PRIVATE EQUITY PERFORMANCE IMPROVEMENT

Under Pressure: Newly Proposed Tariffs Are Set to Further Disrupt Clean Energy Supply Chains

The U.S. renewable energy industry is navigating a challenging period due to project delays, rising rates, tariffs, inflation and supply shortages. These trends have been especially acute for solar. Supply chains for clean energy companies are dependent on very few countries for equipment components, making them highly vulnerable to disruptions and geopolitical pressures.

China continues to be the dominant global supplier of clean energy technologies, with manufacturing market share in solar and wind of approximately 90 percent and approximately 65 percent, respectively.[1] China's aggressive growth of manufacturing capacity has led to oversupply, making China the lowest-cost producer and price setter of most components. Challenged by this concentrated supply chain and tight margins, companies have had limited flexibility in diversifying their supply base.

With the newly proposed tariffs by the U.S. presidential administration and the potential associated costs, supply chains and margins face higher risks, exacerbating the pressure on the sector's profitability and liquidity. Chinese goods are set to potentially balloon in Q1 2025, clean energy companies need to reassess their cost estimates and supplier options and potentially realign with end customers (offtakers) on costs and pricing.

For clean energy companies to overcome these challenges and realize the opportunities they present, they must take a proactive approach to existing pressures and new tariffs.

[1]Rystad Energy, SpareBank1 Markets

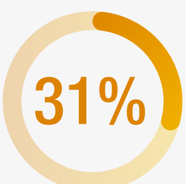
Clean Energy Companies Have Begun Responding to Pressures

The renewable energy industry is already facing challenges due to project delays, rising rates, tariffs, inflation and supply shortages. In September 2024, the U.S. Trade Representative finalized Section 301 tariffs on a range of products imported from China, including solar components and batteries. Tariffs increased significantly, rising from 7.5 percent to 25 percent for battery and battery components while doubling to 50 percent for solar cells and modules.[2] The impact of tariffs in 2022 caused solar installations to fall by 16.6 percent following an investigation by the Department of Commerce into anti-dumping allegations.

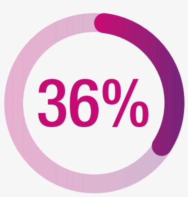
> A complete diversification away from China may not be feasible given the complex supply chain exposure and supply concentration of certain commodities or inputs into clean energy components.
>
> Identifying and prioritizing products for tariff-resilient strategies will be critical.

The U.S. presidential administration is in the process of framing additional tariffs on imported goods, further threatening margins and liquidity. While the proposed tariffs will likely impact all international trading partners, they are disproportionately focused on China. President Donald Trump's proposals, which aim to promote domestic manufacturing and lessen reliance on foreign countries, include a "universal" tariff of up to 20 percent on all goods coming into the U.S. and at least a 60 percent tariff on all imports from China.[3] An initial report in July by The American Council on Renewable Energy estimated that solar panels could increase in price by $0.10 to $0.15 per watt.[4] **For consumers, that would translate to about a 25 percent increase in panel cost.**

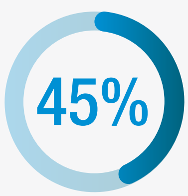
According to A&M market research, U.S.-based clean energy companies are largely unprepared to navigate the evolving tariff and margin compressed landscape, but some have begun to take steps to mitigate impacts:



of U.S. energy companies have adopted mitigation strategies for supply chain risk in clean energy;



of clean energy players actively participate in trade associations to drive supply chain policy;



of clean energy players leverage tools to map and monitor supply chain beyond Tier 1 suppliers.

In the face of new tariffs and continued pressures, clean energy companies that fail to act quickly could jeopardize their viability.

[2] FACT SHEET: President Biden Takes Action to Protect American Workers and Businesses from China's Unfair Trade Practices | The White House

[3] Trump's tariff plan: How tariffs work, why they might increase prices

[4] New Analysis: How New Tariffs Could Undermine America's Solar Progress - ACORE

Clean Energy Companies Can Gain an Advantage with a Proactive Approach

While the policy specifics and timing of the proposed tariffs are evolving, companies that act to improve supply chain agility and create procurement strategies can gain a competitive advantage and protect their profitability. This can begin with a range of 'no-regret' actions that can create both immediate benefits and options as the tariff landscape evolves. Additionally, there are significant first-mover advantages to be achieved through adapting supply chain strategies to the evolving geopolitical landscape and the rapid U.S. supply expansion.

Leading U.S. installation and storage companies are evaluating the opportunity to reshore their supply chains to take advantage of tax credits and mitigate tariffs while improving lead times. However, onshoring the supply chain will also present unique challenges as the domestic manufacturing of clean energy equipment plans for explosive growth, with U.S. battery manufacturing set to grow from 100 GWh in 2023 to 1,250 GWh by 2027 and U.S. solar cell and module manufacturing capacity expected to grow from approximately 35GW in 2023 to approximately 180 GW by 2027.[5]

Though there is no single solution, effective cross-functional coordination can mitigate costs, reduce delays and optimize working capital. While companies may be at different stages of supply chain maturity, an integrated approach will be required to mitigate the headwinds. Opportunities to act, each offering a spectrum of quick-win impacts through operationally transformational initiatives, focus on three key impact areas:

Pivot the Supply Chain and Cost Structure: Leveraging opportunities to realign with suppliers, reclassification of tariff designations, tariff (re-)engineering and product rationalisation.

Re-Align With The Customer: Evaluating and acting on opportunities to reset or realign customer contracts, pricing, performance targets, schedules and even technical requirements. Creating a larger set of options with customers to protect margin and delivery.

Protect Liquidity and Margin to Create Flexibility: Pursuing near-term working capital and cost reduction efforts — such as Inflation Clawback — to support the business through this shift in the global landscape.

[5] New battery storage capacity to surpass 400 GWh per year by 2030

A&M Roadmap for Supply Chain Recovery

Value Driver	Phase 1 ~60-90 Days	Phase 2 ~90 Days – 6 Months	Phase 3 ~6 Months – 1 year
	Quick Wins	**Rapid Re-Alignment of Cost Structures**	**Capture Full Value Through Transformational Initiatives**
Pivot the Supply Chain and Cost Structure	▪ **Capital Controls:** Establish tight controls on cost and quality ▪ **HTS Confirmation:** Ensure accurate classification of products to mitigate excess duty payment ▪ **Frontload Purchasing:** Pursue strategic pre-buys to avoid future planned tariffs ▪ **Contract Renewables / Updates:** Renew long-term agreements and review force majeure clauses	▪ **Evaluate LCC Origin Change:** Re-source to more favourable low-cost countries ▪ **Double-down:** Leverage potential capacity glut with financially stable incumbents to invest in non-China footprint and cost savings	▪ **Multi-Sourcing / Re-Shoring:** Qualify alternatives and develop domestic sources ▪ **Tax- / Duty-Advantaged Operations:** Explore free-trade zones; alternate country of origin ▪ **Make vs. Buy:** Consider JVs and vertical integration ▪ **Product Rationalization:** Build in design options or alternatives within BOMs with flexible product offerings to support passthrough
Re-Align With The Customer	▪ **Customer Price Adjustments:** Plan for and price in the immediate impact of anticipated tariffs, frontloading sales ▪ **Quoting / Pricing Workflow:** Revamp quoting models to incorporate tariffs and drive inputs from supply chain	▪ **Pricing:** Explore proactive increases (e.g. for commodities with high cost-to-price linkage and limited alternative options) ▪ **Requirements re-engineering:** Re-tune requirements to create greater supply chain and cost options ▪ **Margin Transparency:** Develop forecasting models to anticipate and action future tariff changes	▪ **Pricing Model Review:** Consider transparent pass-through of tariffs and minimize upfront cost to customer - PPAs
Protect Liquidity and Margin to Create Flexibility	▪ **On-Shore Consignment:** Negotiate with offshore suppliers to set up local warehouse to improve cash and lead time ▪ **Payment Term Optimization:** Identify high-extension supply chain financing to free up working capital	▪ **Inflation Clawback:** Recovering strong inflation normalization being held back by captive planning ▪ **Improve Inventory:** Enhance through improved forecasting and planning ▪ **Improve AP / AR pay terms:** Extend supplier terms, prioritize timely collections ▪ **Leverage Tax Incentives:** E.g. Investment Tax Credit; Section 45X; EV & Charging Incentives, etc.	

How Can A&M Help?

Alvarez & Marsal is uniquely positioned to help clients in the clean energy value chain, including PE funds and their portfolio companies, develop supply chain and procurement muscles that facilitate agility in the face of change and uncertainty.

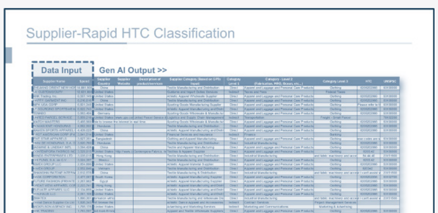
Rapid Tariff Impact and Action Assessment

Focus Areas and Approach

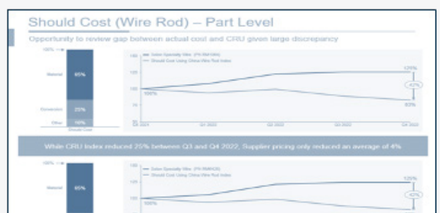
- ***Rapid Tariff Impact Assessment***
- Baseline current tariff structure, coding, designations, country of origin and active/potential exemptions
- Automated HTC profiling
- Identify secondary tariff exposure areas in the supply chain (remaining spend, Tier 2/3 suppliers, new tariff categories, etc.)
- ***Tariff Mitigation Evaluation***
- Exemption and HTC reclassification assessment
- Tariff engineering and supply chain unbundling/re-sourcing
- Customer to supplier contract and pricing alignment
- Cost out and working capital improvement opportunities
- ***Mitigation Roadmap and Business Case***
- Roadmap options for mitigation across:
- **Pivoting the supply base**
- **Re-alignment of customer/supplier contracts and requirements**
- **Liquidity and cost reduction options**
- Develop prioritization of quick-win and longer-term opportunities

Key Analyses and Deliverables

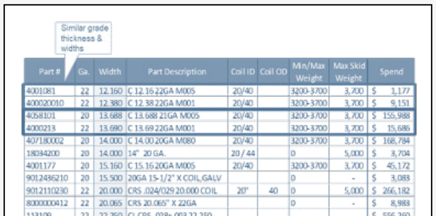
Spend/Tariff Impact Analysis



Rapid HTC Classification



Inflation Analysis



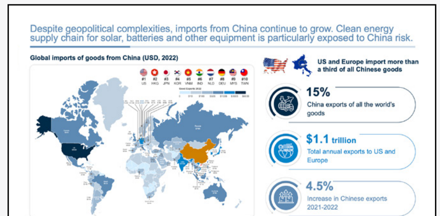
Part #	Ga.	Width	Part Description	Coil ID	Coil OD	Min/Max Weight	Max Skid Weight	Spend
4001081	22	12.160	C 12.16 22GA M005	20/40		3200-3700	3,700	$ 1,177
400020010	22	12.380	C 12.38 22GA M001	20/40		3200-3700	3,700	$ 9,151
4058101	20	13.688	C 13.688 21GA M005	20/40		3200-3700	3,700	$ 155,988
4000213	22	13.690	C 13.69 22GA M001	20/40		3200-3700	3,700	$ 15,686
407180002	20	14.000	C 14.00 20GA M080	20/40		3200-3700	3,700	$ 168,784
18034200	20	14.000	14" 20 GA.	20 / 44		0	5,000	$ 3,704
4001177	20	15.160	C 15.16 20GA M005	20/40		3200-3700	3,700	$ 45,172
9012436210	20	15.500	20GA 15-1/2" X COIL,GALV			0	-	$ 3,083
9012110230	22	20.000	CRS .024/029 20.000 COIL	20"	40	0	5,000	$ 266,182
8000000412	22	20.065	CRS 20.065" X 22GA			0	-	$ 8,983

HTC Reclassification

	Steel Base	Discount	Size/ Gauge	Width/ Length	Quality	Coating	Finish	Inbound Freight
9012110430	$36.78	$ 1.84	$ 1.50	$ -	$ -	$ -	$ -	$ 1.25
9002121778	$36.78	$ 1.84	$ 0.75	$ -	$ 0.50	$ -	$ -	$ 1.25
9002117480	$36.78	$ 1.84	$ 0.75	$ -	$ 0.50	$ -	$ -	$ 1.25

	Slitting	Cut to Length	Scrap	Packaging	Admin/ Profit	Outbound Freight	Quoted Price
9012110430	$ 2.00	$ 2.00	$ 1.13		$ 1.87	$ 4.22	$ 52.59

Tariff Financial Impact



Global Supply Chain Flow

By partnering with client operators, A&M can support both near-term targets and long-term value creation with a keen awareness of what can be implemented in a turnaround environment. Our proven track record in managing complex, high-profile situations combined with an overarching focus on improving bottom-line results ensures the best outcomes for clients. With easy-to-use and leave-behind analytical tools and accelerators, A&M is able to quickly achieve insights and value for clients.

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