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Where deals are made

Energized by technology:
Dealing in the cleantech revolution

Data provided by PitchBook

Executive summary

The US energy sector is in a state of flux. Oil and gas production, particularly in the US, can fluctuate based on energy prices around the world, political and regulatory actions at home, and the normal push and pull of grabbing market share and expanding capabilities that affect every other sector. But the energy sector is in a state of flux for reasons that go beyond that. The chief reason is technology.

Long a dream among engineers, the prospect of renewable energy has become a reality. The revolution began with startups and entrepreneurs, who are gaining a foothold in clean energy production, clean technologies, and the burgeoning sector called climate tech. The investment thesis has expanded beyond VC. PE investors like KKR, Blackstone, and Brookfield, among many others, are raising larger and larger funds to acquire and capitalize cleantech companies and renewable energy producers more broadly. These include established, scalable solar and wind farms, hydroelectric generators, and a host of other new technologies that produce enough cash flow to attract investors.

The last stage of the revolution lies at the feet of traditional energy producers. Oil and gas producers in Texas, the Dakotas, and wherever else there are rich shales, are being pressured to acquire renewable energy companies to diversify themselves and become less reliant on carbon fuel.

The energy sector is much bigger than the producers themselves — a vast array of service providers flanks and caters to them at every step of the process. Herein lies another inroad for cleantech and climate tech startups to impact the bigger picture. Digitalization is accelerating at a rapid pace, which is helping to reduce the US's carbon footprint, producer by producer. The end goal of the cleantech revolution is zero net emissions, a lofty but attainable goal in time. To get there, the US needs to continue to nurture the cleantech and climate tech industries as they continue to prove themselves and their technologies. Awaiting them are traditional energy producers that will pay top dollar for their capabilities and diversification benefits.

Industry trends

The US energy market marches to the beat of several drums at once. Energy prices, consolidation, and technological advances are common spurs to acquisitive growth.

While M&A has been relatively slow in recent years, the numbers will change soon. Two deals signed in October 2023 will close in a matter of months, barring any snags. The biggest is ExxonMobil's deal for Pioneer Natural Resources, valued at about $59.5 billion. Not far behind is Chevron's agreement to buy Hess for approximately $53 billion. Combined, the deals are worth more than $110 billion, which is more than 2023 has seen altogether through three quarters.

More multibillion-dollar deals are on the horizon, but they are relatively smaller, including a $7.1 billion deal for Crestwood Equity Partners and a $4.5 billion transaction involving Earthstone Energy. These deals are big enough to move the needle in an otherwise slow acquisition market, and 2024 will likely catapult past 2023's numbers before June.

Upstream consolidation is the primary motivator, as energy producers are making major moves to acquire land and drilling capabilities in the Permian Basin. Blue-chip acquisitions tend to have ripple effects down market, as smaller producers try to keep up with their larger counterparts. Those deals might prove prescient if energy prices move higher due to international conflicts.

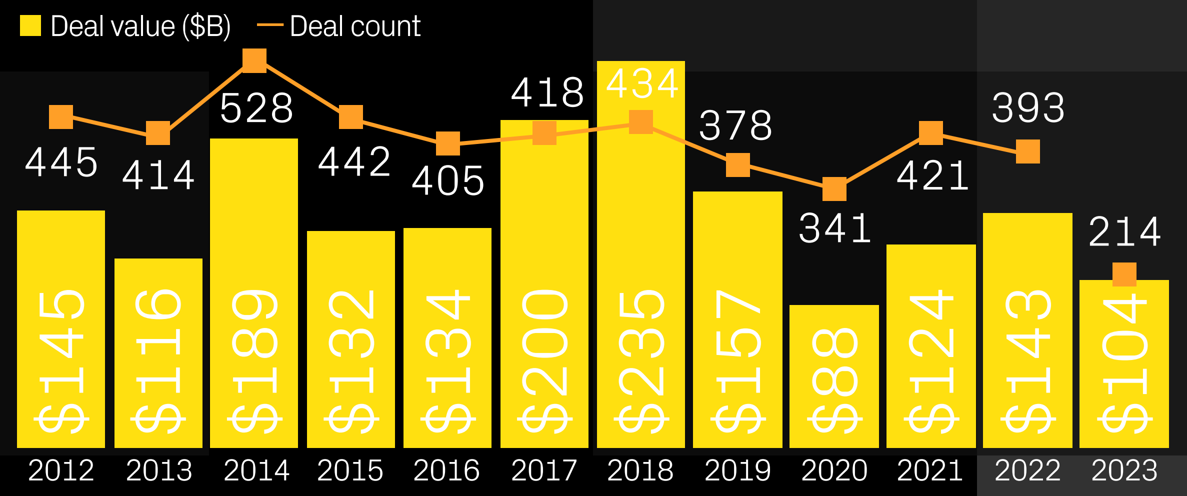
M&A market trends

US M&A in the energy sector has been subdued for several years. PitchBook data shows a consistent thread of deal flow year by year, fluctuating around 400 deals per year. Combined value oscillates a bit more, ranging from about $100 billion during slower years to reaching above $200 billion during bigger years.

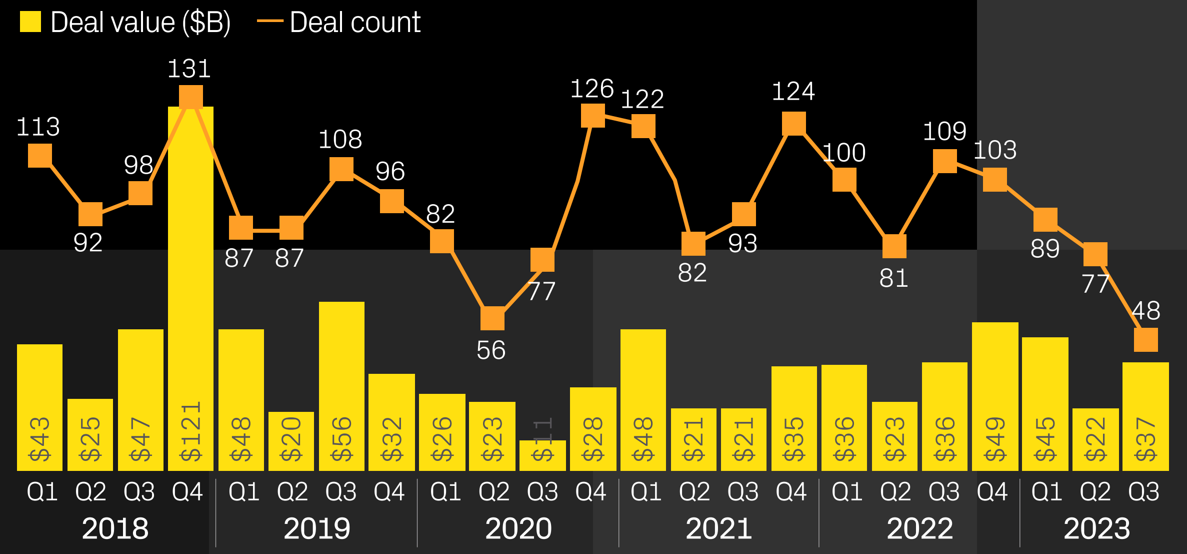
Energy M&A, particularly among oil and gas producers, is typically affected by geopolitical pressures around the globe. Over the past two years, conflicts have erupted in two major epicenters of global energy production, Eastern Europe and the Middle East. 2022 did see a modest uptick in M&A value, rising from $124.4 billion to about $143.5 billion. That said, the past few years have been some of the slowest in energy M&A dating back to 2015, and the market hasn't seen the flurry of activity that many predicted. That could change in 2024, depending how severe the conflict becomes in the Middle East.

At the same time, energy prices have been relatively high for some time. Today's conflicts, at least how they're affecting energy M&A, aren't happening in a vacuum. If prices were lower before the conflicts broke out, we may be talking about a different dealmaking environment as well as different assumptions on the part of producers.

Energy M&A deal activity



Energy M&A deal activity by quarter

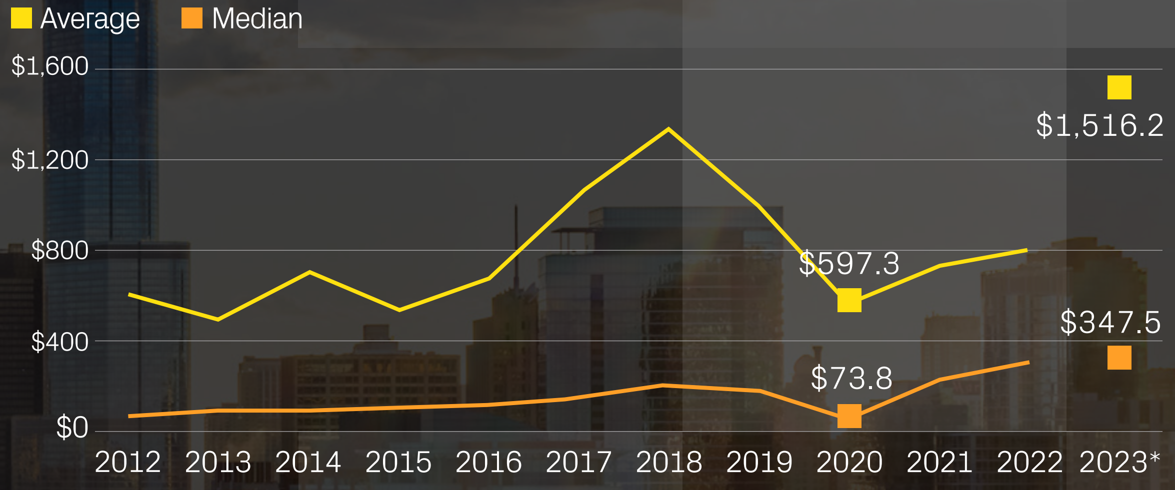


Energy M&A has been considerably richer in 2023 compared with years past. The average deal size rose to $1.5 billion through September, which is well above historical norms. The median deal size is also higher, climbing to $347.5 million. It's been more common to see annual medians below $150 million, though outlier years reflect the volatility of energy M&A. Higher overall deal sizes tend to circle back to a handful of outlier transactions that skew the average. But they're important nonetheless, since deals done at the higher end are often followed by similar deals at the smaller end. It may take several quarters for them to show up in the data. We expect an increase in deal values in early 2024, thanks to the two aforementioned deals of over $50 billion signed in October.

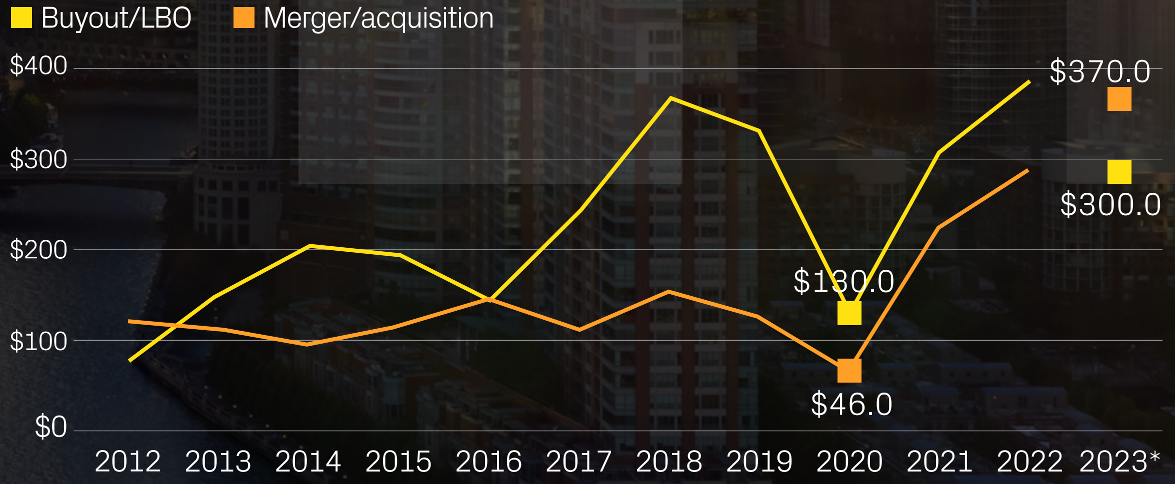
By buyer type, private equity deals tend to be larger than strategic ones, at least overall. PE buyers are often in direct competition with strategic buyers for energy assets, without the ability to use stock as a payment method. If financial sponsors are motivated to beat strategic buyers, higher bids are necessary. While PE firms can't bake in synergy assumptions, they can confidently submit strong bids based on their expertise in the sector; some of the biggest PE energy funds, like Lone Star, First Reserve, and EnCap Investments, are focused solely on energy investments and have track records that go back decades.

Interest rate dynamics appear to have reversed that trend this year, however. The median PE energy deal is now lower than the median M&A deal in terms of value, and by a significant margin ($370.0 million to $300.0 million). Leverage costs have curtailed PE appetites for energy deals, at least until a sense of predictability returns. Strategic investors, on the other hand, can bid for assets with less competition from financial buyers, and use their own stock prices to their advantage in cash/stock payments.

M&A deal size

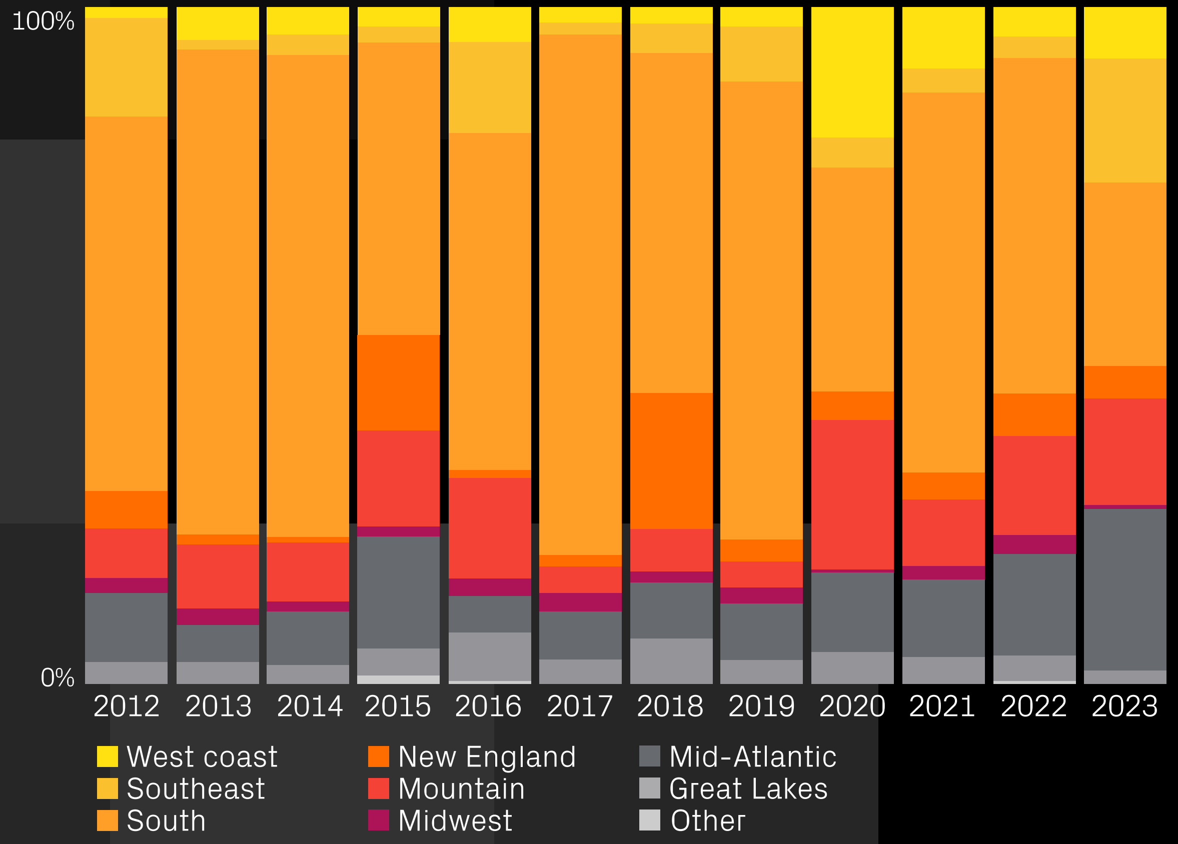


M&A deal size by transaction type



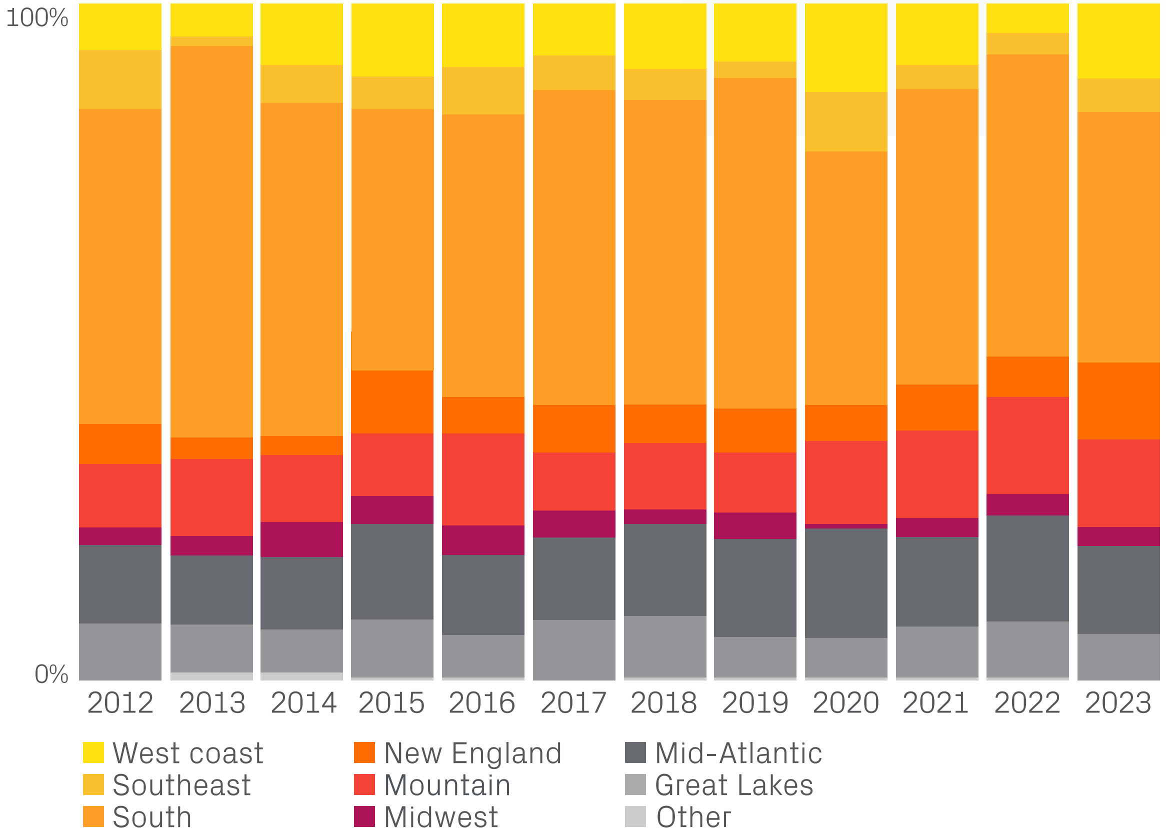
Most energy M&A in the US happens in the South. That includes Texas, home to some of the biggest oil shales on earth. For the past decade, the South has seen at least 100 energy-related acquisitions every year, and 2023 is on pace to continue the streak. On a capital basis, though, the tide is shifting away from the South. So far this year, less than half of all energy M&A has been done in the region.

Share of energy M&A deal value by US region



Several recent years have been much higher than 50%. In 2017, for example, 77.3% of all M&A dollars went to companies based in the southern states. The current ratio this year is 44.2%, with gains coming from the West Coast, Mountain, and mid-Atlantic regions. We expect to see higher numbers in non-South regions in the years ahead, as cleantech and climate tech companies start to get folded into energy conglomerates with more regularity.

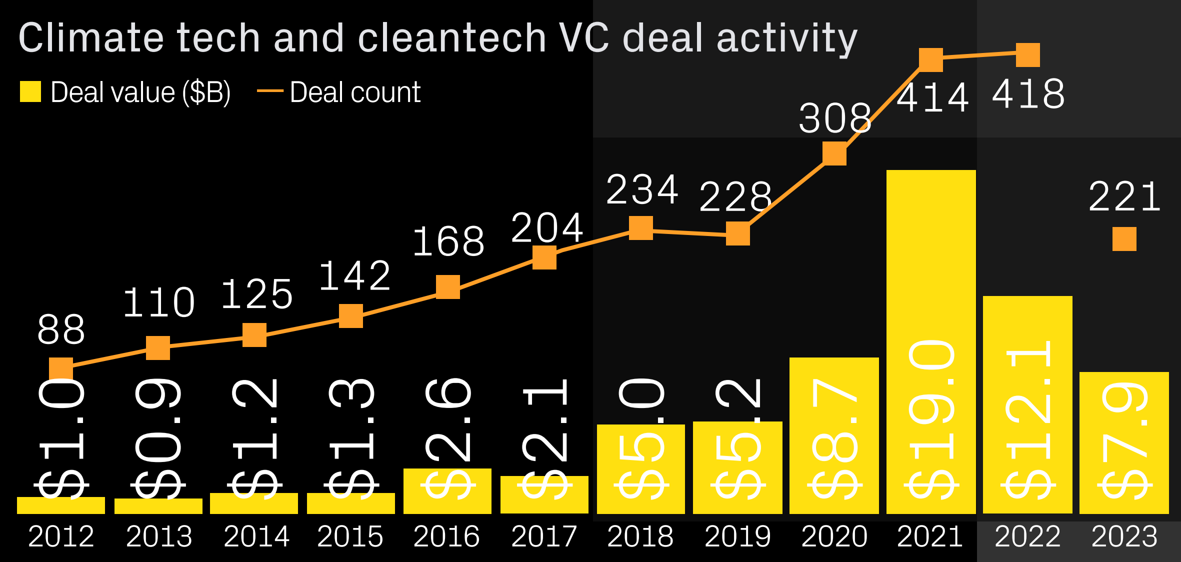
Share of energy M&A deal count by US region

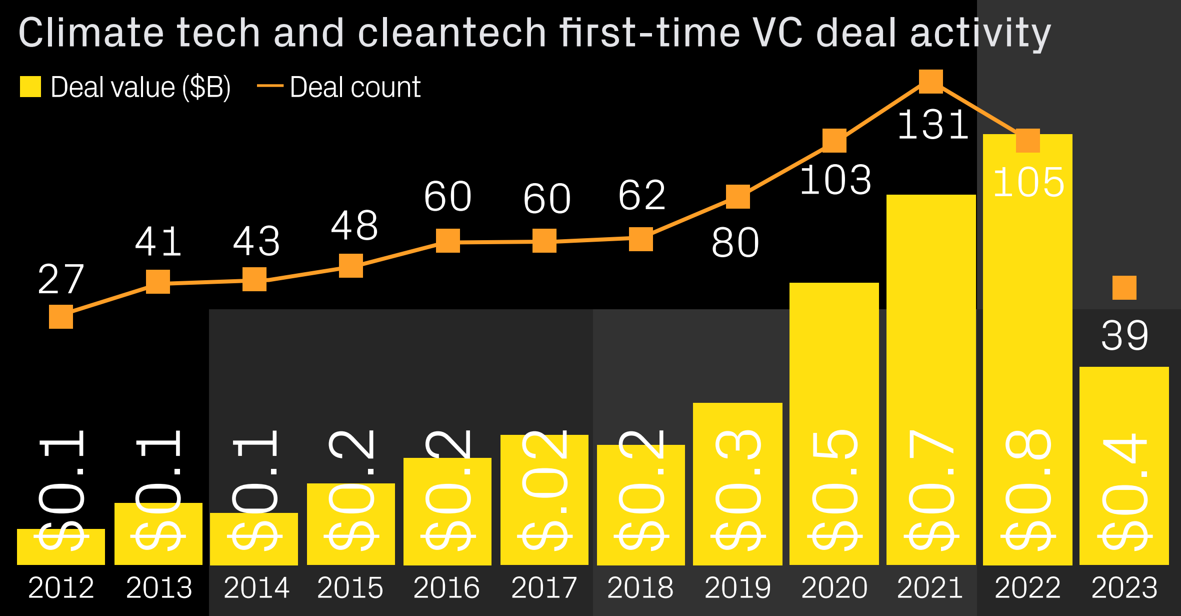


VC market trends

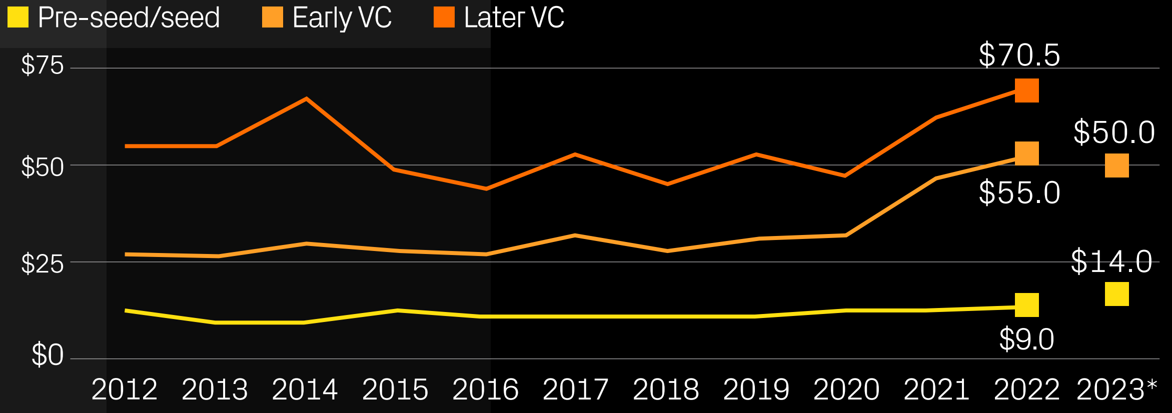
Renewable energy investment — specifically in the climate tech and cleantech verticals — is riding a wave of investor sentiment. 2021 and 2022 each saw more than 400 investments, strong marks considering the industries typically saw 230 or fewer investments each year before the COVID-19 pandemic struck. Of course, the broader tech industry enjoyed a historic 2021, but the sudden spike between 2019 and 2021 for climate tech and cleantech was considerably steeper than what the broader market enjoyed. Deal flow nearly doubled in the latter sector, while overall VC flow increased closer to 34%. Additionally, more than $31 billion was invested in climate tech and cleantech in that two-year span, more than the previous nine years combined.

Perhaps the most promising trend on the VC side is the amount of capital going to new companies. The past three years have seen at least 100 investments to first-time climate tech and cleantech fundraisers, and VC firms are taking chances on new companies instead of safely backing more established ones. In both 2021 and 2022, first-time VC deals represented about a quarter of all deal flow, a high percentage for any tech vertical and a promising trend for climate tech and cleantech. Once cleantech companies become established, VC funding tends to be lopsided in favor of late-stage opportunities. For example, since 2020, six of the eight biggest financings in climate tech or cleantech have gone to two companies: Rivian, now a publicly traded electric vehicle manufacturer, and Generate Capital, a financial services company that exclusively serves sustainable infrastructure projects. Between them, they raised more than $10.6 billion in the span of three years, more than the entire sector raised in 2020.

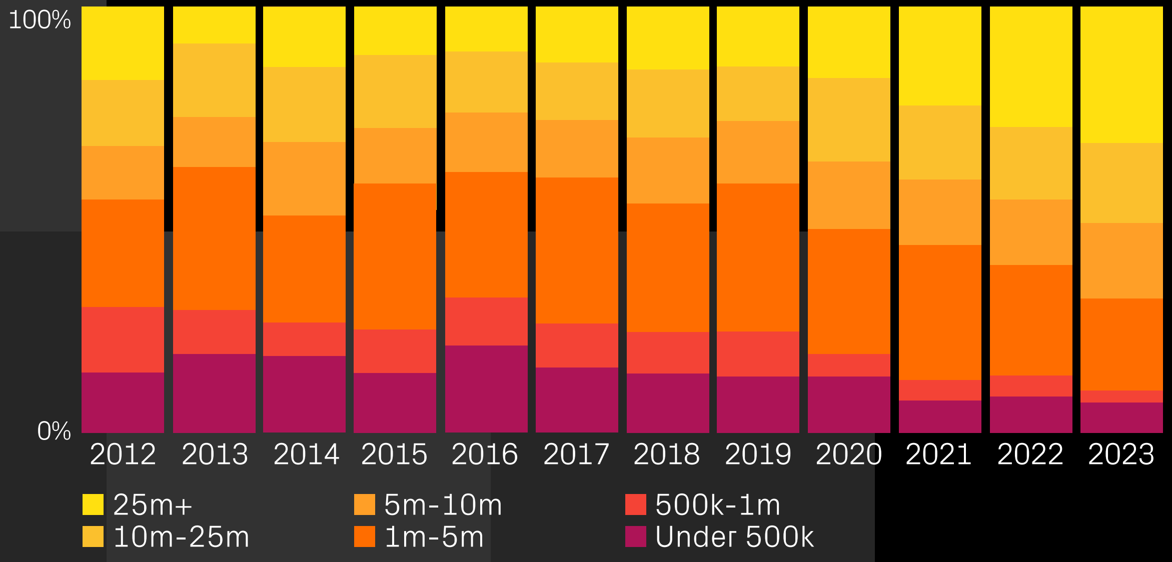




Climate tech and cleantech median pre-money valuations ($M)



Share of climate tech and cleantech VC deal activity by round size



Pre-money valuations have shot up in recent years. After treading water between 2015 and 2020, both early- and late-stage valuations started to creep up in 2021 and went even higher in 2022. The early-stage median more than doubled in two years, from $20.0 million to $55.0 million, while late-stage valuations did the same, from $29.5 million to $70.5 million. In both climate tech and cleantech, the addressable markets are so big that high valuations become reasonable once a startup's technology is proven.

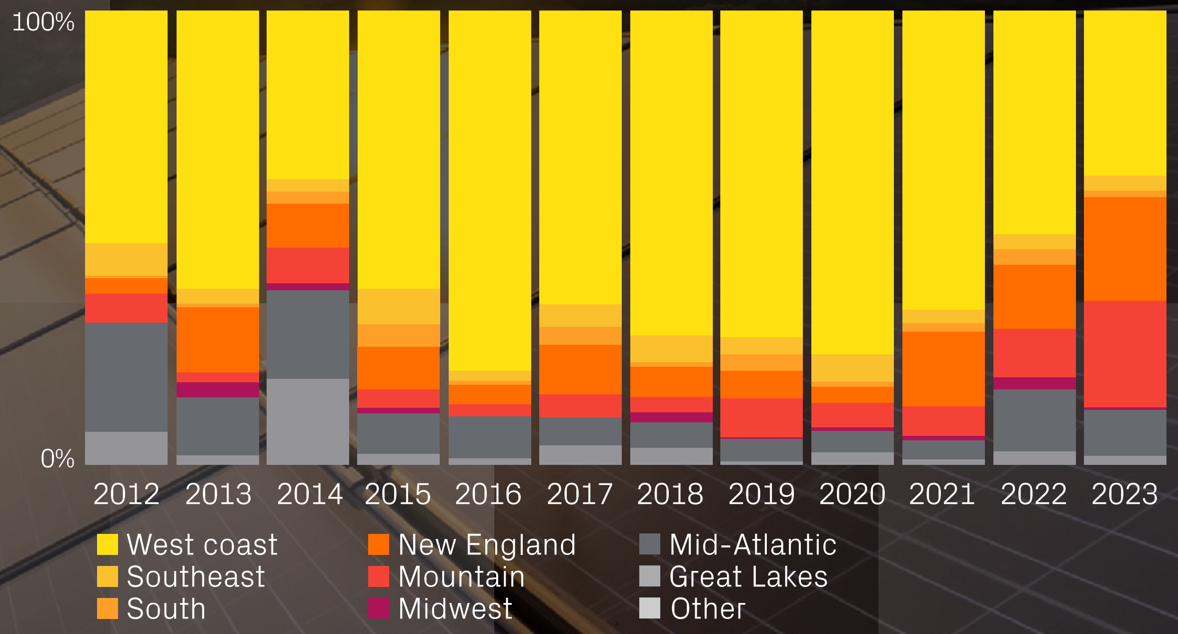
The bigger test facing individual companies is making profitable inroads into their respective markets. Splashy success stories are starting to blossom, which tends to boost confidence among investors searching for returns and exit opportunities. But there's a reason that early-stage and late-stage valuations have been in close proximity to each other for several years — promising innovations within young companies spur higher early-stage valuations, while profitability struggles for more established startups hamper late-stage valuations.

That's a critical next step for climate tech and cleantech because, like other burgeoning verticals in the tech sector, the largest investment rounds are beginning to define the VC figures. Rounds of at least $25 million now account for about 25% of all deal flow, while rounds of $10 million or more now account for about half. It's common to see lopsided results in terms of capital invested; it's less common to see deal flow itself reach 50% at the high end. Established, late-stage startups have the added pressure to perform on behalf of their industries, on top of performing for themselves and for their investors.

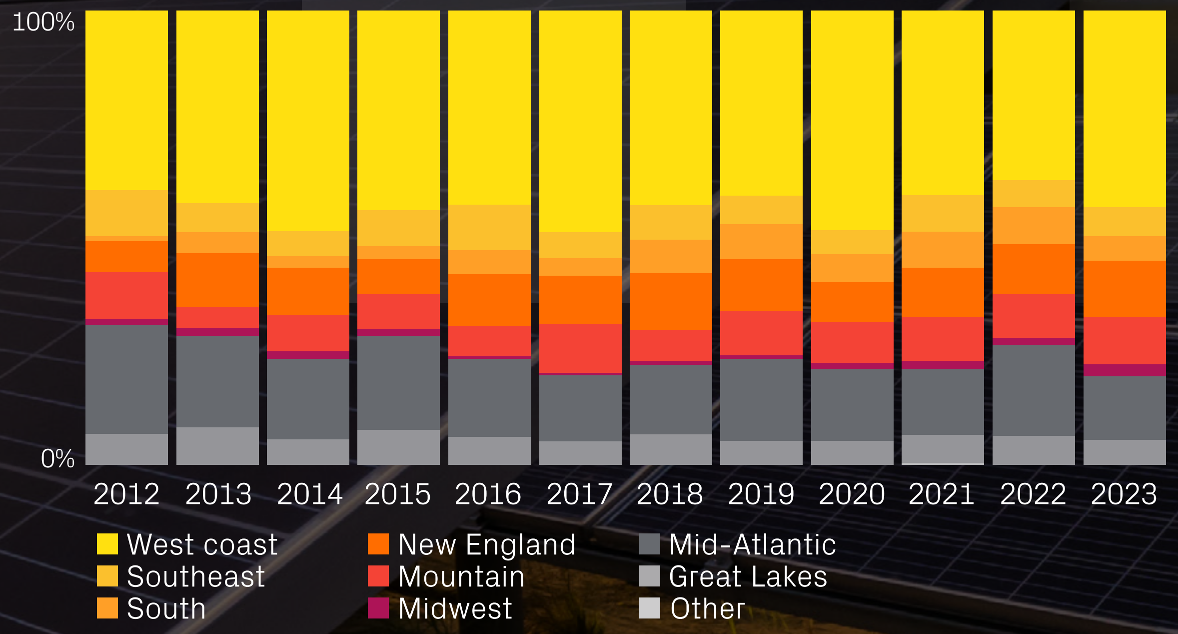
The climate tech and cleantech verticals are products of Silicon Valley. For years, the lion's share of capital went to California-based companies, resulting in statistical domination out west. But things have changed in a short amount of time. The West Coast region now accounts for less than half of all VC investment dollars, with the New England (Boston) and Mountain (Denver and Salt Lake City) regions eating away at Silicon Valley's lead. This is largely due to outsized contributions from a handful of companies, but at the same time, it represents proof that renewable energy and sustainability companies can thrive throughout the country.

Climate tech and cleantech businesses are also thriving outside of the US. While other global regions haven't developed their cleantech and climate tech ecosystems as extensively, there are still success stories. Northvolt is a major one. Based in Stockholm, Sweden, Northvolt makes specialized batteries for electric vehicles. It raised a Series E investment that valued the company at $11.8 billion, making it one of the most valuable cleantech companies in the world. Also in Sweden is a company called H2 Green Steel, which operates cleaner steel production plants that are helping to decarbonize the industry. It has raised almost $6 billion in venture funding and has signed up clients like Porsche, Mercedes-Benz, and Purmo Group.

Share of climate tech and cleantech VC activity by US region ($)



Share of climate tech and cleantech VC activity by US region



Most active VC investors in cleantech and climate tech since 2017

Investor name	Count
Breakthrough Energy	80
Plug and Play Tech Center	60
Energy Impact Partners	59
Prelude Ventures	49
ImpactAssets	47
Climate Capital	45
E8	42
Capricorn Investment Group	37
Lowercarbon Capital	35
SOSV	30
MCJ Collective	30
Collaborative Fund	30
Valor Equity Partners	28
Congruent Ventures	28
Alumni Ventures	28
Khosla Ventures	27
Shell Ventures	23
Kleiner Perkins	23
Clean Energy Ventures	23
The Engine	21
Temasek Holdings	21
Clean Energy Venture Group	21
Fifth Wall	20
Equinor Ventures	20
DCVC	20
City Light Capital	20

Most active strategic acquirers in energy since 2017

Investor name	Count
BayWa	29
TotalEnergies	25
Rosneft	25
American Water	25
MFA Oil	22
Engie	22
Superior Plus	20
Ferrellgas Partners	20
Shell	19
Gazprom	18
ERG	14
Energinet	13
NOV	13
SunEdison	12
NGL Energy Partners	12
Italgas	12
DCC	12
Whitecap Resources	11
RWE	11
Parkland	11
Eni	11
Edison (Energy Production)	11
Blossman Gas	11
Castleton Commodities Int'l	11
Adani Energy Solutions	11

Looking ahead

Energy investment activity — traditional, renewable, and sustainable alike — is subject to volatility in the quarters and years ahead. Within traditional energy M&A, we already see massive deals coming down the pike, which will invariably impact the charts in this report. We can also say with some certainty that more deals lie ahead; trends at the top tend to trickle down to middle-market and smaller producers. The cyclical nature of the energy sector makes it somewhat predictable. Moreover, energy M&A will see boosts from technology plays, as producers diversify their production methods, as well as a possible increase in service provider M&A. For those reasons and others, we would expect to see strong numbers in 2024, with the added caveat that geopolitical events could always upend expectations.

Climate tech and cleantech activity is trickier to gauge due to the dark clouds hovering above the VC industry. Following a historic 2021, Silicon Valley's mood has soured in recent months. The cleantech and climate tech verticals are probably not exempt from broader market conditions, which are hampering investments across plenty of other verticals. If a downturn happens, startups will need to make their current balance sheets work for longer, and their valuations may dip if they need to raise more capital.

Critically, though, the climate tech ecosystem is producing more dedicated funds for the effort. Some of the most active investors in the space include Lowercarbon Capital, Climate Capital, and Climate Investment, all of which focus exclusively on the vertical. Moreover, several climate-related startups are reaching significant milestones in terms of VC funding. Newlight Technologies, a carbon removal startup, is now a unicorn, reaching a $1.1 billion valuation in August 2023. The same month, green mining company Cornish Lithium raised almost $70 million in late-stage funding.

Transactions like those are more than mere datapoints — they're promising signs that winners are emerging and proving themselves to investors and their markets. Eventually, they will prove themselves to traditional producers more frequently, which will be the crucial catalyst for a sustainable energy transition.

Energy M&A – the Datasite view

Based on public deal announcements, energy M&A saw a fairly calm third quarter for M&A. But what does Datasite see behind the scenes? With more than 14,000 new transactions hosted on the Datasite platform annually, we spot energy M&A trends long before a deal is announced.

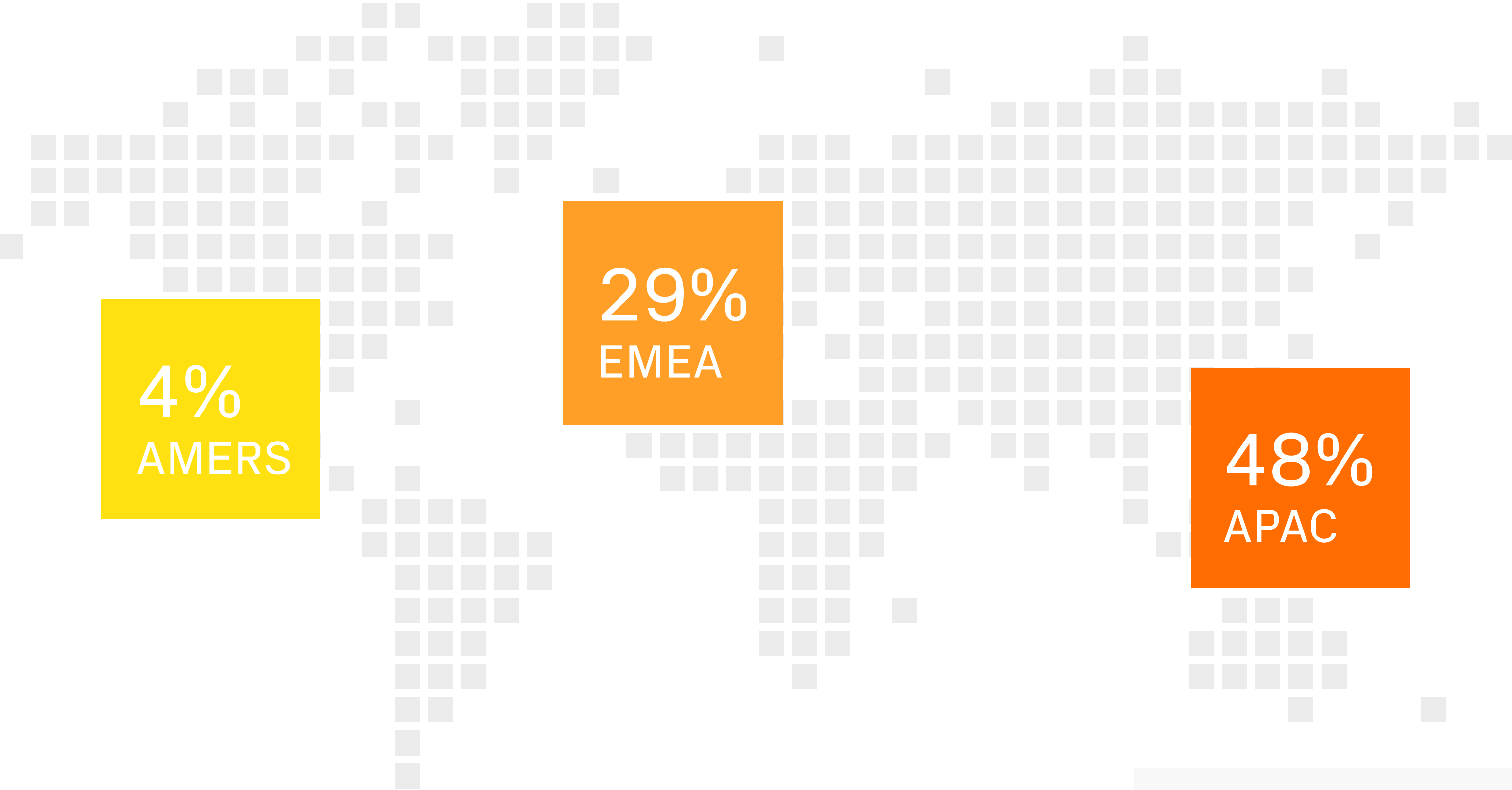
From Datasite's behind-the-scenes view, energy M&A activity shot up this year. Global sell-side deal kick-offs, or when a sell-side project gets created in Datasite, jumped 17+% January – October from the same time last year, according to Datasite's Insights desk. Activity was particularly hot in Q3, jumping 25% from Q3 last year. Look for many of these deals to close Q2 of 2024.

Fueling M&A activity

Sell-side deal activity isn't the only thing on a power trip. Capital raises and buy-side deal kickoffs also shot up by double-digits from the same time as last year. October was particularly hot, with energy kickoffs of all transaction types spiking 71% from the same month as last year. Most of this activity was propelled by a boom in sell-side deal kickoffs. Look for this wave of October sale processes to close in 2H 2024, as well as in capital-raising transactions, across multiple sectors. Specifically, new energy (mining, oil and gas) deals especially capital raisings, asset purchases and asset sales rose 16% globally, with capital-raisings up 31%, asset-purchases up 25%, and asset-sales ahead 22% YoY. Most notably, transactions in the Asia-Pacific region climbed 48%. Therefore we are likely to see an emergence of deals in the first half of 2024 based on the kickoff activity.

% change in # sell-side deal kickoffs by theater

January - October compared to the same time last year



17%

Global change in # sell-side deal kickoffs

Energy, mining, oil and gas

Longer deal prep and due diligence times

As the market rebounds from interest rate dynamics and other headwinds, energy dealmakers continue to approach due diligence with caution as the median number of days sellers spent on prepping assets for sale lengthened from 17 to 21 days – from January - October 2023 compared to the same time last year.

Buyers also are taking their time. Median due diligence times have also extended – from 185 days to 208 days, a 12% increase, compared with the blazing deal speeds of 2021, the increased deal prep and due diligence times indicate that dealmakers are focusing more on deal quality – not quantity.

Energy prep and due diligence times

January to October 2023 compared to same time last year

+4
Additional median days of prep

Prep time
The median time from project creation to launch

24%
Increase in median days of energy prep time

Due Diligence
The median time from project launch to close

12%
Increase in median days of energy due diligence time

+22
Additional median days of due diligence

Slow and steady scrutiny wins the race

As energy providers furiously compete over dwindling resources, will slow and steady M&A win the race? And in the US, will further tax incentives provide any catalyst or acceleration toward more clean energy investments? One thing seems clear, dealmakers must approach due diligence with careful rigor.

> Inventory quality has been a key driver in the M&A&D space over the last decade. As Tier 1 acreage becomes more scarce, upstream companies have turned their attention to elevating and prolonging their Tier 2 acreage with many larger public operators focusing more on public consolidation to achieve inventory accretive deals. Exxon's acquisition of Pioneer and Chevron's acquisition of Hess are the first shots fired in what will be a multi-year arms race for high quality M&A.
>
> **Vice President, Citi | Investment Banking**

Dealmaking in the energy industry continues to gain steam with growth in consolidation and transition investments. Now that scrutiny over speed is the new normal, dealmakers need ways to optimize their M&A playbooks while simultaneously deepening due diligence. Leaning into technology and automation is a key advantage to streamlining processes, freeing up energy dealmakers to focus on high-value tasks.

By your side across the PE spectrum

Datasite remains a trusted partner in the M&A landscape, supporting PE firms of every size for more than half a century. From fundraising to asset readiness to IPOs – on both buy side and sell side – PE dealmakers have the confidence to complete transactions with greater ease when using Datasite technology.

Your PE deal becomes one end-to-end process that never leaves the safety of the data room. Fundraise, acquire, and exit with support and security at every level, moving seamlessly from deal sourcing and marketing to due diligence and beyond.

Fundraising	Acquisition	Restructuring	File sharing	Exit preparation	Deal marketing	Value capture
Raise funds with confidence. You control the process.	Source and secure your next target with tools made for the buy-side.	Focus on the best deal with easy-yet-secure file sharing among lenders and deal team.	Support improvement initiatives with ongoing portfolio company and deal team file sharing.	Bring your deal to market faster with AI-enabled preparation.	Cultivate the most interested buyers with automated outreach and analytics.	Spot high-interest buyers for a successful exit, with the help of advanced Q&A and analytics.

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