# Reality Check: Energy and Natural Resource Executive Pulse 2024

**Executives expect a slower energy transition as it gets more difficult to generate returns and progress diverges across regions.**

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# Acknowledgment

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## At a Glance

- About 62% of executives expect the world to reach net-zero emissions by 2060 or later, up from 54% in last year's Bain survey.
- Most remain committed to investing in their transition-oriented growth businesses, but ROI challenges are intensifying.
- North America is viewed as the most attractive region for investment, despite concerns about policy stability.
- Executives in the Middle East, Asia-Pacific, and Latin America feel increasingly optimistic about their energy transition–related businesses.
- Industry leaders believe generative AI has the potential to improve maintenance, production, and supply chains, among other areas.

The energy transition looks slower as it becomes even more difficult to ensure adequate investment returns and progress diverges across a fragmenting world. That's the main message from Bain's annual survey of 600-plus executives in oil and gas, utilities, chemicals, mining, and agribusiness, taken during COP28 and the weeks after.

As with previous years, our 2024 survey aims to get a better sense of industry leaders' views on the energy transition, new technologies, investment opportunities, and where they see the greatest challenges for decarbonization. This year's survey found that energy and natural resource (ENR) companies haven't dampened ambitions for their transition-oriented growth businesses. However, customers' willingness to pay is a growing issue, as is the ability to generate adequate return on investment in energy transition-oriented projects. As a result, companies are focusing on projects with a viable ROI path.

Clearly, the longer that executives on the front lines of the energy transition grapple with the challenges of putting decarbonization plans into action, the more sober they're getting about the transition's practical realities.

Energy transition progress is diverging across regions as the world fractures economically and geopolitically. Even as increasing government subsidies make some regions, such as North America, more attractive for investment, executives have growing concerns about policy stability. Macroeconomic headwinds (notably, high interest rates) have made it that much harder to assemble sufficient capital to scale up transition projects and to attract enough customers to deliver a return.

There are bright spots. For example, executives in the Middle East, Asia-Pacific, and Latin America are feeling more optimistic about the prospects of their transition-oriented growth businesses.

As industry leaders prepare for this month's CERAWeek energy conference, these survey results provide insight into what's top of mind for ENR executives. Here are five of the most notable themes that have emerged.

**1. Fewer executives expect the world to achieve net-zero carbon emissions by 2050**

Despite ENR companies' continued investments in decarbonization, about 62% of executives now anticipate the world will reach net zero by 2060 or later, up from 54% in last year's survey (*see Figure 1*). This view is consistent across most regions and is most strongly held among oil and gas executives.

A slower rate of decarbonization makes companies' resilience and adaptability plans all the more important, in order to withstand more severe impacts of climate change.

**2. Most companies are maintaining or increasing investments in their transition-oriented growth businesses**

This year's survey found growing optimism among most ENR executives in the Middle East, Asia-Pacific, and Latin America about the contributions that transition-oriented growth businesses (such as renewables, hydrogen, bio-based products, and lithium and other transition commodities) will make to their company's valuation and profits by 2030 (*see Figure 2*).

**3. But executives are more concerned than ever about generating acceptable returns to scale up their transition-related businesses**

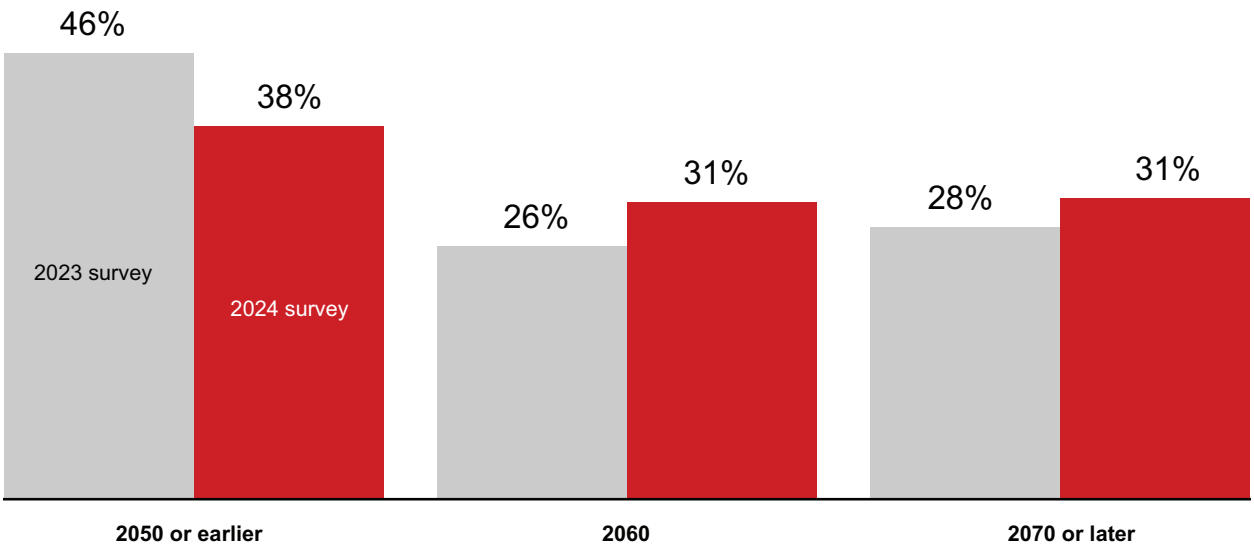
The financial viability of energy transition projects is a growing issue for ENR executives. Like last year, they say the greatest obstacle to scaling up their transition-oriented businesses is finding enough customers willing to pay higher prices (or having equivalent policy support) to create sufficient return on investment. However, the share of executives identifying this as a very significant roadblock jumped 14 percentage points from 2023 to 2024, to 70% of executives (*see Figure 3*).

In our view, the direct impact of higher interest rates on the cost of transition projects is one of the most important stories of 2023 and is likely shaping executives' perspective on this issue. A 500-basis-point increase in the cost of capital can increase the total annual revenue required to finance a project by as much as 50%, as detailed in the Bain Brief "The Energy Transition's Other Big Puzzle: Making the Math Work."

ENR executives view taxes and carbon pricing, along with government subsidies, as top levers to influence customer behavior, according to our 2024 survey.

**Figure 1:** The expected net-zero timeline is shifting later

**Share of energy and natural resource executives who expect the world to reach net-zero carbon emissions by target date**

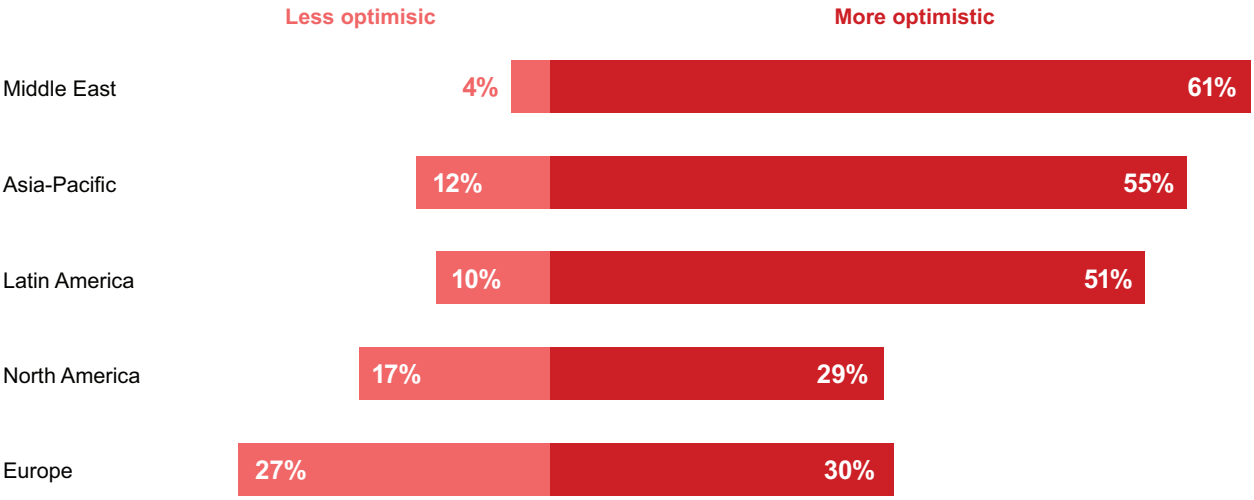



Sources: Bain ENR Transition Survey 2023 (n=608); Bain ENR Transition Survey 2024 (n=638)

**Figure 2:** Optimism is growing in some regions

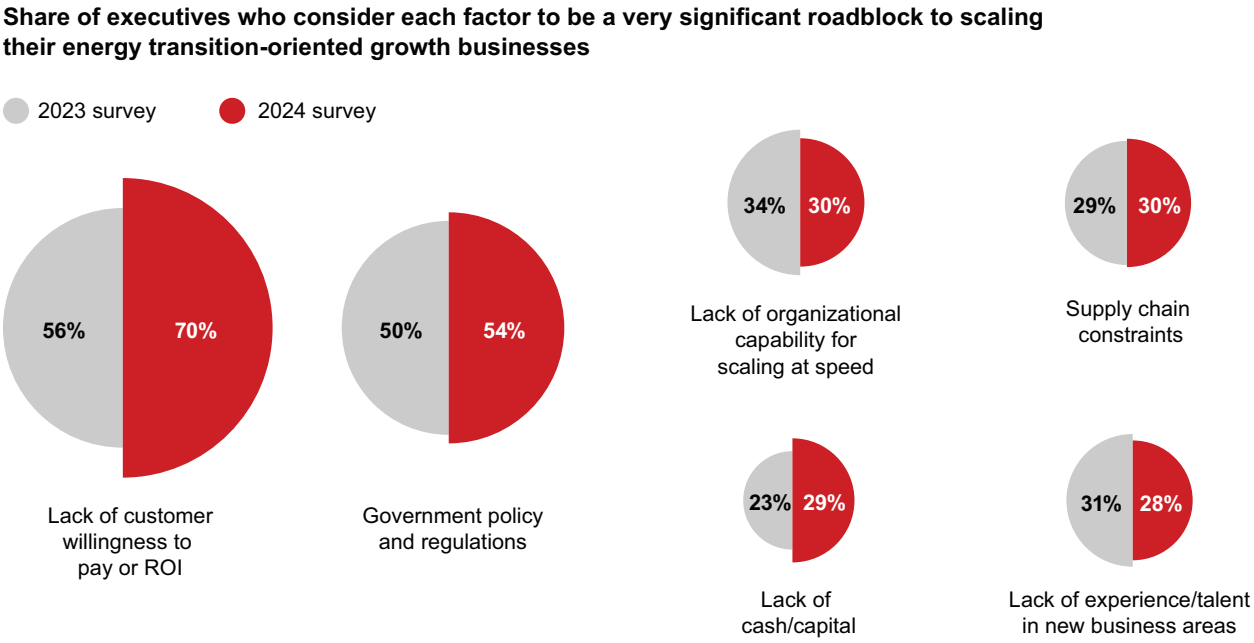
**How have your expectations changed since last year regarding contributions of new energy transition-oriented growth areas to your profit and valuation by 2030?**

**Share of executives**




Note: Excludes those who responded "no significant change"
Source: Bain ENR Transition Survey 2024 (n=638)

**Figure 3:** Financial viability is still a major roadblock for the energy transition




Note: Not all categories are shown
Sources: Bain ENR Transition Survey 2023 (n=608); Bain ENR Transition Survey 2024 (n=638)

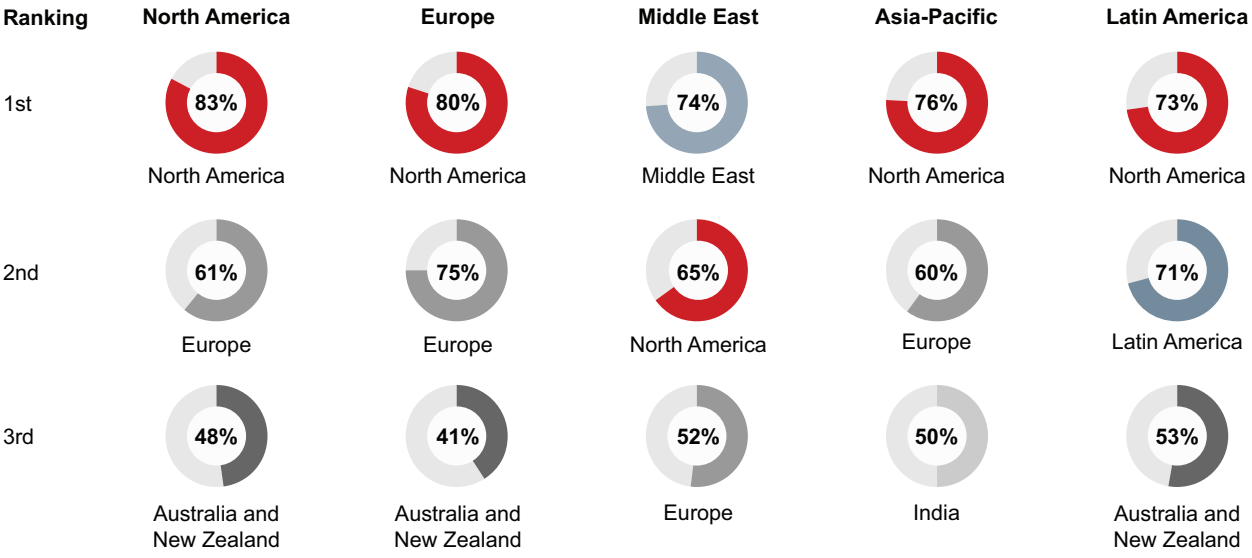
### 4. North America is now viewed as the most attractive region for investment, but policy stability is a growing concern

North America has momentum, with 79% of all executives viewing it as an attractive region for energy transition investments. The next-most attractive region is Europe at 65%. Interestingly, executives from every region ranked North America as more attractive than Europe—including executives based in Europe (*see Figure 4*).

The US Inflation Reduction Act (IRA) is certainly a key factor in North America's investment attractiveness, but there are likely additional dynamics at play, such as the availability of relatively low-cost natural gas feedstock. And yet, there's risk in North America, too. While almost two-thirds of US executives we surveyed agree that the IRA's subsidies target the right areas, less than one-quarter believe that the policy regime will remain stable over the next five to 10 years (*see Figure 5*). Furthermore, 42% of US executives think the IRA's subsidies aren't clear and that the rules aren't easy to follow. About 70% of executives worldwide say that reducing policy uncertainty would very significantly improve their ability to scale up transition-oriented businesses.

**Figure 4:** North America is the most attractive market for green investments

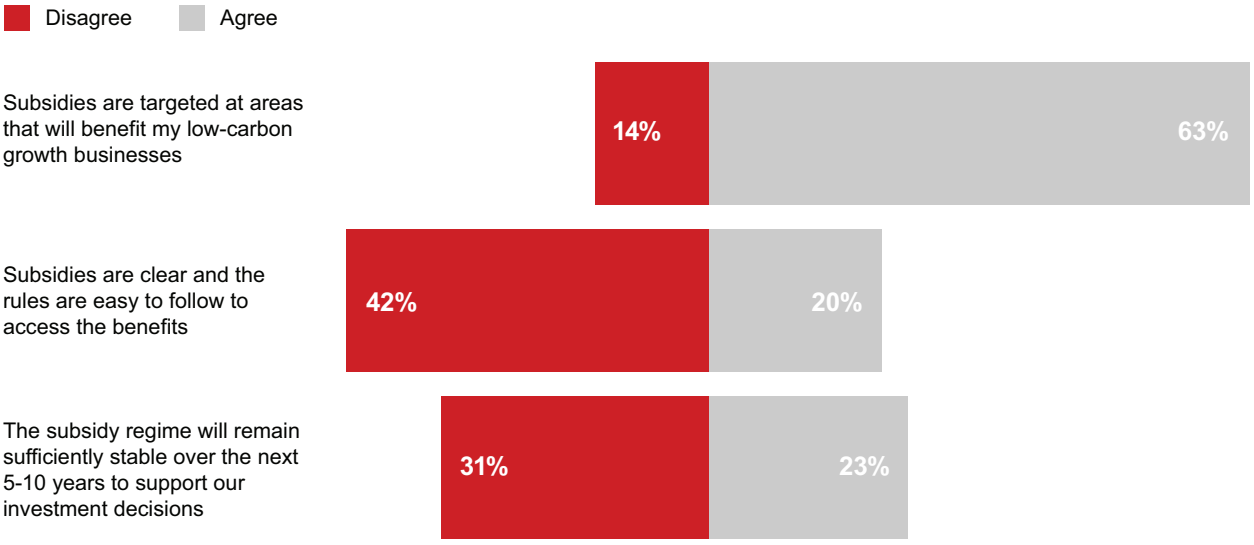
**Share of executives from each region who consider a region "attractive" for energy transition investments**




Source: Bain ENR Transition Survey 2024 (n=638)

**Figure 5:** US executives want clearer, more stable energy transition policies

**Share of US executives who agree with the following statements regarding Inflation Reduction Act subsidies**




Note: Excludes those who responded "neither agree nor disagree"
Source: Bain ENR Transition Survey 2024 (n=638)

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# A slower rate of decarbonization makes companies’ resilience and adaptability plans all the more important.

### 5. Artificial intelligence is increasingly seen as a difference maker

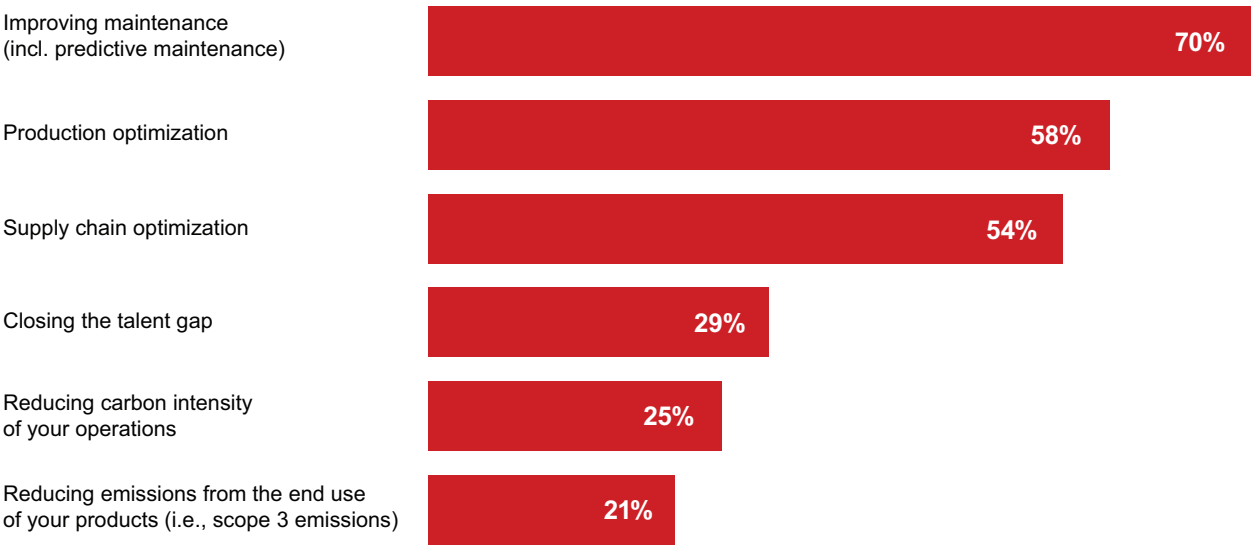
The share of ENR executives who believe AI (including generative AI) and digital technologies will have a significant effect on their businesses by 2030 increased from 56% last year to 65% this year.

Improving maintenance, production, and the supply chain are currently among the most promising generative AI applications across ENR sectors. Meanwhile, executives are skeptical that generative AI will play a significant role in reducing emissions (*see Figure 6*). This is unsurprising, given AI's significant energy requirements and the fact that the energy transition is first and foremost about constructing massive amounts of physical infrastructure.

In our experience working with ENR companies, most are focusing first on applications with a clearer, shorter path to a return on investment. For example, some chemical companies are using generative AI tools to increase the speed and accuracy of quality assurance processes in capital programs, reducing rework and total cost of ownership. Utilities, on the other hand, are augmenting customer service functions.

**Figure 6:** Where will generative AI make a big difference?

**Share of executives who think that generative AI would have a significant impact on these functions**




Notes: Only includes responses from those who expect significant impact from AI and digital technologies on their businesses by 2030; not all categories of potential generative AI use cases are shown
Source: Bain ENR Transition Survey 2024 (n=638)

ENR companies are also using generative AI in combination with other AI technologies to unlock greater value. For some time, one renewable energy developer has been using AI-enabled analytics software to try and spot maintenance issues before they occur. Now, the company's field technicians are also using newer generative AI tools to more quickly access information and recommendations that can help them resolve maintenance requests.

Over time, we expect ENR companies to pursue more advanced and potentially higher-value use cases, such as increasingly automated design and engineering work.

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