Greetings,

Dave Witte, Senior Vice President, Oil Markets, Midstream and Downstream at IHS Markit, and *Rob Westervelt, Director at IHS Markit,* discuss the latest developments in the DowDuPont merger that was originally announced in December 2015.

IHS Markit Research Update—Chemical Company Analysis: As Dow and DuPont Continue Merger Integration, Activist Investors Drive Company to Seek Outside Counsel on Proposed Spin-Offs

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This research note offers an update on our initial analysis offered in December 2015, following the landmark announcement on 11 December 2015 by Dow and DuPont that they would merge their two companies into one. At the time of this announcement, the two U.S. industrial and chemical icons described their combination as a $130-billion "merger of equals," which we (formerly IHS Chemical, now IHS Markit) noted at the time created the industry's largest deal to date. (It dwarfed AzkoNobel's 2008 acquisition of ICI for $17 billion). Today, these two companies are worth approximately $155 billion.

The combined company will be named DowDuPont and be dual-headquartered in Midland, MI and Wilmington, DE. Dow chairman and CEO Andrew Liveris will become executive chairman of the DowDuPont board, and Edward Breen, chairman and CEO of DuPont, will become CEO of DowDuPont.(IHS Markit covered the Dow Chemical Company in a recently released Competitive Company Analysis, www.ihs.com/cca-analysis, which reveals an in-depth view of the company's product integration, financials and strategic direction).

At the time of the merger announcement, the companies said in a joint statement they intended to subsequently pursue a separation of DowDuPont into three independent, publicly traded companies through tax-free spin-offs. This would occur as soon as possible, which was expected to be 18-24 months following closing, subject to regulatory and board approval. According to a statement issued by the companies on 11 December 2015, "The transaction is expected to deliver approximately $3 billion in cost synergies, with 100 percent of the run-rate cost synergies achieved within the first 24 months following the closing of the transaction. Additional upside of approximately $1 billion is expected from growth synergies.”

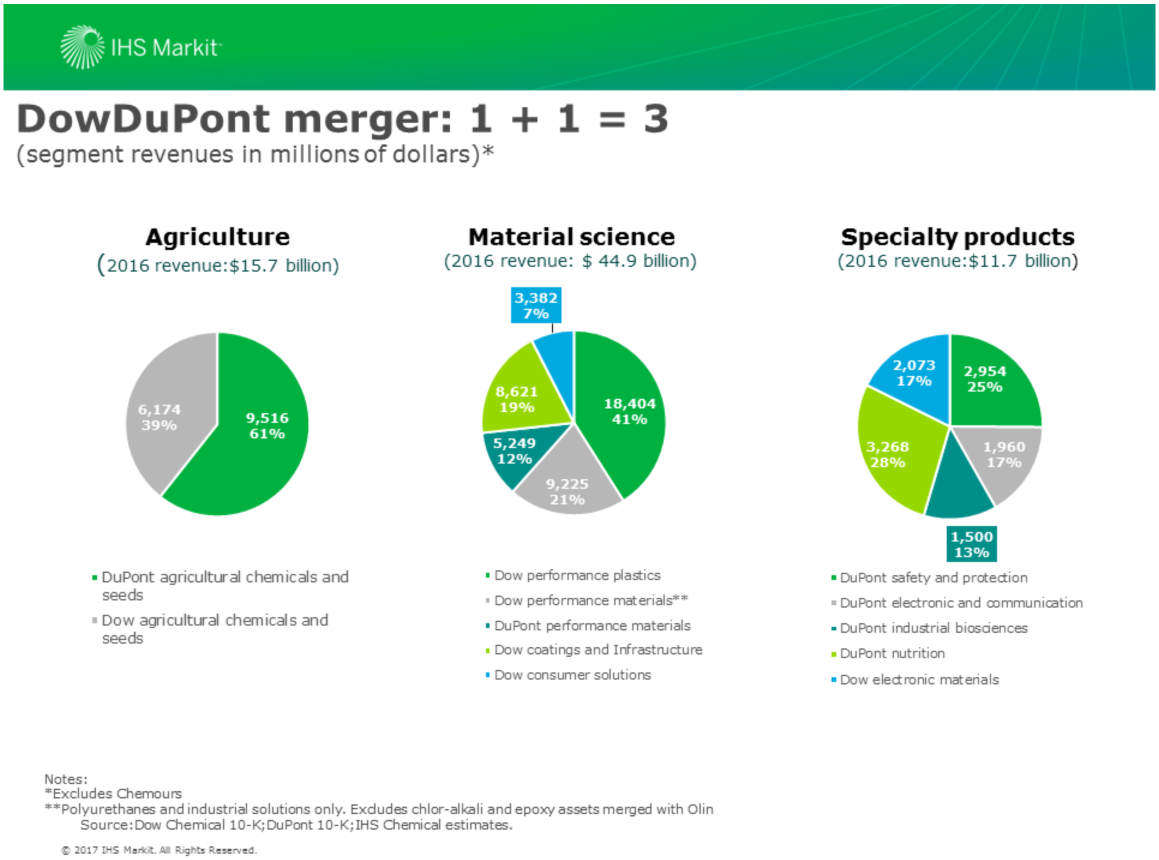
The devil is in the details: Dow and DuPont engage outside council on spin-offs; as activist agitation increases

Fast forward to July 2017, and this proposed spin-off is where the details of the deal start to get interesting, at least from an investment perspective. Dow and DuPont announced in late June that they would engage McKinsey & Co. to assist in a reviewing the composition of the three companies they intend to spinoff. Both had previously indicated they would review the portfolios, but the McKinsey assignment and statements from each company’s lead director are meant to indicate significant movement to the next phase of the merger.

The announcement comes less than a month after activist hedge fund Third Point (New York), led by investor Dan Loeb, called for the companies to shift several “high-multiple” businesses from their planned materials science spinoff into the planned specialty products company. Hedge fund Glenview Capital Management also made similar arguments.

The activists are promised a fair hearing by the boards, but it appears unlikely significant changes to the existing deal structure seem low. From Dow’s perspective, this was less a “merger of equals” rather than a tax-efficient way to divest its agriculture business. A complex and extended DowDuPont merger transaction timeline introduced risk by raising the potential for disruptive events, including activist agitation. Third Point and activist hedge funds were, in fact, a known risk given Third Point’s previous engagement with Dow. Its proposals and arguments match its earlier call for Dow to consider a separation of non-commodity businesses.

Dow took a calculated risk and nothing in its strong performance since the deal was announced provides an argument for significant changes. While changes are not impossible, the deal does appear to have a fairly strong Teflon™ coating. Some relatively minor portfolio shifts are possible but an abandonment of Dow’s strategy of combining a market-driven portfolio with strong back integration is not in the cards. Dow management, led by CEO Andrew Liveris, has fought very hard to keep the core of Dow’s integrated portfolio intact through the years, so major changes to the deal are extremely unlikely.



Dow maintains strong controls and much authority to approve any deal or structural changes

Terms of the deal strongly favor Dow should the company leadership not want changes. The materials science advisory committee (this business has already indicated it will retain the Dow name) has sole authority to approve any changes to the scope of that business. The committee is made up of legacy Dow board members in addition to Liveris and DuPont CEO Edward Breen. Legacy DuPont board members have the same authority over the agricultural business.

Implications: The deal will stand

The full DowDuPont board has some leverage. A majority can abandon any of the spin-offs, but that is an unlikely outcome in our opinion, barring a dramatic disagreement or deterioration in relations between Dow and DuPont board members, which has not been evident. Upon further review, in our personal opinion, the deal will stand, but as mergers and acquisitions continue to heat up in the specialty chemicals sector, the leadership of these other companies is likely to keep a keen eye on activist investors as they structure any deals.

Background on the two companies and their assets

Dow was third in *IHS Chemical Week's* latest "Billion-Dollar Club" ranking of the largest chemical makers by revenue, with sales of $58.2 billion in 2014. DuPont ranked eighth, with 2014 revenues of $24.7 billion. The two companies have each faced activist and investor pressure to consider more aggressive portfolio rationalization than they have undertaken to date.

The spin-offs will include the leading global pure-play agriculture company with revenue of $19 billion based on 2014 sales. The largest business will be a material science company with sales of $51 billion, made up of Dow's current franchise, excluding agriculture, and electronic materials, plus the addition of DuPont's performance materials business, including engineering plastics and elastomers.

The specialty products company, with revenues of $13 billion, includes DuPont's electronic and communications; nutrition and health; industrial biosciences; and safety protection business; plus Dow's electronic materials business.

Under the terms of the transaction, Dow shareholders will receive a fixed exchange ratio of 1.00 share of DowDuPont for each Dow share, and DuPont shareholders will receive a fixed exchange ratio of 1.282 shares in DowDuPont for each DuPont share. Dow and DuPont shareholders will each own approximately 50 percent of the combined company excluding preferred shares. The companies had a combined market capitalization of approximately $130 billion at announcement.

Advisory committees will be established for each of the businesses. Breen will lead the agriculture and specialty products committees, and Liveris will lead the material science committee. DowDuPont's board is expected to have 16 directors, consisting of eight current DuPont directors and eight current Dow directors. The full list of directors will be announced prior to or in conjunction with the closing of the merger. The committees of each company will appoint the leaders of the three new standalone companies prior to a contemplated spinoff.

Separately, Dow announced in December 2015 that it would become the 100 percent owner of Dow Corning, which was previously a 50-50 joint venture with Corning. According to the (Dow) company announcement, Dow and Corning were to maintain their current equity stake in Hemlock Semiconductor Group, Dow said, which seemed to please investors at time as both company stocks rallied.

Industry Impact: An IHS Markit Perspective

As we noted in our December 2015 analysis on the deal, a DowDuPont merger would be followed by a three-way split, broken down to agriculture, material science, and specialty products. As structured now, the deal keeps the core of Dow Chemical's integrated franchise in place, excluding its agricultural chemical business and electronics materials business (inherited from Rohm and Haas). The materials science business would also take on DuPont's performance materials business (including engineering plastics and elastomers) as well as Dow Corning. The only true peer on this scale that remains is BASF.

This specialty products spinoff would be a $12-billion specialty products maker, including DuPont's safety and protection, electronics, nutrition, and industrial biosciences businesses, plus the addition of Dow's electronic chemicals business. The deal continues a dramatic rationalization of DuPont's franchise. DuPont was the largest chemical maker globally by revenue in 2000. At $12 billion, these remaining DuPont businesses would not rank in the top-30 globally.

Deal Signals More Consolidation for Agricultural Chemicals

The combination of Dow and DuPont's agricultural businesses likely presages further consolidation in the agriculture segment. The cyclical downturn in agriculture has made deals in agriculture all but inevitable—a sentiment confirmed by nearly all senior executives at the big-six agricultural chemical firms. Until this DowDuPont merger was announced, the top ranks of the big six in seeds and crop protection chemicals have remained unchanged since Novartis and Zeneca combined their agriculture businesses to form Syngenta in 2000, although significant consolidation has occurred in recent years among tier-2 producers, who typically focus on crop-protection chemicals.

Since this deal was announced in 2015, we've seen additional companies move toward mergers or consolidations in the sector, including: Bayer/Monsanto, ChemChina/Syngenta, Clariant-Huntsman.

The deal continues the shift, accelerated in the past few years, by the agitation of activist investors, toward simpler and more focused portfolios. The reshuffle of Dow's and DuPont's non-agricultural operations would continue the split between specialty chemical and advanced material niches. Upstream integration would be retained for basic chemicals and polymers (materials) while bringing scale to the specialty business.

Further, the acquisition of Dow Corning—a major producer of silicones—will significantly strengthen the combined entities' electronic materials and consumer care portfolios. Likewise, DuPont's portfolio complements Dow's with regard to food and nutrition and personal care product ingredients: DuPont (Danisco) is a major player in nutrition and health and a small player in the personal care products industry. While IHS Markit views this segment as more specialty in nature, this part of the portfolio is slated to remain with the Materials' focused company, along with the majority of the legacy Dow franchise.

A new *IHS Markit Specialty Chemical Update Program Overview of the Specialty Chemicals Industry* report identifies 30 or so such niches ranging from more than $40 billion/year in global revenue (specialty polymers, cleaning ingredients, and electronic chemicals) all the way down to thermal printing chemicals, valued at $450 million. Paints and coatings, roughly a $135 billion/year segment globally, and industrial gases, are broader specialty-like niches that have become dominated by focused producers.

While Dow retains the upstream integration with expanded capabilities to bring a full portfolio of advanced materials, increasingly Basics (along with integration to commodity plastics) will likely be commanded by integrated oil companies, state-owned enterprises, emerging players in Asia and the Middle East, and a few remaining regional players in the United States and Europe. This would include a DowDuPont combination with an extended advanced material portfolio, LyondellBasell Industries, Ineos, and Westlake Chemical, notwithstanding the presence of other MNC producers such as ExxonMobil, Shell or ChevronPhillips Chemical.

The rest of industry is focusing on targeted and more specialized niches spread across more than 30 segments. The emphasis here is on innovation, market knowledge and close customer relationships. Horizontal diversification is now seen as a distraction for some operators, as their business focus intensifies and broad-based ambitions are reduced.

While not true for agriculture, research and development (R&D) emphasis for chemicals narrows on developing applications with new materials penetration and extending product lines rather than core invention and developing new chemistry. These strategies will likely be tested in time as emerging players in Asia, including state-owned enterprises and national champions, continue to expand research capabilities and surely won't limit themselves to basic chemical production over the long haul.

This may well be the natural evolution of an industry that has seen giants such as Hoechst, Union Carbide, ICI, and others disappear during the past 20 years, but we are truly witnessing a tectonic change and a continued evolution of a diversified era in the global chemical industry. One thing is certain--the pace of change in the global industry is accelerating at a speed many of us have not witnessed in the past 30 years. Some would say warp speed. With recent changes in the global sector largely driven by the significant shale resource availability in North America and its impact on the global petrochemical sector, combined with global economic and demographic shifts, we expect the face of the industry will be much different in the next five years as compared to the previous 20.

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To speak with Dave Witte or Rob Westervelt regarding the market implications of this development, or the outlook for the global chemical or specialty chemicals industries, please contact your IHS Markit account manager or Melissa.manning@ihsmarkit.com

For more information about the IHS Markit reports entitled: *IHS Markit* Competitive Company Analysis, www.ihs.com/cca-analysis, or the *IHS Markit Specialty Chemical Update Program Overview of the Specialty Chemicals Industry*, **please contact stacy-ann.wilson@ihsmarkit.com**

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