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## Study Abstract

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### ***TCGR Completes Benchmark Study on Syngas Production – Gasification of a Range of Feedstocks is “Key Technology Pathway” in Drive for Alternative Fuels***

The high level of attention focused on improving both the environment by the reduction of greenhouse gas (GHG) emissions and the drive to find alternative fuels, e.g., gas-to-liquids (GTL), coal-to-liquids (CTL) and biomass-to-liquids (BTL) from non-petroleum sources makes syngas a key technology pathway of choice. The ability of gasification to use a variety of lower cost sources of hydrocarbons is the driving force. However, whether it is partial oxidation of natural gas or light hydrocarbons, or the gasification of heavier feedstocks like coal, heavy oil/bitumen or residue/pet coke, the production and utilization of syngas in many cases is still seen as having significant economic, scale and environmental challenges as a competitive alternative today.

***“Syngas Production and Conversion to Products: A Strategic Assessment of the Technologies, Markets and Competitive Landscape, Volume I”***, is one of the most important contributions to gasification breakthroughs the industry has seen in several years, due to its content, style and focus. It benchmarks the “state-of-the-art” of the competing gasification processes relative to their SWOT, pros/cons, etc. These benchmarks are then assessed against the emerging technologies that might resolve the major challenges for gasification. The competitive implications of these technologies, on their developers and syngas producers, are then analyzed. Overall strategic issues and questions are addressed, with recommendations for producers and the industry as a whole.

In order to insure the most robust analysis and deliver “real world” industrial perspectives, TCGR teamed both industry veterans and leading edge visionaries (consisting of ex Shell and ex Texaco key executives, as well as AEP and UOP (purification-CO<sub>2</sub>) colleagues and others) to provide “inside” perspectives on technical

developments, engineering and design, licensing and strategic planning. In addition, they have examined integrated approaches to reducing CAPEX and OPEX costs.

Although the study findings are numerous, broad and deep, representing every aspect of gasification/syngas production, the following brief excerpts from the study's Executive Summary are representative:

*In the new alternative energy market/environment, governments and industry need solid fuel gasification to “step-up” and present a new path forward, given the challenges. As will be shown, this requires a broader definition/concept of gasification as an indispensable alternative for lower cost solutions, based on critical fuel sources, including biofuels, and heavy oil development. To do this requires a different mindset.*

*This report, “for the industry-by the industry,” represents a departure from the normal assessments you have seen. It challenges “the facts” versus “the fiction” in presenting both a knowledgeable and critical review of both the industrial and environmental benefits of gasification, to existing endusers.*

*The industry needs a stronger voice! In this regard, there are two key elements in which the industry has but should participate in further: 1) The CoalFleet Program, and 2) GTC. These are two different roles: 1) CoalFleet can help communicate an unbiased status quo, and 2) GTC can act in an advocate role, to communicate to governments, the market and the industry at large. One of our strong recommendations is that GTC extend itself into enduser organizations such as IEA coal and other critical organizations to broaden its communication base and bring both reality and credibility to these audiences.*

Available immediately, The Catalyst Group Resources' (TCGR's) Volume 1 “Syngas Production Assessment” (part one of our two-part multi-client study series) is future looking - towards solving industry challenges, addressing technological and environmental constraints. It provides a uniquely integrated value-chain assessment, from feedstock to enduses, in the syngas production and conversion train. TCGR's study provides a detailed business analysis and R&D pipeline examination that can be used to determine the shifts/changes required to pinpoint future investment decisions.

The actual Table of Contents (from the completed Volume 1), as well as the overall study proposal for the two- volume report series, can be found at <http://www.catalystgrp.com/SyngasProduction.html>. For more information, contact Jeanne Drahos ([jmd@catalystgrp.com](mailto:jmd@catalystgrp.com)) or John J. Murphy ([jjm@catalystgrp.com](mailto:jjm@catalystgrp.com)) at 215-628-4447.

**Clients anticipate when TCG/TCGR offers a study, there is a technology/business opportunity contained therein!**