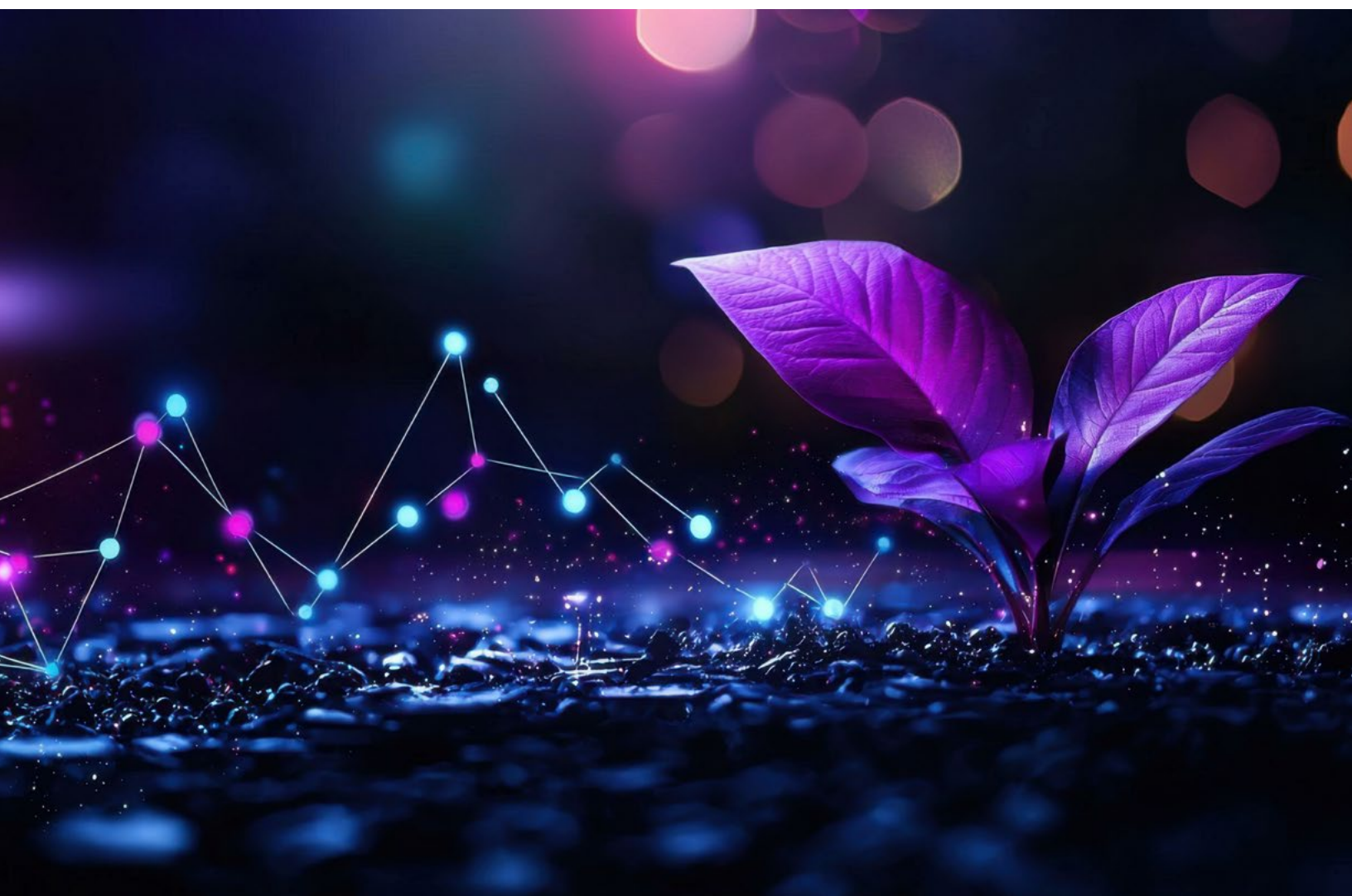


GUIDING GREEN LLC & ACS GREEN CHEMISTRY INSTITUTE

SUSTAINABLE CHEMISTRY INVESTMENT REPORT

Q4 2025



Guiding Green



ACS Green Chemistry Institute
Chemistry for Life®

Background & Summary



BACKGROUND

The *Sustainable Chemistry Investment Report Q4 2025* is the culmination of a year-long effort to monitor venture capital (VC) activity related to safer, more sustainable chemistry innovations. The beneficial impacts of chemical-related processes and products that meet performance, cost, and sustainability specifications can only be effectively realized when they are commercialized. Tracking early investment can provide insight into the innovation ecosystem to help support startup and investor positioning for optimum benefit.

The definition of sustainable chemistry presents complexities in reliably reporting investment in these innovations. Acknowledging the limitations of the report to focus on trends without company endorsement and appreciating a commitment to continuous improvement are important perspectives to gain maximum value of the report. Additional context on the definition of the vertical used in this report can be found in the *Sustainable Chemistry Investment Report Q1 2025*.

SUMMARY

The *Sustainable Chemistry Investment Report Q4 2025* addresses VC deals completed from 2021 through 2025 including grants, accelerator/incubators, angel, seed, early stage VC, and later stage VC deals completed during the period with companies meeting sustainable chemistry criteria. The report is based on data sourced from Pitchbook Data, Inc. on January 5, 2026.

SUMMARY OF FINDINGS

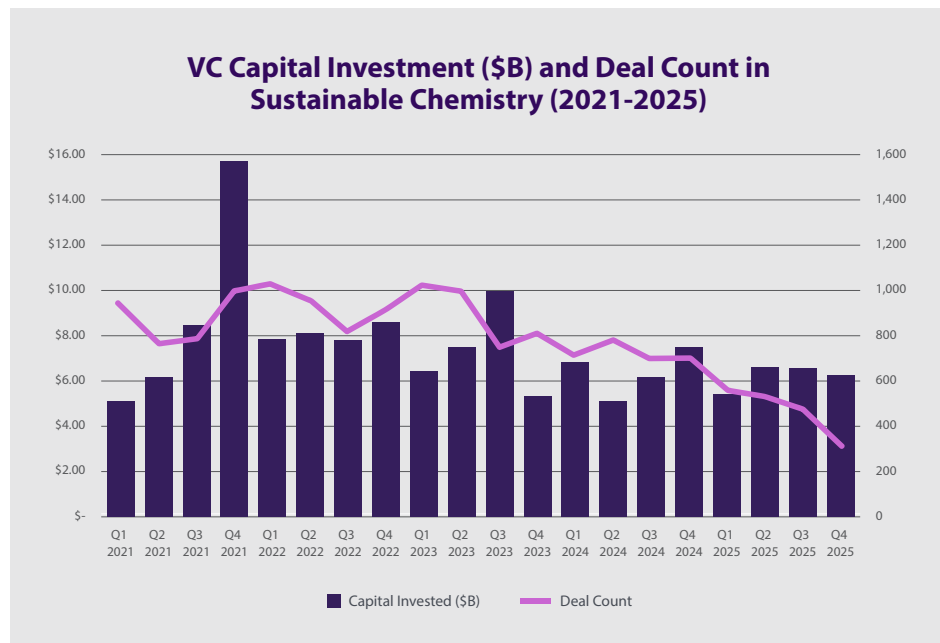
- Despite a continued decline in deal count globally in sustainable chemistry, VC capital investment in sustainable chemistry in 2025 (\$24.78 billion) was on par with 2024 (\$25.50 billion), demonstrating a rebound from a downward slide that began in 2022. Consistent capital investment in Q2, Q3, and Q4 2025 contributed to this positive shift.
- Mega deals valued at least \$100 million equated to 3% of the total deal count and 49% of the total capital investment in sustainable chemistry globally during Q4 2025, consistent with findings that large deals accounted for roughly 60% of all venture funding globally during 2025.¹
- For the first year since 2021, sustainable chemistry deal count in North America outpaced all other regions. Capital investment in North America continued to exceed other regions, primarily due to the predominance of mega deals.

¹ [The VC Landscape In 2025: Key Trends That Shaped The Year](#), December 16, 2025.



VC Activity

Figure 1. VC Capital Investment and Deal Count in Sustainable Chemistry (2021-2025)



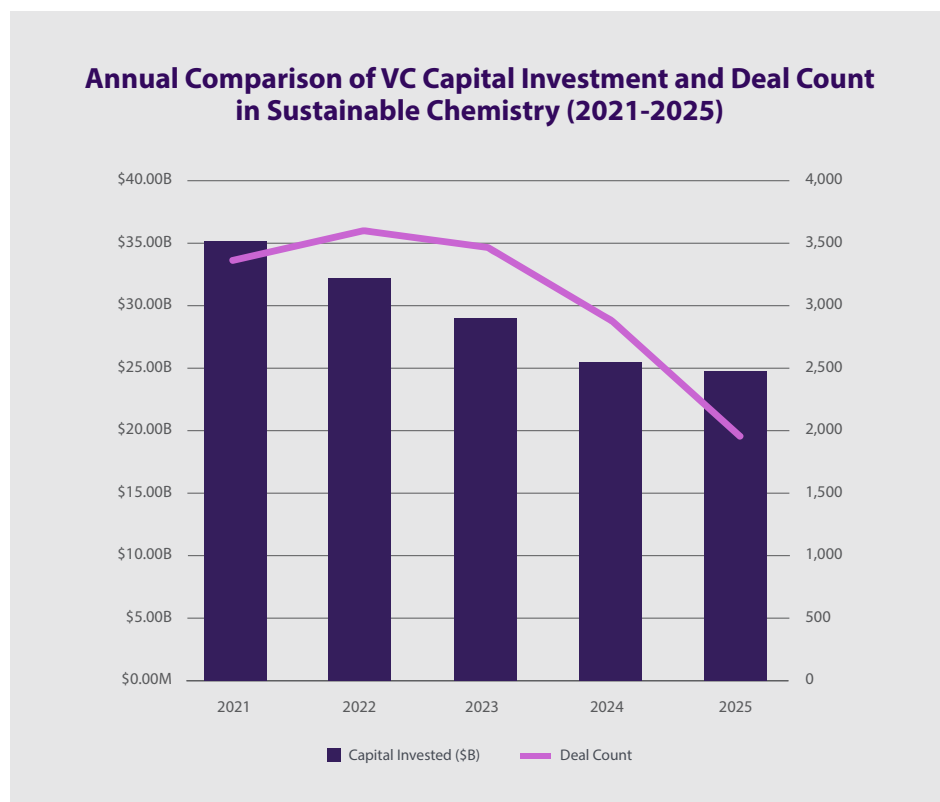
VC ACTIVITY

Sustainable chemistry deals during Q4 2025 attracted \$6.27 billion across 373 deals, compared to \$6.56 billion over 486 in Q3 2025. Globally, capital investment in sustainable chemistry during Q4 2025 remained competitive with the prior quarter despite a 24% reduction in deal count (Figure 1).

Year over year comparison illustrates deal activity continued to decline, although VC capital investment in sustainable chemistry in 2025 (\$24.78 billion) was on par with 2024 (\$25.50 billion), demonstrating a rebound from a downward slide that began in 2022 (Figure 2). Consistent investment in Q2, Q3, and Q4 2025, as shown in Figure 1, contributed to this positive shift.

Mega deals of at least \$100 million continue to influence the investment landscape. During Q4 2025, 12 deals collectively totaled \$3.05 billion, accounting for 49% of the total capital investment in sustainable chemistry during the quarter. [Liberation Bioindustries](#) raised \$112.15 million in preparation for commercial operation in 2026 of its precision fermentation facility in Richmond, Indiana to produce bio-based materials for food, chemical, pharmaceutical, and other industry sectors. [Redwood Materials](#) raised \$350 million of Series E venture funding to expand its energy storage business as well as its critical materials refining and production capacity. [Perpetual Next](#) raised €207 million of Series B funding to expand construction and production capacity in Europe to convert organic waste into bio-methanol.

Figure 2. Annual Comparison of VC Capital Investment and Deal Count in Sustainable Chemistry (2021-2025)



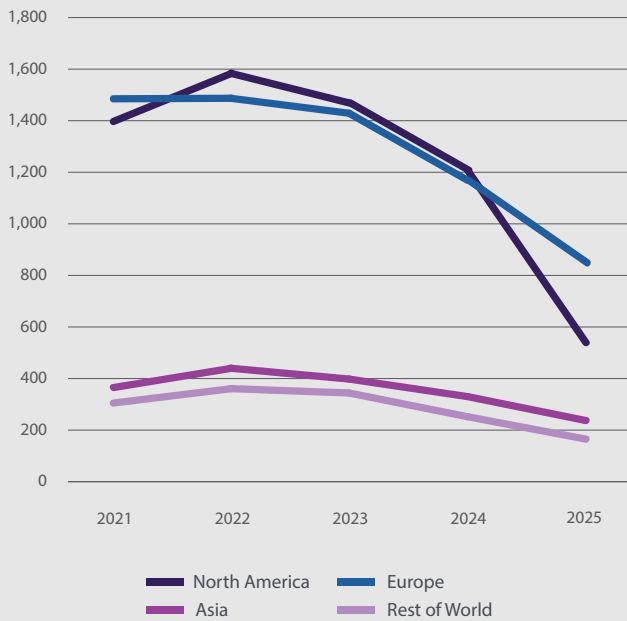
For the first time since 2021, sustainable chemistry deal count in North America outpaced all other regions (Figure 3). Capital investment in North America continued to exceed other regions (Figure 4), primarily due to mega deals \geq \$100 million. In 2025, North America saw \$9 billion over 29 mega deals, compared

to 10 deals (\$1.67 billion) in Europe and 4 deals (\$1.21 billion) in Asia. The strong North American investment is consistent with Crunchbase findings that US-based startups accounted for approximately 64% of global venture investment in 2025, not limited to sustainable chemistry, an increase of 8% from 2024.²

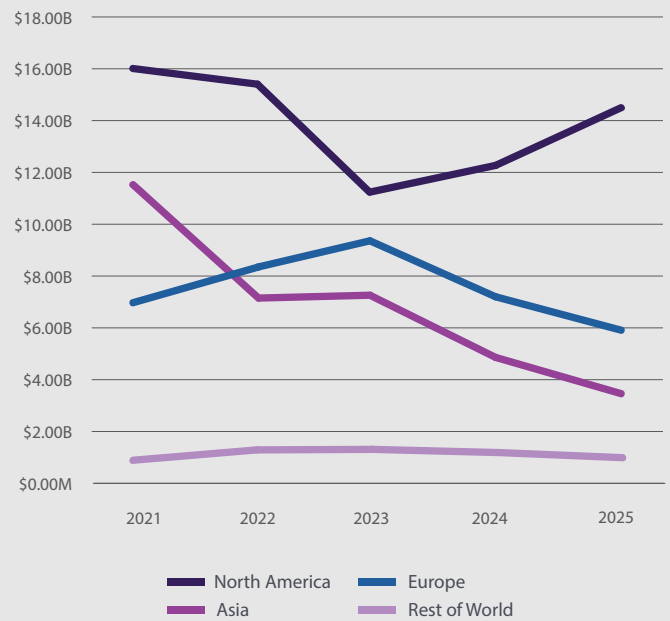
Figure 3. Sustainable Chemistry Deal Count by Region (2021-2025)

Figure 4. Sustainable Chemistry VC Investment by Region (2021-2025)

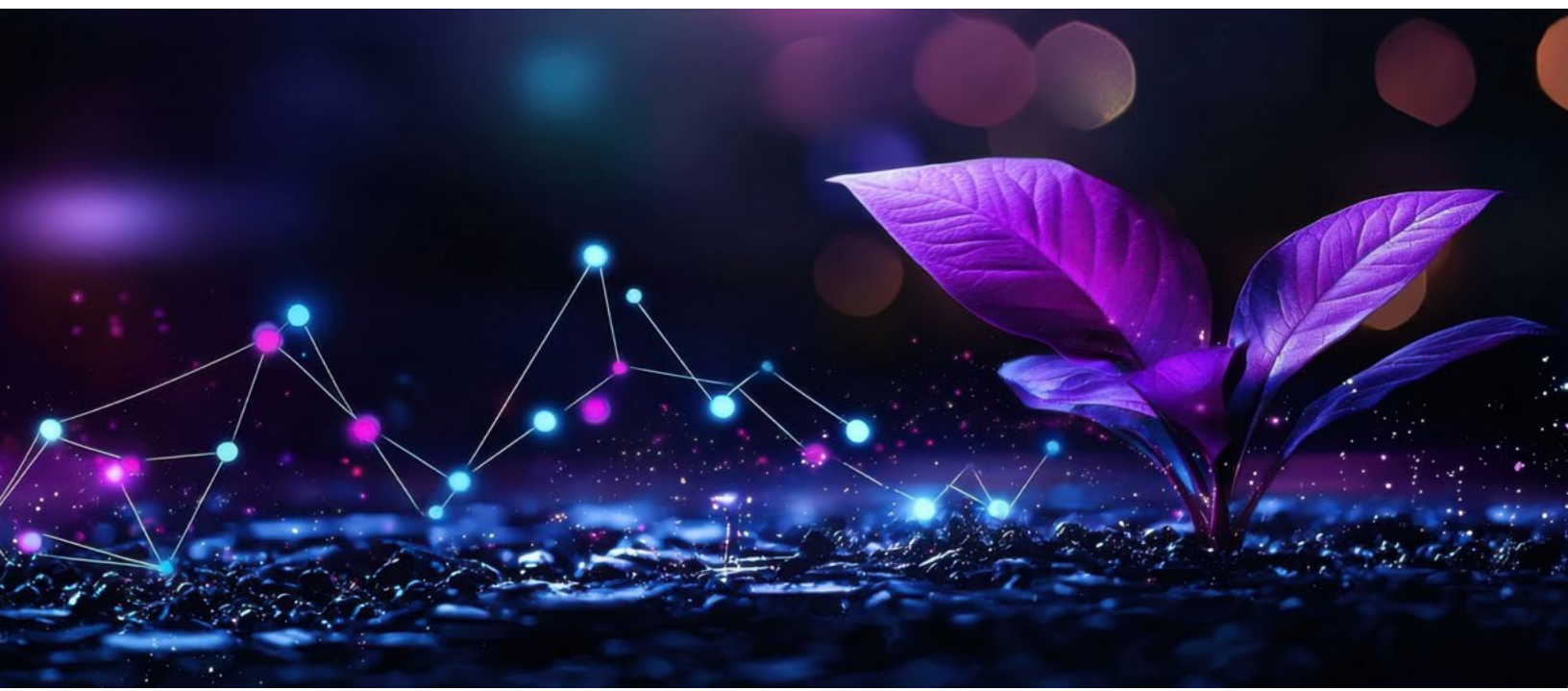
Sustainable Chemistry Deal Count by Region (2021-2025)



Sustainable Chemistry VC Investment by Region (2021-2025)



² [Global Venture Funding In 2025 Surged As Startup Deals And Valuations Set All-Time Records](#), January 7, 2026.



Figures 5 and 6 illustrate deal count and investment, respectively, by deal type. The number of grants (283) awarded globally in sustainable chemistry in 2025 was down roughly 50% from the year prior and associated capital declined approximately 44% indicating the average investment per grant may have been higher than the prior year. A decline in the number of seed deals is common globally in 2025 across all VC funding, not limited to sustainable chemistry with capital investment remaining relatively stable¹, meaning seed rounds tend to be larger. However, sustainable chemistry

saw a continued decline in deal count and funding invested at seed stage compared to prior years which may be an indication of increased competitiveness for these deals. Later stage VC investment in sustainable chemistry increased 23% to \$16.49 billion in 2025 compared to \$13.45 billion in 2024, consistent with global VC investment trends¹ finding later stage investment increasing year over year. The trends seen in sustainable chemistry are similar to those seen across all chemistry investments, but the magnitude is muted.

Figure 5. Sustainable Chemistry VC Deal Count by Deal Type (2021-2025)

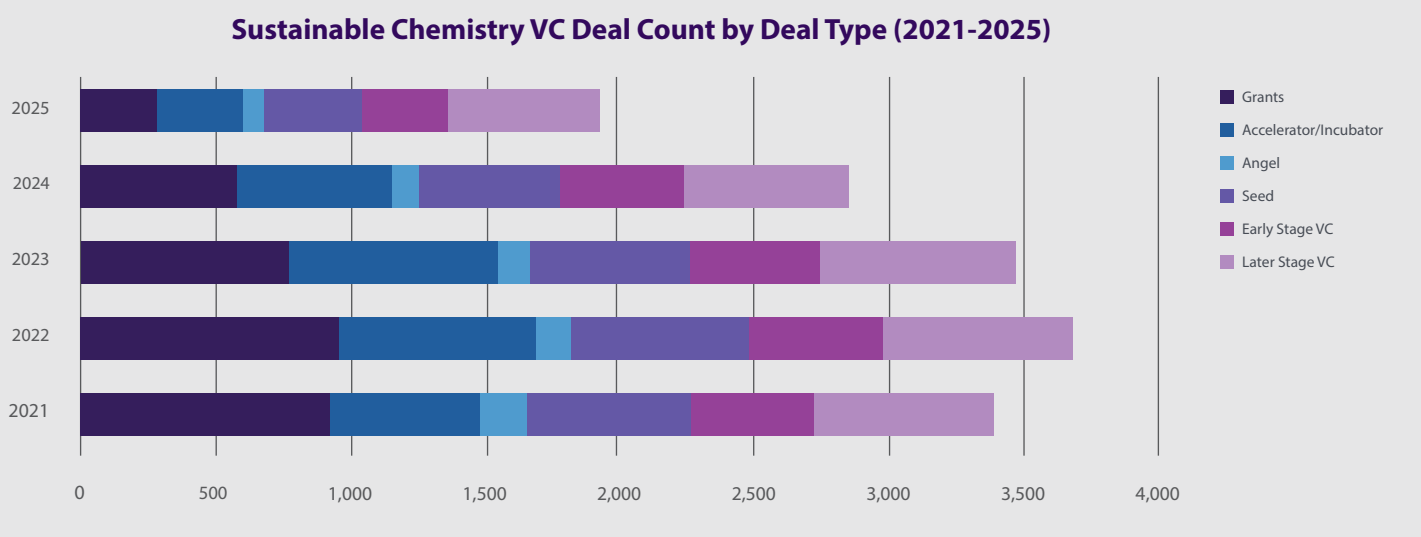
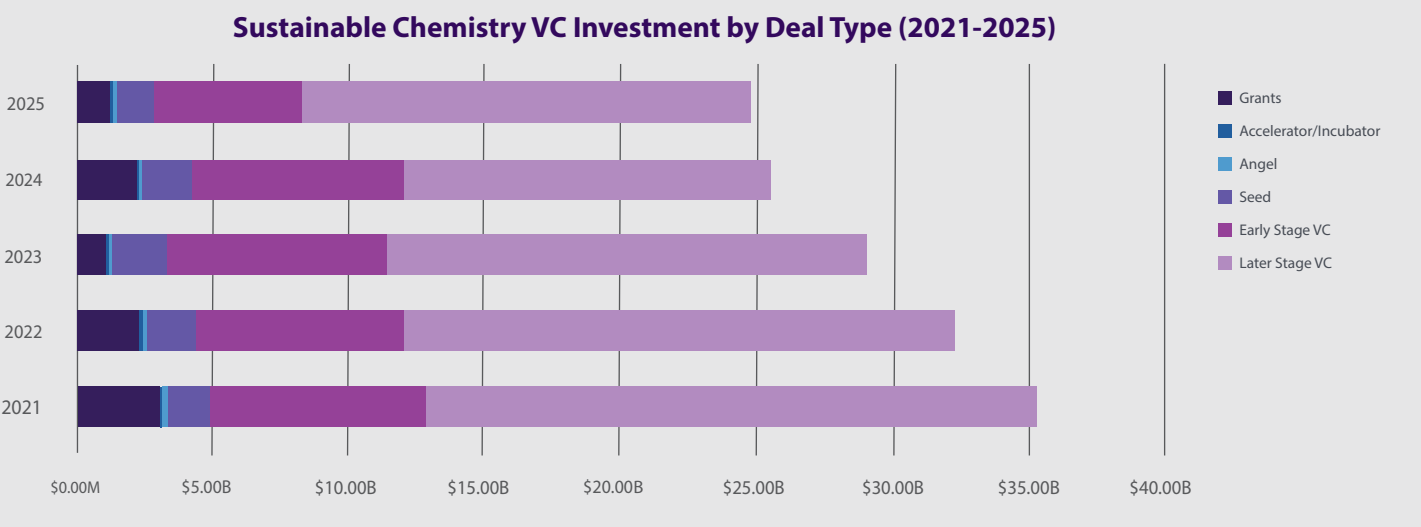


Figure 6. Sustainable Chemistry VC Investment by Deal Type (2021-2025)



When evaluating regional investment trends in the most active regions of North America, Europe, and Asia, investment in sustainable chemistry is generally consistent with chemistry investments, albeit at a lower magnitude (Figures 7 – 12). However, grant investment in 2023 and accelerator/incubator deals in 2024 in Europe, specifically,

trend in a positive direction not visible in the chemical sector. These variations may be due to policy influences favorable to sustainable chemistry in the region, although they each had only a short term impact with subsequent years following the predicted path of chemistry investments.

Figure 7. North America: Sustainable Chemistry VC Investment by Deal Type (2021-2025)

Figure 8. North America: Chemistry VC Investment by Deal Type (2021-2025)

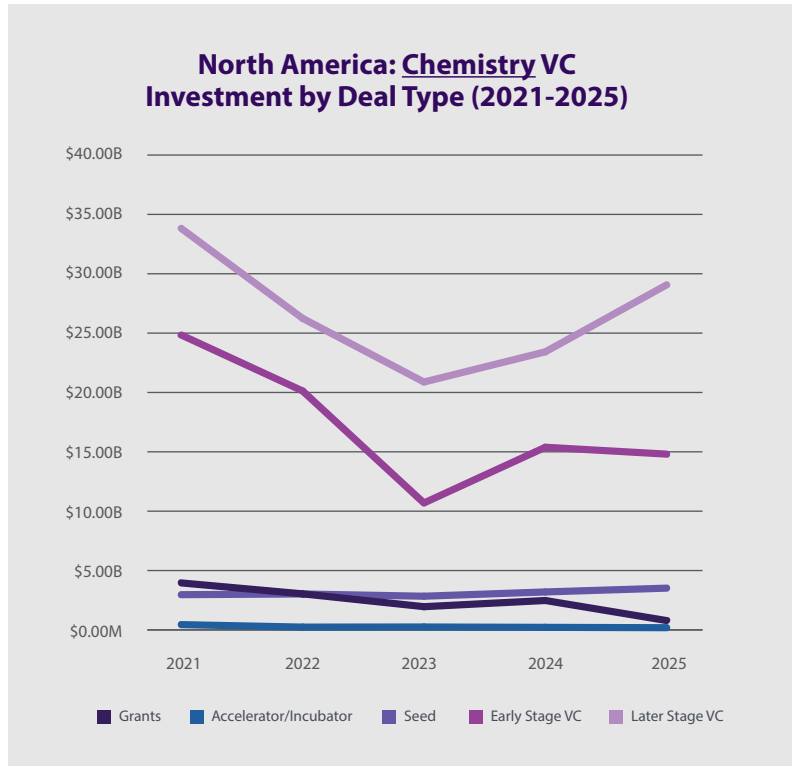
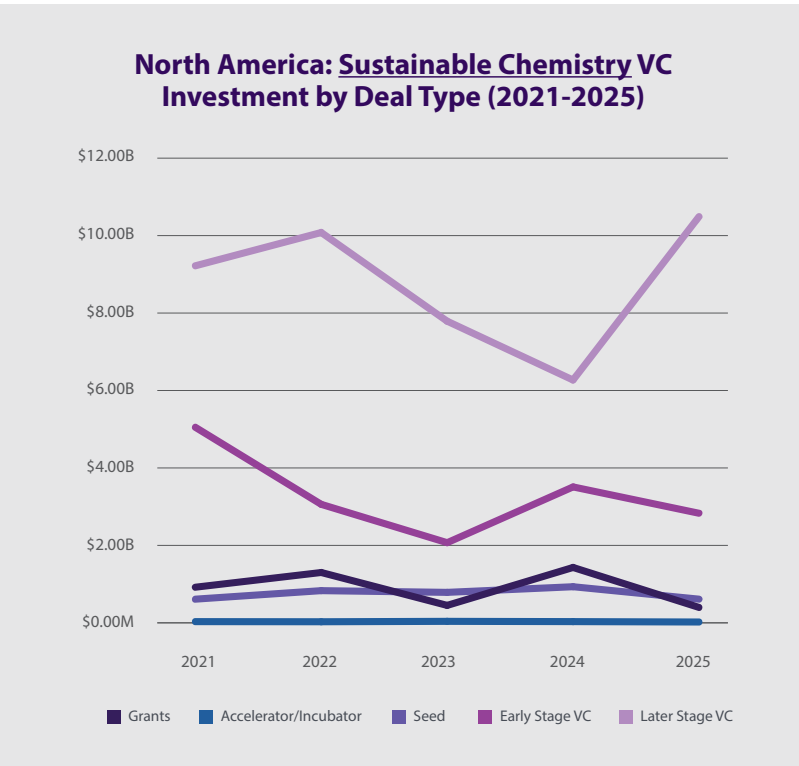


Figure 9. Europe: Sustainable Chemistry Investment by Deal Type (2021-2025)

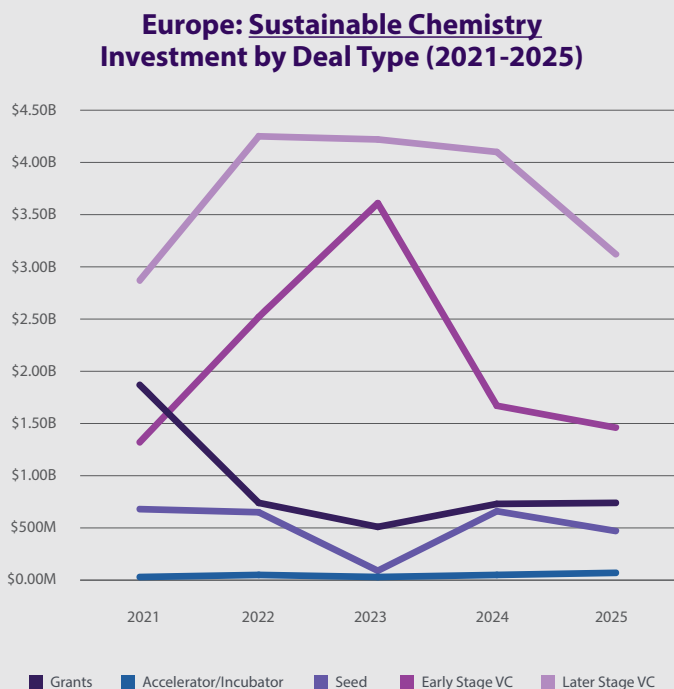


Figure 10. Europe: Chemistry VC Investment by Deal Type (2021-2025)

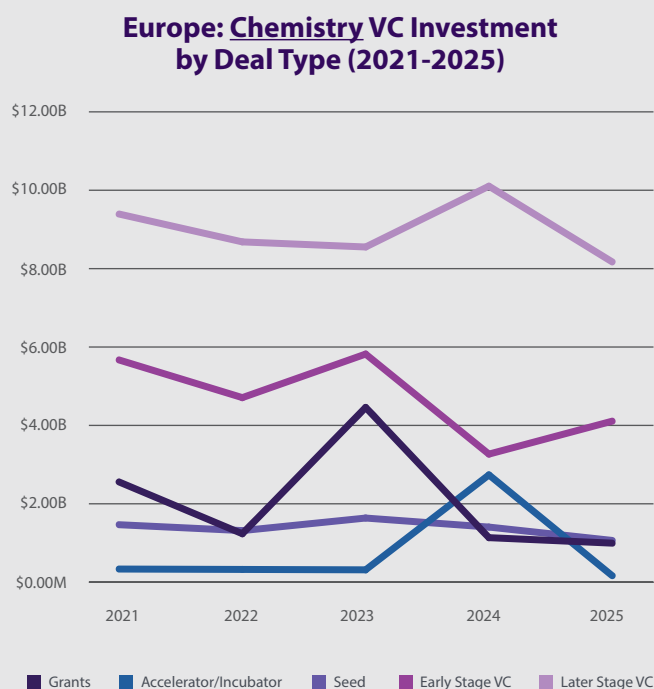


Figure 11. Asia: Sustainable Chemistry Investment by Deal Type (2021-2025)

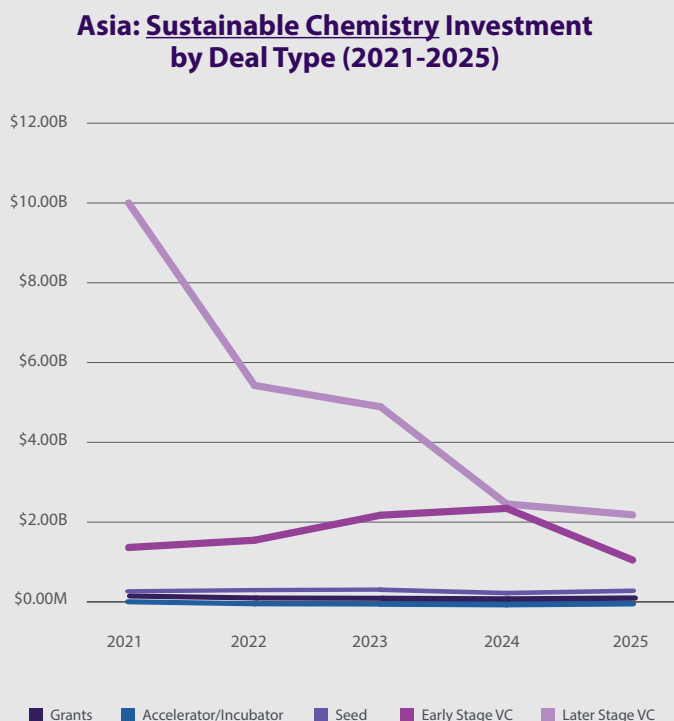
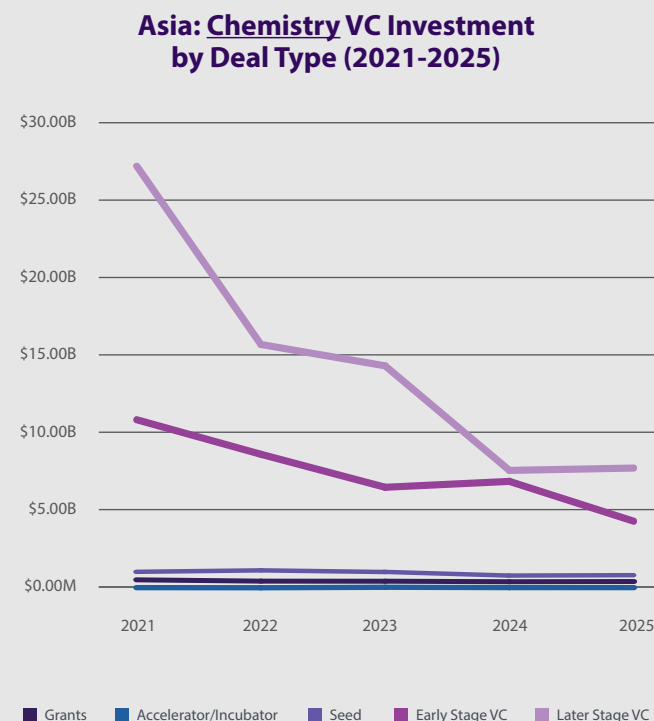


Figure 12. Asia: Chemistry VC Investment by Deal Type (2021-2025)



Artificial Intelligence

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) has the potential to accelerate chemistry innovation, improve efficiency, and open doors to novel functionality and performance that may significantly impact the design, production, and application of safer and more sustainable processes and products. Although this report is not prepared to offer insight into AI trends in sustainable chemistry, the developing and dominant role of AI in society and investments globally is important and selected deals during Q4 2025 are highlighted:

- Jolt Activated Electrodes (Spain) closed a \$6 million Series A round to continue development of a patented catalytic coating method for next-generation catalysts and activated electrodes used in electrolysis.
- ChemLex (China) raised \$45 million in an early stage VC deal to hire more engineering and chemist staff to support closed-loop collaborative research and development through artificial intelligence, chemical synthesis path planning, and high-throughput, fully automated laboratory technology platforms to expedite development in pharmaceutical, electronics, automotive, and energy markets.
- Altrove (France) raised \$8.97 million in a seed funding to advance their proprietary AI models for efficient inorganic materials discovery to design, synthesize, and manufacture alternatives to critical materials for building products.



Investor Activity

INVESTOR ACTIVITY

Tables 1 and 2 highlight the most active investors in sustainable chemistry during 2024 and 2025, respectively, based on the number of investments with deal size data specified. Excluding the sizable difference in the number of investments, the investor lists reflect some of the impact US policy changes have had on sustainable chemistry investment, notably with absence of the US Department of Energy from the list of most active investors in 2025.

This reduced activity by the federal government is contrary to the expectation that the federal government should be one of the largest players in supporting green chemistry developments. According to a recent survey report [Green chemistry in America 2026: Industry views on the opportunity for high-performance](#)

[molecules and processes](#), conducted by Morning Consult on behalf of the Gordon and Betty Moore Foundation, consumers and R&D and tech leaders in the US agree that the federal government and chemical manufacturers should play the largest roles in green chemistry development. Among businesses willing to invest in this space, innovation and competitive advantage were the primary drivers. The same report found that 75% of R&D and tech leaders surveyed agree there should be more investment and funding to support such research and innovation. With reduced investment activity from the U.S. government projected at least through 2028, other entities will need to bear the responsibility to meet this growth potential.

Table 1. Leading investors in sustainable chemistry in 2024 by number of investments

Investor	Headquarter Location	Primary Investor Type	Investments (2024)
US Department of Energy	United States	Government	73
TechStars	United States	Accelerator/Incubator	50
US National Science Foundation	United States	Government	47
European Innovation Council	Belgium	Venture Capital	31
Climate Capital	United States	Venture Capital	29
Breakthrough Energy	United States	Impact Investing	27
Innovate UK	United Kingdom	Government	26
Connected Places Catapult	United Kingdom	Accelerator/Incubator	23
Impact Assets	United States	Impact Investing	19
SOSV	United States	Venture Capital	18

Table 2. Leading investors in sustainable chemistry in 2025 by number of investments

Investor	Headquarter Location	Primary Investor Type	Investments (2025)
European Innovation Council	Belgium	Venture Capital	21
SOSV	United States	Venture Capital	21
VentureWell	United States	Accelerator/Incubator	19
Alumni Ventures	United States	Venture Capital	17
Innovate UK	United Kingdom	Government	17
MassVentures	United States	Accelerator/Incubator	17
US National Science Foundation	United States	Accelerator/Incubator	17
Lowercarbon Capital	United States	Venture Capital	16
Bpifrance	France	Sovereign Wealth Fund	15
Breakthrough Energy	United States	Impact Investing	15
TechStars	United States	Accelerator/Incubator	15



Recent Acquisitions & Conclusion

RECENT ACQUISITIONS

The following deals (Table 3) represent a sampling of acquisitions made during Q4 2025 of companies less than 10 years since founding.

Table 3. Selected Q4 2025 Acquisitions

Company	Founded	Description	Acquired by
Anotherway	2018	Consumer products company providing reusable and biodegradable cleaning and hygiene products	Ma Bonne Étoile
Fundusol	2023	Agrivoltaics company specializing in incorporating solar electricity to improve soil quality and reduce water usage	Okovate Sustainable Energy
Hexas Biomass	2018	Biomaterials company focused on the production of regenerative, plant-based raw materials for multiple applications including energy, biochemicals, packaging, textiles, composites, and more	Bioleum
Woodspin	2022	Manufacturer of recyclable and biodegradable textile fiber	Spinnova

CONCLUSION

Data indicate VC investment in sustainable chemistry largely follows VC trends in the chemical sector and global investment across all sectors. Positive gains were made in capital investment ending a multiple year slide; however, deal count continues to decrease. Although not unique to the sustainable chemistry space, the investment environment does make it more challenging to bring these technologies to market, limiting the opportunity to realize the potential performance, cost, and environmental and societal impacts of safer and more sustainable innovations.

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