Willis Towers Watson

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Climate risk and the energy transition:

a wake-up call for natural resources risk managers?

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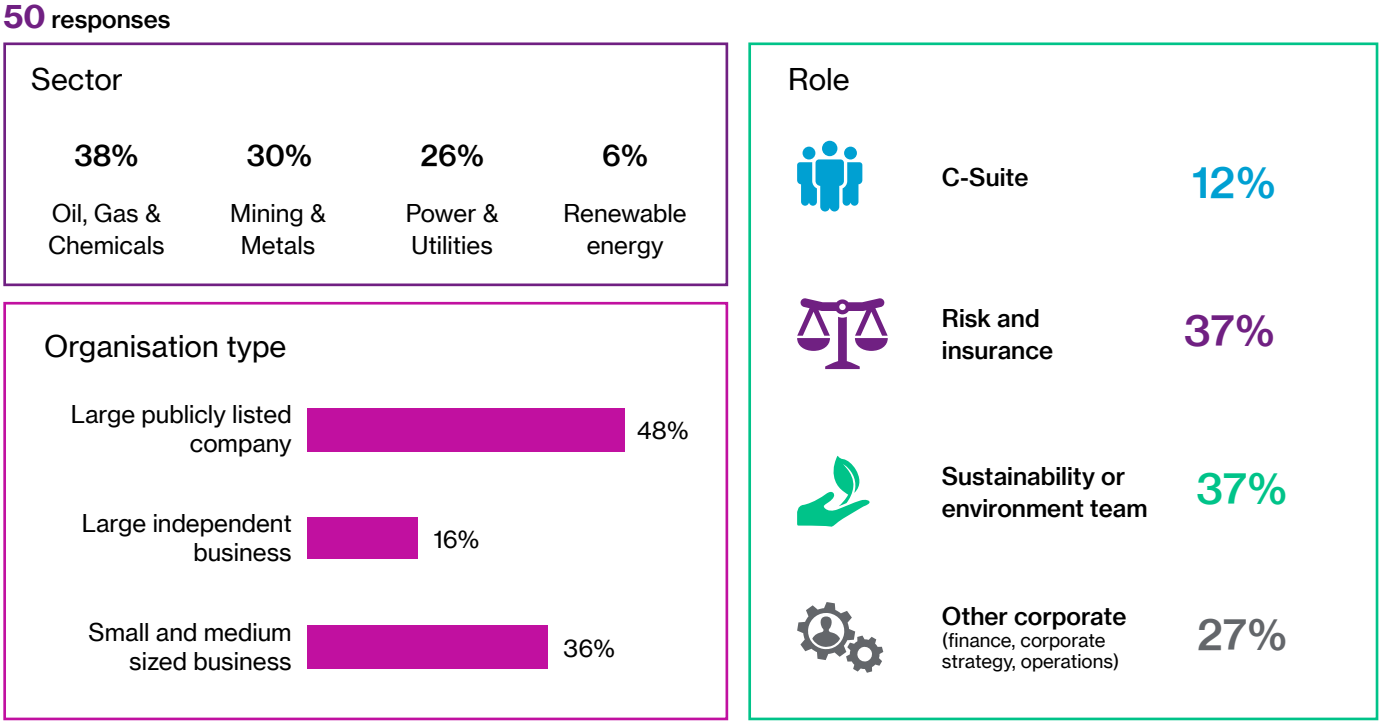
Introduction: why a new survey?

For many, the energy transition has begun earlier than they might have imagined. Indeed, this year's series of natural catastrophes, including several prominent wildfires in North America, Australia and Southern Europe, together with wind and rainstorm damage (most recently from hurricane Ida in the US) has made even the hardest-nosed sceptic aware that the impact of climate is very real – regardless of individual political stances on what to do about it.

As Willis Towers Watson has consistently referenced in our most recent Energy, Power, Mining and Renewable Market Reviews, it is the natural resources industries that are perhaps most affected by climate risk compared to other sectors of the global economy. As the energy transition begins to accelerate, we felt that it was vital to measure how representatives from this industry sector are currently reacting to climate risk and the extent to which they are already embracing the energy transition. So in Q2 of 2021 we commissioned a global survey to find out.

In total, we received 50 responses, including a mix of large and SME businesses. Oil, gas and chemical companies are the most highly represented in the survey findings, followed by mining & metals and power companies. As we would expect, risk managers were the most represented in terms of survey respondents by role, followed by sustainability and environmental teams and other corporate functions. However, a small (but nevertheless significant) number of responses were also received from the C-Suite. 46% of the respondents were from the Europe, Middle East and Africa region, 26% from North America, 16% from Latin America and 12% from the Asia Pacific region -providing a truly global mix of business cultures.

Fig 1: About the survey respondents

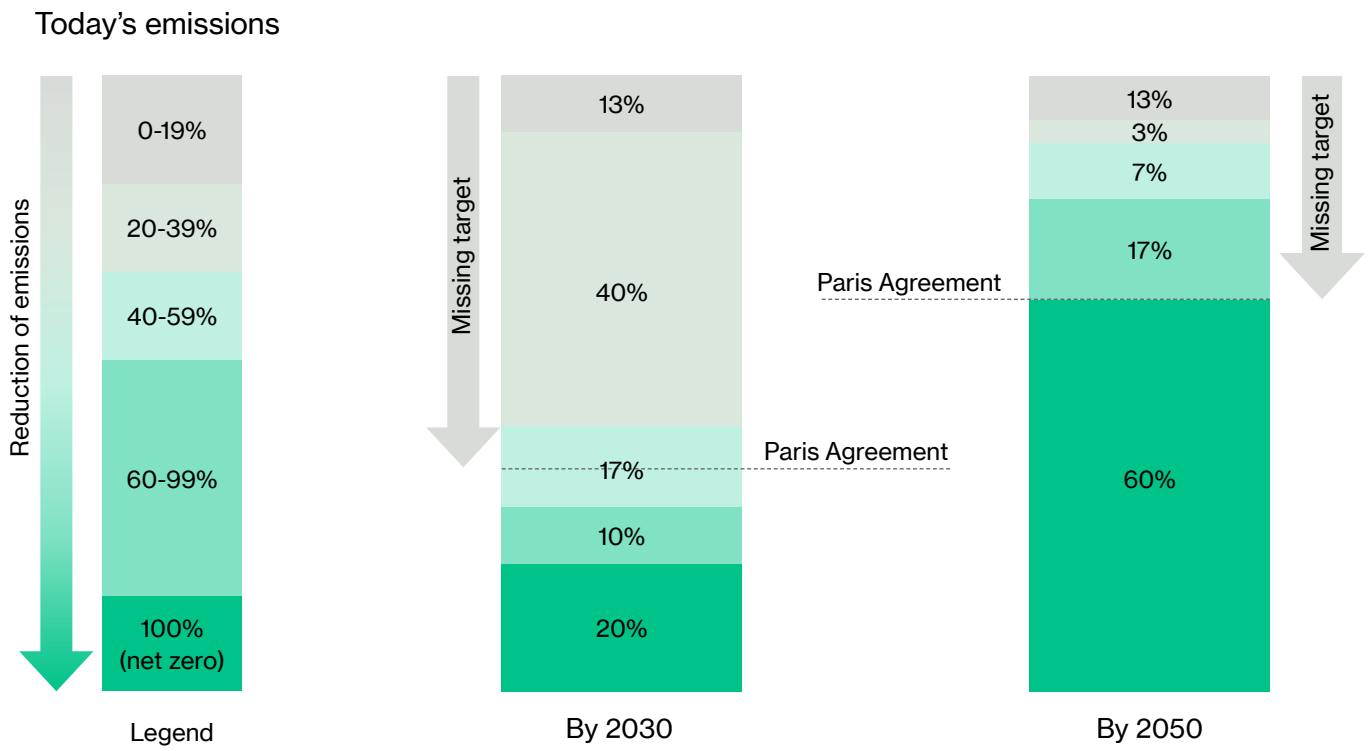


Source: WTW 2021 Climate Risk and Energy Transition Survey

On target for Paris?

Fig 2: 6 in 10 organisations expect to miss Paris targets by 2030, while 4 in 10 will miss them by 2050

What targets has your company set to reduce emissions?



Paris Agreement: By 2030, c50% reduction in emissions. By 2050, 100% (net zero)

Note: Sample excludes those that didn't answer questions for both years.
Source: WTW 2021 Climate Risk and Energy Transition Survey

How are the survey participants progressing towards the goals outlined in the Paris Agreement that was signed in December 2015? Paris set a goal for the 184 participating countries (now 197) of achieving a well below 2 degrees C (3.6. degrees Fahrenheit) temperature rise during this century, while pursuing efforts to limit the rise to 1.5 degrees. In order to achieve these goals, global emissions need to be halved by 2030 and net-zero reached by 2050.

One of our first survey revelations was that 60% of participants do not expect to meet Paris-aligned targets by 2030 and 40% will fail to achieve net zero emissions by 2050 (see Figure 2 above).

Although a quarter of those companies surveyed are planning to achieve net zero emissions by 2030, over half the research sample expect that they will only be able to reduce their emissions by less than 60% by that deadline. Over 60% of companies feel more confident in achieving net zero by 2050, suggesting that it will take more than a decade before the infrastructure and technology is in place and being implemented at a scale to enable this to happen.

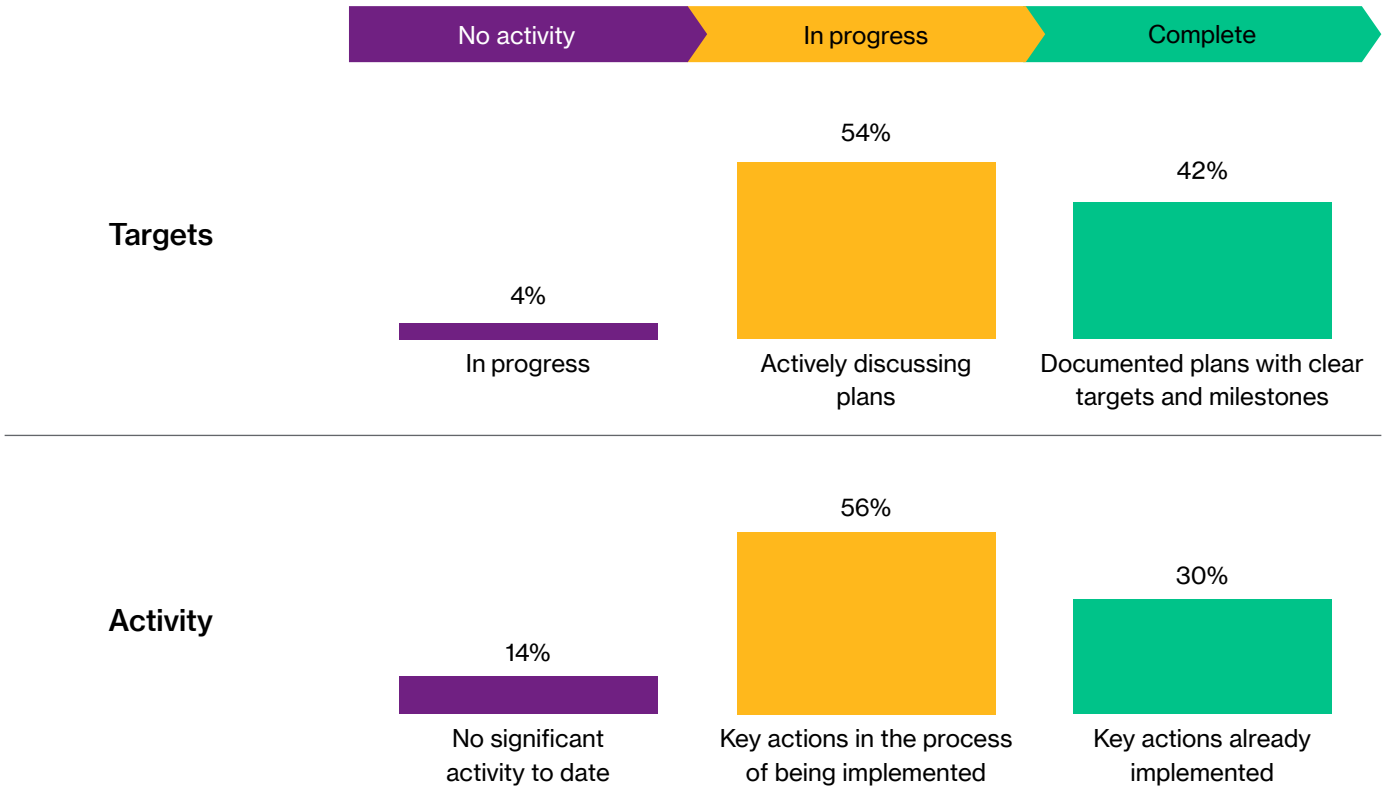
A further observation is that whilst many organisations have action plans in place, the jury is still out on how effective those actions will be in reducing emissions, and how many plan to achieve carbon emission reduction targets through offsetting (e.g. carbon capture storage) versus making fundamental changes to their physical assets or the technology that they use.

Main challenges of executing transition strategies

Fig 3: Most organisations have begun their journey on the energy transition

3 in 10 report they are at an advanced stage

Which of the following best describe at what stage your organisation is on the Energy Transition?



Source: WTW 2021 Climate Risk and Energy Transition Survey

Figure 3 above shows that most companies (over 50%) are progressing their actions, with implementation plans underway and targets set. Furthermore, 42% have gone further to document their targets, setting clear milestones and targets and just over 30% have already completed key actions. Almost all have some targets in place, although around 14% of companies have undertaken no activity to date.

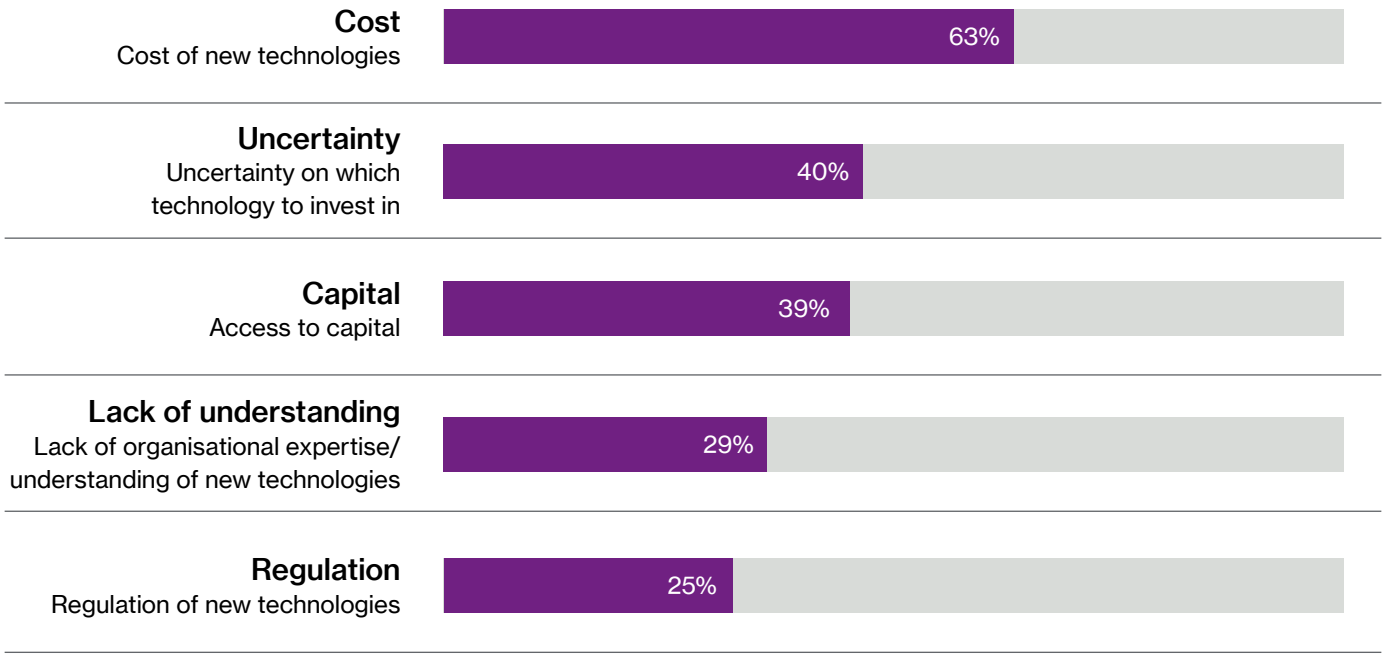
Our respondents also highlighted several key challenges:

- Most respondents view **a lack of incentivisation** as a major barrier to accelerating the implementation of energy transition strategies, particularly amongst small and medium sized companies – nearly 60% of SMEs cited this as the biggest challenge, but 40% of larger companies also view it as the third biggest challenge.
- Larger companies believe that the challenges associated with **meeting asset retirement costs** are also significant and complex to manage, with 47% of our sample citing this as the biggest challenge.
- **The costs** associated with driving an **energy transition strategy at scale** are also a key challenge for natural resources companies (see Figure 4 below) – accessing capital to fund this is cited as the second and fifth biggest challenge for SMEs and large organisations respectively.
- Both SMEs and larger organisations also cite **lack of data** as a key issue and a lack of in-house capabilities, pointing to **an emerging talent gap** in hiring employees with the right mix of skillsets that will be required in the future.

Fig 4: Cost of implementation is the biggest barrier to adopting new technologies

Uncertainty persists as to which technologies to back

What obstacles, if any, is your organisation facing when adopting new technologies?



Note: Percentages are based on respondents answering "To a great extent' or "To a significant extent"
Source: WTW 2021 Climate Risk and Energy Transition Survey

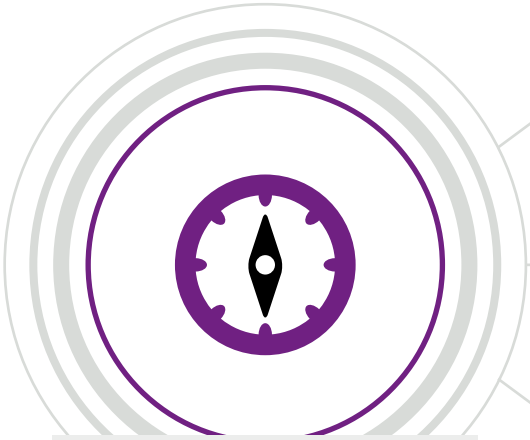
Implications for risk managers

Our survey also suggested that the responsibility of effecting the energy transition in most companies largely lies with sustainability rather than the risk management teams (see Figure 5 below). Understandably, most climate change reporting also has a strong sustainability focus, with 78% of organisations surveyed producing sustainability reports. But what's more surprising is that that less than half are integrating this into financial reporting, and that less than 50% of risk engineering programmes are linked to climate change.

There is clearly more scope for a more enlarged role for risk managers in helping to effect the energy transition. We believe that the results of our survey confirm this; in particular, we would like to cite five "wake-up calls" from the survey responses to risk managers that may allow them to take on a more meaningful role in leading transition strategies in the future.

Fig 5: Sustainability teams are leading the energy transition

3 in 10 Risk and Insurance teams and less than 1 in 10 Finance functions are playing a leading role



Which corporate functions are most active in leading your organisation's response to climate and the energy transition?

Please select two most important

	1st	2nd
1 Sustainability Team	40%	17%
2 Corporate Strategy	19%	20%
3 C-Suite	17%	9%
Environment Team	11%	17%
Risk and Insurance	6%	24%
Finance	2%	7%
Other	4%	7%

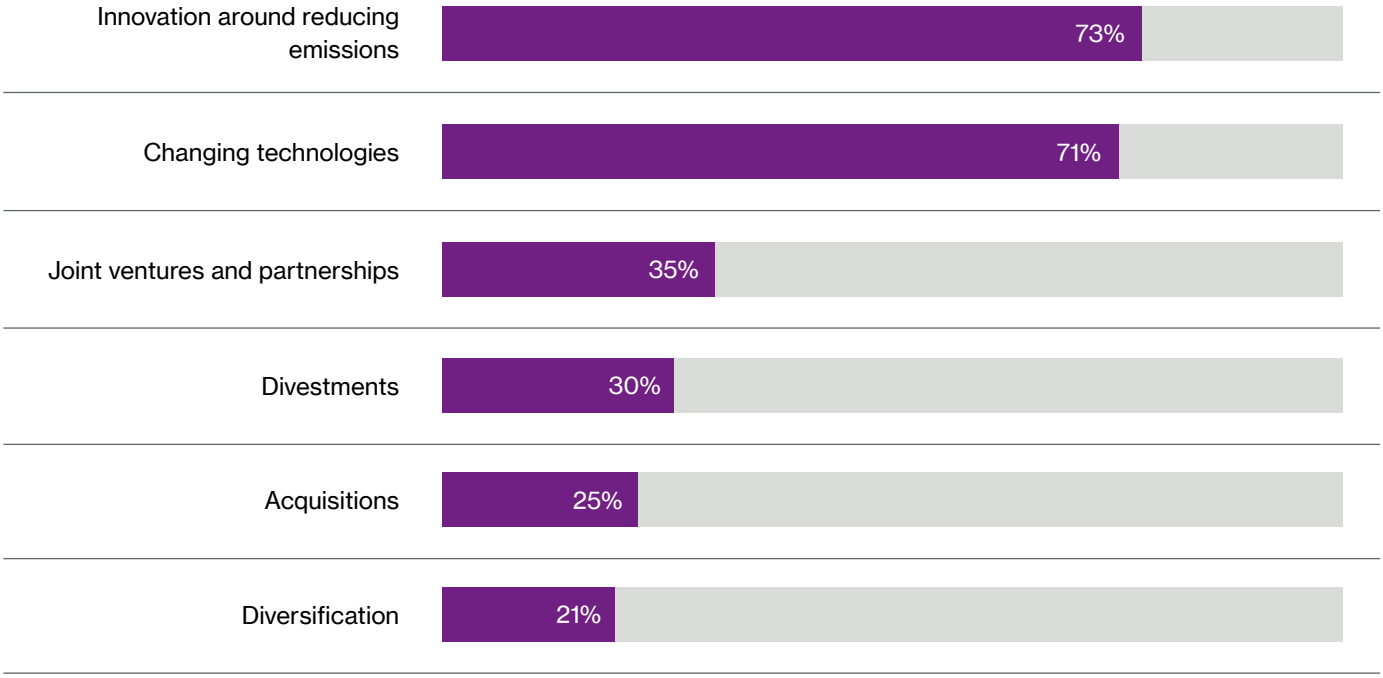
Source: WTW 2021 Climate Risk and Energy Transition Survey

Call to action one: required modification to existing assets

Fig 6: Organisations are primarily focusing on innovation around existing assets to reduce current emissions

7 in 10 companies are actively considering alternative technologies

To what extent are the following a key priority for your organisation in the next three years in order to implement your transition strategy?



Only 1 in 20 small to mid – sized organisations see diversification as a priority

Note: Percentages are based on respondents answering "To a great extent' or "To a significant extent"
Source: WTW 2021 Climate Risk and Energy Transition Survey

Most companies are pursuing a strategy of decarbonising their existing assets whilst exploring new avenues; they cannot just close off existing revenue streams and are now exploring a range of options rather than simply selecting a "one size fits all" approach. Figure 6 above shows that companies recognise the need to balance current shareholder financial return requirements against a longer term move towards more fundamental change. However, the primary focus and investment among those companies responding to the survey is now around reducing "business as usual" emissions - in other words, modifying their existing assets.

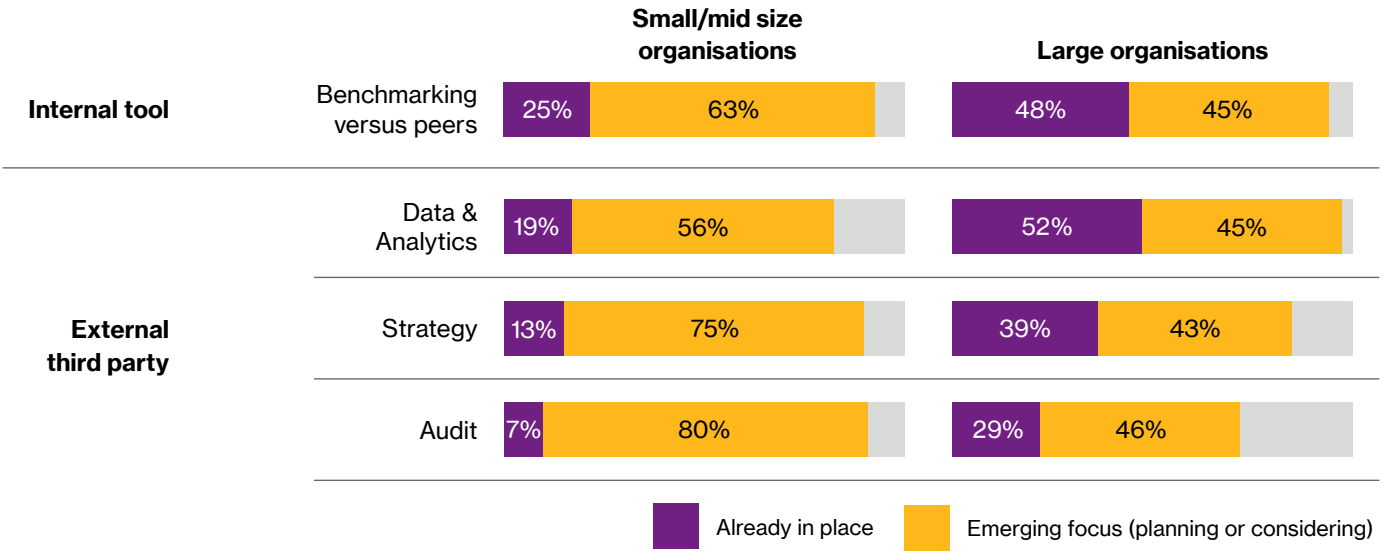
Although the speed at which emissions will be reduced is forecast to be a medium to longer term play, most organisations are focusing on adapting their asset bases or changing their technology focus to address the challenges of the energy transition. Over 70% of the research sample are either innovating or changing technologies over the next three years, whilst nearly 40% expect to form joint ventures or strategic partnerships to adapt their businesses to the transition. Around a third of companies that we surveyed will plan to do this through strategic acquisitions or divestments, whilst a smaller proportion will embark on diversification programmes. If we look specifically at the large independent or large publicly quoted companies that participated in the survey, over 80% are focused on implementing innovation programmes to adapt their existing assets or changing technology focus areas in the next three years.

As expected, 7 in 10 companies that participated in the research are basing their transition strategies around risk and opportunity assessment and over 50% are engaging in scenario analyses. However, capital providers are now playing a key role in influencing transition strategies, increasingly tying their lending to decarbonisation actions and goals. Advances in renewable energy are also acting as a significant disruptor, forcing more traditional players to adapt and change their business models and accelerate their transition focus.

Call to action two: increased climate risk reporting

Fig 7: Large organisations have the lead on reporting, but all expect to incorporate greater external support in the next two years

Does your organisation use any of the following to assist its climate risk reporting, or does it plan to do so in the next two years?



Source: WTW 2021 Climate Risk and Energy Transition Survey

Figure 7 above shows that physical climate risk assessment is well embedded in larger organisations, but still an emerging focus area within SMEs. However, all survey participants agree that internal and external reporting around climate change will increase dramatically over the next two years.

76% of respondents are adopting an integrated approach to assessing their climate risks, using a mix of risk engineering, risk analytics, scenario modelling and Nat Cat analyses. However, only 2 in 5 of organisations surveyed are also validating their assessments with additional stress testing and climate risk audits performed by external third parties.

Not surprisingly, a significantly higher proportion of large organisations in the survey sample have conducted climate risk assessments on their businesses. But relatively few have also conducted climate risk assessments across the supply chain, or with Joint Venture partners, or with customers, suggesting that this is still in the process of being embedded into day-to-day operations.

Most companies (63%) are using a 10-29-year planning horizon in respect of climate risk assessment, but surprisingly, 23% of the sample have decided not to model a Paris-aligned transition.

Most organisations are focusing their climate risk reporting on investors and financial markets, demonstrating to capital providers that energy transition strategies are underway. Governments and regulators are also an important target audience with 52% also targeting this group, but they are still a long way behind capital providers.

As we would expect, larger organisations have more embedded tools and processes already in place to drive internal and external reporting, but all survey respondents are expecting to dramatically increase focus on benchmarking, data and analytics, strategy and external audits in the next two years.

Although financial markets and investors are the primary target audiences for reporting, sustainability teams are most actively involved in this area, followed by corporate strategy functions and the C-Suite. The Finance function is very under-represented; very few risk and insurance teams are leading the reporting (3 in 10 - so 70% are not yet at the table), although almost a quarter are providing some level of support in this area.

Call to action three: reduced access to insurance and financing capital

Fig 8: Organisations are currently more impacted by reduction of insurance capacity than access to financing
Insurers are applying much more scrutiny to ESG issues

To what extent are the following impacting your organisation due to its climate profile?

Reduction in availability of insurance capacity

Reduction in availability of debt financing

Note: percentages are based on respondents answering "To a great extent' or "To a significant extent"
Source: WTW 2021 Climate Risk and Energy Transition Survey

Capital providers are increasingly linking their lending decisions to those companies that demonstrate clear energy transition strategies. Crucially from a risk management perspective, our survey respondents are currently more impacted by the threat of reduced insurance capacity than access to capital, although this is likely to change as the energy transition gathers pace (see Figure 8 above).

Nearly 1 in 5 of respondents highlighted gaining access to available insurance capacity as a significant risk, reflecting the increased scrutiny that insurers are now placing on insureds around ESG strategies. By contrast, much fewer respondents are currently experiencing challenges in accessing debt financing today – we can expect that this will change dramatically in the future, as Capex and new innovation projects begin to increase in scale.

As indicated earlier, our survey also revealed that the demands of capital providers (including insurers) are now the second most important driver to influencing their transition strategies, after risk and opportunity assessments. Of course, on the horizon of every natural resources risk manager's mind is the well-publicised re-assessment of insuring fossil fuel companies by several major global insurers and the implications for not only the amount of insurance cover they will be able to purchase in the future but also its cost.

At Willis Towers Watson, we strongly believe that an accreditation model is the most appropriate way forward for natural resources companies to continue to access optimum levels of insurance capacity. That' why we have been instrumental in setting up Climate Transition Pathways, an accreditation framework within which we are building an insurance standard to address the need for a consistent way of identifying and supporting organisations committed to low-carbon transition.

With Climate Transition Pathways, insurance can contribute to climate transition and be recognised as a force for good. Through the supply of contingent capital, insurers wield considerable influence; by using the independent accreditation model, insurers can consistently identify, engage with and offer solutions to organisations committed to measurable and verifiable change. In this way they are proactively helping to accelerate the progress to a low-carbon economy.

Fig 9: Demands of capital providers are now the second most important driver after risk and opportunity assessment

To what extent are the following influencing your transition strategy?

	All organisations	Small/mid organisations	Large organisations
1	Risk and opportunity assessment (67%)	Risk and opportunity assessment (59%)	Risk and opportunity assessment (72%)
2	Demands of capital providers (63%)	Demands of capital providers (59%)	Demands of capital providers (66%)
3	Scenario analyses (52%)	Regulatory compliance (50%)	Scenario analyses (56%)
4	Renewable Energy acting as disruptor (47%)	Changing consumer behaviour (47%)	Renewable Energy acting as disruptor (50%)
5	Regulatory compliance (40%)	Scenario analyses (44%)	Regulatory compliance (34%)
6	Changing consumer behaviour (39%)	Renewable Energy acting as disruptor (41%)	Changing consumer behaviour (34%)

Note: Percentages are based on respondents answering "To a great extent' or "To a significant extent"
Source: WTW 2021 Climate Risk and Energy Transition Survey

Call to action four: increased regulatory and legal burden

It is surprising that legal and liability exposure is viewed as such a minor risk given that the number of climate related litigation cases has risen dramatically over the last 15 years.[1] The litigation landscape is also developing quickly, with the number of climate-related claims against business rising. The general outlook is also increasing in complexity, with new litigants emerging and greater litigation funding available.

However, companies are clearly concerned about the challenges of emerging regulation in new and existing areas – 63% of respondents cited this as the most significant risk, closely followed by market changes as companies adapt to an evolving energy mix where a more diverse range of technologies and focus areas will need to be managed (see Figure 10 below). Reputation management also scores highly as a key challenge – companies can see that having a clear energy transition strategy is a positive from a reputation and brand perspective.

Call to action five: implementation of new technology

Although not in the top three challenges outlined in Figure 10 below, technology risk is also significant and on the increase as the energy system becomes increasingly digitalised. Whilst digitalisation is helping to improve the safety, productivity and sustainability of energy systems around the world, it is also raising new security and privacy risks, whilst disrupting markets, businesses and workers.

Fig 10: While organisations do not view current regulation as a challenge, they see emerging regulation as one of the most significant risks

Which are the most significant risks your business will be exposed to as a result of climate change and the energy transition?

Please select up to 3 responses.

1	Emerging regulation	63%
2	Market changes (customer behaviour/market sentiment)	55%
3	Reputation	41%
	Technology	39%
	Acute physical risks	29%
	Current regulation	29%
	Chronic physical risks	20%
	Legal and liability exposure	4%

Legal and liability exposure is surprisingly low, given increasing climate-related litigation

Source: WTW 2021 Climate Risk and Energy Transition Survey

[1] https://www.freshfields.com/en-gb/our-thinking/campaigns/climate-change-litigation/climate-related-litigation-by-numbers/

Not surprisingly, Solar and Wind technology emerge as the most significant areas of focus from our survey (see Figure 11 below). Gas is still an important part of the energy mix – at least for the medium term - but low carbon hydrogen technology is gaining significant interest as a way of decarbonising large sectors of the global economy, particularly in hard to abate sectors. According to the Boston Consulting Group, if companies and governments get it right, the market for low carbon hydrogen and associated synthetic fuels could reach $1trillion by 2050.[2] It is surprising to see that very few companies included in our survey have selected Carbon Capture & Storage (CCS) or battery storage as key focus areas, given the strong growth predicted for each of these over the next decade.

Reaching net zero emissions by 2050 worldwide calls for "a huge increase in hydropower ambitions," according to the International Energy Agency. "With its ability to supply large amounts of low-carbon electricity on demand, hydropower is a key asset for building secure and clean electricity systems."[3]

Of course, there is no doubt that the deployment of all this new technology is going to cost, as well as exposing natural resources companies to a revised risk landscape. Indeed, our survey showed that cost challenges emerge as the biggest barriers to adopting new technologies (see Figure 10 below).

Participants also highlighted uncertainty around which technology to invest in as a significant obstacle, as there are still challenges in making bets about where best to focus time and resource that will deliver the best sustainable returns in the longer term. It is surprising that regulation of new technologies is not seen as a significant obstacle – perhaps because the regulatory frameworks around new technologies that will be developed at scale are not yet fully in place.

Fig 11: Solar and wind technologies are the top priorities for developing new energy sources

Hydrogen is emerging as a major technology for the future

Which technologies / energy sources is your organisation prioritising for development over the next 3 years?

Please select up to 5 responses.

Solar	56%
Wind	44%
Gas	40%
Hydrogen technology	33%
Hydropower	29%
Liquid biofuels	17%
Oil	13%
Geothermal	13%
Electrification	10%
Biogas	4%
Battery storage	4%
Fossil fuel plant fitted with CCS	4%
Nuclear	2%
Solid biofuels	2%
No changes planned	2%

Note: 'Wave and/or tidal' and 'Coal' excluded due to not having any responses.
Source: WTW 2021 Climate Risk and Energy Transition Survey

[2] https://www.bcg.com/publications/2019/real-promise-of-hydrogen
[3] https://www.iea.org/reports/hydropower-special-market-report/executive-summary

Conclusion: time to take the first steps?

Our full survey results will be made available on our website (www.willistowerswatson.com) in due course. But in the meantime, we feel that the following are the most important overall takeaways:

- 60% of survey participants do not expect to meet Paris-aligned targets by 2030 and 40% will fail to achieve net zero emissions by 2050
- The biggest challenges facing companies in implementing their climate risk and energy transition strategies are financial
- Organisations are currently more impacted by the threat of reduced insurance capacity than access to capital, although this is likely to change as the energy transition gathers pace
- All survey participants agree that internal and external reporting around climate change will increase dramatically over the next two years
- Whilst there is significant activity taking place, many large organisations are still not adopting an integrated approach to managing transition risk – in particular, only three in ten risk and insurance teams are currently involved in leading transition strategies and less than one in ten finance functions are involved

The energy transition is beginning to affect all of us – for some, much earlier than we had expected. We believe the results of our survey are a wake-up call to risk managers operating in the natural resources sector. Only by working together can risk managers and their intermediaries begin to forge a fresh strategy to anticipate, examine and deal with the new risk management challenges that are undoubtedly on the horizon.

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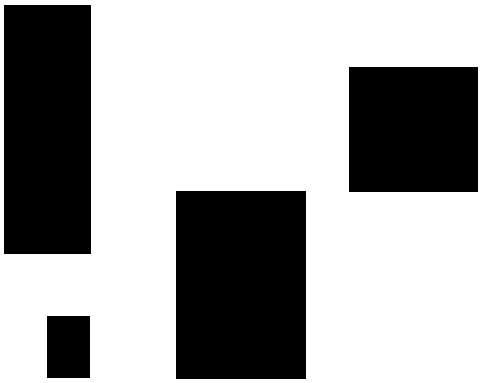

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