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SIGNATURE RESEARCH

Preparing for the Next Wave of Cleantech Investment

Contents

5-Minute Read

In our recent survey of 200 private equity (PE) and corporate executives on developing viewpoints in cleantech, we found respondents were bullish about investment in renewables and ESG-related funds both now and in the future.

Renewable assets prove their worth

Just under a third of respondents (30% overall) say the target in their most recent cleantech deal was related to renewable energy, with an emphasis on solar and wind. Likewise, the renewables subsector is expected to offer the most attractive M&A opportunities in the next 24 months, accruing 39% of first-choice votes, reflecting favorable returns percentages and investor support.

Significant ESG-focused dry powder is expected to be a major catalyst for M&A

A third of respondents—easily the largest such share—believe the single most important driver of increased investment in cleantech is the scale of ESG-related funds ready for deployment.

Regulatory moves are increasing deal appetite

Most respondents (75%) say that recent developments in public policy and regulations around energy—from the Inflation Reduction Act to the Infrastructure Investment and Jobs Act—have amplified their focus on cleantech or clean energy investment, including 25% who say this has greatly increased their appetite.

European investors are anticipating ESG standards that apply to dealmaking

More than half of respondents (54% overall) expect a functional, uniform set of standards for ESG disclosures related to M&A to be established in the next two to five years—61% of European respondents and 47% of U.S.-based respondents believe this will be the case.

Higher borrowing costs are expected to create some headwinds

The greatest challenge by far to the growth of cleantech companies, as is the case for most industries at this time, is the difficult financing environment overall, with 22% of respondents ranking this as their primary concern.

Introduction

Sustainability and clean energy have been gaining prominence for the past two decades, but today's complex geopolitical dynamics and rapid technology advances have added new dimensions to calculations.

Investment in cleantech alongside traditional carbon-based sources is expected to continue rising, supported in the U.S. by the monumental Infrastructure Investment and Jobs Act and the Inflation Reduction Act.

A related catalyst is the desire among sovereigns and companies to revive manufacturing capacity and ensure access to critical resources. There is nothing more critical than energy.

Corporates in the sector must adapt their businesses to meet ESG policy objectives and future energy demand, and PE investors are seeking to position themselves to benefit from this transformation.

This survey provides an in-depth analysis of the latest trends in cleantech investment, exploring the opportunities and challenges facing investors in this rapidly evolving sector. The report focuses primarily on the drivers and barriers to success in the cleantech industry. **It provides valuable insights into the current state of renewable energy and attendant technologies**, the challenges of integrating and creating value from cleantech solutions, and the target sectors and markets that are driving capital into the sector.

Amid so much change, investors must quickly find their bearings to capitalize fully on this generational opportunity as countries around the world move to decarbonize their energy mix.

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CHAPTER 1

Cleantech M&A is picking up speed

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Corporates and financial sponsors have been directing their attention and capital towards cleantech since policymakers began sharpening their focus on climate goals in 2015 with the Paris Agreement, and this has only grown in the past two years.

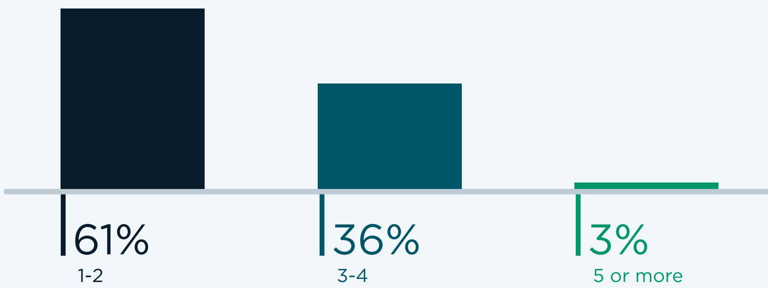
For example, the International Energy Agency (IEA) estimates that clean energy investment, specifically, grew by only 2% a year in the five years since that landmark accord was signed, but since 2020, the pace of growth has accelerated to 12%. Meanwhile, Bloomberg NEF estimates that global investment in the energy transition surpassed $1 trillion for the first time in 2022.

This pace of change is reflected in our survey findings. For most investors, their latest cleantech investment was not their first outing in the space. They have been looking to reposition their production sources and capitalize on the growth and potential returns in the sector.

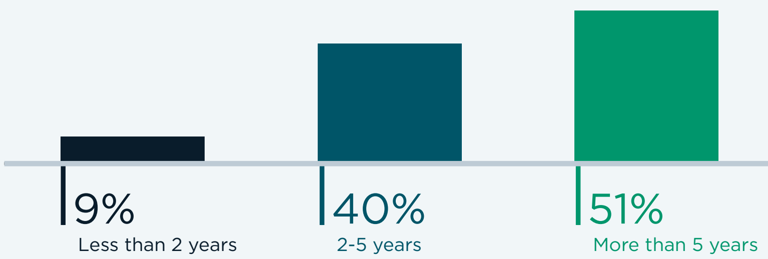
In our survey, only 20% of respondents indicated that their previous cleantech or clean energy deal was their first. Instead, almost two-thirds (61%) of these investors made one or two such transactions in the past 24 months, with 36% having made three to four deals during that same period. Overall, more than half of respondents (51%) report having been active in this space for more than five years, and a further 40% say they have been involved for between two and five years.

Was your most recent clean energy deal your first in that space?

How many clean energy deals did your organization pursue over the last 24 months?



How long have you been active in dealmaking in the clean energy space?



Cleantech interest continues to climb

Cleantech and renewable energy have clearly become highly investable sectors in which capital is being more efficiently and effectively allocated. This was not always the case, but a lot has changed in short order. For one, clean energy production costs have fallen in recent years, in some cases precipitously. The price of solar production, for example, dropped by a factor of more than five in the decade up to 2020, according to the International Renewable Energy Agency, becoming cost competitive against fossil fuels on a global basis in 2016 for the first time. The fall in the cost of wind power is not far behind.

The surge in commodity prices, which has been a hallmark of the recent post-pandemic inflationary phase, has added to material costs. For example, the IEA estimates that, after years of declines, the costs of solar panels and wind turbines are up by 10%-20% since 2020.

However, these rising costs also apply to traditional energy production. The overarching trend is that cleantech is no longer the stuff of speculation, but a viable sector benefitting from a confluence of tailwinds, including high energy demand, the need for secure supplies that complement fossil fuels, and more ambitious policymaking efforts targeting decarbonization.

This means corporates can acquire assets in the sector with confidence while financial investors looking for cash yields can benefit from stable, dependable returns, displacing speculative funds that previously failed to bring home the returns on which they depend.

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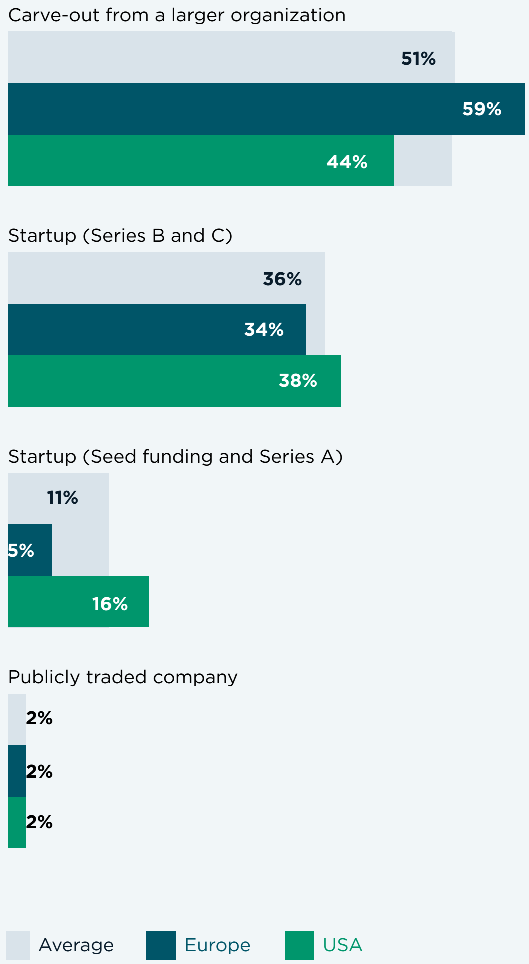
Cleantech today is a different asset class

According to our research, speculative investing is not the primary focus of capital allocators, although it remains a popular approach. More than half of respondents (51%) describe the target of their most recent cleantech transaction as a carve-out from a larger organization. This rises to 59% of respondents based in Europe, and 63% of the most recent deals discussed by our corporate respondent subset.

Current macro and market conditions are likely to be driving deals. As interest rates rise, companies find it more challenging to secure fresh financing and service their existing floating-rate obligations, particularly if they have a high level of debt on their balance sheet. In such situations, carving out a portion of their business can reduce their debt burden and improve their financial position. The proceeds of a carve-out can also be used to invest in core operations and pursue strategic opportunities without the need to raise additional debt.

Of the 47% of respondents who report their most recent cleantech deal involving a startup, 36% say this was a series B or C financing, while only 11% report that the transaction target was backed with seed or series A funding.

Which of the following best describes the funding round in your most recent clean energy deal?



51% describe the target of their most recent cleantech transaction as a carve-out from a larger organization. This rises to 59% of respondents based in Europe, and 63% of the most recent deals discussed by our corporate respondent subset.

This shows a demonstrable preference for lower-risk, later-stage companies that have already achieved certain development milestones, and validation of their business model and technology.

Additionally, these companies may have a clearer path to profitability and scalability, making them more attractive investment opportunities for less speculative investors.

PE funds are willing to take more calculated risks than their corporate counterparts. Series B and C startups were the most popular targets among these respondents (44% of PE respondents versus 29% of corporates). Although still in the clear minority, PE respondents are also more likely to describe their most recent target as a seed or series A stage startup (15%) than corporate respondents (6%).

An almost identical split can be seen when examining the difference in responses between U.S.-based (16%) and European respondents (5%), demonstrating a risk tolerance differential between investors in these two regions and also the difference in the maturity and diversity of their startup ecosystems, the U.S. being a global leader in this respect.

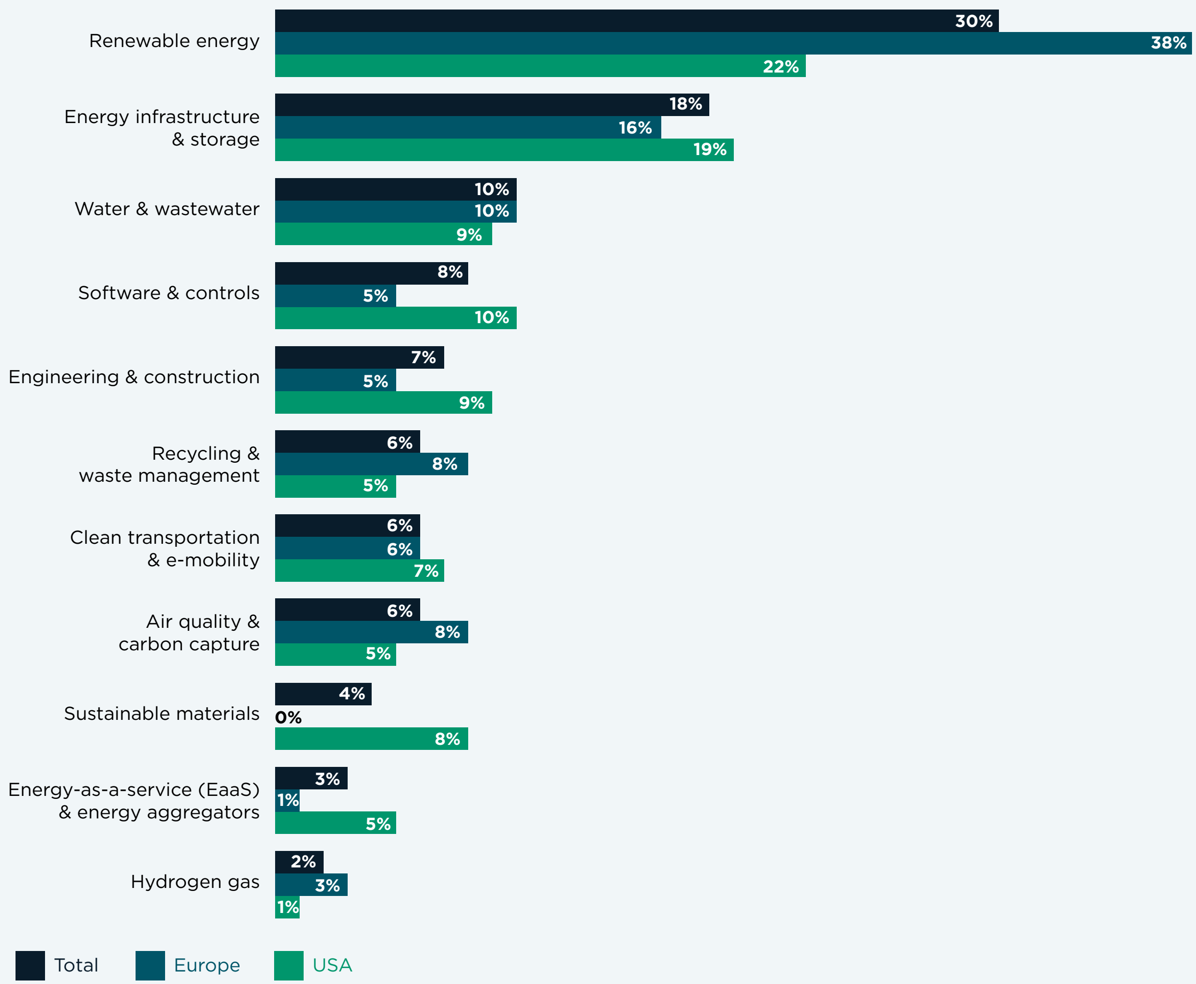
Which of the following best describes the target in your most recent clean energy deal?

Renewable ranks highly

A similarly risk-averse picture presents itself when looking at the sub-sectors in which respondents most recently invested. We find that investors prioritize production over infrastructure and storage, while auxiliary products and services such as optimization software trail far behind, indicating a preference for capital allocation at the top of the value chain into proven assets.

In just under a third of instances (30% overall), respondents say the target in their latest cleantech deal operates primarily in the renewable energy space. For European respondents, this rises to 38% and comprises 22% of most-recent targets for U.S.-based respondents, both the highest such shares of responses. Within the dominant renewables sub-sector, 44% say the target operates predominantly in the solar market, followed closely by wind-related companies with 36% of the vote.

In what sector does the target in your most recent clean energy deal predominantly operate?



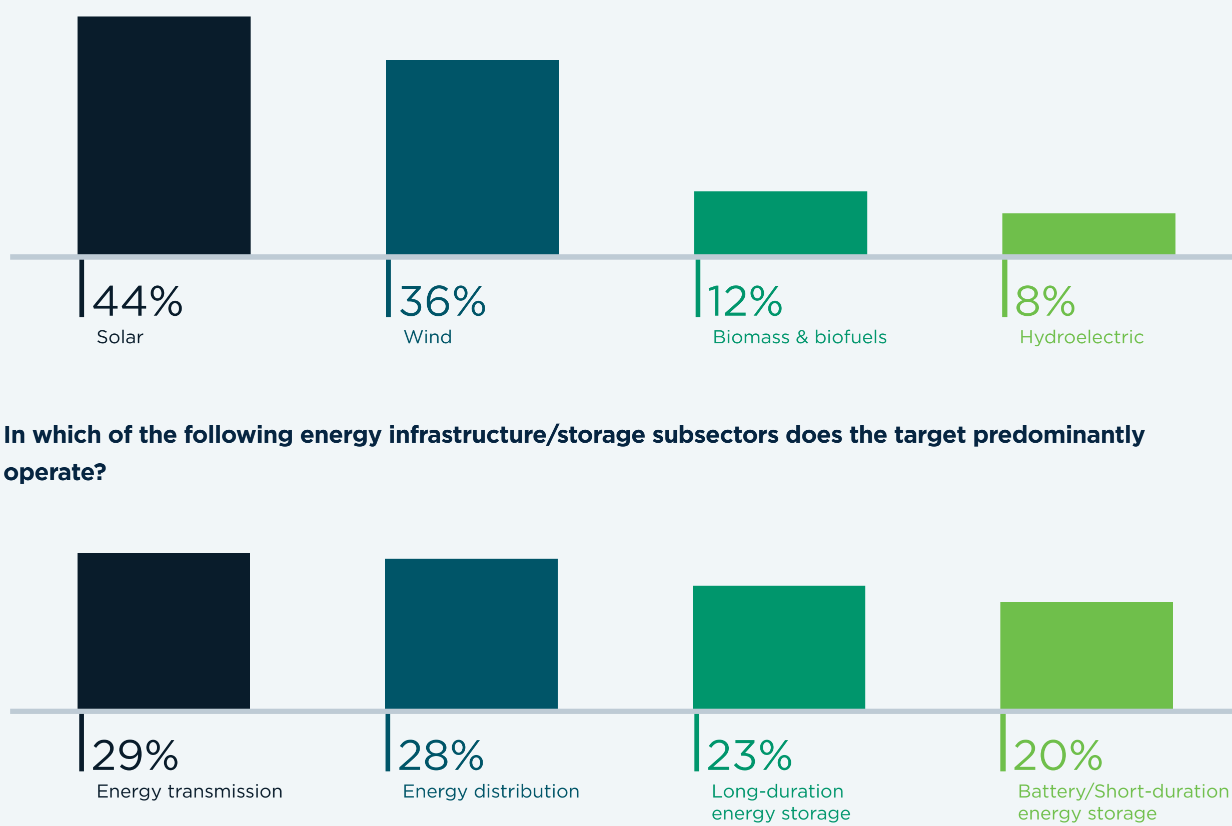
The next most prominent subsector in terms of recent targets after renewable is energy infrastructure & storage, accruing 18% of the total vote. Here, there is no clear preference for transmission or distribution, the former concerning the transportation of high-voltage electricity over long distances and the latter for lower-voltage transportation from substations to the point of consumption.

Of the 18% of respondents who most recently invested in infrastructure & storage, 29% say the target company focused on transmission and 28% say it operated primarily in distribution.

Conversely, less mature subsectors such as hydrogen gas (2%), energy-as-a-service (3%), and sustainable materials (4%) represented the fewest recent targets overall. This should come as little surprise given the nascency of these technologies and their applications compared with tried-and-tested renewable technologies.

For example, while hydrogen has been used as an industrial gas for decades, its use as an energy carrier in the form of fuel cells is still in its early stages. This means that, in most cases, there is more uncertainty around its potential return on investment and timeline for commercial viability.

In which of the following renewable energy subsectors does the target predominantly operate?

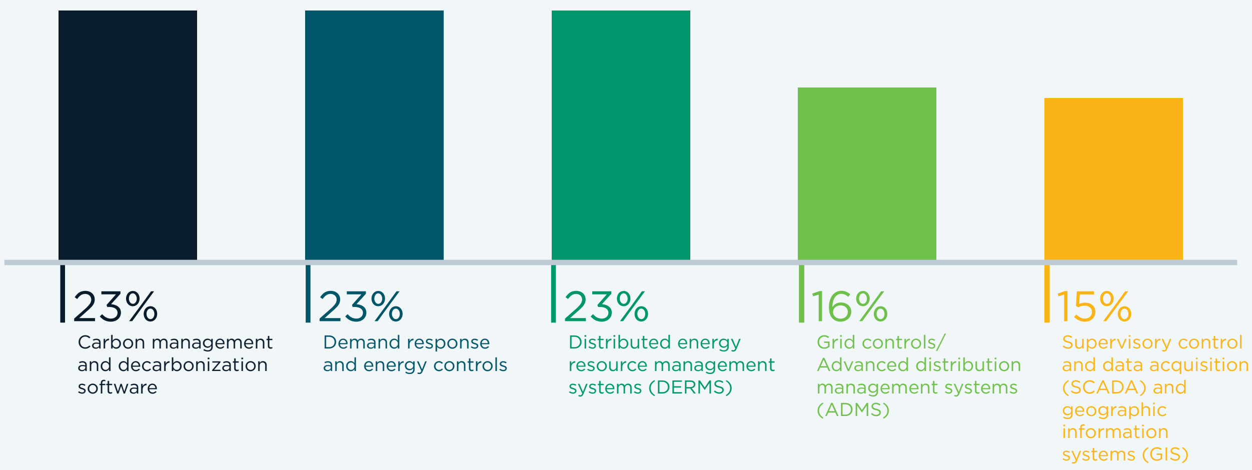


Cleantech software is also a new and less explored frontier, with fewer than one in ten (8%) respondents overall saying that their recent target operates in the sub-sector, in spite of the broad popularity of tech more generally. Of this minority, equal shares say the target focuses predominantly on carbon management and decarbonization software (23%), demand response and energy controls (23%), or distributed energy resource management systems (DERMS) (23%).

While financial investors and corporates are exploring innovative solutions such as software and DERMS to address the challenges of decarbonizing the energy sector, they are predominantly interested in mature, proven technologies, which for the most part are likely to offer established and more predictable cash flows.

The top of the cleantech value chain is where investors have so far been most active, although they are likely to move deeper downstream as the market matures.

In which of the following software/controls subsectors does the target predominantly operate?



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CHAPTER 2

Integration and value creation are essential ingredients

Integration and value creation are essential ingredients

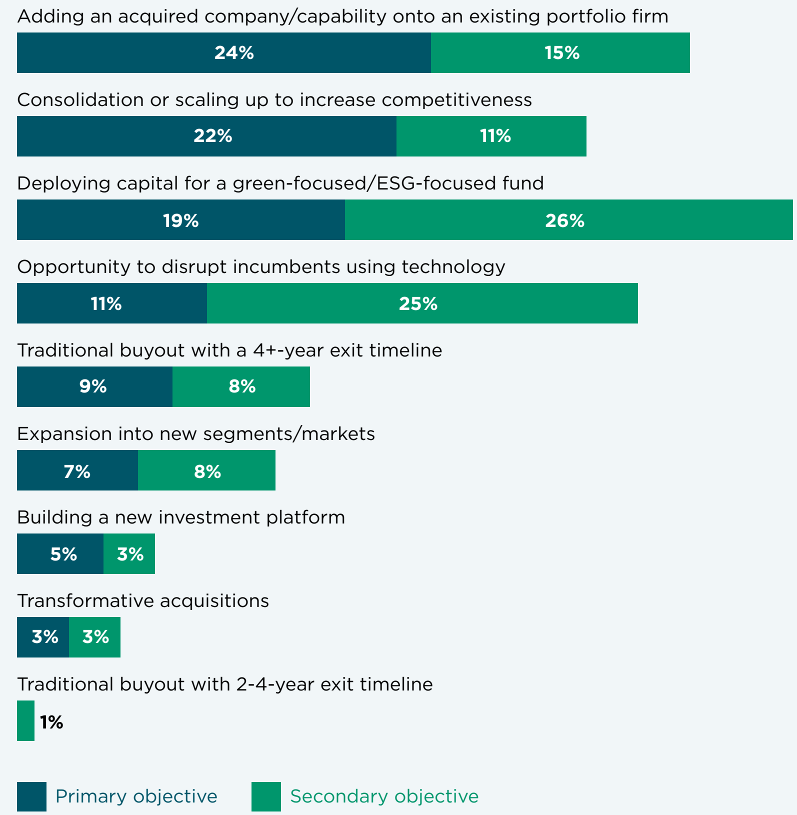
Corporates and PE firms have a single objective in mind when making a deal—creating value for shareholders—but the two are very different operators that have highly distinct priorities, approaches and time horizons, especially when it comes to cleantech.

Fundamentally, fossil fuel companies are investing in cleantech to complement their traditional energy sources, thereby hedging against the risk of declining demand for carbon-emitting commodities and complying with increasing environmental regulations and laws, as governments actively set net-zero targets. For the most part, these acquirers will integrate a target into their operations.

Consistent with our earlier finding that investors have already been actively making deals in the space, PE respondents say that the primary objective of their most recent cleantech acquisition was adding the target to an existing portfolio company, followed by consolidation or scaling up to increase competitiveness.

Though it garnered slightly fewer first-place rankings (19%), the objective of deploying capital for an ESG-focused fund accrued the largest share of secondary rankings (26%) among respondents. Institutional investors such as pension funds and endowments are increasingly demanding that their investments align with their values, and that companies with strong ESG credentials can meaningfully mitigate downside risk and are better positioned for the future. This extends from generalist PE funds that measure relevant key performance indicators (KPIs) and make ESG-related disclosures through to funds that have an overt strategy to invest in companies that are helping to reduce emissions and environmental impact, including cleantech assets.

What were the key objectives of your most recent clean energy acquisition? (PE respondents only)



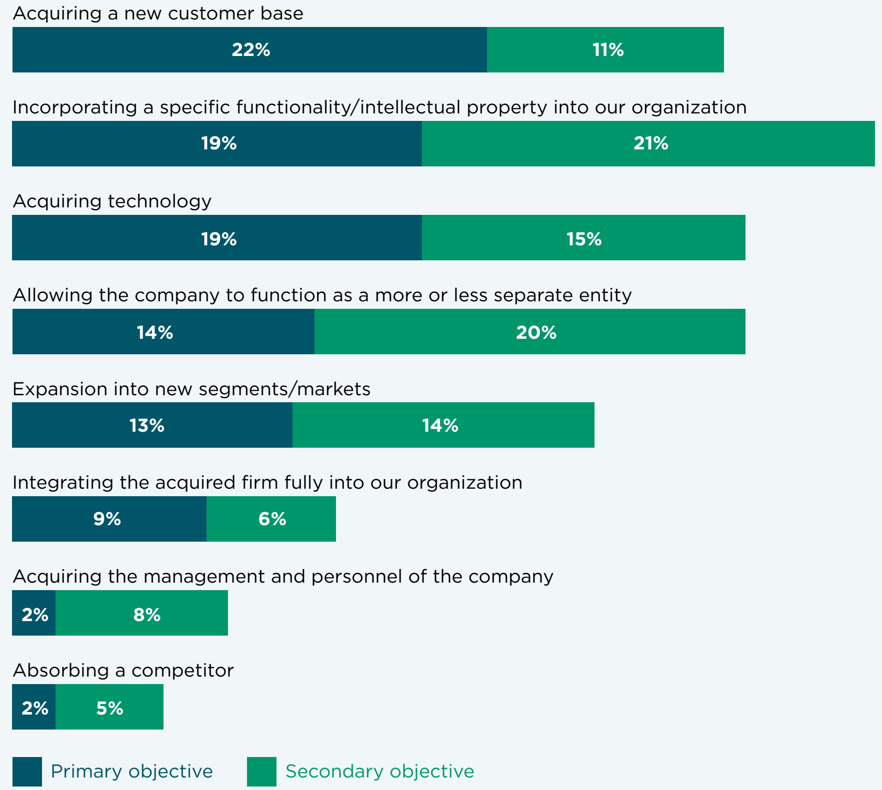
"There are streamlined ways to invest in clean energy now," says the head of innovation of a corporate in the Netherlands. "ESG-related funds are ready for deployment in companies that have good green credentials. Investors have a better selection of funds now."

For strategics, unsurprisingly, it's all about customers, innovation and intellectual property, and our research shows that these deal objectives are evenly balanced. Among corporate respondents, 22% rank acquiring a new customer base as their key objective, closely followed by acquiring technology (19%) and incorporating a specific functionality or intellectual property into their organization (19%)—in the latter case, an additional 21% ranked this their second highest objective, making this the largest share overall.

This is important to know for PE funds sizing up forthcoming cleantech exits from their portfolio. Understanding what strategics are looking for in an acquisition is crucial to sell-side preparations. This is necessary for developing and communicating a provable value creation story and a forward-looking roadmap for the business that is being lined up for a sale.

> ESG-related funds are ready for deployment in companies that have good green credentials.
>
> **HEAD OF INNOVATION**
> *Netherlands-based corporate*

What were the key objectives of your most recent clean energy acquisition? (Corporate respondents only)



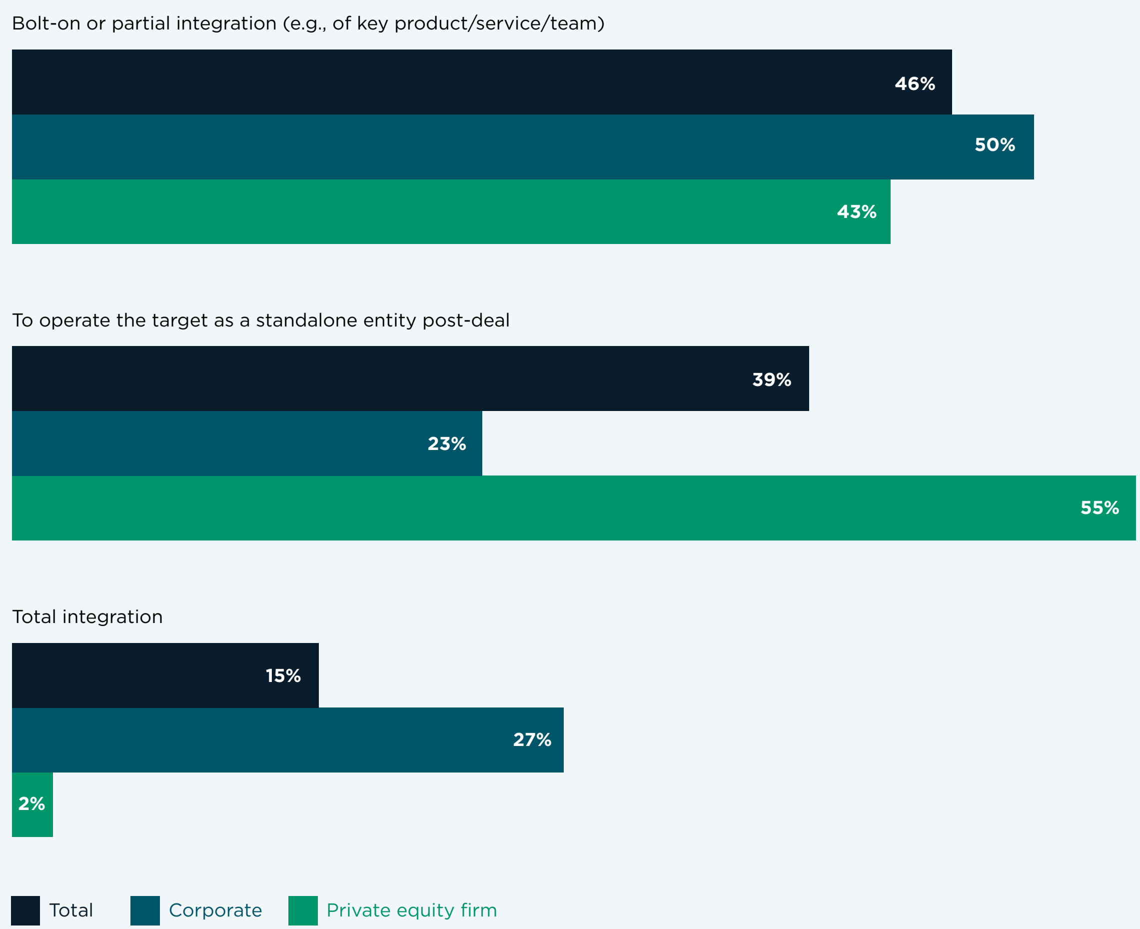
Obstacles to integration

Post-merger integration is a delicate dance that requires careful planning, execution, and monitoring to ensure that the new entity can operate effectively. A comprehensive strategy that addresses all aspects of the integration process is essential for optimizing the post-closing stage, including developing a detailed roadmap outlining major milestones and timelines, identifying key personnel, and establishing clear communication channels to keep stakeholders informed.

Of course, there is no such thing as a standard timeline for post-merger integration. It will depend on how many moving parts are involved, the complexity and familiarity of the respective technologies and, the underlying scale of the deal.

Most PE respondents (55%) to our survey say they opted to operate the target of their most recent cleantech transaction as a standalone entity post-deal, an approach favored by just 23% of corporates. The latter, instead, preferred to pursue either total integration (27%, versus just 2% of PE respondents) or a partial integration via a bolt-on (50%, versus 43% among PE respondents).

What integration strategy did you follow in your most recent clean energy deal?

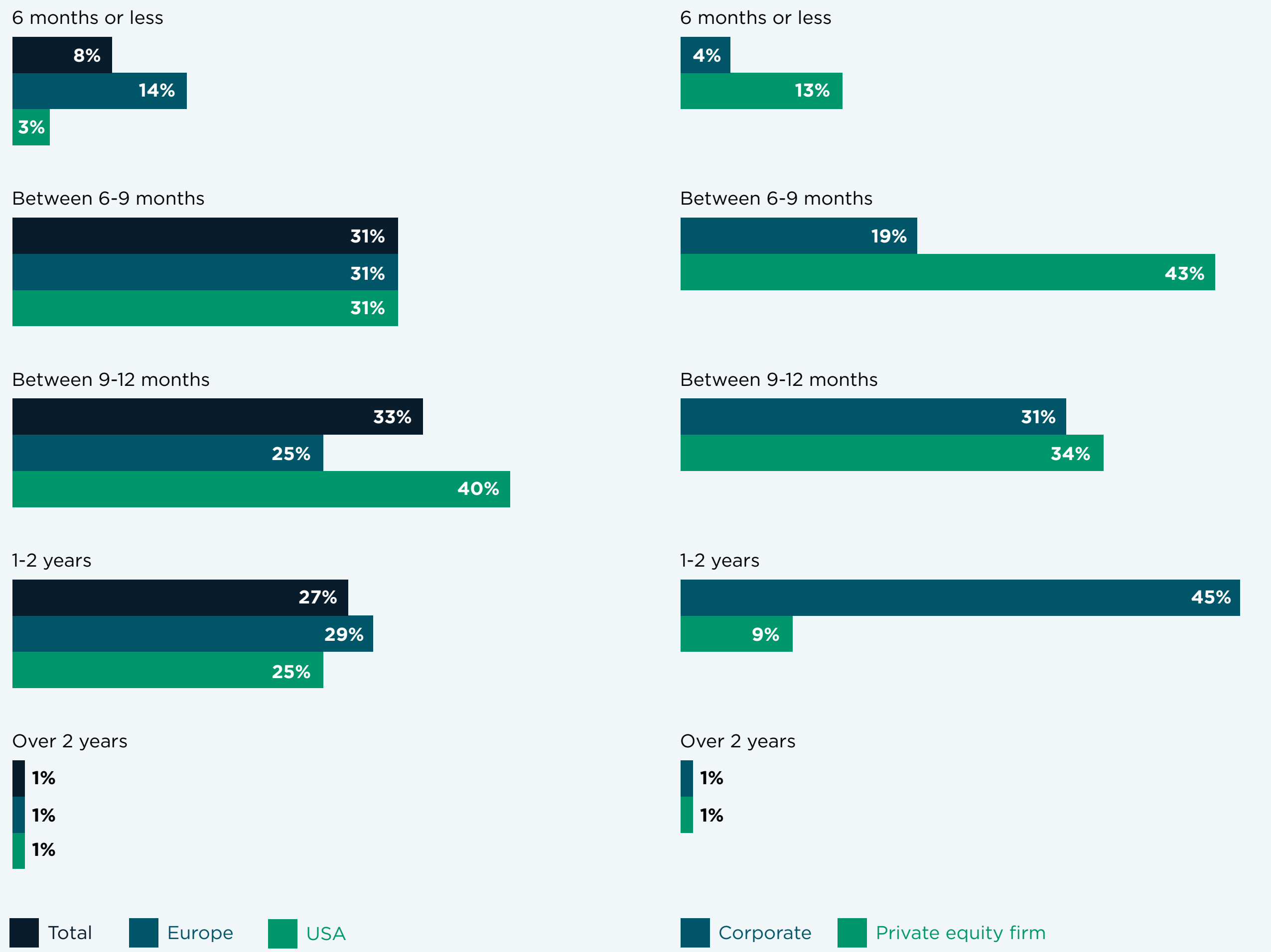


Overall, the largest share of respondents (33%) say post-closing activities took between nine and 12 months, while 31% say it took between six and nine months, and a surprising 27% report a timeframe of one to two years.

Discrepancies are unsurprisingly starker when splitting the findings between corporates and PE firms, the former generally requiring more time to complete post-closing integration: 45% report requiring one to two years, versus just 9% among PE respondents. The largest share of PE respondents (43%) says post-closing integration took just six to nine months, whereas just 19% of corporates say the same.

Corporates must operationally integrate a target and prioritize synergy capture, considerations that only apply to sponsors when they are scaling up a platform investment.

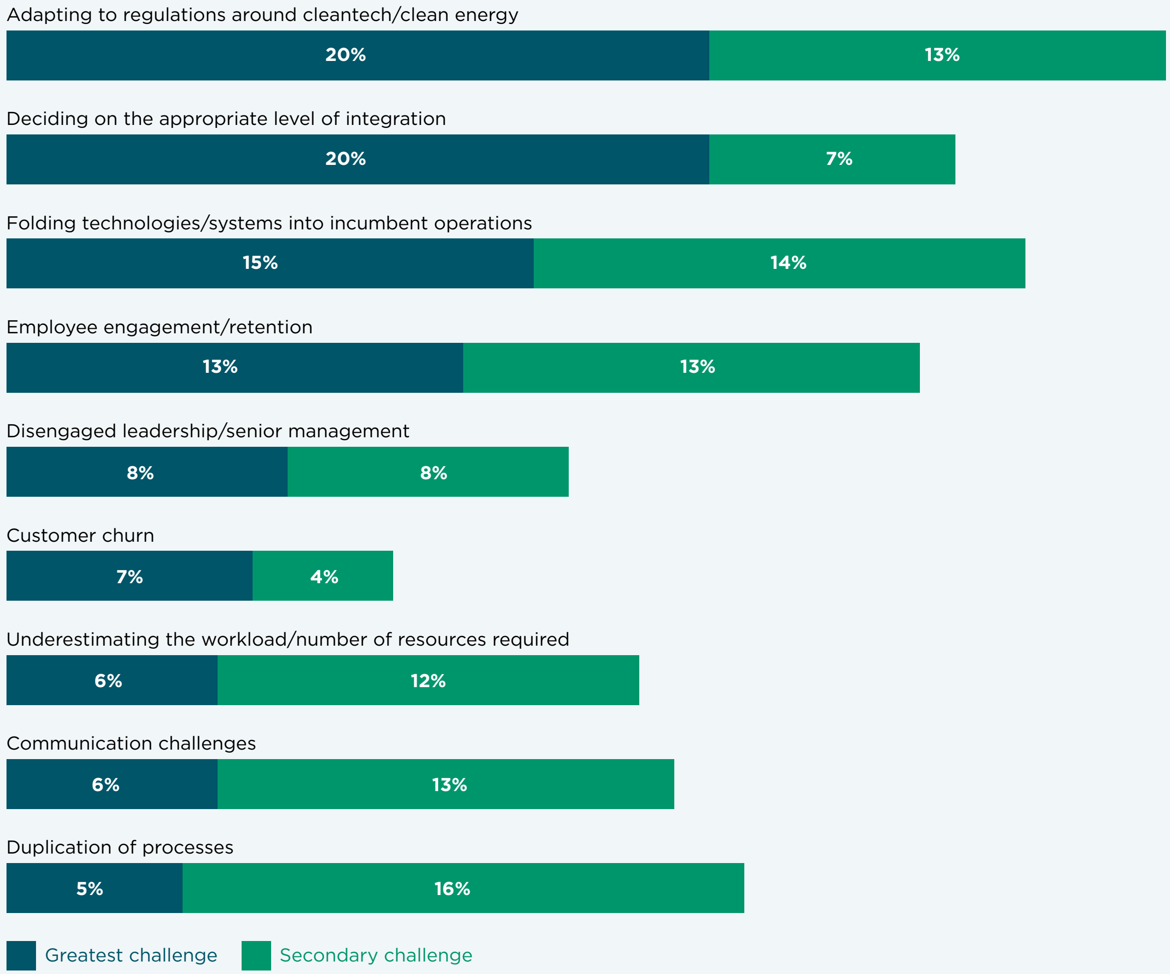
How long did the post-closing integration take in your most recent clean energy deal?



According to our respondents, the most challenging elements of integrating their most recent cleantech acquisition into their existing operations include adapting to relevant regulations and deciding on the appropriate level of integration, which both accrued 20% of first-choice votes. This is followed by folding technologies and systems into incumbent operations (15% of first-choice votes, plus 14% of secondary votes), and employee engagement and retention (13% and 13%, respectively).

20% cite adapting to relevant regulations and deciding on the appropriate level of integration as the most challenging elements of integrating their most recent cleantech acquisition into their existing operations.

What was the most challenging part of integrating your most recent clean energy acquisition into your existing operations?

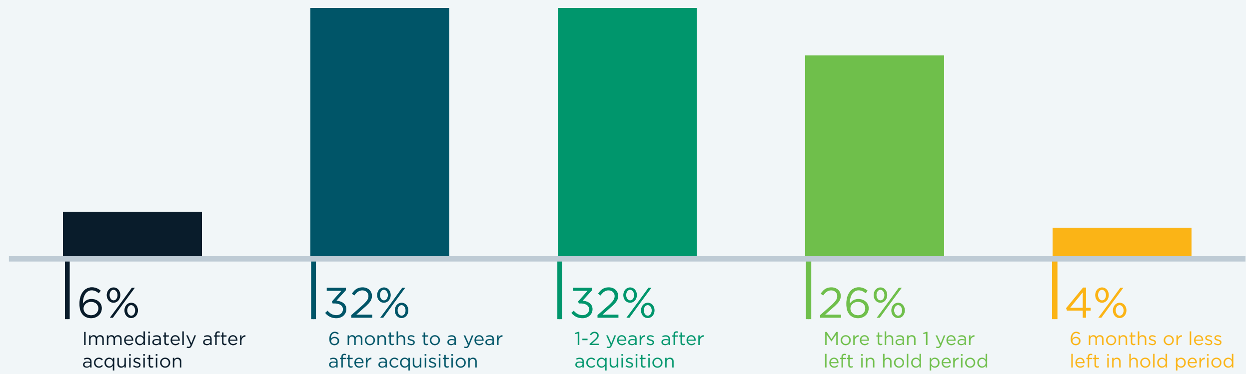


Planning exits and generating value

Exit timelines vary among PE firms, but the typical holding period is in the range of four to six years. That said, sponsors will begin thinking about their exit strategy from the moment they invest in a company. This may not go as far as preparing financial statements, but funds will certainly be identifying potential buyers and often will have done so before executing their entry. They may engage with advisors to help map out the eventual exit path well ahead of time.

Just under a third of our PE respondents (32%) say they begin their sell-side preparations within six months to a year of acquiring a clean energy company, which generally aligns with industry best practice. An equal proportion of PE respondents say they begin this process within one to two years after an acquisition.

After acquiring a clean energy company, when does your organization typically begin sell-side preparation? (PE respondents only)



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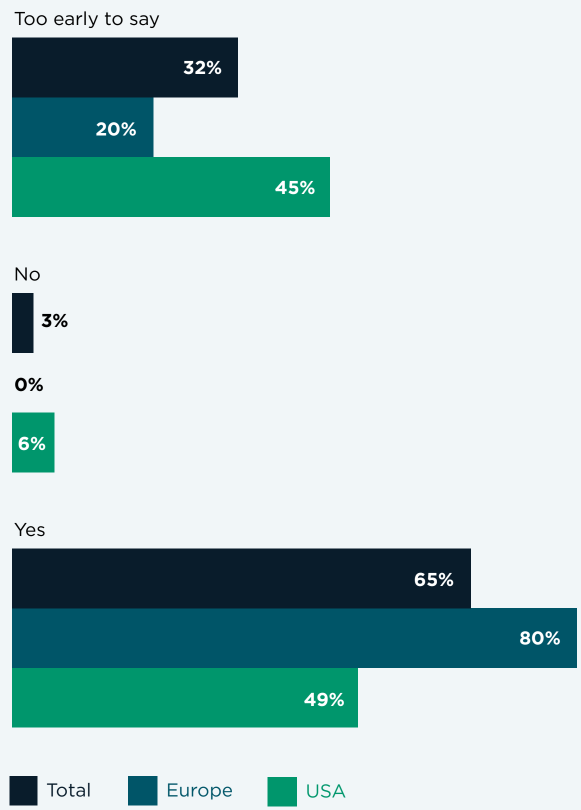
Most corporate respondents (65%) believe their most recent deal has already generated value, with those in Europe generally more bullish than their U.S. counterparts (80% versus 49%, respectively). Among the remaining subset of corporate respondents, 32% believe it is too early to say if value has been delivered to date. It will typically take some time following the full integration of a target for the results to show on a P&L statement.

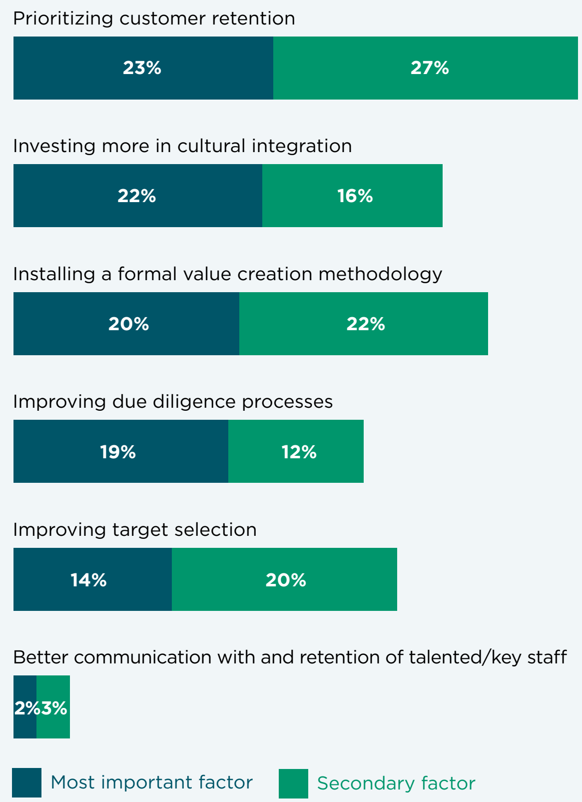
However, among those who believe their recent acquisition has already demonstrated a good return on investment, various factors helped to generate value. None is more important than prioritizing customer retention (23% of primary votes and 27% of secondary votes, the largest such shares in both cases).

Investing more in cultural integration (22% of primary votes) and installing a formal value creation methodology (20% of primary votes, plus 22% of secondary votes) were also highly beneficial. This reflects the fact that successful post-merger integration demands a focus not just on financial returns, but also on retaining key employees, integrating unique cultures, and developing new processes and systems to support the target company's growth. Indeed, these are all fundamental to value creation.

Do you believe your most recent clean energy acquisition has generated value for your organization? (Corporate respondents only)



What factors helped to create value from this acquisition?



Optimizing diligence to unlock value or value-driven diligence

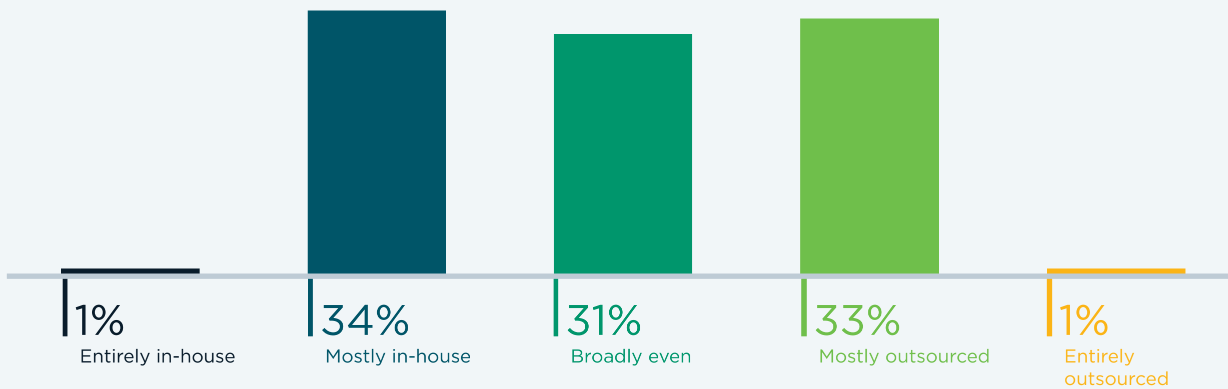
Supplementing due diligence with outside support is one of the most important decisions an investor must make when vetting a deal.

Outsourcing this investigatory review process can bring fresh eyes and expertise to the table, uncovering otherwise hidden risks and value creation opportunities in the target company. This analysis can cover numerous angles, including operational, commercial, customer, technological, and industry perspectives. By creating and testing hypotheses and quantifying the potential P&L impacts of investment decisions, acquirers are equipped with insights and a comprehensive roadmap for mitigating risk and realizing value post deal closure.

Respondents are nearly evenly split regarding their approaches to due diligence of clean energy targets, 34% saying this is conducted mostly in-house, 33% reporting this is largely outsourced, and a further 31% sharing that they strike a roughly equal balance of the two.

A clearer trend, however, is the preference for specialists. Tapping subject matter experts gives access to the most up-to-the-minute and relevant insights.

Does your organization largely conduct due diligence of clean energy companies in-house or outsource this process to a third party? (Select one)



34% say they conduct due diligence mostly in-house, as opposed to 33% reporting this is largely outsourced.

Among those who say that they largely outsource this due diligence, just under two-thirds (64%) say boutique providers or cleantech specialists are their preferred third-party provider, rather than a large professional services firm (36%). Moreover, most of these respondents (63%) say they prefer to allocate different facets of their due diligence to multiple expert advisors, rather than rely on a single advisory partner (37%).

It is fair to say that acquirers already have sophisticated due diligence outsourcing strategies, with a premium placed on expertise. Picking the right partner for these assignments is paramount and will be influenced not only by the knowledge set of the third-party provider but also their tech capabilities.

Digital diligence has become a mission-critical tool for businesses to generate actionable insights quickly, freeing up precious time for management to focus on value-creation conversations rather than sifting through data.

By leveraging technology and digital tools, businesses can streamline the due diligence process, gathering critical information more efficiently and accurately. This allows management to make more informed decisions based on data-driven insights and ultimately accelerate the value-creation process. Embracing digital diligence helps buyers stay ahead of the competition, enabling informed decision-making and more efficient allocation of resources.

Our past research has shown that PE investors are actively looking to scale up their use of data and incorporate more tech throughout their diligence processes. Automation is a critical way in which deal teams are expediting and optimizing their due diligence. Faster-paced insights help investors to outmaneuver their peers in what remain highly competitive deal markets for prized assets.

Deciding on the right due diligence partner, and one that can provide such tools, can mean the difference between winning or losing a deal.

To what sort of third-party provider do you prefer to outsource the due diligence of clean energy companies to?

Are all types of due diligence of clean energy companies undertaken by a single advisory partner, or does your organization allocate elements of due diligence to separate, expert advisory partners?

CHAPTER 3

Target sectors and markets—from renewables to European opportunities

Target sectors and markets—from renewables to European opportunities

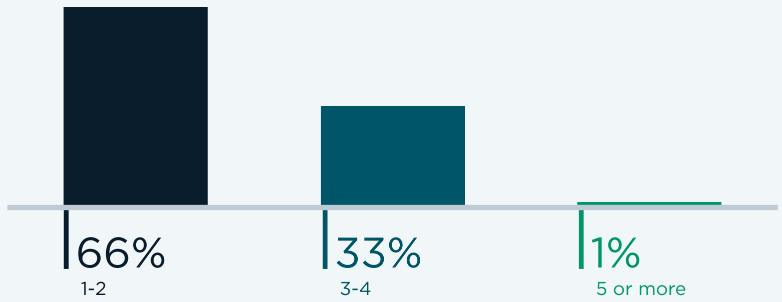
In the next couple of years, investors are expected to maintain their capital flows into the cleantech sector and are attracted to the same areas that have already proven popular to date.

Two-thirds of respondents (66%) indicate that they expect to make one to two cleantech acquisitions in the next 24 months, while a third anticipate three to four such deals, broadly consistent with their activity in the past two years. Moreover, renewable energy remains the most appealing sub-sector for prospective acquisitions, according to respondents, reflecting their past investment experience.

As the managing director of an energy and infrastructure PE firm in the U.S. explains, "Although the deal values in renewable energy are increasing, it is one of the best segments to invest in. The returns we can make continue to be favorable," adding that investor support is also strong in this area.

U.S. dealmakers in particular are primed to benefit from recent legislative developments. The largest investment from the $740 billion Inflation Reduction Act will see an estimated $369 billion go towards energy security and climate change in the form of various business incentives and tax credits. Meanwhile, a healthy percentage of the total $550 billion of new spending allocated in the Infrastructure Investment and Jobs Act is dedicated to investments in areas such as clean energy, power and transport, and energy efficiency initiatives.

How many acquisitions of clean energy companies does your organization expect to make over the next 24 months?



Although the deal values in renewable energy are increasing, it is one of the best segments to invest in. The returns we can make continue to be favorable.

MANAGING DIRECTOR

U.S.-based PE firm

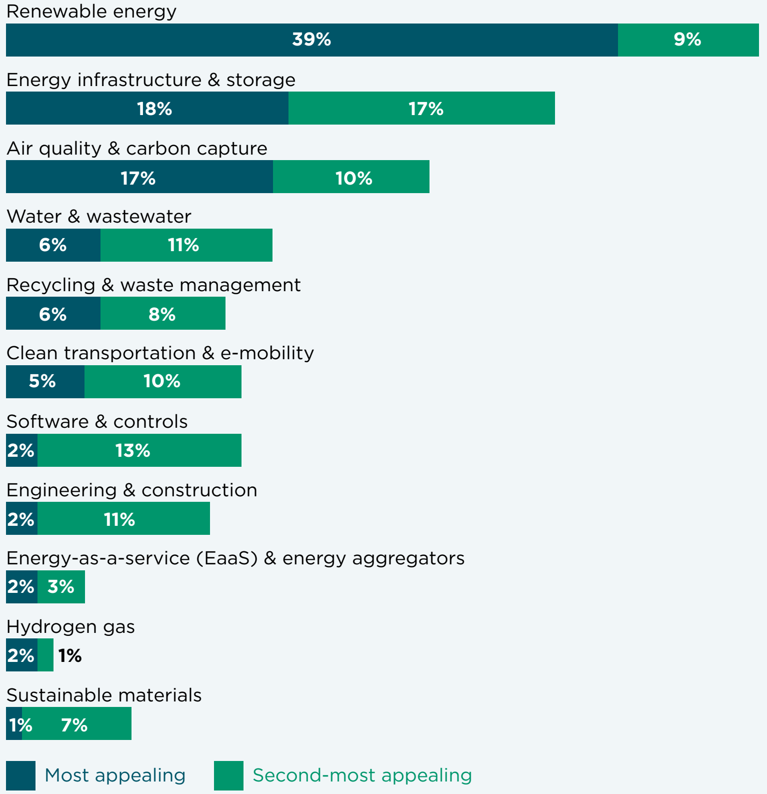
Once again reflecting past investment trends, energy infrastructure & storage is expected to be the second most popular subsector, with 18% of first-choice selections and 17% of second-choice votes among respondents in our survey. Notably, the Inflation Reduction Act includes provisions for tax credits for standalone energy storage facilities, where previously battery projects were only eligible when connected to a solar energy project. Under the new legislation, the credits amount to around 30% of the cost of a project, though extra incentives and bonuses can push that figure closer to 70%.

Air quality and carbon capture—largely overlooked until now—is coming into sharper focus for investors. Respondents selected the subsector with 17% and 10% of first- and second-choice votes, respectively. Notably, the Inflation Reduction Act features updates to the 45Q tax credit, incentivizing the use of carbon capture and storage, which the Intergovernmental Panel on Climate Change and IEA have asserted will play a vital role in tackling climate change.

Although further down the pecking order, investors also see opportunities in pursuing software & controls deals, with 13% of respondents selecting it as a secondary option. While software and related tech may not be as popular as stalwart renewables assets or their underlying infrastructure, there is huge potential for investors with the requisite skill set to scale startups that benefit from low capex requirements.

> Prospective acquisitions in software and controls are more profitable. Many companies in the sector are in the early stages of development. We can use our expertise to maximize output and returns.
>
> **MANAGING DIRECTOR**
> *Swiss PE firm*

What clean energy sectors hold the most interest for your organization in terms of prospective acquisitions over the next 24 months?



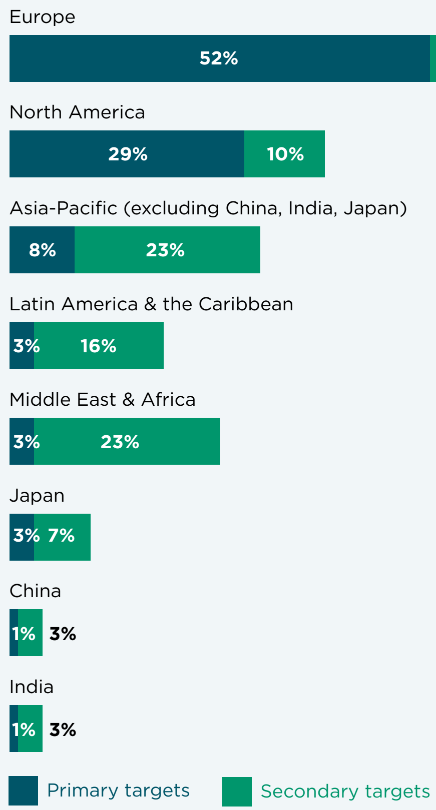
European cleantech investment heats up

Europe's commitment to transitioning to a low-carbon economy coupled with its focus on renewable energy sources have made it a highly attractive destination for investors. The European Union (EU) has set a target of a 55% reduction in greenhouse gas emissions by 2030, which will require significant investments in clean energy technologies.

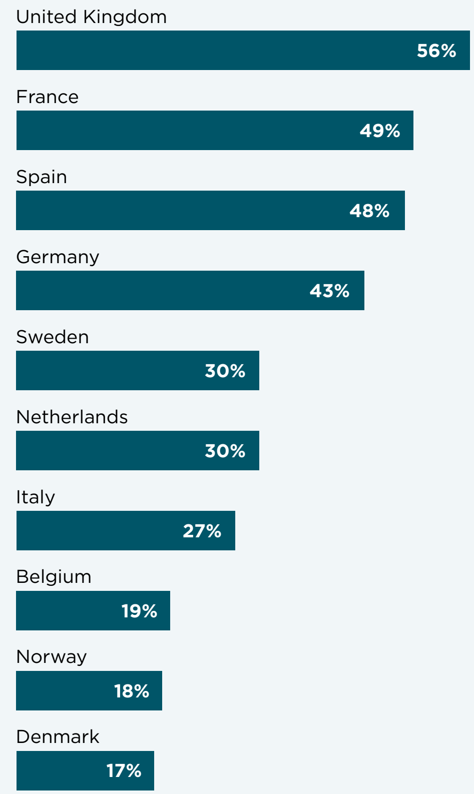
Europe's headway in terms of its clean generation capacity explains why respondents believe the region offers the most appealing cleantech targets. More than half (52%) rank Europe as having the most appealing potential targets. Investors are particularly drawn to Germany, France, Spain, and the U.K. attracted by their success in fostering innovation.

> Germany and France are the main countries leading decarbonization activities in the EU region. Companies in cleantech have become very attractive because of their success in engaging the latest technologies.
>
> **MANAGING DIRECTOR**
> *Irish PE firm*

Which of the following markets do you believe offer the most appealing targets for potential clean energy deals?



Which European countries in particular are you targeting?



In many ways, the European region is a pacesetter. In 2021, Sweden generated around 60% of its energy from renewable sources, while Finland was over 40% for that year and Denmark reported that it reached 67% in 2022.

Eurostat figures show that in 2020, the share of renewables in gross final energy consumption in the EU was 21.8%. This was up from 20% in 2019 and shows that the EU is making progress towards its ambitious net-zero targets. Meanwhile in the U.S. renewable energy sources accounted for around 12% of the total primary energy consumption in 2021, according to the Energy Information Administration.

France has set an ambitious goal to reduce greenhouse gas emissions by 40% by 2030 and achieve carbon neutrality by 2050. The country has been a leader in the development of nuclear power, which currently accounts for almost 70% of its electricity production. However, France is also investing in other renewable energy sources, such as wind and solar, to diversify its energy mix and reduce its dependence on nuclear power. The country has set a target of increasing the share of renewable energy in its electricity production to 40% by 2030.

Germany has also set ambitious targets, with a goal to reduce greenhouse gas emissions by at least 55% by 2030 compared with 1990 levels. As of April 2023, the country has fully phased out nuclear power and has committed to transitioning to a low-carbon energy system based on renewable energy sources. Germany is the world leader in solar power and has made significant investments in wind power, with a target of increasing the share of renewable energy in its electricity production to 65% by 2030. The country is also investing in energy efficiency measures and promoting the use of electric vehicles.

Both countries are also working to reduce emissions in other sectors, such as industry, agriculture, and transportation, through policies and initiatives aimed at promoting energy efficiency and reducing the use of fossil fuels.

67% of Denmark's energy came from renewable sources in 2022.

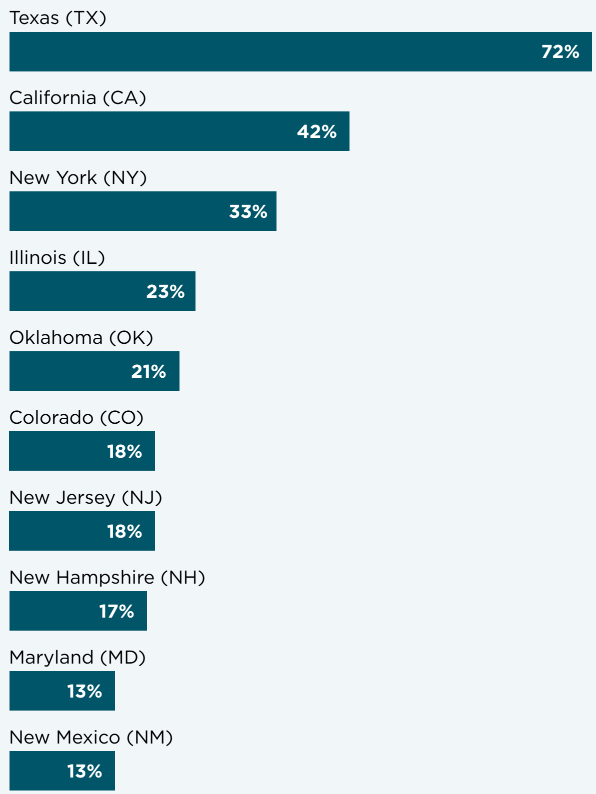
Renewables take center stage in the U.S.

While many eyes are watching cleantech developments in Europe, recent legal developments in the U.S. are clearly attracting investor attention. According to our survey, North America is the second most popular market after Europe, with 29% ranking the region as having the most appealing potential targets, followed by Asia-Pacific (excluding China, India, and Japan) with just 8%. Despite not being a first-choice destination, Asia-Pacific garners 23% of second-place selections, equal to that secured by the Middle East & Africa.

Among U.S. states, Texas is being most widely targeted, cited by almost three-quarters of respondents (72%) looking for targets in the country. California is in a distant second with 42%, followed by New York with 33%.

Texas has dominated the renewable energy scene in the U.S. for several years running. In 2022, Texas generated 136,118 gigawatt-hours from wind and utility-scale solar, more than any other state. Even when all renewable electricity sources are considered, Texas remains the leader with 138,538 gigawatt-hours, followed by Washington and California.

Which U.S. states in particular are you targeting?



Texas is also the country's leader in overall electricity generation, including from gas and coal. Despite having political leadership that is highly supportive of fossil fuel industries, Texas has a regulatory system that is friendly to renewable energy developers, vast amounts of developable land, high winds, and no shortage of sunshine.

California leads in the solar stakes in the U.S. but is far behind in its wind power generation. However, it is pushing forward. An agreement announced in May 2021 between the state and the federal government marked a significant step towards the implementation of the first commercial offshore wind energy program on the West Coast. This program will allow hundreds of floating turbines to be installed in federal waters off California's central and northern coasts, with the potential to power up to 1.6 million homes. The agreement is indicative of the scale of the state's ambitions, with Governor Gavin Newsom having last year signed the California Climate Commitment, which earmarks $54 billion for investment in climate action and achieving 90% clean energy by 2035 and carbon neutrality no later than 2045.

In December 2022, 43 companies competed for five offshore wind leases in the state in an auction run by the U.S. Bureau of Ocean Energy Management, with RWE Offshore Wind Holdings, California North Floating, Equinor Wind U.S. Central California Offshore Wind and Invenergy California Offshore named as the provisional winners. This will put California in a better position to meet its climate targets and undoubtedly contribute to the broader goal of reducing carbon emissions in the U.S.

> “
> In Texas, there are many renewables activities that can be conducted due to the availability of natural resources. There is wider space to collaborate with local landowners for clean energy generation.
>
> **CFO**
> *U.S.-based corporate*

CHAPTER 4

Spurs and hurdles

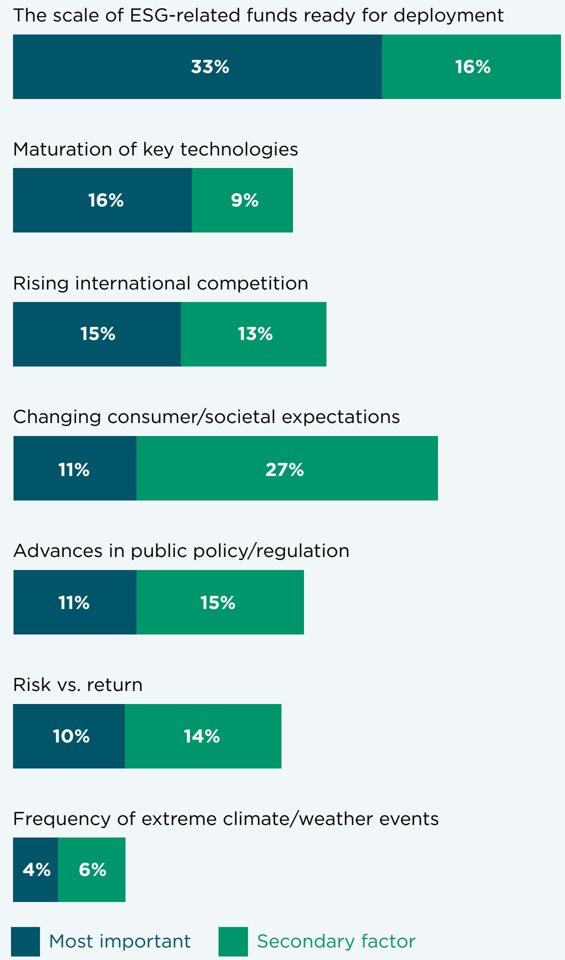
Spurs and hurdles

Governments worldwide are taking extensive measures to de-risk clean energy production. This is most recently evident in the U.S. with the passing of the Infrastructure Investment and Jobs Act and the Inflation Reduction Act, which will see energy companies benefit from tax credits to incentivize the energy transition and the reduction of carbon emissions.

As a result, many cleantech incentives are going to companies backed by PE firms, which have funds readily available for new projects or already own clean energy firms that could benefit from policy changes. PE firms and other financial investors are positioning themselves to increase their exposure to the cleantech sector and take advantage of the reduced production risks and potential for higher investment returns.

The most important driver of increased investment in clean energy is the scale of ESG-related funds ready for deployment, with 33% of respondents ranking this as the most important driver and an additional 16% ranking it second.

What are the most important factors driving increased investment in clean energy?



33% rank the scale of ESG-related funds ready for deployment as the most important driver of increased investment in clean energy, with 16% ranking it second.

This is an unstoppable long-term trend. A survey conducted by BlackRock found that, on a global basis, investors plan to more than double their sustainability-related assets under management across asset classes from 18% in 2020 to 37% by 2025. Much of this wall of capital will be sunk into cleantech.

"Investors anticipate long-term yield from ESG-related funds. There are many growth opportunities because of the demand for capital for developing clean energy," says the senior partner of a PE firm in Norway.

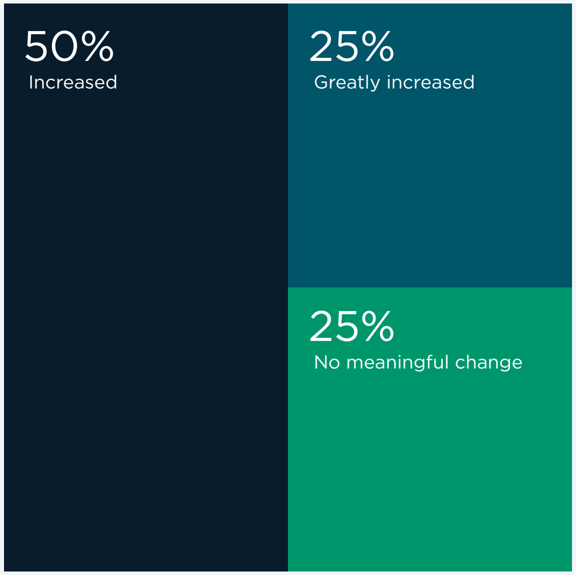
The next most popular responses in our survey, albeit in a distant second and third place, are the maturation of key technologies (16%) and rising international competition (15%).

Societal expectations are another powerful motivator for investment. As people become more aware of environmental issues, they are more likely to demand sustainable products and services, including clean energy. This has a symbiotic impact, encouraging governments to implement policies and regulations that align with these values, while institutional investors continue to bring their capital deployment strategies in alignment with these expectations, to benefit from the growth potential of clean energy and related technologies.

Although relatively few respondents (11%) rank it at the top of their list, the key secondary driver of increased investment in cleantech is changing societal expectations (27%). Moreover, 75% of respondents say that recent developments in public policy and regulations around energy have amplified their appetite for M&A in the sector, including 25% who say this appetite has greatly increased because of regulatory momentum.

> Many new opportunities will emerge due to the Infrastructure Investment & Jobs Act. We are planning to leverage federal infrastructure funding over the next couple of years.
>
> **VICE PRESIDENT**
> *U.S.-based corporate*

How have recent developments in public policy and regulations around energy affected your organization's appetite for M&A in the clean energy sector?



Jumping through hoops

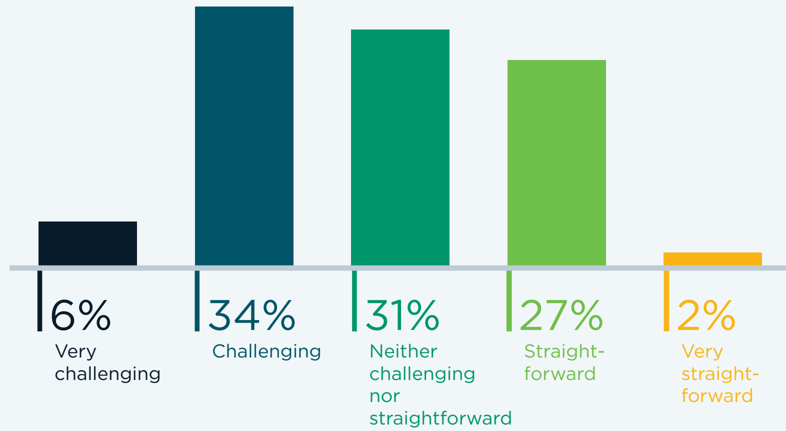
Policymakers continue to work on establishing and refining ESG reporting frameworks. One of the biggest recent developments was the creation of the International Sustainability Standards Board (ISSB), which was announced at the United Nations Climate Change Conference (COP26) in Glasgow in November 2021.

The standard-setting body's mandate is to establish and develop sustainability-linked financial reporting standards to improve transparency and consistency for investors. ISSB standards will be part of the broader body of International Financial Reporting Standards (IFRS), which apply to publicly traded companies in the EU and other countries, as well as other entities that have a public accountability, such as financial institutions and large private businesses.

These developments are a clear step in the right direction, but there is no authoritative framework of ESG standards that applies to M&A situations specifically. The largest share of respondents (34%) say it is challenging to identify the relevant ESG standards in relation to M&A in the cleantech space, and a further 6% say it is very challenging. That being said, large subsets hold either a generally neutral view on this topic (31%) or describe identifying the relevant standards as straightforward or very straightforward (29% combined).

More than half of respondents (54% overall) expect a functional, uniform set of such standards to be established in the next two to five years (61% among respondents in Europe and 47% of U.S.-based respondents). A large minority of European respondents (31%) are more bullish, believing such standards will emerge within the next two years. Conversely, a similarly large share of U.S. respondents (38%) expects this will take 5-10 years. This is broadly in line with the front-footed approach that Europe has taken on the ESG regulatory front, specifically regarding company disclosures.

How challenging is it to identify the relevant ESG standards in relation to M&A in the clean energy space?

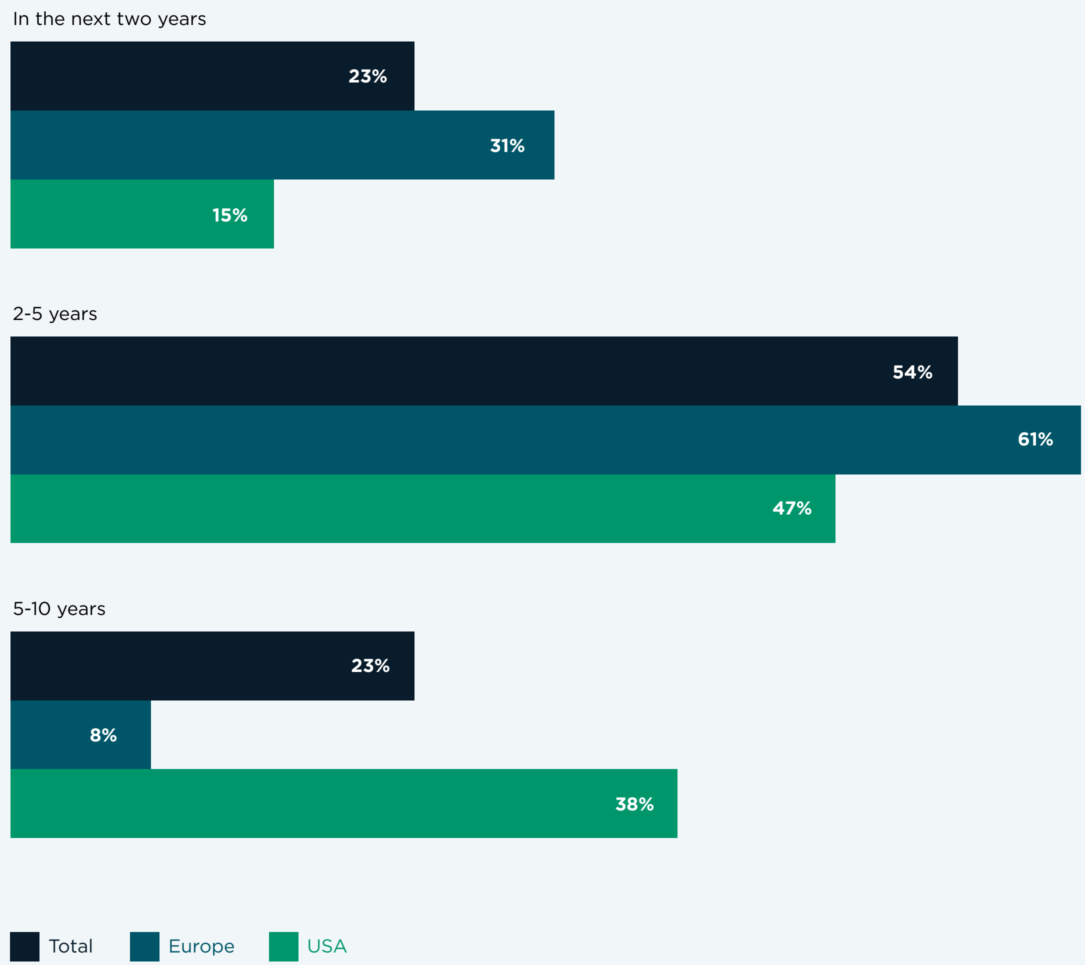


54% of respondents expect a functional, uniform set of ESG standards to be established in the next two to five years.

In July 2020, the EU introduced the Taxonomy for Sustainable Activities, a classification system to better inform environmentally friendly investment decisions and to mitigate against greenwashing. The taxonomy evaluates investments based on six key objectives, including climate change mitigation, climate change adaptation, the circular economy, pollution, effect on water, and biodiversity.

Absent a set of codified ESG standards for M&A, acquirers must take a mindful approach to their ESG due diligence and work with advisors that can guide their assessment of deal targets to minimize regulatory and other downside risks and, importantly, maximize their upside reward potential.

Within what timeframe do you believe a functional, uniform set of standards for ESG disclosures will be established?



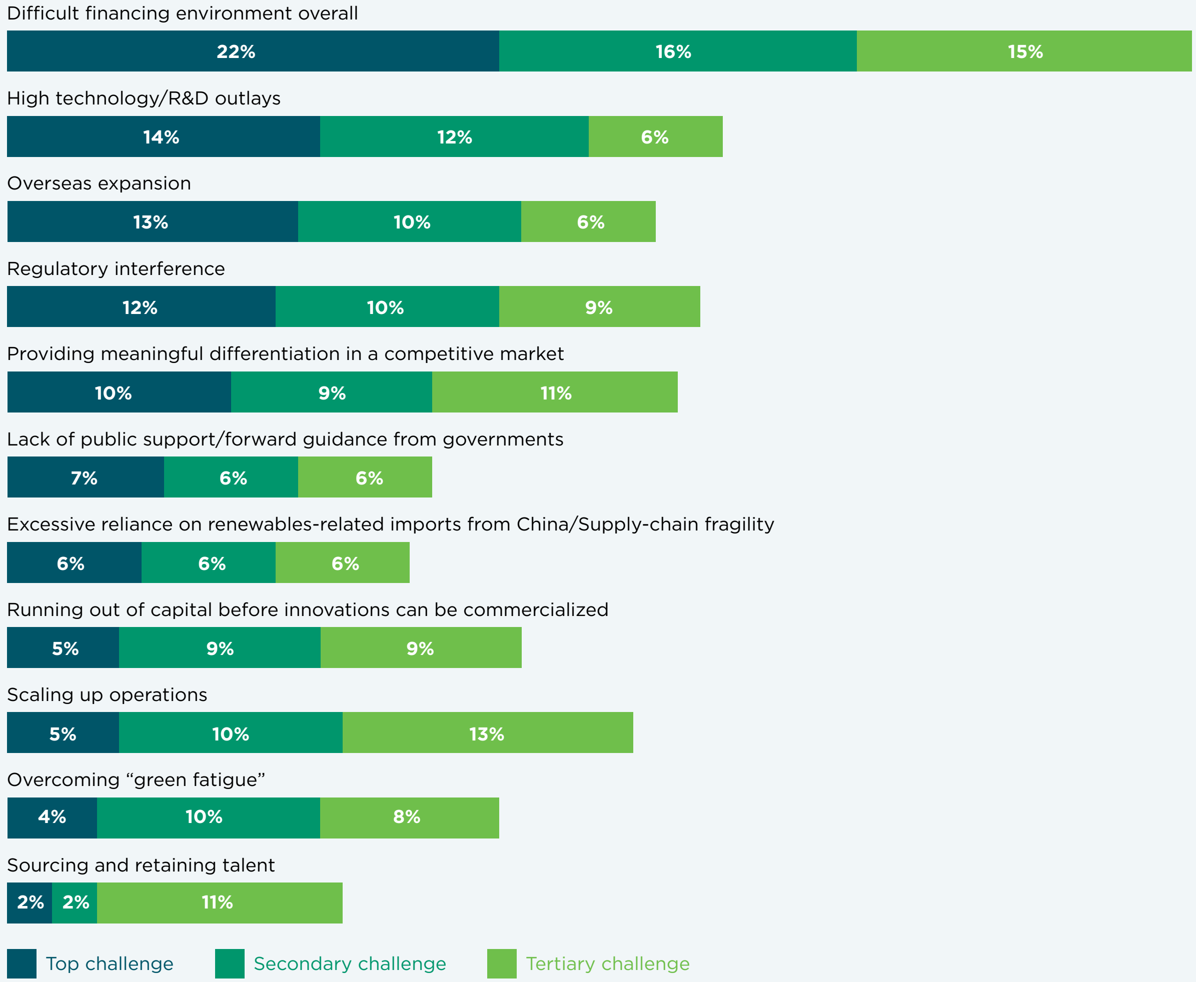
Financial tightening

Financing is another major challenge, both in the dealmaking process and for the long-term growth of assets. To some extent this applies across the board. Higher interest rates and more risk-averse credit underwriting mean that PE funds may face challenges when trying to meet their acquisition debt financing needs. Cleantech assets are likely to be especially affected by these tighter financing conditions due to the capex-heavy nature of their development.

The greatest challenge by far to the growth or long-term success of clean energy companies is today's challenging financing environment, ranked at the top by 22% of respondents, with 16% ranking it second and 15% placing it in third, the largest shares in each case.

A handful of other factors fall into a close-knit second tier of obstacles, including high technology and R&D outlays (14% of first-choice votes), overseas expansion (13%) and regulatory interference (12%). R&D is one of several capex expenses and can be meaningful in the sector, although there are opportunities for investors to capitalize on this fact by bringing down costs for operators within the value chain with technologies that improve cost and energy efficiency.

Which of the following factors pose the greatest challenges to the growth or long-term success of clean energy companies?



> Research and development of key energy technologies has increased greatly in the past five years. Using technology to optimize energy usage has become more common over the years.
>
> **PARTNER**
> *U.S. PE firm*

22% **say that the difficult financing environment overall is the top challenge to the growth or long-term success of clean energy companies.**

This applies to cleantech-related software, which can be an attractive field for PE funds from a capex perspective. Soft technology incurs far lower development costs than building physical renewable energy infrastructure. Software can optimize existing processes or systems, improve efficiency, and reduce waste, which can have a significant impact on cost reduction for the company implementing it. This could prove to be an especially attractive subsector considering increasing materials and labor costs in today's inflationary environment and paired with the fact it is not currently investors' primary area of focus.

Moreover, many cleantech software companies are highly scalable and typically operate on a subscription or licensing model, which generates recurring revenue streams that can be highly attractive to PE funds.

With growing attention being paid to renewable energy assets at the top of the value chain, there may be a golden opportunity for investors to tap into the long-term growth potential of what is a largely overlooked area further downstream.

Conclusion

There is every expectation that cleantech will flourish in the next 24 months, spurred by increasing levels of capital allocation and supportive long-horizon policymaking. Government investment is compounding private sector financing, catalyzing the next wave of development across everything from renewable energy to electric vehicles.

Capital market financing has become more challenging in light of central banks' recent policy shift and subsequent tightening of liquidity conditions. Even in this tougher environment, however, funding in the clean energy space is expected to become easier to source, which will spur capex growth and M&A. Global green financing, including sustainability bonds and loans and equity funding via IPOs, ballooned by 100 times between 2012-21 to more than $540 billion, according to a study by BNP Paribas.

Companies must position themselves to benefit from this new funding firepower and to realize their full growth and capacity-generating potential, notes the chief commercial officer of a corporate in the U.S., saying: "Opportunities are present in the form of easier financing options and government subsidies. Companies should know how to avail these opportunities."

This funding will also be critical to the advent of next-generation renewable technology, and companies and investors must take a thoughtful approach to R&D budgeting. Our respondents emphasize the need for cleantech companies to proactively pursue tech innovation to develop advanced solutions that meet the transition requirements for a net-zero carbon economy.

"The greatest opportunities will be related to the technology advancements in clean energy companies. A strong budget for technology advancements can help clean energy companies grow," says the partner of a PE firm in the U.K..

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The future of cleantech is bright, but not without its challenges. The fragility of supply chains for rare earths and critical minerals is a major concern. These materials are essential for manufacturing wind turbines, solar panels, and electric vehicles. Disruptions caused by the COVID-19 pandemic and exacerbated by competition from China have underlined the importance of securing a steady and reliable supply of these essential materials.

That being said, the weight of capital moving into the space, supported by resolute government intervention, indicates a positive trajectory with unprecedented speed.

> The greatest opportunities will be related to the technology advancements in clean energy companies. A strong budget for technology advancements can help clean energy companies grow.
>
> **PARTNER**
> *U.K.-based PE firm*

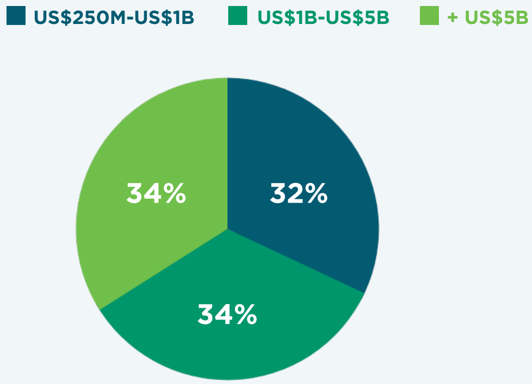
Methodology & Respondent Profile

In Q1 2023, Mergermarket surveyed 200 senior executives with expertise in the energy space. Half of respondents were based in the U.S. and half in Europe, and were drawn equally from PE firms and corporates.

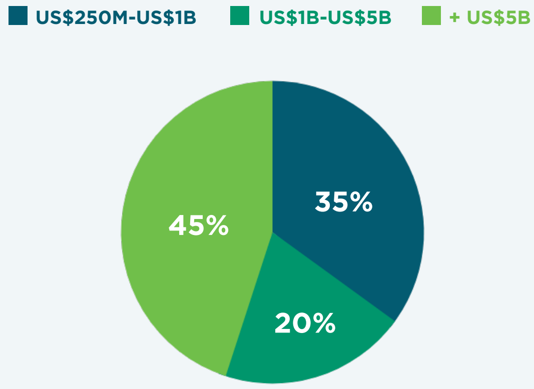
All respondent organizations had acquired or sold at least one company in the cleantech space (i.e., the investment asset class, technology, and business sectors, which include clean energy, environmental, and renewable or green, products and services) over the last three years and intend to acquire or sell at least one over the next three years.

The survey included a combination of qualitative and quantitative questions. Results were analyzed and collated by Mergermarket. All responses are anonymized and presented in aggregate. Whenever statically relevant, responses are also split by region or type of respondents.

Among the PE respondents with assets under management (AUM) between:



All corporate executives surveyed came from organizations with annual revenues of:



About West Monroe

West Monroe is a digital services firm that was born in technology but built for business—partnering with companies in transformative industries to deliver quantifiable financial value. We believe that digital is a mindset—not a project, a team, or a destination—and it's something companies become, not something they do. That's why we work in diverse, multidisciplinary teams that blend management consulting, digital design, and product engineering to move companies from traditional ways of working to digital operating models—and create experiences that transcend the digital and physical worlds. Connected by the 13 founding values that drive our culture, our 1.800 employees work collaboratively across the firm with the belief that your success is our success.

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