4 Haynesville	3-34
		3.2.5 Marcellus	3-40
		3.2.6 Western Canada: Horn River, Cordova, and Montney	3-48

3.3 REGULATORY ISSUES 3-53
3.3.1 Overview 3-53
3.3.2 Environmental Issues 3-54
3.3.3 Greenhouse Gas Emissions 3-60
3.3.4 Other 3-65
3.4 NORTH AMERICAN GAS SUPPLY/DEMAND BALANCE 3-67
3.4.1 Introduction 3-67
3.4.2 Global Gas Market Outlook 3-68
3.4.3 North American Gas Market Outlook 3-69
3.4.4 Natural Gas Pricing Forecast 3-74
3.4.5 Lower Shale Gas Production Scenario 3-75
3.6 CONCLUSIONS 3-79
3.6.1 Overview 3-79
3.6.2 Base Case Gas Supply/Demand Outlook 3-79
3.6.3 Regulatory Issues 3-80
3.6.4 Lower Shale Gas Production Scenario 3-81
4 North American NGL Production and Pricing Trends 4-1
4.1 OVERVIEW 4-1
4.2 NGL PROCESSING AND FRACTIONATION 4-3
4.2.1 Introduction 4-3
4.2.2 United States 4-5
4.2.3 Canada 4-8
4.3 NGL PIPELINES 4-9
4.3.1 Introduction 4-9
4.4 NORTH AMERICAN NGL SUPPLY, DEMAND, AND TRADE 4-14
4.4.1 United States 4-14
4.4.2 Canada 4-29
4.5 NGL PRICING 4-35
4.5.1 Crude Oil Price Assumption 4-35
4.5.2 North American Natural Gas Price Forecast 4-37
4.5.3 Ethane Pricing 4-43
4.5.4 Propane Pricing 4-50
4.5.5 Butane Pricing 4-51
4.6 CONCLUSIONS 4-54
4.6.1 NGL Processing and Fractionation 4-54
4.6.2 NGL Pipelines 4-54
4.6.3 United States NGL Supply, Demand, and Trade 4-55
4.6.4 Canadian NGL Supply, Demand, and Trade 4-56

4.6.5 Natural Gas and NGL Pricing 4-58
5 North American Steam Cracker Feedstock Trends 5-1
5.1 INTRODUCTION 5-1
5.1.1 Steam Cracker Feedstock Types 5-1
5.1.2 Steam Cracker Design Trends 5-1
5.2 UNITED STATES 5-3
5.2.1 Background 5-3
5.2.2 Recent Developments 5-3
5.2.3 Feedstock Mix Outlook 5-7
5.3 CANADA 5-9
5.3.1 Background 5-9
5.3.2 Recent Developments 5-10
5.3.3 Feedstock Mix Outlook 5-11
6 North American Ethylene Production Scenarios 6-1
6.1 ETHYLENE MARKET ANALYSIS 6-1
6.1.1 Global Overview 6-1
6.1.2 North America 6-6
6.1.3 South America 6-10
6.1.4 Western Europe 6-12
6.1.5 Middle East 6-15
6.1.6 Asia Pacific 6-17
6.1.7 China 6-19
6.2 ALTERNATIVE U.S. ETHYLENE PRODUCTION SCENARIO 6-21
6.2.1 Introduction 6-21
6.3 ETHYLENE CO-PRODUCT PRODUCTION TRENDS 6-26
6.3.1 Propylene 6-26
6.3.2 Butadiene 6-27
6.4 CONCLUSIONS 6-29
6.4.1 Global Ethylene Supply/Demand Balance 6-29
6.4.2 North American Supply/Demand Balance 6-30
6.4.3 Alternative U.S. Ethylene Production Scenario 6-31
6.4.4 Ethylene Co-product Production Trends 6-31
7 Implications for Global Chemical Industry 7-1
7.1 INTRODUCTION 7-1
7.1.1 Background 7-1
7.1.2 Keys to Global Competitiveness 7-1
7.2 ANALYSIS BASIS 7-3
7.3 REGIONAL COMPETITIVENESS METHODOLOGY 7-4

7.3.1 Plant (Cash) Cost of Production 7-4
7.3.2 Plant Capital Costs 7-5
7.3.3 Feedstock and Petrochemical Price Forecasts 7-6
7.4 ETHYLENE COSTS 7-8
7.4.1 Feedstock Availability and Pricing 7-8
7.4.2 Cash Cost of Production 7-9
7.5 POLYETHYLENE COSTS 7-14
7.5.1 Introduction 7-14
7.5.2 Cash Cost of Production, Integrated Basis 7-15
7.5.3 Delivered Cost to China, Integrated Basis 7-18
7.6 SENSITIVITY ANALYSES 7-21
7.7 IMPLICATIONS FOR THE GLOBAL CHEMICAL INDUSTRY 7-23

Section 4 Methodology

4.1 GENERAL APPROACH

Nexant's unique access to the wider value chain including developments in the upstream oil & gas industry and downstream energy, chemicals and polymers markets is leveraged in this analysis. Combined with our extensive experience, this knowledge allows us to provide subscribers with in-depth insight into the impact of shale gas on the global chemical business at a strategic level.

A global team of Nexant researchers, analysts and recognized experts in the petroleum and chemical industries produced this report. All our analysis is underpinned by Nexant's considerable experience working in these sectors, as well as proprietary in-house modeling systems and databases developed over the past five decades. Nexant leverages in-house knowledge and publically available information to deliver insights into emerging issues and trends in the upstream gas and downstream chemical markets.

Market projections were developed with the aid of Nexant's supply/demand modeling systems such as Nexant's World Gas Model and Nexant's Global Chemical Simulator, which are discussed in more detail below.

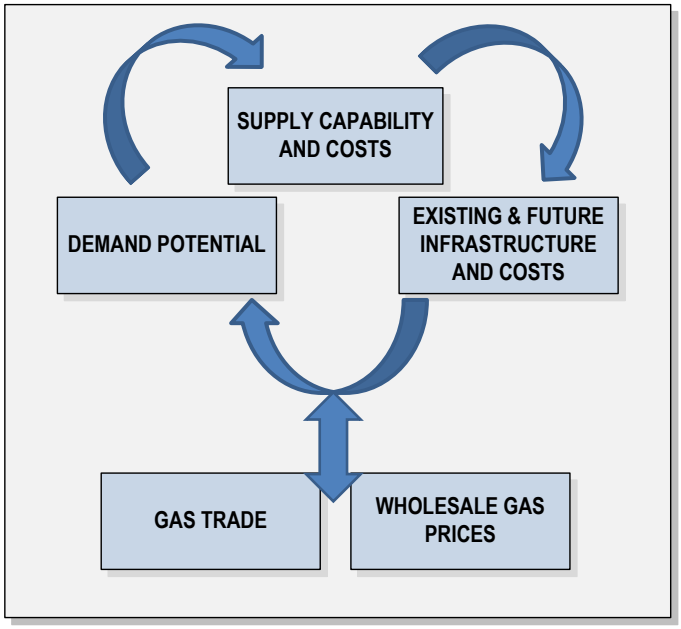
4.2 WORLD GAS MODEL

The World Gas Model was developed by Nexant's Global Gas Practice to support our consultancy assignments, multi-client studies and gas market analysis. The model was designed for maximum flexibility to enable us to set up customized scenarios and to run the model to clients' own specifications to address long term strategic issues.

Natural gas supply and pricing forecasts for this report were developed using the aforementioned World Gas Model. This cost-based model considers every country in the world which either consumes or produces natural gas. Large countries including the United States, Canada and Russia are further segmented by region. The model currently includes over 130 countries. Energy demand forecasts are built up for each country taking account of trends in population, economic growth and energy intensity. Natural gas contribution to energy supply involves consideration of investment decisions, particularly in the electricity generation market, where gas competes with coal, nuclear and renewable energy. Economic, environmental and political considerations all play a part in determining this mix.

The model includes detailed data on the gas infrastructure and supply needed to support international trade, including production fields and basins, pipelines, LNG liquefaction and regasification terminals and storage facilities, together with associated costs. Contract prices are calculated within the model based on projected oil and oil product prices in Europe and Asia. Spot prices for gas in North America, Europe and for LNG trade are determined by a combination of the marginal cost of supply, competing prices and "market tightness".

Figure 4.1 Nexant World Gas Model Simplified Logic Diagram

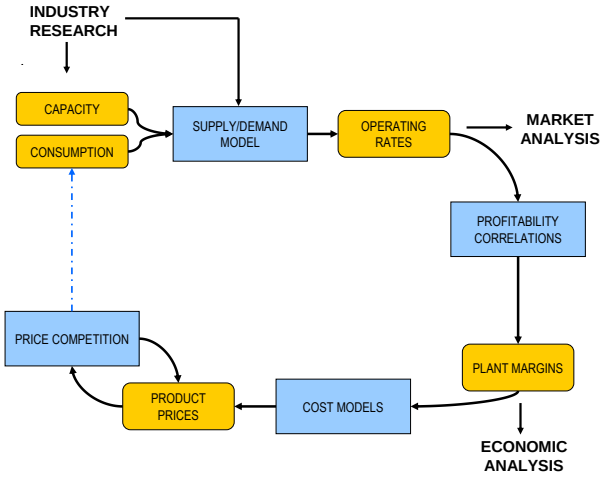


4.3 NEXANT'S GLOBAL CHEMICAL SIMULATOR

Nexant's Global Chemical Simulator is the proprietary simulation model developed by Nexant and used to generate all the analysis and forecasts for Nexant's Petroleum and Petrochemical Economics (PPE) Program and other offerings. The simulation model is an experience-based database running commodity petrochemical business logic algorithms to produce multi-scenario simulations of the global industry.

The integrated Nexant Simulator simultaneously develops forecasts of regional consumption, production, imports, exports and inventory changes for all commodity petrochemicals in all countries/regions.

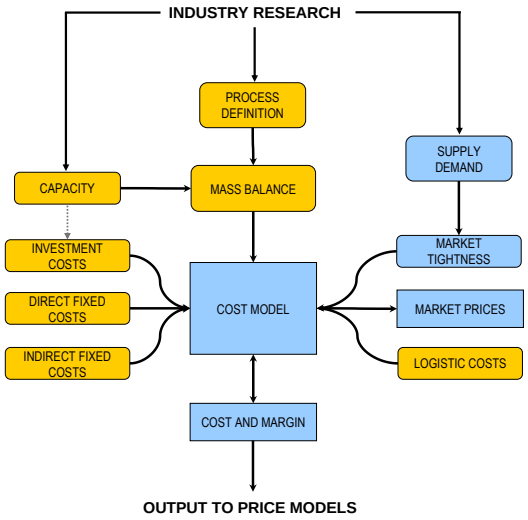
Figure 4.2 Nexant Simulator Simplified Logic Diagram



It is integrated from end-use markets back to petrochemical feedstocks. It considers inter-material competition, inter-regional price relationships, chain margins, product substitution, logistic costs and trade drivers. Costs and prices are integrated from crude oil, natural gas and petrochemical feedstocks through propylene to downstream derivative products, such as polypropylene. One of the functional blocks depicted in the graphic above is expanded below to illustrate the interconnectivity of these drivers and the complex relationships that are built into Simulator algorithms.

Figure 4.3 Nexant Simulator Functional Blocks

(Simplified cost model logic diagram)



Nexant's Simulator delivers step change improvements in market forecasting and business/corporate planning while reducing the resources and time required to evaluate multiple hypotheses and scenarios.

5.1 GENERAL

Nexant uses multidisciplinary project teams drawn from the ranks of our international staff of engineers, chemists, economists and financial professionals, and from other Nexant groups to respond to the requirements of each assignment. Most of the consulting staff possess credentials in both scientific and commercial disciplines plus substantial industrial experience. The collective talents of our staff are strategically located and closely linked throughout the world, resulting in valuable insights gained through a variety of perspectives.

Nexant is an international consultancy and is dedicated to assisting businesses within the global energy, chemical, plastics, and process industries by providing incisive, objective, results-oriented management consulting. Over four decades of significant activity translates into an effective base of knowledge and resources for addressing the complex dynamics of specialized marketplaces. By assisting companies in developing and reviewing their business strategies, in planning and implementing new projects and products, diversification and divestiture endeavors and other management initiatives, Nexant helps clients increase the value of their businesses. Additionally, we advise financial firms, vendors, utilities, government agencies and others interested in issues and trends affecting industry segments and individual companies.

The Nexant Group was formed as an independent global consulting company in 2000, combining a number of companies that had a long history of providing consultancy services to the chemical and refining-related industries. Nexant's experience covers all aspects of project development relating to major refinery, petrochemical, and polymer investments, ranging from grassroots plants to revamps of existing process units. Nexant's key offices serving the petrochemical and downstream oil sectors are located in New York, Houston, London, Bangkok and Bahrain, and locations for other offices are shown in Figure 5.1.

Figure 5.1 Nexant Office Locations

From major multinationals to locally based firms and governmental entities, our clients look to us for expert judgment in solving compelling business and technical problems and in making critical decisions.

Nexant's clients include most of the world's leading oil and chemical companies, financial institutions, and many national and regional governments. Nexant, Inc. is active in most of the industrialized countries of the world, as well as in most of the developing areas including the Middle East, Africa, and East and Southeast Asia.

Major annual subscription programs are:

- Process Evaluation/Research Planning (PERP)
- Petroleum & Petrochemical Economics (PPE) – United States, Western Europe, and Asia
- Polyolefin Planning Service (POPS)

The PERP program covers technology, commercial trends, and economics applicable to the chemical industry. The program has more than 40 subscribers, including most of the major international chemical companies. Many of the processes to be analyzed in this multi-client study have been assessed in the PERP program.

The PPE program provides historic and forecast analysis of the profitability, competitive position and supply/demand trends of the global petroleum and petrochemical industry. The program includes capacity listings and analysis, global supply, demand and trade balances, profitability, competitiveness, and price analysis and projections for all the major petrochemical value chains. The PPE program is supported by an internet-based planning and forecasting tool that provides online access to the database behind the reports of the PPE program.

The POPS program provides reports on the global polyethylene and polypropylene industry. It is recognized globally as the benchmark source for detailed information and analysis on current commercial, technical and economic developments in the polyolefins industry. Coverage includes: capacity listing and analysis, detailed consumption, supply/demand, trade, operating rates, price forecasts, technological developments, new products, inter-material substitution and regional competitiveness.

5.2 SPECIFIC EXPERIENCE RELEVANT TO SHALE GAS

Nexant is exceptionally qualified to perform this study's comprehensive analysis based on our multidisciplinary business approach and having carried out studies of this type throughout our more than 45-year history. The knowledge and experience gained from these engagements will provide an invaluable basis for Nexant to successfully address the objectives of the study.

A partial list of projects relevant to North American shale gas includes:

- **Frac Services – North America:** For a major industrial gas company**,** Nexant identified U.S. gas fields that have extensively applied hydraulic fracturing technologies. The engagement included identifying and quantifying shale gas resources in the selected geographies, and characterizing existing and proposed technologies to develop these resources while providing alternatives to hydraulic fracturing. Nexant also included an analysis of breakeven gas prices that make the technology attractive**,** as well as identified and assessed public policy issues that bear on the development of shale gas resources in the selected geographies.
- **U.S. Shale Gas and LNG Exports – USA:** For a private equity firm, Nexant analyzed the supply curves for natural gas production in the Lower 48 U.S. States, with particular reference to shale gas, the cost of LNG exports from the U.S. Gulf Coast to key markets and projections of Lower 48 natural gas production. In particular, it analyzed:
  - Cost of production of shale gas over time
  - Cost of LNG exports to five key markets: UK, Spain, Japan, China and India
  - Projections of Lower 48 natural gas production to 2030, categorized into associated, shale, coal bed methane, conventional and offshore
- **North American Shale Gas and Shale Oil Research** – Nexant reviewed and analyzed North America's nascent shale oil and shale gas business. Nexant examined current and projected shale oil and shale gas production levels on a play-by-play basis; reviewed the various technical and regulatory challenges faced by shale players in North America; discussed the implications of shale gas production for the U.S. petrochemical sector; and evaluated North America's multiple shale gas-based export plans.
- **Unconventional Natural Gas –** This report reviewed key aspects relating to the development of unconventional natural gas resources. Technological and operational challenges, reservoir characteristics, production behavior and environmental concerns, commercial drivers (cost and breakeven economics), new developments (technology and designs), worldwide occurrence (in place resources and recoverable reserves), and the long term view (production and consumption scenarios) were discussed.
- **NGL Extraction Technologies** – This PERP report provides a review of the commercially available technology options that are available for the extraction of natural gas liquids from natural gas streams, while also looking at the future trends in technology development. The report also explores the economics of NGL extraction, while giving an overview of key NGL markets.

5.3 SPECIFIC EXPERIENCE IN OLEFINS AND POLYOLEFINS

Nexant has completed numerous technical and commercial engagements focusing on the olefins industry as well as on polyolefins technologies and businesses.

Nexant also offers its PolyOlefins Planning Services (POPS), an annual subscriber service providing global information on current commercial, technical and economic developments in the LLDPE, LDPE, HDPE and Polypropylene industries. Coverage includes: supply/demand, swing potential, trade, operating rates, price forecasts, technological developments, new products, intermaterial substitution and regional competitiveness. This program provides Nexant a means to have continual update of industry developments and a means to interact with industry participants (for information development requirements), on an anonymous basis, as needed.

A partial list of projects relevant to olefins and polyolefins includes:

- **Petrochemical Market Dynamics: Feedstocks –** This multi-client report provides an analysis of the feedstock requirements for basic chemical production, and addresses which feedstocks will be important to the industry going forward. This report highlights emerging feedstocks, such as shale gas, as well as conventional materials including coal.
- **North American Polyethylene Cost Structure -** This multi-client report provides an analysis of production costs by region, accompanied by an in-depth discussion on natural gas availability in North America and ethane availability and pricing. The impact of increased shale gas and associated NGL production on the North American feedstock slate used for olefins production is analyzed.
- **Ethylene -** This PERP report discusses commercial and near commercial technology for producing ethylene, developing technologies, cost of production estimates for the manufacture of this olefin, and analysis of the commercial market. Cost issues associated with various feedstocks such as ethane, E/P, propane, *n*-butane, isobutane, light naphtha, and gas oil are analyzed.
- **Gas to Ethylene** – This PERP report highlights new and emerging natural gas-based routes to ethylene which are compared to conventional ethane-based steam cracking. Also, the cost of production for ethylene is analyzed for feedstock and by-product pricing sensitivity, economy of scale sensitivity, and capital investment sensitivity
- **Feedstocks Sourcing and Competitiveness** - This multi-client report provides an overview of the global and regional ethylene and propylene markets and examines and compares the process technologies and economics of the commercially available and developing technologies for the production of ethylene/propylene. The report also includes an analysis of regional competitiveness of both conventional and developing ethylene and propylene technologies
- **Opportunities for Polyethylene Investment -** Nexant prepared a pre-feasibility analysis for olefins and polyolefins investments based on the potential of local feedstock resources

- **Technology Review -** The client, a significant licensor of a range of polymer process technologies, retained Nexant to provide a study to assess the market potential for the technologies on offer and indicate those which might prove appropriate to acquire
- **Polyethylene Technology Comparison -** This study provided a comparison of two LLDPE technologies for a producer who was planning a technology purchase. The technologies were compared with regard to capital cost, production cost, grade capability, catalyst systems and technical risk
- **Polyethylene Technology Assessment** - Nexant evaluated BP and UNIPOL™ processes with respect to technology, economics, product capability and licensing experience and compared them to another technology
- **Production Economics** - Nexant evaluated several LLDPE technologies on the basis of cost of production and complexity. In addition, the product grades that each technology could manufacture and the applications were outlined
- **Polyethylene Technology Risk Assessment – Confidential.** This study covered polyethylene and LLDPE technology and risk assessments
- **Polyethylene Technology Review – Confidential.** Assisted in selecting the most viable polyethylene option and licensor selection by assessing the market opportunities for each technology and review the technology options
- **LLDPE Competitive Evaluation -** This report evaluated the competitiveness of integrated LLDPE production from ethane, propane and A-180 condensate cracker feedstock in the Kingdom of Saudi Arabia against Leader producers in Asia and Europe

Section 6 Contact Details and Subscription Information

6.1 CONTACT DETAILS

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6.2 AUTHORIZATION FORM, TERMS AND CONDITIONS

Subscription Terms and Conditions

1. The undersigned (hereafter "Client") hereby subscribes to purchase from Nexant, Inc. ("Nexant"), Nexant's study, ***"North American Shale Gas: Opportunity or Threat for Global Ethylene Producers?"*** (The "Subscribed Report"), in accordance with the following terms and conditions.

   Nexant will provide to Client the following information and services:

   Access to electronic downloads of the report via a password-protected area from the web site, www.chemsystems.com. Nexant will provide users of the service with a user name and password. Subscriber will inform Nexant if any of its employees who are registered users leave Subscriber's employment.

2. While the Subscribed Report will represent an original effort by Nexant based on its own research, it is understood that portions of the Subscribed Report will involve the collection of information from third parties, both published and unpublished. Nexant does not believe that the Subscribed Report will contain any confidential technical information of third parties. Nexant does not warrant the accuracy or completeness of information.

3. The information disclosed in the Subscribed Report and the terms of this Agreement will be retained by Client for the sole and confidential use of Client and its 51 percent or greater owned affiliates except those parents or affiliates which are engaged in the business of marketing research, management consulting, or publishing or are subsidiaries of such firms (Permitted Subscribers). However, the Permitted Subscribers may use said 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 Subscriber. It is the responsibility of Client to notify Nexant of 51 percent or greater owned affiliates requiring access to the Subscribed Report. 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.

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11. This Agreement and the relationship between the parties shall be governed by and interpreted in accordance with the laws of the state of New York, United States of America.

12. Upon authorization, Client will be billed by and shall pay to Nexant a total of US$20,000.00 (twenty thousand U.S. dollars). Client shall be invoiced the full Subscription Fee upon signature of this Agreement. Amounts are due upon receipt of invoice and payable within thirty (30) days. If payment is not made within 30 days from the date of invoice, Client will be subject to late payment charges. Such charges will be calculated at a monthly rate of 1.5 percent of the invoice amount, compounded for each period or part period of 30 days that the invoice remains unpaid. Fees quoted do not include any applicable sales tax, or use or value added tax, all of which are for the account of Client.

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