

Solstice Advanced Materials: When to Commit to More Uranium Conversion Capacity?

Internal ID: S&F-STR-504

Topic: Operations Strategy, Customer Strategy, Pricing Strategy

Industry: Specialty Chemicals

Source: Strategy & Finance

Publication date: 5 October 2026

License: Not specified

Company: Solstice Advanced Materials Inc. (Nasdaq: SOLS)

Setting: Metropolis Works, Illinois

Information cutoff: 11 February 2026, end of day U.S. Eastern time

Case version: 3 October 2026

Decision convention: The commitment-gate assignment is hypothetical. Public disclosures establish exploration, initial engineering analysis and customer discussions; they do not establish a scheduled board vote, final investment decision or construction approval.

The next gate

On 10 February 2026, Solstice Advanced Materials said it expected uranium hexafluoride (UF₆) production at Metropolis Works to exceed 10,000 metric tonnes in 2026, about 20% above its *planned 2024 output*. The company attributed the increase to debottlenecking work already under way. It also reported backlog above \$2 billion and said it was exploring further operational improvements and new capacity. An engineering, procurement and construction (EPC) firm had begun initial engineering analysis, and Solstice had started long-term supply discussions with customers. [S2]

Those facts did not answer whether a larger facility was justified. Solstice disclosed no new-build nameplate increment, project budget, construction schedule, expected return, contracted volume for added capacity or final investment decision. The release's headline referred to expanding conversion “capacity,” while its production figure described expected output. An operating forecast is not an engineering capacity measure.

This case asks you to advise Solstice's CEO and board on a **prospective decision gate**: what additional evidence and protections should be required before the company moves from analysis and customer discussions toward a binding construction commitment? The assignment does not imply that management had called a vote. You may recommend continuing studies and contracting, setting conditional authorization gates, or another staged course. State the commitment being made, the conditions that would trigger the next irreversible step, and the facts that would change your recommendation.

A newly independent company

Solstice began trading as an independent Nasdaq company on 30 October 2025, after Honeywell distributed one Solstice share for every four Honeywell shares. [S1, S10] At the information cutoff, it reported two segments: Refrigerants & Applied Solutions (RAS), which included Alternative Energy Services (AES), and Electronic & Specialty Materials (ESM). The NRC's dated 2020 license-renewal release identified Metropolis as the only U.S. commercial uranium-conversion facility; Solstice's February 2026 announcement described it as the only U.S. UF₆ conversion facility. [S2, S5]

Conversion is one step in a longer fuel chain. Uranium-bearing feed is converted into UF₆, which is then enriched; enrichment and conversion are separate activities. Conversion customers include utilities and fuel-cycle companies. A domestic enriched-uranium policy or a reactor announcement may affect the fuel chain without creating a contracted conversion order for Solstice. [S6, S7]

The plant's history offered a warning against treating current demand as permanent. Solstice's final information statement said Metropolis operations were paused from 2017 until mid-2023 amid several years of excess global supply; the company described the restart and subsequent operating improvements as management actions. The same statement said ConverDyn had approximately \$2 billion of backlog orders as of 30 June 2025 and described multiyear AES agreements with long-term pricing. Management expected long-run supply and demand to balance, but the filing did not disclose customer-level volumes, prices, cancellation terms or delivery schedules. [S1]

Who sells the conversion service?

Solstice operates Metropolis Works. Its 50/50 ConverDyn joint venture with General Atomics is the exclusive purchaser of AES conversion services and markets those services to customers. The final information statement also says the venture may buy third-party conversion services when attractive to serve customers or build inventory. Solstice consolidates ConverDyn as a variable-interest entity, but the other owner retains an economic interest. A dollar of facility revenue is therefore not automatically a dollar of Solstice parent cash flow. [S1]

This structure matters for the proposed expansion. The public disclosures do not show how much of ConverDyn's backlog must run through Metropolis, which orders use third-party conversion, the JV's stand-alone margins, or how new capacity would be contracted and allocated. The headline backlog may support the current plant, an expanded plant, or both; it cannot be converted into tonnes by dividing it by an assumed price.

Demand, policy and the possibility of entry

Solstice's 10 February release gave students several positive demand indicators: backlog above \$2 billion, many domestic utilities among long-term customers, and active supply discussions. Yet it omitted the contract terms that would make those signals financeable: volumes, delivery years, pricing formulas, escalation, cancellation rights, take-or-pay provisions and coverage of incremental capacity. Management's statement that DOE support was involved "in part" also did not specify the form or size of that support. [S2]

The final information statement gave a more consequential description: DOE had entered an agreement with Solstice to share certain costs associated with AES facility expansion. It warned that missing timing requirements for some DOE-funded projects could result in liquidated damages, which management did not consider probable. The cost-share amount, covered work, milestones, remedies and linkage to any new capacity were not disclosed. A separate note

described an agreement in principle about operational availability and possible reimbursement of certain litigation costs; those are distinct arrangements. Treat neither as a fully specified grant for the proposed project. [S1]

Policy added context, not a demand guarantee. The 2024 Russian Uranium Imports Act prohibits imports of unirradiated low-enriched uranium produced in Russia or by a Russian entity. It also covers unirradiated LEU determined to have been exchanged, swapped for or otherwise obtained in lieu of such LEU in a manner designed to circumvent the prohibition. Statutory waiver and quantity provisions apply: waivers have annual caps and may not extend beyond 1 January 2028, while the underlying prohibition has a separate 31 December 2040 sunset. The law concerns enriched fuel imports, not conversion services. DOE also announced awards for HALEU supply-chain and deconversion services, but the release did not identify Solstice as a recipient. [S7, S8]

Competition could make waiting costly. In September 2025, Uranium Energy Corp (UEC) announced a subsidiary and a proposed U.S. refining and conversion plant of about 10,000 MtU per year. UEC said advancement depended on further engineering and economic studies, government commitments, utility contracts, regulatory approvals and favorable market conditions. This was a competitor's proposal, not funded or operating capacity. MtU means metric tonnes of uranium contained in UF₆, not gross tonnes of UF₆ compound. It cannot be directly compared with Solstice's kt UF₆ output without converting both figures to the same mass basis. [S9]

UEC's announcement creates a strategic question rather than a forecast: if the proposal advances, could delay cost Solstice customers, contracts or policy support? The public record does not establish that UEC will build, that customers are switching, or that accelerating construction would deter entry. Preemption is a hypothesis students may assess, not a demonstrated effect or disclosed Solstice objective.

Capital allocation and execution capacity

Solstice's 11 February results presented company-wide capital constraints, but not the economics of Metropolis. For 2025, sales were \$3.886 billion, net income attributable to Solstice was \$237 million, adjusted standalone EBITDA was \$957 million, and capital expenditures were \$408 million. The company reported adjusted standalone EBITDA less capex of \$549 million. It guided to 2026 sales of \$3.9-\$4.1 billion, adjusted EBITDA of \$975-\$1,025 million, diluted adjusted EPS of \$2.45-\$2.75 and capex of \$400-\$425 million. These measures cover the whole company, not a nuclear project. EBITDA less capex is not free cash flow. [S3]

At year-end, Solstice reported \$534 million in cash, \$1.972 billion in total debt, \$1.438 billion in net debt and \$1 billion of revolver availability. Net leverage was 1.5x on the company's adjusted standalone EBITDA basis. Management had also announced more than \$220 million of planned multiyear investment to expand ballistic-fiber production and declared a quarterly dividend of \$0.075 per share. A revolver commitment is not cash on hand; the published capex outlook is not an unallocated project budget. [S3, S4]

Metropolis also had an existing operating site and license. DOE's 2024 environmental-impact statement gives a licensed UF₆ capacity figure of 15,000 metric tonnes per year, while Solstice projected output above 10 kt in 2026. Licensed capacity and expected output may have different scope and operating constraints. Do not present their ratio as Solstice utilization or as proof that the plant has a known amount of spare capacity. [S5, S6]

Your assignment

Prepare a decision memo to Solstice's CEO and board. Recommend what should happen at the next commitment gate and explain:

1. What work may proceed now? On the current evidence, are any steps too irreversible to authorize?
2. What minimum customer commitments, project-cost confidence, permitting path, DOE terms and downside protections should be required before construction authorization?
3. How could competitive entry change the value of waiting-and what evidence would establish that risk is becoming real?
4. How should the company preserve balance-sheet flexibility while comparing Metropolis with company-wide capital demands?
5. What specific evidence, milestone or change in conditions would make you reverse your recommendation?

Use only the information available by 11 February 2026. If you introduce a project cost, capacity increment, margin, schedule, discount rate, contract volume or probability, label it as a classroom assumption and show its effect as a sensitivity. The case does not supply enough information for a company-specific point NPV.

Exhibit 1 - Metropolis and the fuel chain

Stage	Activity	Relevance to this decision
Uranium feed	Uranium-bearing material enters conversion	Feed procurement and inventory economics are not disclosed here.
Conversion	Metropolis Works converts feed into UF ₆	Solstice operates the facility; production and new-build economics are not separately reported.
Enrichment	UF ₆ is enriched to the required level	Enrichment policy and conversion demand are related but are not the same market.
Fuel fabrication and use	Enriched material is fabricated into fuel and delivered to reactors	Reactor demand does not by itself establish when conversion orders arrive.

Commercial route: Metropolis/AES service → exclusive purchaser and marketer ConverDyn (50% Solstice / 50% General Atomics) → utility and fuel-cycle customers. ConverDyn may purchase third-party conversion when attractive. Source: final Information Statement; DOE EIS. [S1, S6]

Exhibit 2 - What the public record says about demand and commitment

Signal	Disclosed by cutoff	Not disclosed
2026 operating plan	Output projected above 10 kt UF6, about 20% above planned 2024 output; debottlenecking under way.	Nameplate addition, expected yield, outage assumptions, run-rate by quarter or plant-level utilization.
Backlog	Above \$2bn in February 2026; about \$2bn as of 30 June 2025 in the final information statement.	Service share, tonnes, delivery years, price, cancellation, take-or-pay or margin.
New capacity	EPC initial engineering analysis and long-term customer supply discussions.	Project scope, cost, schedule, new capacity, FID or construction start.
DOE support	February release says DOE support “in part”; final information statement discloses a DOE agreement to share certain AES expansion costs and potential liquidated damages for missing timing requirements.	Amount, eligible-cost rules, milestone calendar, remedies or whether the agreement covers proposed additional capacity.
ConverDyn commercial role	50/50 JV is exclusive purchaser/marketer of AES services and may purchase third-party conversion.	Allocation of backlog between Metropolis and outside services; stand-alone JV and project economics.

Sources: Solstice 10 February release and final 17 October 2025 Information Statement. Management statements are attributed; no backlog-to-tonnage calculation is possible from these data. [S1, S2]

Exhibit 3 - Selected Solstice financial and capital data

USD millions except per-share data and ratios. Company-wide; FY2025 results were unaudited at the cutoff.

Measure	FY2025 actual	FY2024 actual	FY2026 guidance
Net sales	3,886	3,770	3,900-4,100
Net income attributable to Solstice	237	594	-
Adjusted standalone EBITDA	957	995	975-1,025 adjusted EBITDA
Capital expenditures	408	296	400-425
Adjusted standalone EBITDA less capex	549	699	-
Adjusted diluted EPS	-	-	\$2.45-\$2.75

Balance sheet / capital measure, 31 Dec 2025	Reported
Cash	\$534m
Total debt	\$1,972m (\$4m current; \$1,968m long-term)
Net debt	\$1,438m
Revolver availability	\$1,000m
Net leverage	1.5x
Total leverage	2.1x

Sources: 11 February 2026 results release, financial tables and non-GAAP reconciliations. Adjusted EBITDA less capex is not free cash flow. Leverage uses company-defined adjusted standalone EBITDA; undrawn availability is not cash. [S3]

Exhibit 4 - Competitive and policy context

Item	Evidence at cutoff	Interpretation boundary
U.S. incumbent	NRC's 2020 license-renewal release identified Metropolis as the only U.S. commercial conversion plant; Solstice said in February 2026 it was the only U.S. UF6 conversion facility.	The NRC statement is dated context; a single domestic facility does not establish global monopoly or durable pricing power.
UEC concept	Approximately 10,000 MtU/year proposed plant; project conditional on studies, government support, contracts, approvals and markets.	MtU is uranium contained in UF6, not gross UF6. Convert to common mass basis before comparison. Announcement is not an FID or delivered capacity.
Russian LEU law	Import restriction covers unirradiated LEU produced in Russia or by a Russian entity, plus only unirradiated LEU determined to have been exchanged, swapped for or otherwise obtained in lieu of such LEU in a manner designed to circumvent the prohibition; statutory waiver/quantity limits apply.	Applies to enriched uranium, not conversion services; not Solstice demand.
DOE program	Six DOE awards announced for HALEU supply chain/deconversion services in October 2024.	The release does not establish a Solstice award or guaranteed conversion throughput.

Sources: NRC 2020 release; UEC 2 September 2025 8-K; Public Law 118-62, enacted 13 May 2024; DOE 8 October 2024 award release. [S5, S7-S9]

Exhibit 5 - Decision-gate worksheet

Use this table to identify conditions, not to assume they have been satisfied.

Gate	Evidence to request	Downside if absent	Possible reversible next step
Customer coverage	Contracted volume, term, delivery windows, price floors/indexation, cancellation and take-or-pay	Low utilization or margin squeeze	Seek a nonbinding, conditional customer term sheet; no such document is disclosed.
Engineering and cost	Defined scope, capacity increment, contingency, schedule, yield and commissioning plan	Cost overrun, delay or output shortfall	Staged design/estimate with stop points
DOE terms	Eligible costs, share, milestones, payment timing, conditions and damages	Support may be unavailable; execution liability may rise	Obtain and diligence operative agreement
Permits and operations	Required NRC/environmental approvals, process-safety and outage plan	Delay, added capex or inability to operate at target	Permit-path review and site risk assessment
Capital capacity	Funding source, minimum liquidity, covenant headroom and competing uses	Reduced flexibility across the company	Capital-allocation scenarios with downside case
Competitive signal	UEC funding, permits, binding contracts, construction mobilization and customer response	Lost contracts or support if rival entry becomes credible	Monitor verifiable milestones; avoid equating announcement with entry

All gates and possible actions are student-designed criteria, not disclosed Solstice policy.

Sources and conventions

All facts are limited to information public by 11 February 2026. Management projections, backlog descriptions and competitor plans are attributed. Later filings or outcomes are not used. Dollar values are USD; company financials are not project economics. MtU refers to metric tonnes of uranium contained in UF₆ and is not directly comparable to gross UF₆ tonnage.

S1. Solstice Advanced Materials, final Information Statement, dated 17 October 2025, filed with Form 8-K, accession 0001628280-25-045287; segments and Business-AES/ConverDyn, pp. 5-7 and 85; Note 14, F-56. [Final Information Statement](#).

S2. Solstice Advanced Materials, “Solstice Advanced Materials Announces Expansion of Uranium Conversion Production to Support Strong Nuclear Industry Customer Demand,” 10 February 2026; body ¶1-4. [Company release](#).

S3. Solstice Advanced Materials, “Solstice Advanced Materials Reports Fourth Quarter 2025 Results,” 11 February 2026, Form 8-K accession 0002064953-26-000003; consolidated results, segment highlights, FY2026 guidance and non-GAAP reconciliations. [SEC Exhibit 99.1](#).

S4. Solstice Advanced Materials, “Solstice Advanced Materials to Invest Over \$220 Million to Expand Production of Spectra® Fiber,” 13 January 2026. [Company release](#).

- S5.** U.S. Nuclear Regulatory Commission, “NRC Approves License Renewal for Honeywell Uranium Conversion Facility,” 25 March 2020. [NRC release](#).
- S6.** U.S. Department of Energy, *Final Environmental Impact Statement for High-Assay Low-Enriched Uranium (HALEU) Activities*, October 2024, vol. 1, §§2.1.2 and 3.2. [DOE EIS](#).
- S7.** U.S. Congress, *Prohibiting Russian Uranium Imports Act*, Pub. L. 118-62, enacted 13 May 2024, amended 42 U.S.C. §2297h-10a(d). [Enrolled law](#).
- S8.** U.S. Department of Energy, “Biden-Harris Administration Announces 6 Contracts to Spur America’s Domestic HALEU Supply,” 8 October 2024. [DOE release](#).
- S9.** Uranium Energy Corp, Form 8-K, filed 2 September 2025, accession 0001437749-25-028163; exhibit announcing proposed conversion/refining plant and conditions. [SEC filing](#).
- S10.** Honeywell/Solstice, “Solstice Advanced Materials Completes Spin-Off from Honeywell and Begins Trading on Nasdaq,” 30 October 2025. [Company release](#).
- A1.** Robert S. Pindyck, “Irreversibility, Uncertainty, and Investment,” *Journal of Economic Literature* 29(3), 1991, pp. 1110-1148. [DOI](#).
- A2.** Laarni Bulan, Christopher J. Mayer and C. Tsurriel Somerville, “Irreversible Investment, Real Options, and Competition: Evidence from Real Estate Development.” The accessible full author manuscript used in this case is dated 26 September 2001; the final journal publication appeared in *Journal of Urban Economics* 65(3), 2009. [Accessible manuscript](#). Its estimate is a 13% reduction in monthly development hazard in its Vancouver sample, not a Solstice probability estimate.