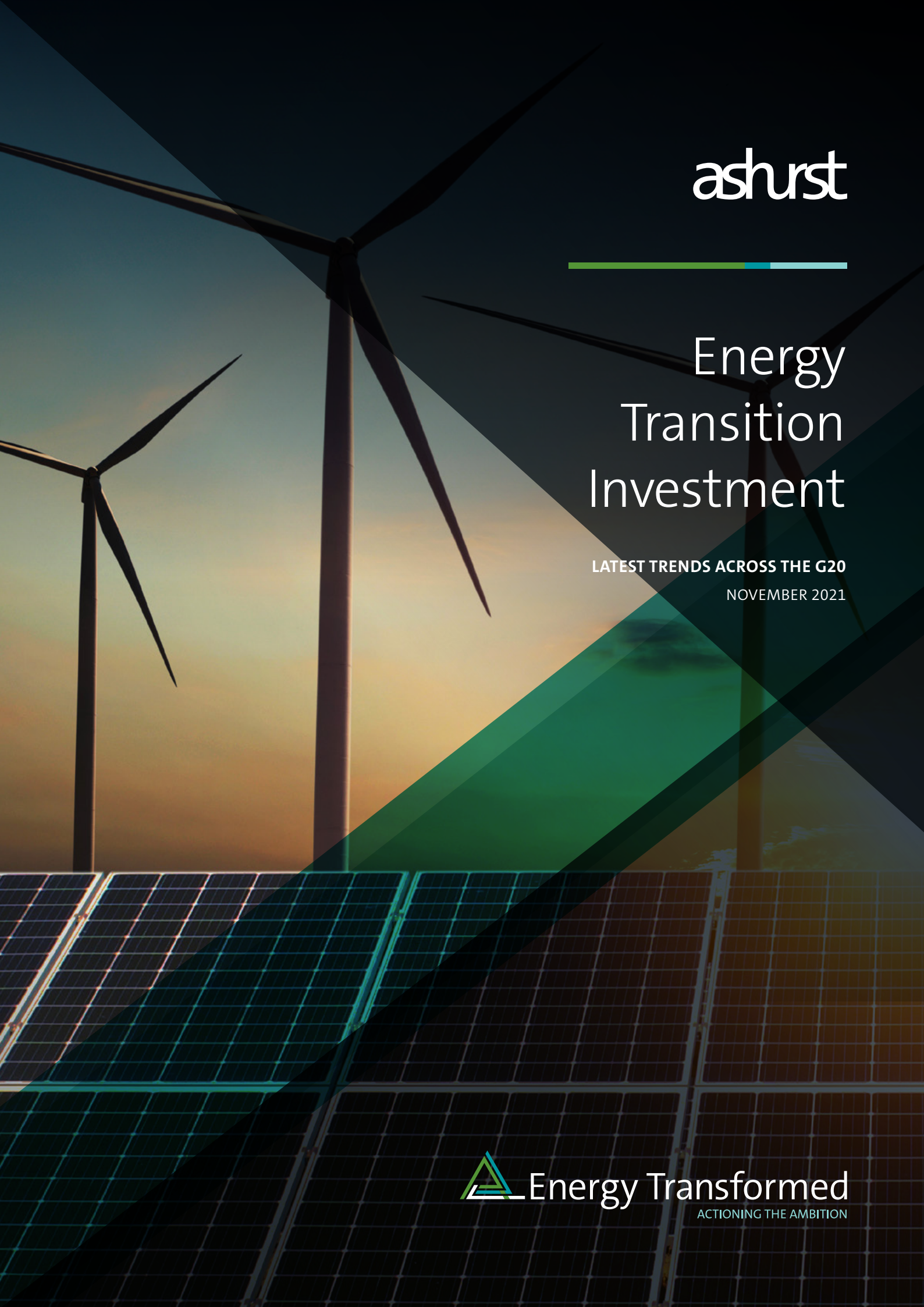


ashurst

Energy Transition Investment

LATEST TRENDS ACROSS THE G20

NOVEMBER 2021

Energy Transformed

ACTIONING THE AMBITION

Contents

Executive summary

The global focus on climate change is driving significant shifts in the investment strategies being adopted by organisations throughout the G20.

This report provides the results of an Ashurst survey of 992 senior managers involved in energy investment decision making across the G20, conducted in September and October 2021*. The average global turnover among all respondent organisations was US$8.8 billion.

Our research shows that almost every organisation, large or small, has set a net zero emissions target or is developing one.

The key pillar of organisations' plans, both in terms of those looking to invest in energy transition projects for returns and those seeking to adapt their operational models to reduce their carbon footprint, is to support the transition from a reliance on fossil fuels towards low-carbon energy production. For example, 82% of survey respondents saw the increasing use of renewables as critical to their strategic growth and said they expected their pace of investment to rise.

As this report shows, organisations' strategies for investing in renewables and broader decarbonisation projects are being driven by the greater availability of proven technologies, greenfield developments and, importantly, an ever-increasing skills base.

In Ashurst's experience, this is leading to a significant growth in greenfield project development across both proven technologies such as onshore wind and solar, as well as emerging decarbonisation technologies including battery storage and hydrogen (both for domestic consumption and for export).

Ashurst is also seeing continued growth in merger and acquisition (M&A) activity in clean energy portfolios of both greenfield and operational assets, with huge amounts of private capital chasing investment opportunities across the spectrum of risk.

At the same time, this activity is being accompanied by a rise in commercial disputes around project delivery and construction. Many organisations remain concerned about a lack of commercial and government incentives, among other investment barriers.

Finally, our research shows that the list of key players is changing as business leaders adapt their models. Traditional investors in energy projects face new competition from the likes of transport groups that are investing in greenfield decarbonisation projects as part of strategies to meet their climate-related targets.

**Survey conducted for Ashurst by FTI Consulting.*

Key findings

NEW FOCUS AND SPEED

Moving to net zero emissions is now the strategic goal for almost all organisations surveyed across the G20. Some 69% of respondents said their organisation had already committed to a net zero target and a further 28% said they were developing one.

The top three strategies for getting to net zero were to reduce the organisations' own emissions (listed by 57% of respondents), acquire carbon offsets (48%) or directly invest in development projects (48%).

Interestingly, only 37% were pushing to reduce emissions throughout their supply chains and, of particular note, a low 19% were setting science-based targets. This reflects the historical absence of voluntary or mandated standards for corporates to use when setting net zero targets, which has left companies with no way of knowing if their targets align with the best science.

This is changing, for example, with the recent launch of the Science Based Targets initiative (SBTi) Net Zero Standard.

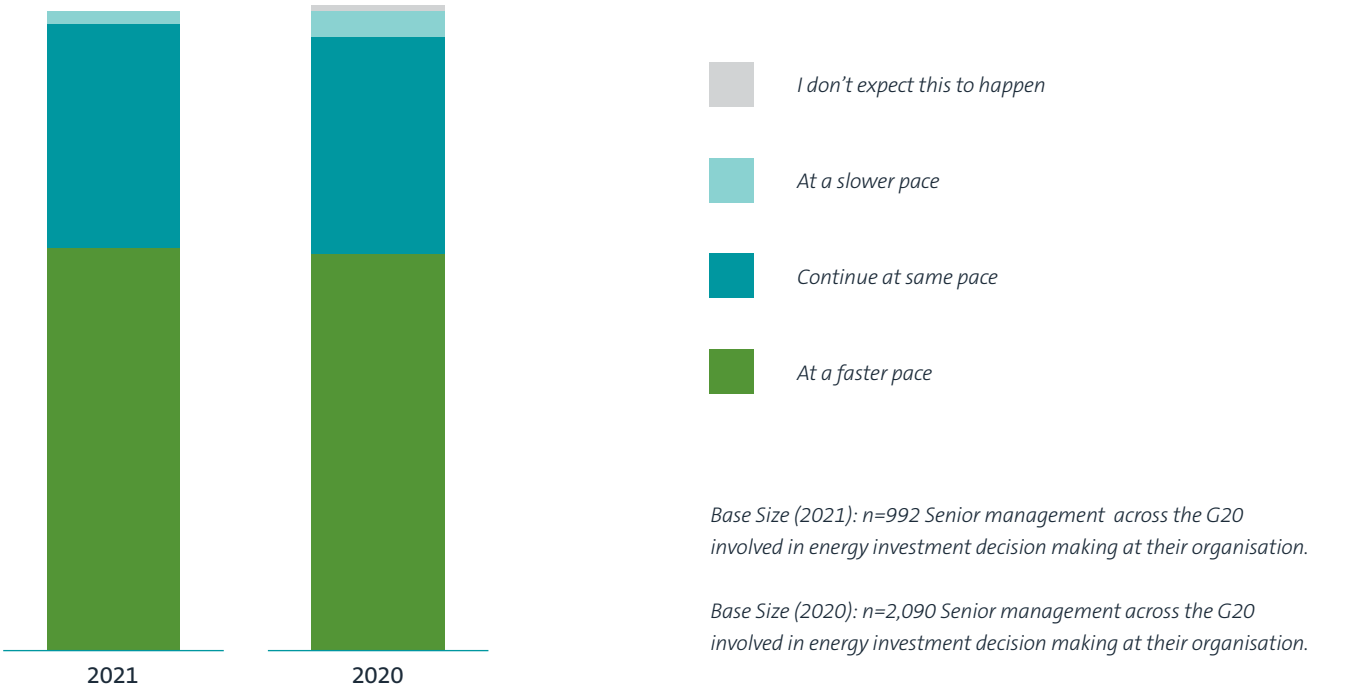
Further, organisations are continuing to adapt their investment strategies to allow for the energy transition. A total of 72% of respondents said their strategies had changed in the past year and they expected to continue adapting in response to the transition. Another 19% said they had changed their plans but didn't expect to change them again.

Some 63% of organisations also believed their shift from investing in traditional energy sources – such as coal, gas and oil – to renewable energy and other transition technologies would accelerate in the next 12 months.

In terms of the speed of change, only 2% thought they might move more slowly – and none said they didn't expect to make a change at all.

Pace of investment from traditional to renewable energy

At what pace do you expect your organisation's investment to flow from traditional energy investment (e.g. coal, gas, oil) to renewable energy, energy transition and decarbonisation technologies in the next 12 months? (Please select one response)



Base Size (2021): n=992 Senior management across the G20 involved in energy investment decision making at their organisation.

Base Size (2020): n=2,090 Senior management across the G20 involved in energy investment decision making at their organisation.

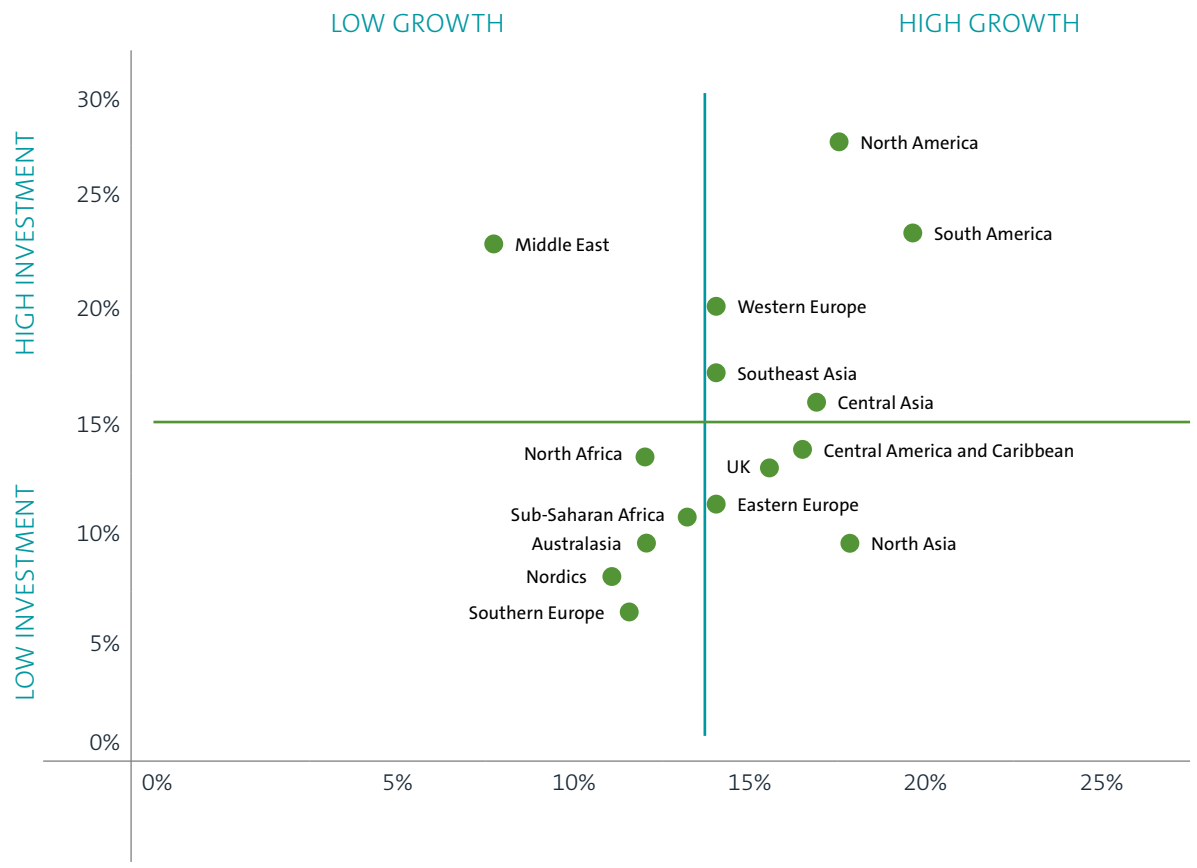
Key locations

North America continues to lead the world among the G20-based respondents for current and intended investment in renewable energy, energy transition and decarbonisation technologies. It was followed by South America, which has overtaken the Middle East compared to the results of our 2020 research.

The next biggest investment hotspots among respondents were Western Europe, Southeast Asia and Central Asia. At the same time, current investment levels among respondents in North Asia were reported to have slipped slightly.

This diagram captures the scale and growth of reported investment by location. It highlights how activity is surging in the Americas, while the investment intent of respondents in other markets, including Australasia and the UK, is behind relative to other regions. This likely reflects the high growth opportunities in the Americas and Southeast Asia.

Current and future hotspots for renewable technologies



Changing drivers

The largest single driver for the increase of energy transition investment is organisations' growing confidence that a significant number of technologies have been proven, and that the availability of developments, incentives and subsidies is growing.

Respondents said that about half of their investments in offshore wind, onshore wind and hydropower ('hydro') were in greenfield projects. The second key driver is the large number of greenfield opportunities that are being pursued, which is giving investors options for where to target their activities.

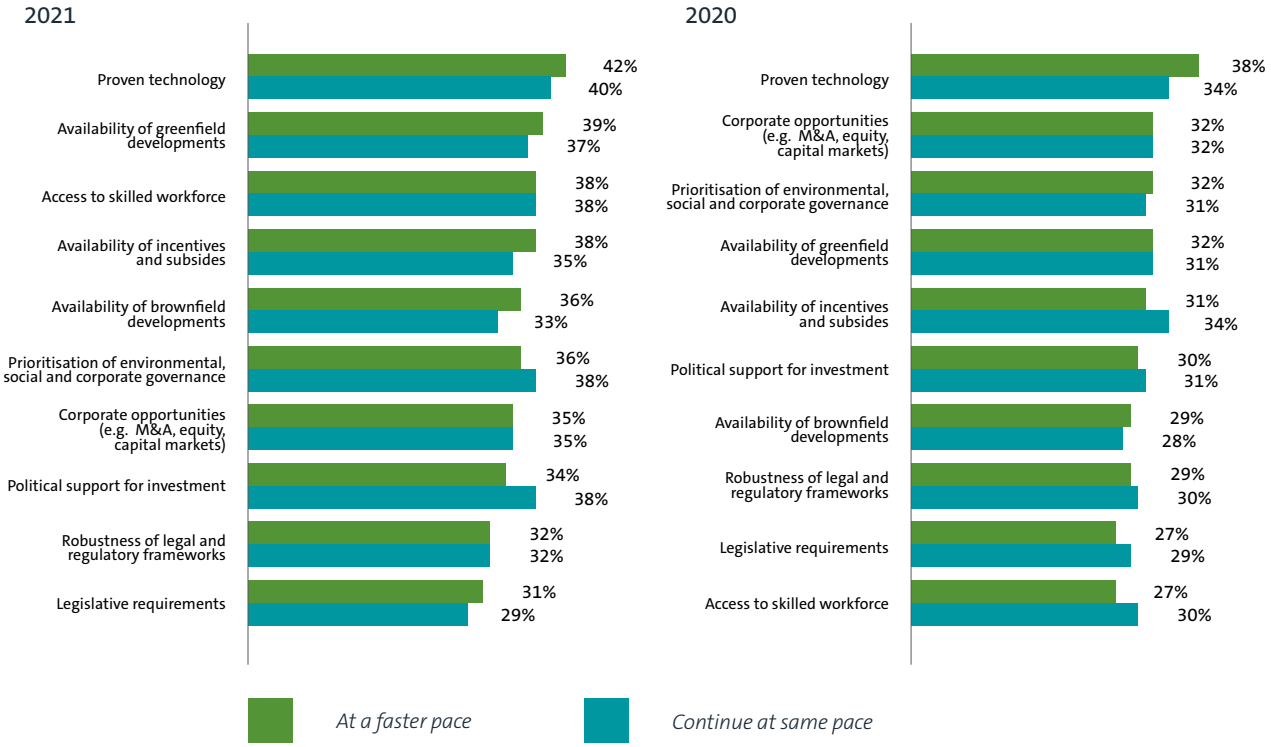
The third-biggest driver for growth in investment was having access to a skilled workforce, which was cited by 38% of respondents. This was well up from 27% from our last research, suggesting there are now significantly more skilled people available to enable organisations to pursue their energy transition plans.

The sources of pressure to invest in low-carbon energy and other transition measures are also changing. In 2020, organisations felt the most 'heat' from government, non-governmental organisations and institutional investors. Today, they feel that most of the pressure is coming from government, customers, suppliers, regulators and competitors.

Driving the growth of renewable technologies

Which of the following is SIGNIFICANTLY driving the growth of renewable energy, energy transition, decarbonisation technologies and net zero commitments for your organisation? (Please select all that apply)

Which of the following do you believe would SIGNIFICANTLY help drive your organisation's investment approach towards renewable energy, energy transition, decarbonisation technologies and net zero commitments? (Please select all that apply)



Renewable power sources

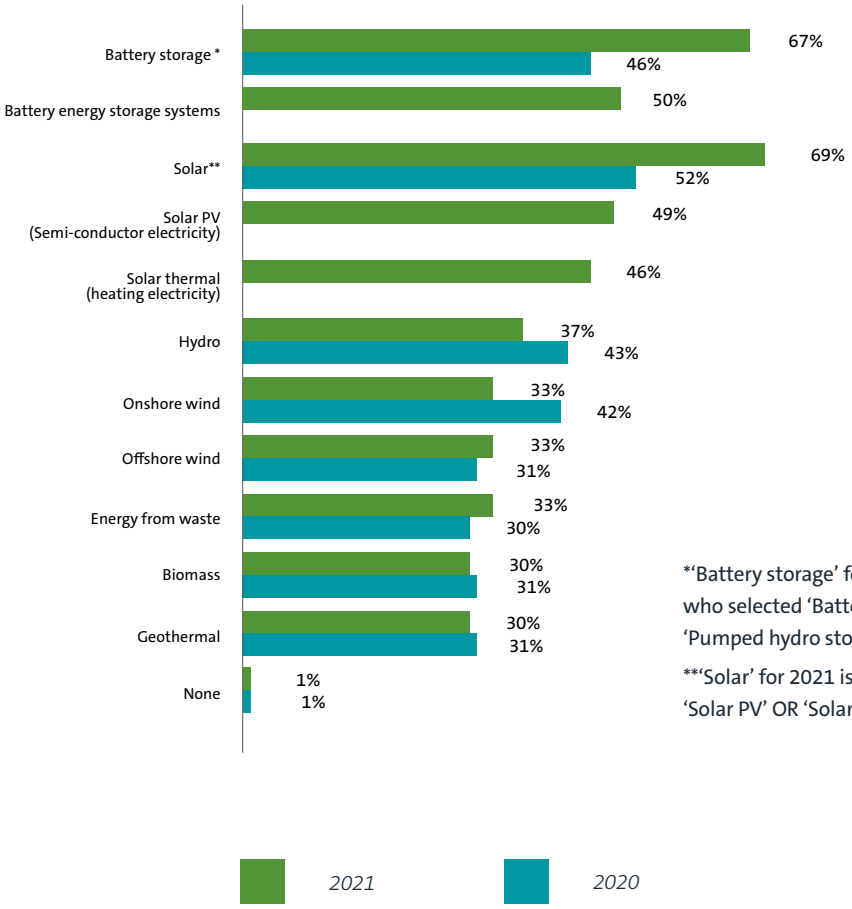
The most popular current power generation technology for investment among organisations was solar (photovoltaic but also solar heating), followed by hydro, and onshore and offshore wind. Within these figures, respondents reported a notable drop-off in investment into new hydro and onshore wind over the past year, including in connection with environmental and social licence issues.

The proportion of organisations that have invested in – or decided to invest in – battery storage technology has surged to 67%, compared to 46% in our previous research. This includes both battery energy storage systems and pumped hydro storage systems.

These findings likely reflect faster than expected declines in chemical battery costs, as well as the need for additional firming capacity in markets that increasingly have a high penetration of variable renewable energy sources.

Current and planned investment in renewable power sources

Which of the following renewable power generation sources do you CURRENTLY OR HAVE DECIDED to utilise or invest in? (Please select all that apply)



*'Battery storage' for 2021 is a combination of respondents who selected 'Battery energy storage systems' OR 'Pumped hydro storage systems'.

**'Solar' for 2021 is a combination of respondents who selected 'Solar PV' OR 'Solar thermal'.

Looking ahead, 42% of respondents say they expect to invest in solar-related technologies in the next five years, which is almost double the 22% who said they had plans to use the technology in our earlier research.

A key source of this demand is industrial and corporate groups committing to targets such as RE100 to source 100% of their energy consumption from renewable sources. These sources include behind-the-meter solar PV solutions, which are increasingly being combined with battery storage.

The growing focus among corporates to source 24/7 carbon-free energy will only hasten further investment into these commercial and industrial energy solutions.

The other most commonly mentioned future-generation approaches for the next five years were offshore wind (cited by 28% of respondents), biomass (27%), geothermal (26%), energy from waste (24%), hydro (22%) and onshore wind (18%).

These trends are captured in the following diagram.

Current and future investment in renewable power generation

Other technologies

The next biggest areas of planned investment beyond power generation and storage were in areas including electric vehicles; carbon capture, utilisation and storage solutions (CCUS); and smart meters.

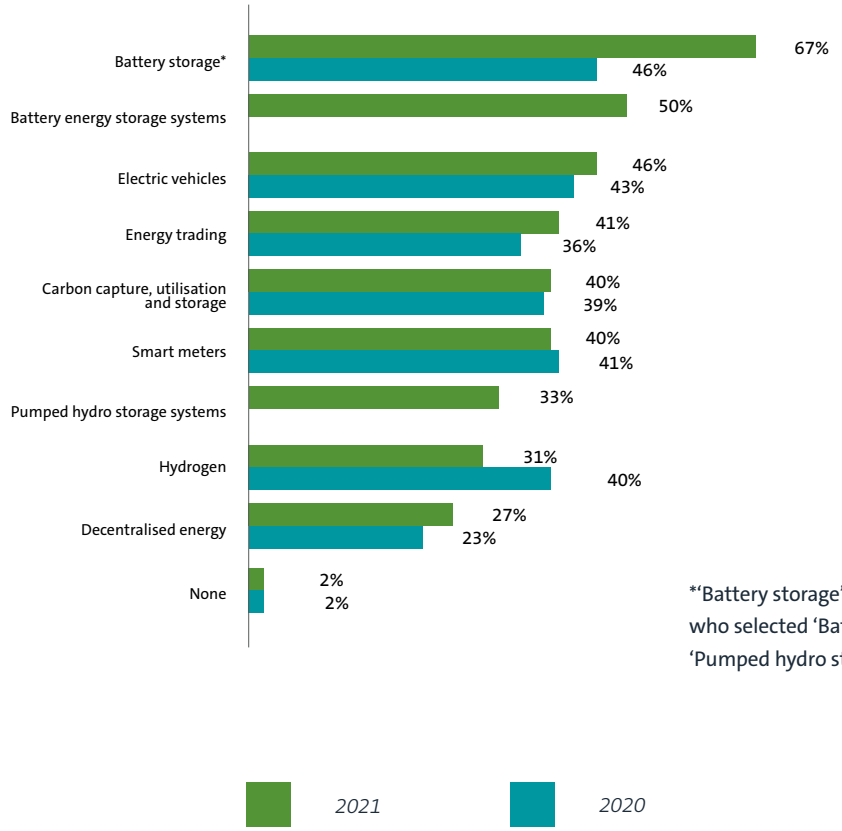
It is notable that respondents' intention to invest in hydrogen has slowed since our last poll, suggesting many organisations see it as a mid-term solution. Compared to our previous research, fewer respondents felt that their organisations or governments were well prepared to implement the technology today.

While there has been a flurry of green and blue hydrogen projects announced, these are all at early stages of development. Respondents' sentiment that the technology will take longer to mature reflects the current cost estimates for hydrogen, which are not yet economically competitive. There is also a lack of clarity about how quickly domestic and international demand for hydrogen – whether as ammonia or liquified – will emerge.

That said, Ashurst is seeing private groups beginning to invest larger and larger amounts of capital in hydrogen-related businesses. Some governments have also increased incentives. We expect private sector investment to continue to grow, particularly as government regulation and support become clearer.

Current and planned investment in non-power generation technologies

Which of the following non-power generation technologies are you CURRENTLY OR HAVE DECIDED to utilise or invest in? (Please select all that apply)



*'Battery storage' for 2021 is a combination of respondents who selected 'Battery energy storage systems' OR 'Pumped hydro storage systems'.

Current and future investment in non-power generation technologies

Main players

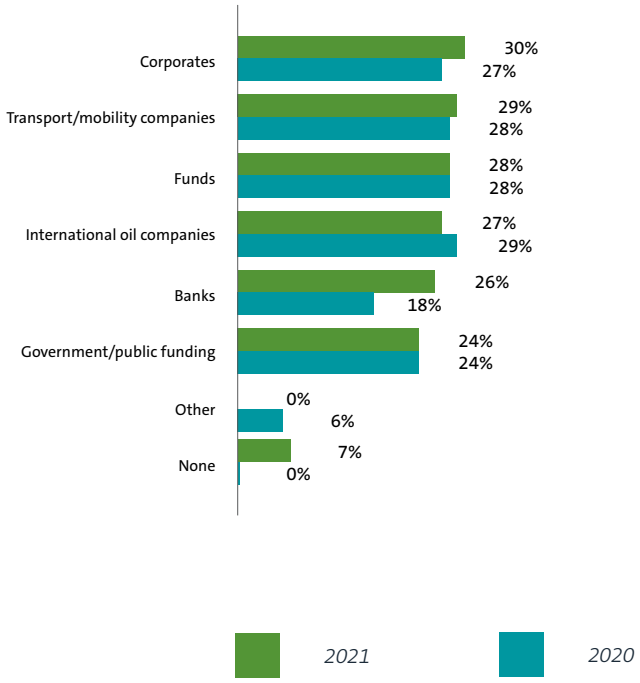
Respondents expect to see an increase in the diversity of new investors in renewable power generation in the future. This new investment is expected to come from:

- corporates committing to net zero and renewable energy targets
- transport and mobility companies exploiting the growth in electric vehicles and hydrogen as a fuel
- dedicated funds seeking to meet sustainability and environmental, social and governance requirements
- large corporates historically focused on hydrocarbons turning themselves into integrated energy businesses operating across the breadth of the energy transition project sphere.

The survey respondents expected government and other publicly funded groups to be less dominant in the next phase of investments, which suggests the private sector will likely be at the forefront of driving the energy transition. It also highlights how corporates are often moving ahead of government policy and regulation as institutional investors, asset managers and financial institutions, including central banks, increasingly set the pace and direction of net zero -related investment.

Future investors in renewable power generation

Which NEW investors in renewable power generation sources do you expect there to be in your country over the next five years? (Please select all that apply)



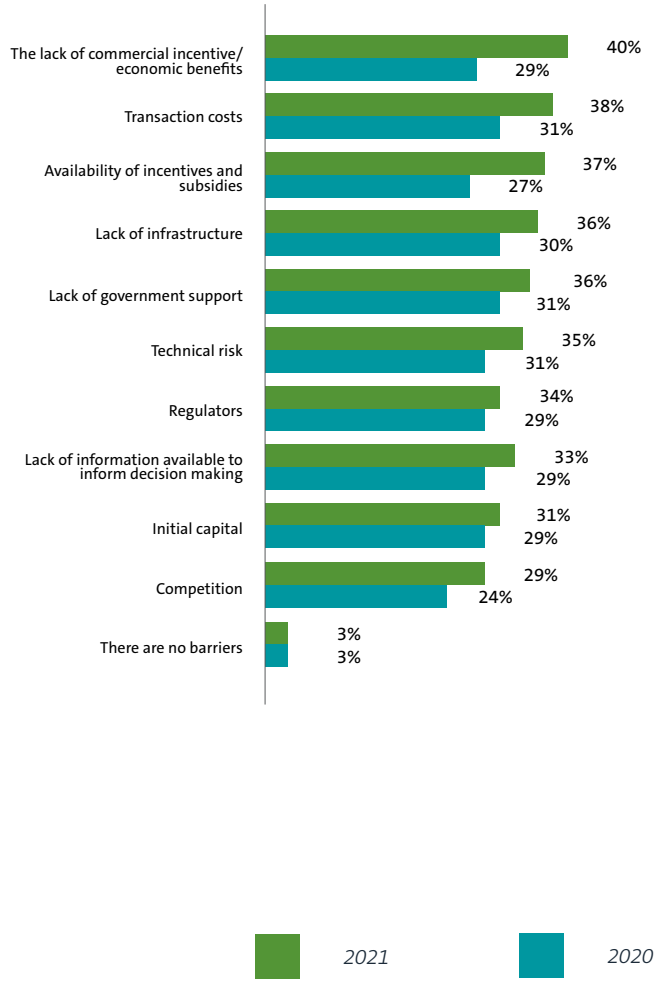
Barriers to adoption

While the research findings suggest a strong future for renewables and decarbonisation, and show that almost all organisations are seeking to invest in energy transition initiatives, respondents also felt that the barriers to investment were actually growing.

The top barrier to investment was seen as a lack of commercial incentives or economic benefits. This was cited by 40% of respondents, compared to only 29% in 2020, and highlights the need for many organisations to develop new business models as well as the importance of clear policy directions from governments to allow firms to plan.

Barriers to investment in renewable energy

In your country, what do you believe are currently the barriers for your organisation to invest in renewable energy, energy transition, decarbonisation technologies or making net zero commitments? (Please select all that apply)



Disputes

A high 91% of respondents believe their current approach to the energy transition is likely to lead to disputes with a third party. Disputes with individuals and pressure groups were seen as most likely (cited by 64%), followed by disputes with governments and other authorities (57%).

These results reflect the scrutiny organisations face as they develop and implement sustainable business models. Individuals and pressure groups may bring claims alleging incomplete or misleading disclosures by organisations about net zero strategies. Challenges under planning or administrative law could also frustrate investment in infrastructure.

Concern about disputes with governments and other authorities likely reflects uncertainty about regulation and government incentives for energy transition and decarbonisation investments.

Where investments cross borders, disputes may take the form of investment treaty proceedings against states that undermine the value of related investments. Investors should give careful thought as to whether their investments (current or new) attract the protections available under investment treaties.

Interestingly, a comparatively low 33% of respondents saw the energy transition as likely to give rise to disputes with other companies. In our experience, the pace of technological change in this sector, combined with the entry to the market of new players, is already resulting in international commercial disputes. This makes it a risk that should be managed, both at the time of contracting and during operation of contracts after their completion.

Contact us

Michael Burns, Partner
Global Co-Head of Energy, EMEA/US
(London)
T +44 20 7859 2089
M +44 7717 840 646
michael.burns@ashurst.com

Paul Curnow, Partner
Global Co-Head of Energy, APAC
(Sydney)
T +61 2 9258 5738
M +61 434 074 591
paul.curnow@ashurst.com

ashurst

ashurst.com