“International Shale Gas: Reassessing the Industry’s Future” is one in a series of reports published as part of the 2017 Process Evaluation/Research Planning (PERP) Program.

Report Overview
Countries around the world have been inspired by the surge in North American shale gas production that has transpired over the several years. Less than a decade ago, the consensus was that easy-to-reach and inexpensive gas reserves in Canada and the United States were dwindling, and that large-scale gas imports would be required to make up the shortfall in supply and demand. But today’s conventional wisdom holds that North American shale gas production will continue to increase steadily, all but negating the need for inter-regional gas imports in both Canada and the United States, and indeed, transforming both countries into potentially large global gas exporters. Several countries outside the region hope to echo the remarkable success enjoyed by North American producers to date. By so doing, they hope to reap the rewards of cost-competitive supply security, energy diversity, and of course, the transfer of technical knowledge and expertise that North American shale gas players and service companies have acquired.

The primary purpose of this report is to analyze the shale gas resource potential of countries outside North America, and identify the most likely sources of commercial production outside of North America over the next five years. This report also considers petrochemical production economics based on feedstocks currently being utilized and the potential impact of shale gas in countries presently using heavier feedstocks. The following issues are addressed in the report:

• What is the global distribution of shale gas resources? Where is commercial production occurring today?

• What are the operational and technical challenges faced by shale gas developers? What methods and innovations have been devised to economically identify and produce these resources, and optimize well operations?

• What is the significance of shale gas resource potential in key countries’ existing gas supply mixes? What are the factors – geological, commercial, geopolitical, and institutional - favoring and/or disfavoring development?

• How has the prevailing low oil price environment affected production economics and ultimately, investment?

• What is the scope of global shale gas production over the next five years, and to what extent will shale gas underpin global gas trades?

International Shale Gas Resources
This report presents Nexant’s views on the shale gas resource potential and most likely sources of commercial production outside of North America through 2022. The analysis includes shale gas resources located in Asia, North America (Canada and Mexico only), South America, Europe, Australia, Africa, and the Middle East.

Regional Market Analysis
Using Nexant’s proprietary World Gas Model (WGM), this report presents historical and projected (through 2022) global and regional production and consumption of natural gas. Nexant’s views on the share of shale gas in the global supply mix are also presented.

Process Economics
Comparative production economics for ethylene and high density polyethylene (HDPE) were developed for the U.S. Gulf Coast (USGC), Western Canada, China, Argentina, and Saudi Arabia on a 2017 and projected 2022 basis, to show the impact of ethane prices on downstream derivatives.

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