

Global Business Realities Have Led to Systemic Change in Downstream Organizational Structure and Business Models

Recent economic indicators hint that the economy is on a sustainable uptick. Energy firms have been carefully biding their time as they have waited for demand to rise and prices to firm. It is expected the upstream energy sector will react swiftly and renew the capital spending programs they curtailed or shelved when the global economy slowed down dramatically.

But what about the downstream energy sector, particularly the refining segment? If history serves to repeat itself, this sector might be expected to languish behind its upstream counterparts as companies struggle to shoulder the longstanding burdens that always attend structural overcapacity and high inventories in an asset intensive business.

The downstream sector might surprise the industry this time around, however. Rather than treading water while waiting for energy industry upticks, many large companies with downstream operations took advantage of the downturn and began to change the way they do business. When the recession lifts, refiners and other downstream companies will get the chance to road test new organizational structures that began taking shape in the wake of the market's collapse in 2008.

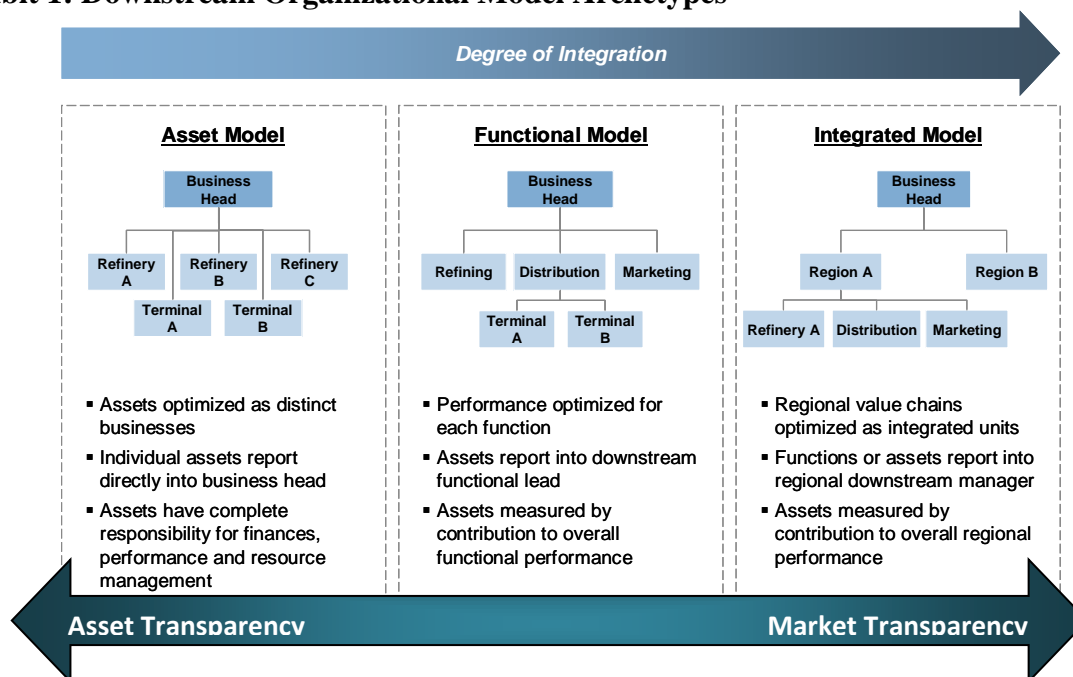
This is a good thing, because downstream organizations will soon be facing substantial challenges that are sure to test their mettle. In addition to the twin troubles of overcapacity and high inventories, downstream firms can bank on facing new regulatory requirements associated with greenhouse gases and process safety management not to mention the potential for game changing tax reforms. At the same time, the developing world is putting the finishing touches on new refining projects that promise to put more pressure on the already-thin margins of many downstream firms.

To help better understand the organizational changes crafted in recent months throughout the downstream sector, The Quaker Group completed an in-depth review of seven major companies in the industry: three US downstream companies and four major integrated oil companies with substantial US downstream operations. We conducted exhaustive interviews with key executives at these companies and culled additional information and perspectives from managers with front-line responsibility for downstream operations. This perspective outlines the results of our research—which suggests that downstream companies may have properly armed themselves with organizational structures that will be well suited for the realities of the post-recession market and less susceptible to economic and regulatory externalities.

The New Organizational Models: Value-Chain Driven

Our research confirmed that three principal organizational models (Exhibit 1) are being employed by the surveyed companies—with each differentiated as to degree of vertical integration along the downstream supply chain (refinery gate to nozzle). (In this context, we define “value chain” as a linked set of activities in the supply chain that incrementally adds value to the end product.) But there’s more at work here than value chain considerations alone. In each of our referenced companies, the organizational model corresponds to a specific strategy pursued by the downstream entity. These strategies are based on perceived competitive strengths and weaknesses under the backdrop of unique business paradigms, e.g. NOC vs. IOC, short term versus long term, niche markets versus scale, etc.

Exhibit 1: Downstream Organizational Model Archetypes



- **The asset model** is deliberately structured to allow a company to grow through acquisitions. An asset model makes it easier for firms to acquire or sell business units, because each “candidate” available for sale or purchase operates (largely) autonomously regardless of its geographic location. Companies that see their portfolios as a moving target gravitate toward asset models because they provide the highest level of flexibility and financial transparency. If an attractive company is identified, the acquiring firm can move quickly to close a transaction without worrying about how the gain or loss of an asset might “disrupt” the portfolio. This also greatly simplifies the due diligence process as related to anti-trust discovery as well as short & long term tax considerations.
- **The functional model** works well for companies seeking to build deep in-house expertise that allows them to handle virtually any technical challenge, without the partnering or outsourcing embraced by many firms. This is characteristic of companies that invest in technical differentiation as a competitive strength and seek to minimize the potential for leakage. Functional models are predicated on companies that “institutionalize” skill sets and successful processes, along with the cultural characteristics of their employees. Organizations

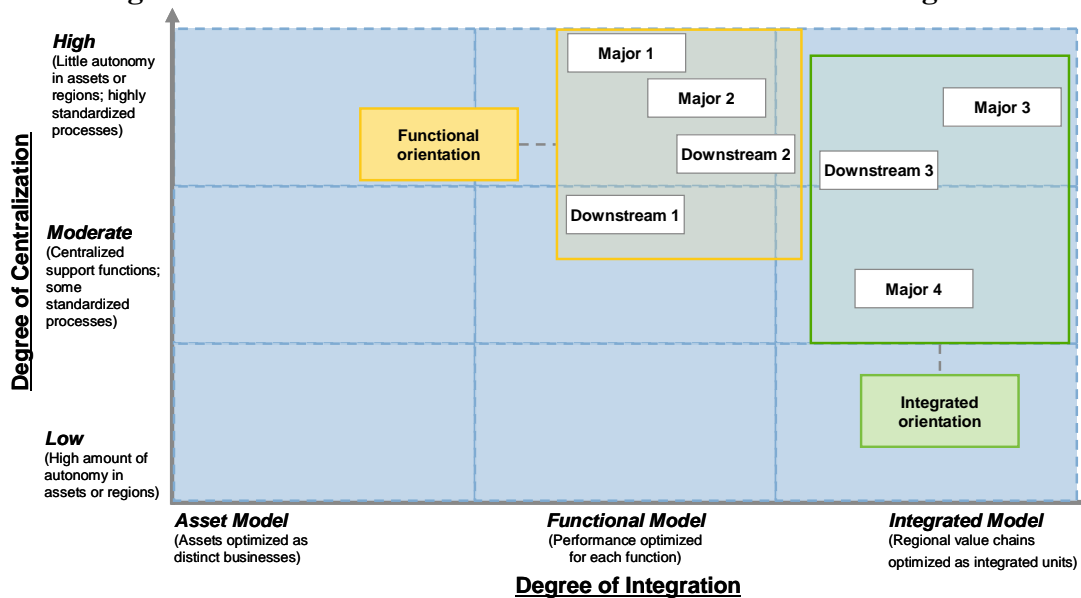
also lean toward functional organizations as a mechanism to leverage scarce technical resources or manage massive globally distributed assets and management processes.

- The integrated model** drives performance by managing the value chain and balancing supply chain segment performance (cost) against a holistic business perspective (price realization). “Optimization” is the operative word in this structure, with corporate managers seeking the most productive alignment of individual components of the value chain. All regional market externalities are taken into consideration, including market supply/demand fundamentals, price volatility, and competitor mix and objectives. This structure facilitates organizational degrees of freedom in aligning resources to best address internal and external competitive competencies and threats, e.g., contango versus backwardation business environments.

Mapping Model Distinctions

Using two indices—degree of integration and degree of centralization—The Quaker Group mapped the organizational structures of the researched companies (Exhibit 2). Two natural groupings emerged, with four companies demonstrating a functional orientation, and three others demonstrating an integrated orientation. There were no asset oriented downstream companies among the 7 companies analyzed in this survey.

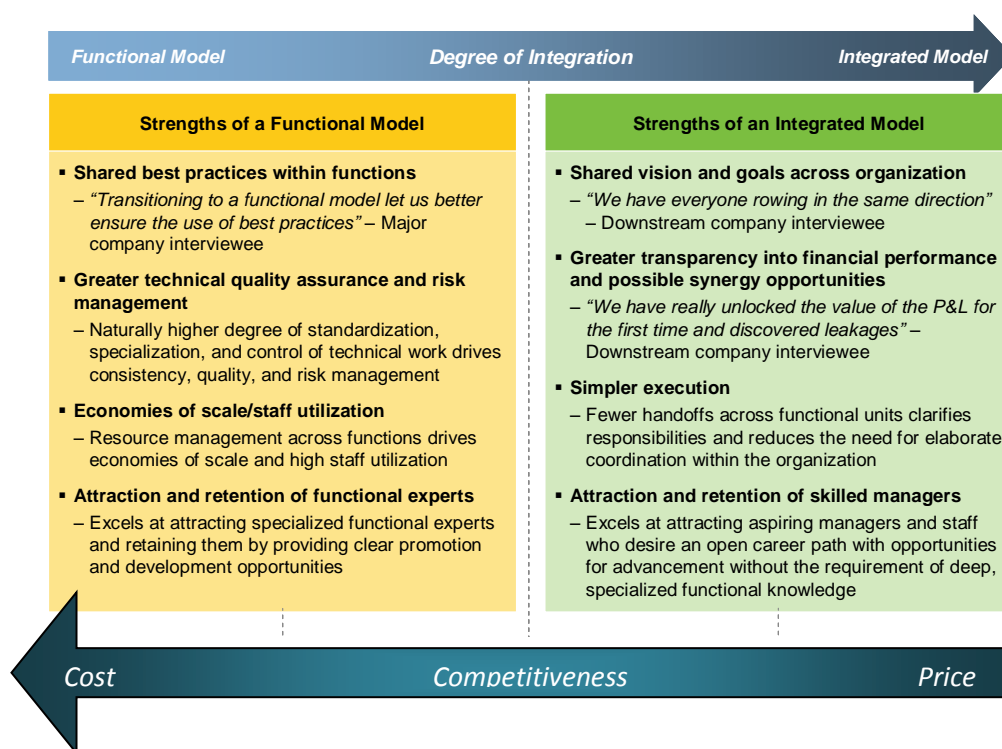
Exhibit 2: Integration and Centralization in Researched Downstream Organizations



In the course of our interviews, it became clear that managers of each company within these groupings strongly believe in the strengths of their chosen organizational structures. It was equally clear that the two groupings are inversely related; in other words, the natural strengths of one model tend to be the natural weaknesses of the other (Exhibit 3).

Our research also confirmed how the trend in the downstream sector appears to be turning toward more integrated operational models (Exhibit 4). Market externalities appear to be the primary driver behind this evolution, including the continued fragmentation of products targeted to specific regions, e.g., CARB¹, RBOB², CAA³, ULSD⁴, and others. The increasing sophistication and specialization of these products has led to increased intermediation and fragmentation in local and regional markets. Product specification “bias” has effectively “de-commoditized” some petroleum products as well as crude oils in specific regions and created artificial market entry barriers. This is particularly true in the US as state and local jurisdictions promulgate increasingly tighter emissions constraints on fuel products. For downstream entities this has created localized business opportunities to exploit unique asset and supply characteristics and levels the playing field by limiting market access of lowest cost large NOCs and IOCs.

Exhibit 3a: Strengths by Degree of Integration and Centralization



¹ California Air Resources Board (CARB) Gasoline

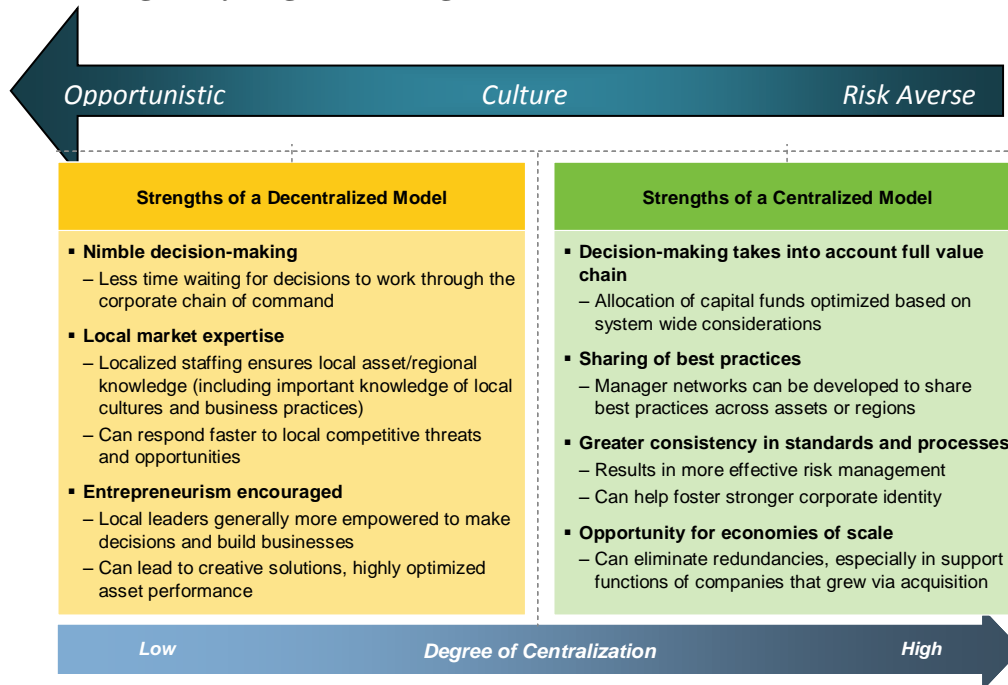
² Reformulated Blend-stock for Oxygenate Blending (RBOB) Gasoline Component

³ Clean Air Act Amendment Gasoline (Minimum Oxygenate Component Requirement)

⁴ Ultra Low Sulfur Diesel (Less than 0.5 wt% Total Sulfur)

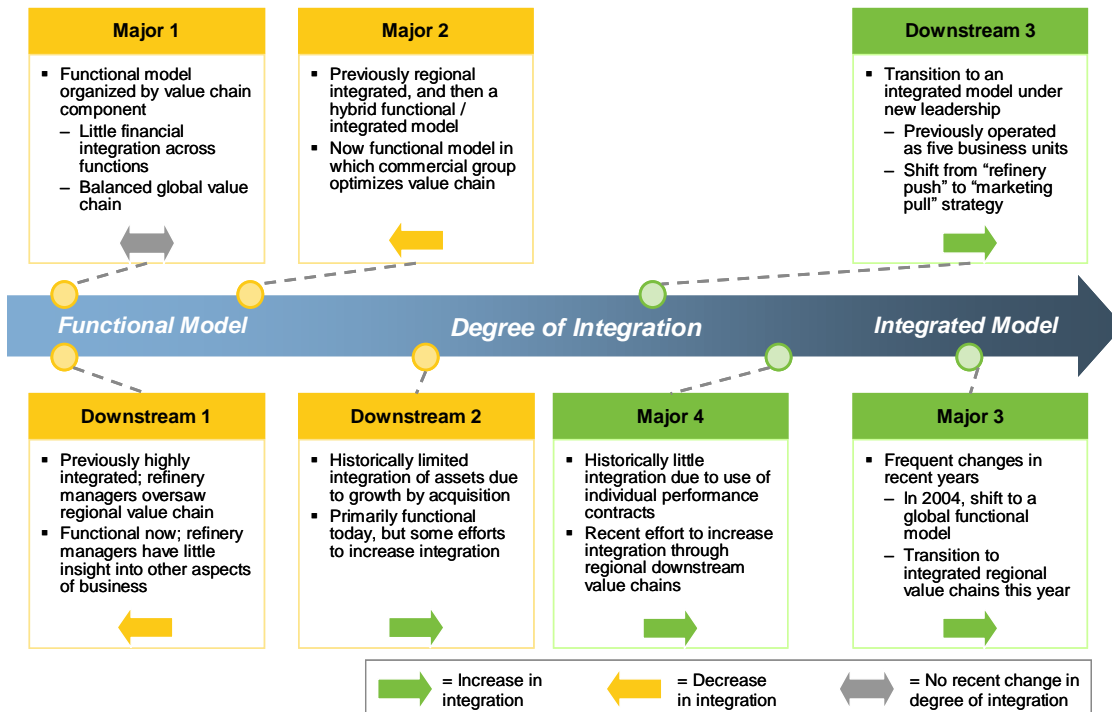
Not too long ago, the downstream mantra could be summarized as “size matters.” In today’s environment, however, “market agility” clearly matters more. As regulators continue to demand new product specifications for specific jurisdictions, downstream companies believe integrated organizational models will facilitate increased competitiveness in proactively exploiting increasingly complex markets and cycle volatility.

Exhibit 3b: Strengths by Degree of Integration and Centralization



Market fragmentation and subsequent product proliferation has driven many downstream organizations to “regionalize” their business models in order to respond to specific market needs. At the same time, these firms have moved toward a more “institutional” approach to help standardize corporate policies and procedures in response to emerging regulatory and environmental business risk associated with evolving local, regional and global constraints

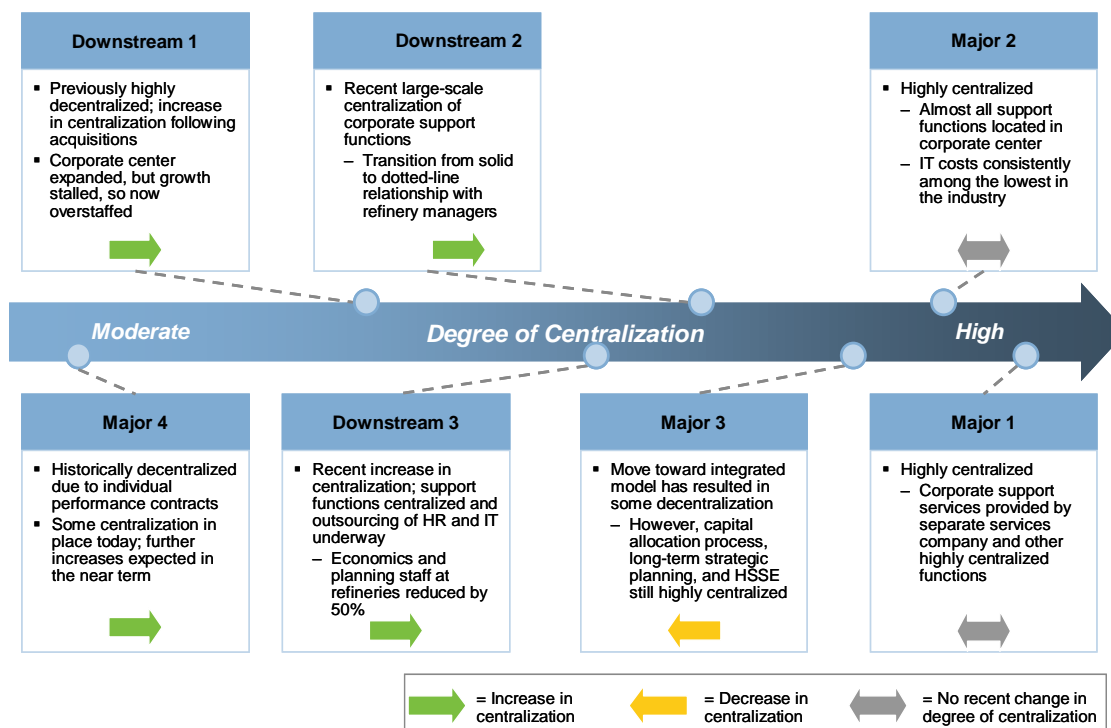
Exhibit 4: The Trend Toward Integration (Market Based Competitive Response)



Business approaches that worked during the “Golden Age of Refining” have obviously given way to more sophisticated models that the firms in our study are using to pursue cost leadership, ensure strict adherence to regulatory guidelines, and align assets and functional processes with market objectives. The organizational structures identified here emphasize this new level of sophistication. While they may not lead to another “Golden Age,” they should provide the structure, institutionalized processes and resource competencies that provide heightened organizational enlightenment and business transparency to better cope with emerging market and business externalities.

Our final exhibit (Exhibit 5) illustrates how downstream companies may be adopting a higher degree of centralization as they move toward integrating their operations. Every firm is unique and has distinct competencies, institutionalized processes, formal and informal cultures, support infrastructures, and asset configurations. The “trick” to effective centralization is to objectively assess these internal characteristics and build a centralized model that emphasizes the inherent strengths of these unique organizational traits balanced against the to provide an environment that promotes employee engagement at all levels of the organization. Industry leaders reward initiative and business acumen in maximizing margin and long term enterprise value. The end result should be an organizational structure that optimizes the processes, competencies, culture, and performance metrics a company will need to be competitive throughout the business cycle.

Exhibit 5: The Trend Toward Centralization (Non-Discretionary Regulatory Response)



Assessing the Impacts of Structural Shifts

The viability and sustainability of these downstream structural changes will be revealed as we emerge from the economic downturn. The Quaker Group plans to revisit this sector and report on the relative competitiveness of downstream companies as a function of degree of integration and centralization. For now, we can report only anecdotally on what has been observed “pre-recovery”: The downstream industry is clearly trending toward higher degrees of centralization and integration—and organizational models are the tools that can translate these trends into improved efficiencies and stronger business results.

Quaker Group’s Approach to Downstream Organizational Restructuring

How can downstream companies transition to these new organizational models? The Quaker Group uses a six-step process to facilitate organizational transformation. As an external consultant, we are uniquely positioned as an “informed” objective advisor to help drive the “internal buy-ins” that dictate both the quality and outcomes of the process.

The six steps in our process include the following:

1. Define the imperatives: It's important to take a holistic view of organizational structures and recognize how making even minor changes in one area of a process can affect other areas of the enterprise. Understanding how the various parts of a company fit together is the vital research needed up front. When downstream companies ask us to advise them on new ways of structuring operations, we always work with top management to gain a complete picture of the company's business imperatives, unique competencies and business success metrics. Equally important, these sessions help foster a shared perspective of the company's strengths and weaknesses, so that all members of the senior executive team come to a common vision of the new management structure and "Own" the initiative.

2. Benchmark competitors: The next step is to take stock of competitors and their management systems to confirm the business processes and success drivers that are currently employed by industry-leading firms i.e., the market makers. The Quaker Group typically develops in-depth profiles of several primary competitors with large operations and, when possible, conducts extensive interviews with employees and past employees of these companies to help build a detailed picture of how various operations are structured. This type of research can identify not only which systems are in place at each company, but also which systems earn the strongest endorsements (or harshest criticisms) from front-line managers charged with operational responsibility, i.e., the least change resistant and fastest approach.

3. Assess the internal landscape: A critical exercise is to delve into the secondary management levels of the company to build a schematic of how internal mechanisms drive the enterprise. Via direct interviews and surveys, we assess core capabilities and identify what managers see as the primary competitive advantages of their company, and ask senior executives to share their views on which processes are successful and which need to be reassessed or revised. At the conclusion of this phase, a company gains a nuanced picture of the inner workings of its operations—and the picture may differ in important ways from one held by the leadership team prior to the exercise. The distinctions between these views can help point companies toward valuable solutions they may not have been otherwise identified.

4. Start to redesign business processes: Based on the above steps, potential organizational models involving different sets of elements can be drafted. Workshops are a useful forum to debate the processes required for each of these models, with follow-on analyses to help identify which people and job functions will be required to fully implement each model. The direct involvement of key managers at this stage helps promote a sense of ownership for the transformation effort and its outcomes.

5. Refine the chosen design: After one management model emerges as the best framework to customize for a particular organization, the next step is to assess the risks associated with each process required for the new model. At this point, we outline specific structures to determine reporting relationships. We also analyze the business case for a sustainable organizational restructuring considering all potential internal and external factors in a Monte Carlo like assessment.

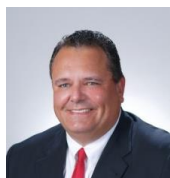
6. Plan, align, and implement: With all elements of the new organization model complete and approved, the final step ensures that each constituency is properly apprised of the scheduled transformation. We establish transition timelines and road maps, identify appropriate communication vehicles, and establish “change management” task forces to alert the workforce about what to expect.

The end point of this process is a management structure that precisely matches a company’s strategic imperatives, competencies and unique ways of doing business, while providing the tools that can enable a downstream energy business to better meet new market and regulatory risks, manage capacity, and increase margins in a sustainable manner.

For more information about The Quaker Group and Our perspectives on downstream organizational restructuring, please contact one of the following partners:

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Mr. Snell holds a BS in chemical engineering from Northeastern University (Magna Cum Laude) and Bates College, an MBA in Finance from the Wharton School of the University of Pennsylvania (Joseph P. Wharton Scholarship) and a JD (Contract Law honors) from Concord Law School.



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Mr. Marmol is a member of the board of the Center for a Free Cuba in Washington DC. Gil holds an MBA with Distinction from The Harvard Business School and a BA, Magna Cum Laude, in Engineering and Applied Physics from Harvard College. Mr. Marmol is fluent in Spanish.

About The Quaker Group

The Quaker Group combines deep industry knowledge predicated on significant industry and management experience. Our practitioners typically have a minimum of 25 years experience in the petroleum and process industry vertical with combined operating company and consulting experience. We assist clients at all levels of the organization and provide strategic, organizational and operations advice that is grounded in practical sustainable solutions that are easily implemented.

Our affiliates have combined industry and management experience in all areas of the hydrocarbon supply chain as well as most functional areas. All practitioners possess undergraduate technical and engineering degrees as well as MBAs or formal business training in an operating company. The Quaker Group is a Houston-based petroleum industry consulting Firm based in Houston. For information, please visit www.thequakergroup.com.