



EXECUTIVE INSIGHTS

Disrupting the Market: Paths to Success in Sustainable Product Launch

As the demand for sustainable products across sectors continues to grow, so does the pressure for industrial companies and their investors to ensure the launch and commercialization of these products is right. Sustainability was moved down on the list of priorities during the COVID-19 pandemic as companies focused on more pressing issues such as shoring up their supply chains, but with the pandemic now hopefully in the rearview mirror, industrial companies and their investors can create meaningful advantage by being a first mover/early entrant with the development and launch of sustainable products.

Sustainability has a wide range of definitions and can include products that are better for the environment due to some combination of factors such as:

- Being made from renewable resources
- Having a low emissions footprint
- Being easier to recycle

The stakeholder landscape involved in selecting and utilizing sustainable products is complex, and the success rate of new products introduced in industrial markets can vary tremendously. If an industrial product's launch isn't executed properly the first time, it can be extremely difficult to ever get it off the ground.

There are five steps that industrial companies can take at different points in the sustainable product commercialization cycle to get it right:

1. Clearly articulate how the product is different from the competition
2. Demonstrate its efficacy vs. existing, less sustainable options
3. Target the right customer base
4. Win the full stakeholder ecosystem
5. Ensure capacity and supply chain security

Clearly articulate how the product is different from the competition

When it comes to sustainability, many industrial customers are not up to speed on the latest trends and developments. For an industrial company, this lack of knowledge creates opportunity: one, for a supplier to position itself as a first mover, and two, to generate interest in its product while also potentially creating a critical moat advantage for its brand.

Differentiating its product from other emerging sustainable alternatives is key, because if customers perceive all sustainable solutions to be equal, meaningfully taking market share can be difficult. As such, industrial companies need to create intentional messaging strategies that reach their end customers, even if their products are being sold through distributors, which adds yet another step between the companies and those customers.

Case example: Asphalt paving additives

Incumbent situation: Asphalt paving is one of the primary ways roads are constructed, and it has historically been completed at high temperatures (>300 degrees Fahrenheit). Because of these high temperatures during the paving process, asphalt releases visible emissions (“blue smoke”) that are harmful air pollutants.

Challenge for sustainable solutions: Most asphalt production is currently set up to produce asphalt at higher temperatures. Initial technologies and techniques (e.g., foaming the asphalt) that are used to lower paving temperatures and improve sustainability have been introduced, but their efficacy has been relatively limited. Newer classes of chemical additives offer the ability to reduce paving temperatures meaningfully while adding additional performance benefits, but adoption of these chemicals has been relatively limited until recent years.

How to overcome the challenge: To drive adoption, manufacturers of more advanced chemical additives have emphasized the differentiated performance of their products relative to more basic technologies across both sustainability benefits (such as the ability to reduce paving temperatures meaningfully beyond incumbent solutions) and added performance improvements (e.g., improved asphalt compaction, antistripping benefits). Adoption of these chemicals has started to accelerate and now outpaces legacy solutions in certain markets such as the U.S. as customers understand and are able to realize the benefits they provide.

Demonstrate the product's efficacy vs. existing, less sustainable options

At a baseline, any new sustainable solution must work as well as existing products on the market, but customer expectations of a product's performance vary depending on the type of sustainable alternative being offered. New sustainable industrial products fall into one of two categories: 1:1 substitutes, which are exactly the same as an existing product but formulated/developed in a sustainable manner (e.g., formulating a petrochemical from a green feedstock), and those made with/utilizing alternate technology (e.g., replacing plastic foodservice packaging with fiber-based packaging).

With 1:1 substitutes, customers expect to be able to swap in the sustainable alternative without changing any other processes/formulations/methods of utilization, so demonstrating — and emphasizing — the performance equivalency of the two products is critical. Industrial companies should also note that customer expectations around price will be set by the existing unsustainable product, so they should be prepared to price the sustainable option (sometimes referred to as a "drop-in" replacement) accordingly while demonstrating performance equivalency between the two.

Meanwhile, when it comes to products made sustainable with the use of alternate technology, it's important to remember that customers will always be reluctant to make significant changes to the way they do things, including the way they use a particular product. The sustainable option should offer a unique value proposition that goes beyond its sustainability profile, which can be particularly challenging with anything that is regulated/previously specified. The good news is that replacing the technology is likely to create more room for pricing deltas from existing solutions because it allows the company to emphasize the additional value provided.

Case example: Cold chain packaging

Incumbent product: Expanded polystyrene (EPS) is an entrenched cold chain packaging solution that is highly effective at maintaining low temperatures due to its insulation capabilities. However, it has a challenging sustainability profile in that it's petroleum based, nonbiodegradable and difficult to recycle.

Challenge for sustainable solutions: Novel, more sustainable materials such as starch and fiber have emerged as sustainable alternatives, but given the sensitivity of some of the products being shipped (e.g., pharmaceutical products such as biologics), industrial companies have had to demonstrate that their efficacy is on par with EPS in order to capture market share.

How to overcome the challenge: Sustainable cold chain packaging players have executed rigorous testing across seasonal conditions to show their ability to meet the transportation-related standards set by the International Safe Transit Association (ISTA). They've also done comparative R-value testing to analyze performance relative to EPS and demonstrate equivalency. Some sustainable cold chain manufacturers have even invested in ISTA-certified labs, which allows them to test and validate their product's performance and also enables them to help customers with their packaging design challenges.

Target the right customer base

Most industrials companies serve a wide range of customer types in a variety of end markets that are unlikely to adopt new sustainable products at the same time.

Knowing this, industrials companies will need to segment their customers in order to identify the early adopters and drive early-stage success, both in terms of demonstrating the efficacy of their products and generating revenue. Notably, those early adopters are also likely to be more willing to pay a premium, which will enable industrials companies to generate attractive margins. The characteristics of early adopters will vary by end market, but may include:

- Exposure to consumers, particularly in industries such as beauty and personal care
- A premium product-focused customer base
- Overexposure of geographic footprint in regions that are on accelerated sustainability adoption timelines (e.g., European businesses expanding in the U.S., those with a large California footprint)

Case example: Commodity chemicals

Incumbent product: Commodity chemicals, which are often derived from petrochemical sources (e.g., crude oil, natural gas), represent a huge market. They're used in a wide range of applications, with the same chemicals often being used across multiple segments, such as industrials, pharma, cosmetics, etc.

Challenge for sustainable solutions: Demand for green chemicals among customers is highly variable, with significant differences across a number of dimensions including likelihood to adopt, timeline of adoption and willingness to pay a premium.

How to overcome the challenge: By segmenting their customers and focusing sales efforts on more attractive customer groups, green chemicals players increase the likelihood of near-term success and revenue opportunity. Cosmetics customers, who are more likely to emphasize sustainability and as such can have meaningfully greater (e.g., two times higher) adoption

rates than those of industrials customers over a 10-year adoption timeline, present a notable opportunity. Their willingness to pay a premium for green chemicals is also meaningfully different from that of other customers and can create additional margin opportunities for green chemicals players.

Win the full stakeholder ecosystem

Oftentimes, depending on the product and related application, there are multiple stakeholders involved in the decision of whether or not to use a sustainable alternative, among them regulators; contractors; those involved in design, such as engineering, procurement and construction (EPC) companies; distributors; end customers/users; and consumers. Just one of them expressing discomfort with that alternative can create significant barriers to its adoption.

Industrials companies need to not only understand each step of the decision-making process but also ensure that they are clearly demonstrating to each stakeholder what they need to see in order to get comfortable with the sustainable solution. Doing so will increase the chances stakeholders will adopt the solution while also creating multiple opportunities to accelerate its adoption.

Case example: Aggregates for infrastructure

Incumbent product: Aggregates are a large market, one valued at more than \$25 billion in the U.S. alone. But incumbent solutions — both traditional and lightweight — are generally not sustainable (e.g., mined, made from polystyrene). Infrastructure backfill applications, which reduce the load/weight of underlying infrastructure surfaces, represent roughly 5% of aggregate volume and are among the more regulated applications, given that government bodies control and regulate standards while also commissioning projects.

Challenge for sustainable solutions: Government agencies are increasingly taking sustainability into consideration. As a result, they're also playing a larger role in the selection of materials. But there is a range of additional stakeholders involved in projects (e.g., EPC firms, contractors) that also need to be comfortable with the materials being used.

How to overcome the challenge: In light of these multiple stakeholders, sustainable aggregates suppliers need to deliver benefits on more than just sustainability in order to make stakeholders with other priorities comfortable with their solutions. By emphasizing key performance factors and how they benefit all stakeholders (e.g., facilitate faster project timelines, reduce total product cost, increase ease of use), suppliers can not only demonstrate

the advantages of such solutions but also create champions for their products. This also creates a flywheel effect whereby, for example, EPCs that become comfortable with a sustainable solution can pitch it to other states and get it included in their projects without the manufacturer needing to win each individual government agency and end customer.

Ensure capacity and supply chain security

With any new sustainable product, initially there is likely to be fairly limited capacity to produce it. So customers, particularly large ones and those for whom that product is a critical input/component, are going to be rightfully concerned about a supplier's ability to consistently meet their needs.

As such, industrial companies launching a new sustainable version of a product will need to make sure their customers believe they'll be able to meet stated production timelines and volumes through means such as manufacturing redundancy measures as well as alternate feedstock/input providers. Early hiccups in supplying customers are going to create concern, so industrial companies should focus on delivering for a select group of customers rather than trying to promise something to everyone. If there is an installation- or service-related element to the utilization of their sustainable product, they will have to ensure service providers (in-house as well as outsourced) have the necessary capacity to quickly address customer needs.

Case example: Refrigerants

Incumbent product: Refrigerants are a critical component of both commercial refrigeration systems and technologies such as heat pumps (which are an emerging category in the U.S. but well established in regions such as Europe). Traditional refrigerants, however, have high levels of hydrofluorocarbons (HFCs) and global warming potential (GWP). In the meantime, existing government regulation continues to phase down HFCs in refrigerants (after 2036, U.S. federal HFC limits will be reduced to 10% of 2019 consumption levels), with certain states accelerating regulation timelines and/or making thresholds more stringent.

Challenge for sustainable solutions: Traditional refrigerants cannot meet these more stringent requirements, which is creating opportunities for alternative natural refrigerants (e.g., CO₂, propane) that have GWP levels of less than five (vs. GWP of 1,500-4,000 for HFCs). The adoption of alternative natural refrigerants is expected to accelerate significantly as end users seek to comply with the new regulations, which in turn raises questions among customers about supply.

How to overcome the challenge: Natural refrigerant system manufacturers are actively thinking about how to scale their capacity in order to meet growing demand. To ensure they invest appropriately, they will need to understand ramp curves and how quickly demand from customers is expected to accelerate. Armed with this knowledge, they will then need to ensure they have enough capacity to meet installation and servicing needs, including training for technicians who are unfamiliar with these new systems. Meanwhile, some manufacturers are designing systems in ways that can help minimize capacity concerns, for example, by standardizing product setup in order to decrease the need for labor.

A unique opportunity that requires a new playbook

Going forward, sustainability will continue to be a hot — if not controversial — topic, one that can offer very attractive opportunities to both industrial companies and investors going forward. But going to market with sustainable options introduces a wide range of new considerations and stakeholders. Industrial companies and their investors will need to carefully chart their course through this still-emerging market if they are to succeed there.

For more information, please **contact us**.

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