NAVIGATING THE NEW VOLATILITY

Group III Supply Disruption and the Restructuring of Market Priorities

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He is the founder of the Petroleum Quality Institute of America (PQIA), where he has led efforts to improve transparency and product integrity in the lubricants marketplace through independent testing and public reporting. His work with PQIA has been presented to regulatory agencies, industry organizations, and major oil companies, and has been featured on national media, including CBS News and Good Morning America.

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ABOUT PETROLEUM TRENDS INTERNATIONAL, INC.

Petroleum Trends International, Inc. (PTI) is an independent consulting firm providing information, insight, and strategic guidance to the downstream petroleum industry. The firm focuses on lubricants, fuels, base oils, additives, and related markets.

PTI supports clients in understanding market structure, competitive positioning, pricing dynamics, and emerging industry trends. The firm's work spans strategic planning, market development, benchmarking, and proprietary research across North America and global markets.

In addition to its consulting services, PTI publishes JobbersWorld, a weekly newsletter that delivers timely analysis and perspective on developments affecting fuel and lubricant marketers.

EXECUTIVE SUMMARY

The lubricants industry is entering a materially different operating environment. For decades, market participants operated within a framework defined by relatively stable supply, sequential cost movements, and predictable pricing cadence. Commercial models—including cost-plus pricing, periodic list price adjustments, formula-based contracts, and lean inventory strategies—were built around these assumptions.

Those conditions are no longer holding.

Recent market developments—most notably the March 2026 disruptions in the Middle East that removed approximately 20% of global API Group III base oil capacity—have exposed a deeper structural vulnerability. The modern lubricants market has become increasingly dependent on a concentrated and geopolitically sensitive supply base for critical high-performance inputs. At the same time, additive costs, freight rates, tariffs, and regulatory constraints are evolving simultaneously rather than sequentially.

As a result, the industry is shifting from a largely linear system—where disruptions could be absorbed and passed through over time—to a more nonlinear environment in which multiple pressures interact, amplify one another, and move through the value chain with greater speed and complexity.

This shift has important implications for how value is defined and defended in the market. In stable conditions, competition centers on product performance, service, brand, and price. In a more volatile environment, another variable becomes increasingly important: certainty. When availability can no longer be assumed, the ability to reliably supply product becomes a visible and differentiating component of value.

In practical terms, this means that traditional commercial and operational approaches may come under strain. Pricing systems built for orderly cost progression may struggle to keep pace with overlapping cost movements. Inventory strategies optimized for efficiency may expose companies to supply risk. Formulation rigidity—driven by OEM approvals and performance specifications—can limit substitution flexibility when key inputs become constrained.

Companies that recognize these dynamics are beginning to adapt. Key areas of focus include modernizing pricing approaches to better reflect real-time cost pressures, treating inventory as a strategic resilience asset rather than purely a working capital consideration, investing in

formulation flexibility to reduce dependence on specific base stocks, strengthening supplier relationships to improve allocation outcomes, and improving internal coordination across pricing, supply, technical, and commercial functions.

The central question facing the industry is whether the current environment represents a temporary disruption or a more durable shift. The convergence of global supply concentration, regulatory complexity, and geopolitical risk suggests that volatility may become a more persistent feature of the market.

If that is the case, the implications extend beyond near-term cost pressures. The industry is not simply adjusting to a difficult period—it is redefining how it operates. Companies that align their commercial and operational models with this more dynamic environment will be better positioned to navigate uncertainty and sustain performance over time.

KEY TAKEAWAYS

- The lubricants market is shifting from a linear, sequential system to a nonlinear, interconnected environment.
- Group III supply concentration has exposed structural vulnerabilities.
- Certainty of supply is becoming a differentiating source of value.
- Traditional pricing, inventory, and formulation approaches are under strain.
- Leading companies are adapting by strengthening resilience across commercial and operational models.

THE BREAKDOWN OF THE ORDERLY RHYTHM

For much of the past several decades, the lubricants industry operated within a framework that, while never free of disruption, was broadly understandable and manageable. Base oil supply was generally reliable. Additive pricing moved, but often gradually. Finished lubricant price increases tended to follow a recognizable cadence. The commercial models that evolved in this environment—cost-plus pricing, indexed formulas, long-standing supply relationships, and lean inventory strategies—were built on the assumption that volatility would remain episodic rather than defining.

That assumption is now under severe strain.

The market conditions that have unfolded in recent years—beginning with the disruptions introduced during the Covid period—and especially in early 2026, suggest the industry is moving into a different operating reality. These pressures are increasingly interacting rather than occurring in sequence—reinforcing one another and moving through the value chain faster than many legacy systems were designed to handle. Base oil price increases, additive surcharges, freight spikes, constrained logistics, concentration of critical supply in geopolitically sensitive regions, and the growing technical rigidity of modern lubricant formulations are no longer isolated concerns. They are increasingly interconnected.

In practical terms, this means the market is behaving less like a sequence of isolated events and more like an interconnected system, where multiple pressures emerge simultaneously, interact, and influence one another.

Importantly, this transition did not occur from a position of strength. The years leading into 2026 were characterized by weak demand, declining lubricant volumes, sustained pricing pressure, and heightened competition. In 2024 alone, industry estimates suggest overall lubricant demand declined by approximately 6%, with consumer automotive lubricants falling by nearly 9%, while finished lubricant prices dropped by roughly 13% amid competitive pressure. Across much of this period, suppliers often prioritized volume retention over margin expansion, absorbing cost pressures rather than risking further share loss.

This matters because it left the market with thinner margins and less capacity to absorb disruption, conditioned to stability at the very moment volatility began to return.

The current environment represents a sharp break from that expectation, driven in large part by a crisis few anticipated at the start of the year: the severe curtailment of Group III base oil availability. Supply chain disruptions tied to escalating unrest in the Gulf region and the threat of Iranian military action culminated in the March 2026 events—affecting major production facilities in Bahrain, the UAE, and Qatar—which removed roughly a fifth of global Group III capacity almost overnight. The episode exposed just how dependent the modern lubricants market has become on a single, geopolitically sensitive region for its most critical high-performance base stocks.

Against that backdrop, multiple additional pressures—base oil price increases, additive surcharges, freight volatility, constrained logistics, and the technical rigidity of OEM-approved formulations—are now emerging simultaneously. These forces are not operating independently. They are interacting in ways that compress timing, amplify impact, and reduce the effectiveness of traditional commercial responses.

The complexity of the current market is best understood not as a single crisis, but as three distinct layers of pressure converging simultaneously. As illustrated in Figure 1, the physical supply disruption forms the foundation, which in turn triggers a cascade of cost escalations, all compounded by a rigid regulatory and trade environment.

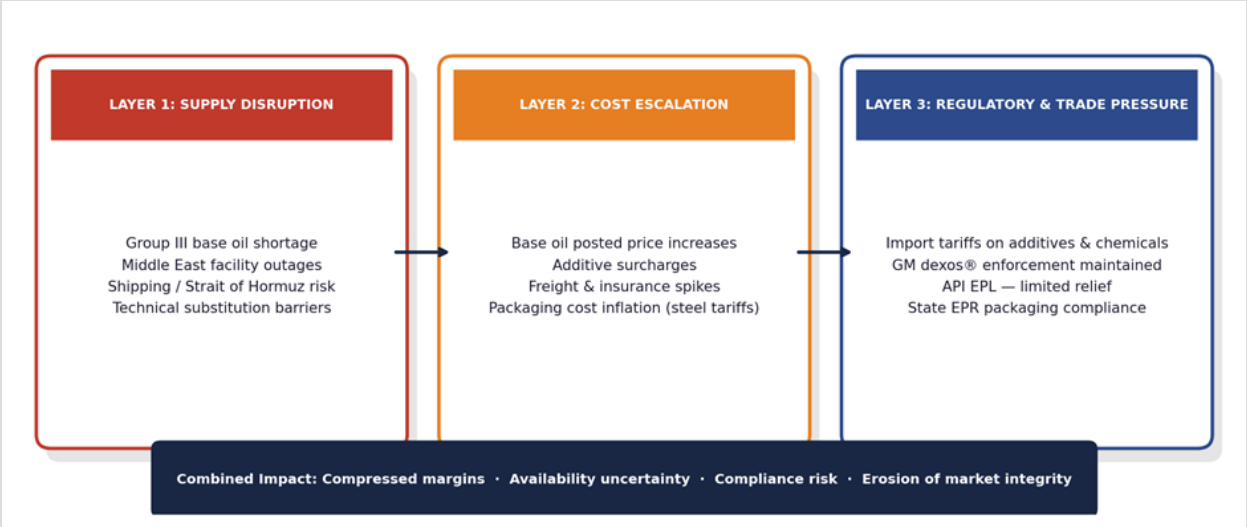

Figure 1 – Three Converging Pressures on the U.S. Lubricants Market (2026)

This shift matters because it changes more than cost. It changes how value is experienced in the market.

In a stable environment, competition centers primarily on product performance, service, brand, and price. In a volatile environment, another variable rises in importance: certainty. Customers begin asking not only what a product costs but also whether it will be available when needed, in the required volume, and with sufficient continuity to support their operations.

The industry has seen moments in the past where supply reliability temporarily became the dominant concern. What is different today is not only the speed and simultaneity with which these conditions have emerged, but their likely duration. Damage to key Group III and GTL production facilities in the Middle East—including the Shell Pearl GTL complex at Ras Laffan, where repair timelines are estimated to extend a year or more—means that the current supply constraints are not a short-cycle disruption to be managed through inventory drawdowns and temporary substitutions. They represent a prolonged removal of capacity from the market, the full extent of which remains uncertain.

Recovery is also more challenging. Years of cost pressure have reduced inventory buffers as companies worked to lower working capital. At the same time, leaner staffing models—including fewer experienced and technically skilled resources—can make it more difficult to respond effectively to disruption.

That uncertainty is itself a defining feature of the current market. Companies cannot plan around a disruption of unknown duration the same way they plan around a temporary outage. In practical terms, the lubricants industry is beginning to confront a reality in which availability is becoming a defining factor in the value delivered.

> *"The industry is no longer just dealing with faster cost movements. It is dealing with a market in which the foundational assumption of availability can no longer be taken for granted."*

WHERE THE SYSTEM SHOWS ITS LIMITS

This shift is rooted in the breakdown of what was once a relatively orderly commercial rhythm. For a long time, crude oil prices moved, refining economics changed, and base oil postings followed, often with some lag. Finished lubricant manufacturers then adjusted their own prices, and distributors, marketers, and customers responded in turn. The process was not always smooth, but it was usually sequential enough to be understood and managed.

That sequential structure created breathing room. It allowed lubricant manufacturers time to assess upstream changes before communicating adjustments to customers. It allowed distributors to prepare their sales teams, manage inventories, and decide how aggressively to defend volume versus margin. It allowed customers to absorb increases within a recognizable framework, even if reluctantly.

Importantly, the system also benefited from a degree of buffering. Inventories, while not excessive, were often sufficient to cushion short-term shocks. Product lines were, in some cases, more flexible. Certain categories of base oil could be substituted more readily than they can today. And many commercial relationships were built on an expectation that both parties would navigate temporary disruptions together.

That environment did not eliminate volatility, but it made volatility easier to contain.

The problem facing the industry now is not that shocks exist. The industry has always had shocks. The problem is that the cadence has changed. What once unfolded in a sequence now often arrives in layers. Base oil costs rise. Additive surcharges follow. Freight costs spike. Packaging tightens. Lead times extend. Customers delay acceptance. Margins compress. The interval between these events shrinks, and the interaction among them intensifies.

The industry is no longer just dealing with faster cost movements. It is dealing with a market in which the foundational assumption of availability—that the right base stock can be sourced if the price is right—can no longer be taken for granted. A blender cannot price what it cannot source. When Shell confirmed that Train 2 of the Pearl GTL facility in Qatar would require about one year to complete repairs, and when the region supplying more than half of U.S. Group III imports remains under geopolitical threat, price becomes secondary to access. That is a market behaving not just less linearly, but more unpredictably—in ways beyond what pricing formulas or inventory models were designed to absorb.

That distinction is important. Linear systems can often be managed with formulas, lagged adjustments, and planning cycles built around averages. Nonlinear systems expose the weaknesses in those tools. They turn small inefficiencies into larger vulnerabilities. They make timing more important. They reduce the usefulness of assumptions that were once good enough.

In that sense, the current environment is doing more than creating discomfort. It is revealing where the industry's commercial and supply models are most exposed.

The current market offers a vivid example of how quickly disruption can now move through the lubricants supply chain. A new round of posted base oil price increases has begun working its way through the market. Additive suppliers have introduced surcharges tied to raw material and supply chain pressures. Buyers are watching developments in the Middle East closely, not only because of crude oil implications, but because that region has become central to the supply of high-quality base stocks used in modern lubricant formulations. Concerns over shipping routes, freight costs, insurance availability, refinery operations, and export logistics are no longer distant abstractions. They are immediate market variables.

What matters here is not simply that costs are moving. It is the way they are moving together. When only one component of the cost structure changes, companies have options. They may absorb the increase temporarily, delay action, adjust selectively, or rely on existing inventory. But when several cost components move at once, and those moves are paired with genuine uncertainty about future availability, the operating environment changes significantly.

The current cycle illustrates this well. Base oil increases do not occur in isolation from additive surcharges. Freight disruptions are not independent of geopolitical risk. Concerns about crude supply routes are intertwined with those about premium base-stock availability. The market becomes more difficult to read because each variable influences the others.

This is especially challenging in a mature domestic market already characterized by intense competition. When demand growth is limited and market share is difficult to win, the tolerance for pricing error narrows. Companies that delay too long may lose margin. Companies that move too quickly may face customer resistance. Companies that lack product may lose business altogether.

The result is a market where decision-making becomes compressed. Participants are forced to act on incomplete information, often under greater time pressure than in past cycles. The room for error narrows. So does the luxury of waiting for clarity.

THE FRAGILITY OF GROUP III SUPPLY

The fragility of the current system is most visible in the Group III base oil market, where the supply crisis has exposed not just the limits of pricing models but also the foundational commercial assumptions on which the industry has long operated. For years, the lubricants industry relied on pricing systems designed to create order and predictability. For large accounts, formula-based models tied lubricant prices to a basket of indicators—base oil postings, diesel or fuel indices, producer price indices, and sometimes broader cost averages. These formulas smoothed volatility and reduced the need for constant renegotiation.

For the broader market—distributors, independent blenders, and mid-sized accounts operating under discretionary pricing—the challenge is different but no less acute. Without a contractual mechanism to pass through cost increases automatically, these companies must absorb the timing risk themselves, deciding when to move prices, how much to move them, and how to communicate the change without losing volume to competitors who may be slower to act or more willing to sacrifice margin. In either case—formula or discretionary—the pricing system was designed for a world where the inputs themselves could be obtained. When physical availability becomes uncertain, the formula becomes secondary and the discretionary decision becomes impossible to make with confidence. A blender cannot price what it cannot source.

Even setting aside the question of availability, the cost dimension alone is straining these legacy systems. When costs rise in overlapping waves, formula-based systems lag. By the time the formula catches up to the first move, the second and third moves may already be in motion. The result is delayed recovery, compressed margins, and increased customer frustration when the eventual price adjustment lands all at once.

This creates tension throughout the chain. Suppliers see costs rising rapidly and seek to move postings or impose surcharges. Lubricant manufacturers understand the pressure but worry about customer pushback and competitive loss. Distributors are caught between preserving margin and preserving relationships. End users, facing their own cost concerns, often view frequent increases as evidence of opportunism rather than as a response to compressed cost movement.

In short, the legacy pricing playbook begins to break down because it was built for a market in which volatility was more linear, more staggered, and easier to communicate. This does not mean formula pricing disappears. Nor does it mean every legacy pricing mechanism

becomes obsolete. But it does suggest that many companies will need more adaptive structures—shorter averaging periods, more transparent triggers, more disciplined review cycles, and perhaps a stronger integration of value-based pricing where performance differentiation can be demonstrated.

The deeper point is that the strain on pricing is not merely an accounting problem. It is evidence that the industry's commercial architecture is being tested by conditions it was not fully designed to absorb.

If pricing provides a window into the commercial stress affecting the market, Group III base oils provide the clearest view of the physical constraints driving it. The move toward lighter viscosity grades, tighter OEM requirements, and higher-performance finished lubricants has steadily increased the industry's dependence on high-VI base stocks.

That shift has brought technical benefits, but it has also increased dependence on global, more concentrated, and less forgiving supply chains than those associated with many legacy Group I and Group II streams.

This combination of supply concentration and formulation rigidity means that not all shortages are equal—some segments of the market are far more exposed than others.

The impact of these constraints is not uniform across the market. Products that can be formulated using Group II or Group II+ base oils may remain more available, while higher-performance formulations—particularly those requiring high-VI Group III or GTL base stocks—face tighter supply conditions. As a result, the effects of the current disruption are likely to be felt most acutely in premium synthetic segments, where formulation flexibility is more limited and substitution options are constrained.

In practical terms, this means that widely used formulations supported by Group II and Group II+ base stocks are more likely to remain available, while higher-tier, full synthetic formulations—particularly those tied to the most demanding performance specifications—face a greater risk of constrained supply.

A significant portion of global Group III production originates in the Middle East. Major production centers include facilities in the United Arab Emirates, Bahrain, and Qatar. Those barrels move through long international logistics chains and often rely on critical export routes such as the Strait of Hormuz. In North America, some of these volumes move through established distribution channels such as Penthol's marketing of ADNOC Group III base oils for certain markets, including the United States. The region is also home to Shell and QatarEnergy's Pearl GTL facility, whose gas-to-liquids base oils compete directly with Group III in many high-performance applications.

The scale of this vulnerability becomes clear when examining the U.S. market's reliance on imported base stocks. As shown in Figure 2, prior to the March disruptions, the Middle East accounted for more than half of all U.S. Group III inflows—a concentration that left the domestic market highly exposed to regional instability.

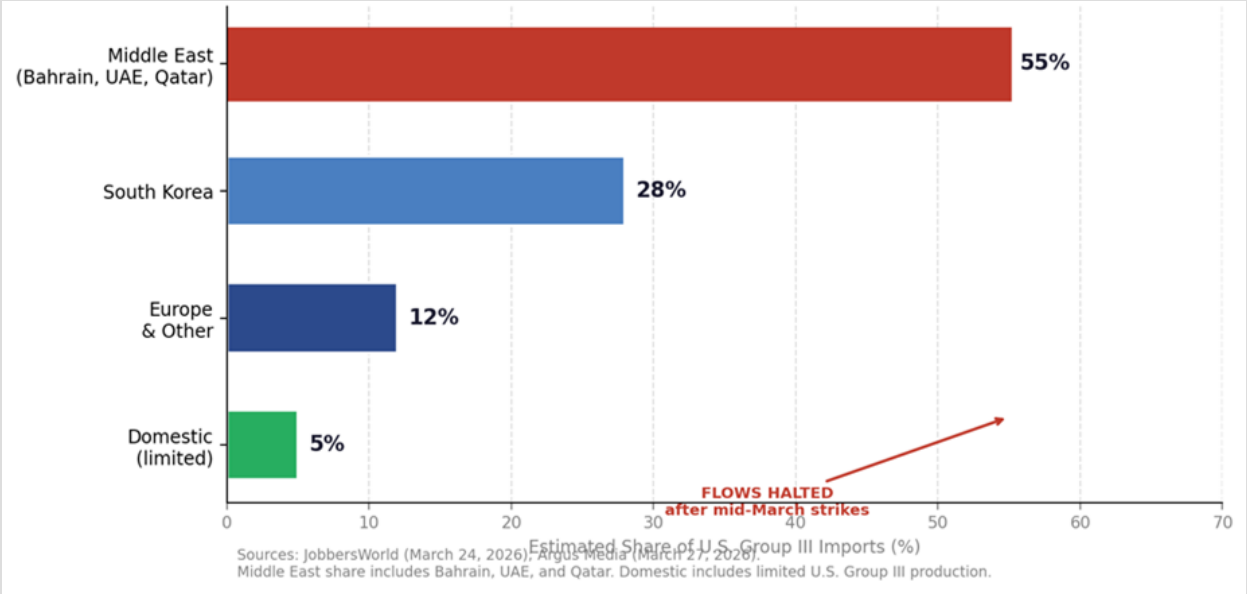

Figure 2 – U.S. Group III Base Oil Import Sources (January 2026 – Baseline Prior to March Disruptions)

When that instability materialized, the impact moved through the supply chain with unprecedented speed. Figure 3 maps the sequence of events from the January baseline through the mid-March strikes, illustrating how quickly a geopolitical escalation translated into a near-total halt of critical base oil flows.

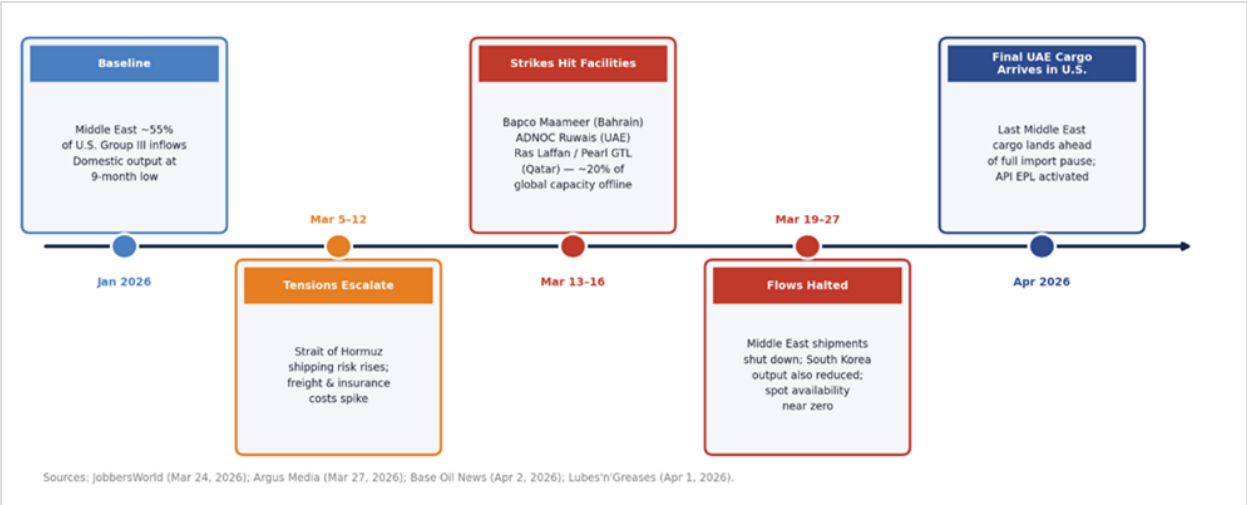

Figure 3 – U.S. Group III Base Oil Supply Disruption Sequence: January – April 6, 2026

This concentration creates vulnerability. When markets are calm, the global nature of Group III supply is manageable. When logistics are disrupted, shipping risk rises, or regional facilities are affected, that same concentration becomes a significant source of exposure. Buyers begin to worry not only about price, but about whether contractual volumes will be honored, whether spot availability will evaporate, and whether acceptable substitutes even exist.

That last point is especially important. Not all Group III is interchangeable in practice. Many modern lubricant formulations are tied to validated base oil slates, OEM approvals, or technical requirements that restrict substitution. Higher-VI Group III+ and GTL base oils used in certain low-viscosity engine oils are particularly sensitive in this regard. Even where alternative supply exists, qualification and performance requirements may prevent easy switching.

This means that physical disruptions can become technical disruptions. The question is not simply whether another barrel exists somewhere in the world, but whether that barrel can be used in the formulation, supplied in the right geography, and delivered in time.

As soon as that flexibility narrows, the commercial consequences intensify. Spot markets tighten. Allocations become possible. Lead times lengthen. Buyers begin to secure supply more aggressively. And because Group III has become such a critical input for high-performance finished lubricants, the effects move quickly downstream.

In this sense, Group III is not just one product category under pressure. It is the clearest example of how supply concentration, technical rigidity, and geopolitical exposure can combine to create a new level of market sensitivity.

The events of March 2026 starkly demonstrated this vulnerability. Iranian retaliatory strikes on the United Arab Emirates, Bahrain, and Qatar shut down roughly a fifth of the world's API Group III base oil capacity almost overnight [1]. The Bapco refinery in Bahrain declared force majeure following an attack on its Maameer complex; it is important to note that while the refinery's total processing capacity is much larger, its specific Group III base oil production capacity is approximately 8,200 bbl/d [1]. Similarly, the Abu Dhabi National Oil Co. was forced to close its Ruwais refinery due to a drone strike, halting its estimated 10,300 bbl/d of Group III base oil capacity [1]. Simultaneously, operations ceased at QatarEnergy's Ras Laffan industrial complex, threatening feedstock for Shell's Pearl gas-to-liquids plant, which has an estimated base oil production capacity of 22,000 to 30,000 bbl/d [1]. Shell confirmed that Train 2 of the Pearl GTL facility in Qatar would require at least a year for full repair [2].

Facility	Country	Capacity (bbl/d)	Event	Status / Timeline
Bapco Maameer Refinery	Bahrain	8,200	Drone strike / Force majeure declared	**Offline — timeline uncertain**
ADNOC Ruwais Refinery	UAE	10,300	Drone strike / Forced closure	**Offline — timeline uncertain**
Shell Pearl GTL (Train 2)	Qatar	22,000	Feedstock disruption at Ras Laffan	**At least 1 year for full repair**

Sources: Lubes'n'Greases (March 2026); Reuters / Energy Intelligence (March 19–20, 2026); JobbersWorld reporting.

Figure 4 – Affected Middle East Group III & GTL Facilities: March 2026

The impact on pricing and availability was immediate. Multiple major base oil producers announced successive posted price increases in the weeks following the March disruptions. ExxonMobil, for example, announced its fourth posted price increase since early March, with its Group II+ EHC45 grade rising by 71 cents/gal [3] — illustrative of the broad upward pressure that moved across the market. Shailendra Gokhale, Founder and Director at Rosefield Energy Tech, noted that blenders were "hit from all sides – feedstock shortages, soaring freight costs and currency pressure – all at once" [4]. In a worst-case scenario where the Strait of Hormuz remains closed indefinitely, Rosefield projected that lubricant prices could rise by more than 50% year-on-year [4]. Against this backdrop, industry participants sought flexibility where possible.

The Independent Lubricant Manufacturers Association (ILMA) sought emergency relief from the American Petroleum Institute (API) to allow blenders to utilize varying Group III grades and brands outside of their specified approvals [5]. While the API activated its emergency provisional licensing (EPL), market feedback was mixed. Blenders still need to reach applicable specifications, and not all OEMs followed the API's lead. Most notably, General Motors formally declined ILMA's request to suspend enforcement of its dexos® licensing requirements, explicitly stating that it "does not intend to suspend license terminations or other enforcement actions." GM indicated it would expedite reviews of alternative formulations submitted by blenders, but would not relax compliance obligations — leaving dexos® licensees to navigate the crisis without the equivalent relief granted to API 1509 licensees [8]. At the same time, a separate but compounding pressure has emerged.

While geopolitical conflict and supply constraints dominate headlines, U.S. lubricant manufacturers are simultaneously navigating a third, less visible pressure point: trade policy and tariffs. Just as the industry began to emerge from the disruptive pandemic years, a new challenge arose in 2025 with the implementation of broad tariffs on imported goods. While base oils have largely been protected under "exception" categories, the additives and specialty chemicals required to blend finished lubricants have not been granted the same immunity.

> *"It finally felt like we were returning to some sort of normalcy," noted Ruth Paredes, sourcing manager for Ascentek, in an interview published in ILMA's Compoundings magazine. "And then these tariffs hit." [6]*

The impact is pervasive because the U.S. lubricants industry relies heavily on global supply chains for its chemical components. "The majority of them are either imported or have

components that are imported, and then they are toll-blended or manufactured in the United States," Paredes explained. "That has created price volatility." [6]

This volatility extends beyond the fluid itself. The 50% tariff rate on imported steel has directly impacted the cost of steel drums and packaging materials, adding another layer of expense to the finished product. Furthermore, the regulatory environment is compounding these costs; ILMA recently filed a lawsuit in Colorado challenging the state's extended producer responsibility (EPR) packaging law, highlighting the growing compliance burden amid raw material inflation [7].

The result is an environment where procurement teams must act as trade compliance officers. "Like never before, this year we have been paying a lot of attention to country of origin," Paredes observed. "Even if we are sourcing something from the United States, we are being super vigilant to understand what kind of components are in that finished raw material that could be impacted by the whole tariff situation." [6]

When combined with base oil shortages and freight spikes, tariffs act as a multiplier, ensuring that cost pressures remain elevated even as physical supply constraints ease.

WHEN AVAILABILITY BECOMES THE PRODUCT

This convergence of pressures—pricing volatility, supply concentration, and regulatory burdens—brings us back to the deeper shift taking place in the market. In stable markets, availability is assumed. Companies compete on performance, price, service, brand reputation, and technical support. Supply matters, of course, but it is not usually the defining commercial variable because the market assumes it will be there.

In unstable markets, that assumption weakens.

Customers begin asking a different set of questions. Not just: How much does it cost? But: Can I get it? Will it be here when I need it? Can I continue to serve my own customers without interruption? Will I be allocated? If I lose access to this product, how exposed am I?

When those questions move to the center of the conversation, the market changes. The product is no longer judged only by what it is. It is judged by whether it can be secured with confidence.

In practical terms, certainty becomes part of the value proposition. Availability, once treated as a background assumption, becomes commercially visible. It begins to influence not just purchasing decisions, but customer loyalty, inventory behavior, supplier prioritization, and willingness to pay. That is what it means to say that availability becomes part of the product.

This shift in priorities fundamentally alters the industry's commercial dynamics. The traditional hierarchy of value—where price and performance dominate—is inverted during periods of severe constraint, elevating certainty of supply to the primary driver of purchasing decisions.

Figure 5 – How Market Volatility Reshapes the Lubricant Value Chain Hierarchy
(Conceptual framework based on the author's market analysis – not derived from survey data)

This is not merely semantic. It changes how value is defined and defended. It helps explain why customers may accept higher prices under constrained conditions—not because price stops mattering, but because the cost of not having supply becomes greater. It helps explain why allocations can override ordinary commercial expectations. It helps explain why access to product can become more important than achieving the lowest possible cost. And it helps explain why relationships suddenly matter more in markets that, during easier periods, appeared highly transactional.

The severity of this constraint is now pushing some segments of the market into uncomfortable territory, creating a potential regulatory paradox. Governing bodies and OEMs—such as the API and GM with its dexos® specifications—have understandably maintained strict oversight during this crisis, allowing deviations only under rigid emergency protocols. Their goal is to ensure that quality is not compromised despite the Group III shortage.

However, this rigidity can have an unintended consequence. Because compliance has become physically impossible for some independent blenders who cannot secure approved Group III base stocks, the strictness of the rules can inadvertently drive some outside the system entirely. Anecdotal reports from the field indicate that some blenders are having difficult conversations with their customers about producing Passenger Car Motor Oils (PCMO) that fall outside of official specifications. In these instances, the discussion shifts from meeting strict OEM approvals to a risk-management calculation: whether an alternative formulation can be used with a low probability of harm.

While customers may be willing to entertain these compromises to keep their own operations running, this represents a meaningful erosion of market integrity. It is critical to note that producing and selling off-spec PCMO carries significant liability and warranty risks for both the blender and the end-user. When the physical reality of supply cannot meet the rigid demands of specifications, the resulting pressure doesn't just raise prices—it threatens the foundational trust and quality standards of the industry, and exposes participants to substantial legal and commercial peril.

The lubricants industry has always understood the importance of reliable supply. What is changing now is the degree to which reliable supply itself becomes a differentiator. In a market shaped by concentration, technical rigidity, and geopolitical uncertainty, certainty is no longer a passive attribute. It is increasingly an active component of what customers are buying.

When availability tightens, relationships matter more. In abundant markets, transactional behavior is easier. Buyers can move more freely, suppliers can be more aggressive, and pricing often dominates the commercial exchange. But when supply becomes constrained, the market becomes more selective. Historical purchase patterns, volume commitments, credit strength, communication quality, and strategic importance to the supplier all begin to shape access.

This is not unique to lubricants, but it has particular force in this industry because so much of the business still depends on trust, continuity, and technical alignment across the chain. A

blender that has supported a supplier consistently over time may be in a better position during tightness than one that has purchased opportunistically. A distributor with disciplined forecasting and reliable payment may be given greater consideration than one with erratic buying behavior. A customer who communicates clearly and early may be easier to support than one who reacts late and inconsistently.

In this sense, relationships are not just soft assets. They are operational assets.

That does not mean relationships eliminate disruption. But they can influence how disruption is managed. They can improve visibility. They can create earlier warning signals. They can increase the probability that scarce product flows toward more dependable channels. In a market where availability itself is rising in value, the quality of these relationships becomes more consequential.

This also has strategic implications. Companies that have over-relied on spot purchases or purely transactional sourcing may discover that what looked efficient in stable times offers less protection in stressed conditions. Conversely, firms that have invested in long-term supplier relationships, technical collaboration, and commercial consistency may find that those investments yield their greatest return precisely when the market becomes least predictable.

Alongside relationships, inventory strategy is also undergoing a fundamental reassessment. In a stable market, inventory is often managed as a cost to be minimized. In a volatile market, inventory becomes part of resilience.

That is a meaningful change in operating philosophy. It requires companies to think not only about how much inventory to hold, but which inventory matters most, where it should be positioned, and how quickly it can be deployed when conditions change.

The question is no longer simply how to optimize inventory turns. It is how to balance efficiency with continuity. For many companies, this leads to more nuanced strategies—targeted increases in critical grades, closer alignment between purchasing and sales forecasts, and a greater willingness to carry product that provides optionality under uncertain conditions.

This shift does not eliminate the need for discipline. Poorly managed inventory can still erode margins and tie up capital. But it does suggest that the industry is moving away from a singular focus on efficiency toward a more balanced view in which resilience carries measurable value.

Executing these shifts, however, requires navigating an often-overlooked dimension of the current environment: the human and organizational factor. Over the past decade, the lubricants industry has experienced a gradual transition in its workforce. Many of the professionals who previously navigated multiple cycles of rapid price movement, supply disruption, and geopolitical uncertainty have retired or moved out of active roles. In their place is a capable but often less cycle-tested generation of managers, traders, formulators, and commercial leaders.

This is not simply a generational observation—it is an operational one.

The current environment is demanding simultaneous decision-making across multiple dimensions: supply logistics, pricing strategy, formulation flexibility, and customer communication. In prior cycles, these pressures often emerged sequentially. Today, they arrive together.

Organizations that lack either the experience or the structural alignment to respond across these dimensions may find themselves reacting rather than managing. Decisions made in one area—such as delaying a price increase—can quickly create unintended consequences in another, such as margin compression or constrained purchasing ability.

This places a premium on internal coordination, clarity of decision-making authority, speed of communication, and the quality of external partnerships. In many cases, the strength of relationships with additive suppliers, base oil producers, and technical service providers becomes a decisive advantage. Companies that can draw on those networks for information, flexibility, and support are better positioned to navigate a market where conditions evolve rapidly and not always predictably.

The adjustments now taking place across the industry reflect a broader realization: systems designed for efficiency alone are not sufficient in a market defined by overlapping volatility. Leading companies are beginning to shift their operating priorities in several ways.

They are diversifying supply pathways, qualifying alternative base oil sources and reducing reliance on any single region or supplier where possible. They are building targeted inventory buffers for critical grades, accepting higher carrying costs in exchange for reduced exposure to disruption. They are enhancing formulation flexibility, working within the constraints of OEM approvals and technical requirements to create as much optionality as possible.

They are also strengthening logistics redundancy, identifying alternative shipping routes, carriers, and storage locations to mitigate transportation risk. At the same time, companies are rethinking their commercial approach. Pricing models are being revisited. Communication with customers is becoming more frequent and more transparent. There is greater recognition that in a volatile environment, clarity and consistency may be as important as price itself.

None of these changes are without cost. Redundancy, diversification, and increased inventory all require capital and discipline. But they reflect a shift in how risk is understood. The cost of vulnerability—lost supply, lost customers, lost margin—is increasingly viewed as greater than the cost of preparation.

These shifts are already prompting companies across the value chain to reconsider how they operate in a more volatile and less predictable environment.

WHAT THIS MEANS FOR YOUR BUSINESS

Based on the structural shifts outlined in this analysis, the following actions are intended as practical considerations for building resilience and protecting margins in an uncertain market.

Modernize Pricing Architecture

The traditional pricing playbook—whether based on periodic list price adjustments, discounted pricing structures, or formula-based contracts—was designed for a market in which input costs moved more sequentially and with greater predictability. In the current environment, where base oils, additives, freight, and other costs can move in overlapping waves, these approaches can come under strain.

For large accounts operating under formula-based pricing, shorter averaging periods (e.g., 30 days instead of 90 days) can help reduce the lag between cost increases and price recovery. For the broader market—where pricing is often managed through discounted list structures and periodic adjustments—more frequent and disciplined price reviews may be necessary to keep pace with cost movements.

At the same time, exposure to spot purchases—particularly for base oils and certain additives—can introduce additional volatility that is not easily captured in traditional pricing mechanisms. In these cases, transparent, temporary surcharges tied to specific cost drivers, such as freight or packaging, may be more effective than permanently adjusting base prices. This approach can make increases easier to explain and easier to reverse as conditions normalize.

Reframe Inventory as a Resilience Asset

In a volatile market, the cost of vulnerability often exceeds the cost of carrying additional inventory. Inventory must be managed not just for turnover efficiency, but for operational continuity. Companies can benefit from identifying their most critical, hard-to-substitute inputs—particularly high-VI Group III/III+ base oils and specialized additive packages—and increasing safety stock levels for these items.

This often requires tightening the feedback loop between the sales team's demand forecasts and the procurement team's purchasing schedules to avoid over-ordering readily available materials while under-ordering critical constraints. Companies may also consider evaluating

storage redundancy, including the use of third-party storage or regional hubs, to help mitigate localized logistical disruptions or freight bottlenecks.

Enhance Formulation Flexibility

The concentration of Group III supply and the rigidity of OEM approvals mean that physical disruptions can quickly become technical constraints. Manufacturers may need to proactively invest the time and capital required to qualify alternative base oil slates for key product lines, even if those alternatives are not currently the primary supply source.

For manufacturers holding dexos® licenses, the timeline is particularly acute. ILMA has noted that typical forward inventory coverage of approximately one month means that companies that have not yet identified and submitted approved Group III alternatives to GM for expedited review may be approaching a point of serious commercial and licensing risk — including potential license termination [8]. Submitting technically justified alternative base oils to GM without delay, and engaging additive suppliers to accelerate supporting data packages, should be treated as an immediate priority rather than a planning exercise.

When activated, utilizing API Emergency Provisional Licensing (EPL) guidelines can help maintain production for API 1509 licensees, provided there is strict internal tracking of which formulations are operating under provisional status versus full approval. In addition, as transitions such as dexos® Gen 4 approach, manufacturers may need to prioritize validating new formulations to help ensure compliance before legacy approvals expire, reducing the risk of simultaneous supply and regulatory constraints.

Equally important, companies should document all compliance efforts in real time — including supplier communications, sourcing attempts, and submission records — as this documentation represents the primary evidentiary record available to a licensee in the event of a GM enforcement action.

Treat Relationships as Operational Assets

When supply tightens, and allocations are implemented, historical purchase patterns, communication quality, and strategic alignment can play a meaningful role in determining how the product is distributed. Avoiding over-reliance on opportunistic spot purchasing and concentrating volume with core suppliers can help build the consistency that supports more favorable allocation outcomes during shortages.

Providing suppliers with accurate, forward-looking demand forecasts may also improve their ability to support customers who contribute to stable production planning. To further strengthen resilience, companies may benefit from auditing their supply chains—mapping the origin of critical inputs, including the components of toll-blended additives—to better understand exposure to geopolitical risks or tariff impacts.

Elevate Internal Coordination

The current environment demands simultaneous decision-making across supply, pricing, formulation, and sales. Sequential, siloed decision-making can lead to margin compression and customer frustration, particularly when actions taken in one area create unintended consequences in another.

Establishing a cross-functional response structure—including procurement, pricing, technical, and sales leadership—can help improve alignment during periods of heightened volatility. Providing the sales organization with clear, data-backed explanations of pricing movements or allocation decisions is also critical, as customers are more likely to accept disruption when they understand the underlying drivers rather than perceiving changes as arbitrary.

Finally, organizations should consider actively capturing institutional knowledge by pairing experienced, cycle-tested professionals with newer team members. This can help transfer the practical insights needed to navigate periods of market stress and reduce the risk of losing critical capabilities as industry experience evolves.

CONCLUSION: DISCOMFORT AS CLARIFICATION

The question facing the industry is whether the current environment represents a temporary disruption or a more durable shift. There are reasons to believe it is the latter.

The lubricants market is increasingly shaped by globalized and interdependent supply chains, concentration of key inputs in specific regions, higher-performance formulations with limited substitution flexibility, and geopolitical and logistical uncertainty that is unlikely to fully recede. These factors do not point toward a return to the slower, more sequential cycles of the past. Instead, they suggest a market in which volatility is more persistent, more interconnected, and more difficult to isolate.

If that is the case, then the industry is not simply adapting to a difficult period. It is redefining how it operates.

The current environment is uncomfortable, but it is also clarifying. It is exposing where legacy systems—pricing models, supply assumptions, inventory strategies—are no longer aligned with the realities of the market. It is forcing companies to reassess long-held beliefs about efficiency, flexibility, and risk. And it is highlighting the factors that truly matter when conditions become uncertain.

In a stable market, companies compete on price, performance, and service. In a volatile market, they compete on certainty. In that environment, price, performance, and service remain essential—but they are no longer sufficient on their own. As noted earlier, GM's formal refusal to suspend enforcement of its dexos® licensing requirements—even as it acknowledged the severity of the Group III supply disruption—illustrates how technical rigidity can elevate the commercial importance of secure availability. While the API activated Emergency Provisional Licensing for API 1509 licensees, dexos® licensees received no equivalent enforcement pause — GM offered only expedited case-by-case review of alternative formulations, stopping well short of the relief ILMA had requested [8]. For dexos® licensees in particular, this underscores that access to specification-compliant supply is not merely a commercial preference but a binding legal and contractual obligation.

That shift is already visible across segments of the industry. It is influencing how customers make decisions, how suppliers allocate product, and how value is understood across the chain. In that sense, the industry is learning something in real time: when availability can no longer be assumed, availability itself becomes part of what is being sold.

There is also a more subtle dynamic at work. The industry has faced periods of disruption before, and history suggests that once conditions stabilize, some of the lessons learned during times of stress can fade. Following Hurricanes Katrina and Rita, for example, the industry saw a period of heightened inventory builds and pre-season demand as companies sought to mitigate supply risk. Over time, as conditions normalized, many of those practices gradually receded.

The current environment may prove different in scale and complexity, but the underlying tendency remains. As cost pressures ease and supply stabilizes, there is a risk that the urgency driving today's adjustments diminishes. The durability of the changes now underway will depend on whether companies treat this period as a temporary disruption—or as a signal to realign more permanently with a less predictable operating environment.

The companies that recognize this shift—and actively build resilience into their pricing, inventory, formulation, and relationship strategies—will be better positioned not only to navigate the current volatility, but to compete more effectively within it. Over time, the ability to secure, manage, and reliably deliver supply may prove to be as important as price or performance in determining long-term competitive advantage.

At its core, the shift underway is not just about cost volatility—it is about the increasing importance of certainty in a market where availability cannot be assumed.

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