

The Energy Transition: A Defining Investment Opportunity



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We are living through the largest investment opportunity in history—an energy revolution that will reshape economies, industries, and the planet. In 2024, global energy investment reached a record high of \$3 trillion, with only \$2 trillion directed toward clean energy technologies and infrastructure—nearly twice the investment in fossil fuels.

We often talk about climate goals and carbon reduction, but let's be honest—meeting these targets isn't just about environmental responsibility. It's also about business, innovation, securing the future of economies and value enhancing opportunities.

Azerbaijan's Commitment: A Green Future in the Making

Where does Azerbaijan stand in this transition? The answer is clear: at the forefront. Azerbaijan has set ambitious goals—reducing greenhouse gas emissions by 40% by 2050 and increasing renewable energy capacity to 30% by 2030.

Transitioning to renewables means not only meeting global targets—it's about future-proofing our energy system, diversifying our economy, and becoming a leader in the green energy space, becoming an energy hub.

Azerbaijan has already taken concrete steps in this direction, partnering with international investors and organizations to develop large-scale renewable energy projects. Investments in solar and wind farms are increasing, and plans for green hydrogen production and energy storage solutions are in motion.

However, as promising as these developments are, there are still challenges to overcome.

Investors See the Opportunity-But What's Holding Them Back?

The momentum is there. In a recent KPMG survey of 1,400 investment executives, 72% said they see energy transition investments—like renewables and energy efficiency—growing. That's encouraging, but the real question is: why isn't investment happening fast enough?

Here are the five biggest barriers:

1. Regulatory uncertainty – Investors need clear, stable policies to commit capital. Unclear regulations and shifting policies make long-term investment planning difficult.
2. Market volatility – Energy prices and economic shifts create hesitation. Sudden changes in energy demand and supply can disrupt returns on investment.
3. Technology risks – Emerging energy tech is promising, but unproven at scale. Many innovations still require testing before large-scale deployment.
4. High total costs – While renewables are getting cheaper and direct operating expense is minimal, the infrastructure and grid upgrades required to support them remain expensive.
5. Market competition – Traditional energy sources, especially fossil fuels, still dominate, making it challenging for renewables to gain a larger market share quickly.

If we want real progress, we need to address these barriers as soon as possible. And that means collaboration between governments, businesses, and financial institutions to create the right investment climate.

The Developing World: A Key Player in the Transition

Now, let's shift our focus to the bigger picture. Who will drive the energy transition? Many assume it's the developed nations, but the reality is different.

Developing markets—including the Caucasus and Central Asia—are at the heart of this shift. Emerging countries are responsible for 72% of global carbon emissions but receive only 20% of renewable energy investments. That's a huge mismatch.

Why does this matter? Because energy demand in these regions is skyrocketing. By 2050, Asia-Pacific will consume over 50% of the world's energy, and Africa will use more energy than North America and Europe combined. If these nations don't transition fast, we risk locking in decades of fossil fuel dependence.

So, what's the solution?

- New financing models to support renewable energy projects in developing economies
- Regulatory incentives to encourage private-sector investment
- Investments in grids, storage, and clean technology to support long-term energy stability

Without these, even the best climate targets will remain just numbers on a page.



The Role of AI: A Game-Changer for Clean Energy

What if we could speed up this transition with technology? Enter Artificial Intelligence (AI). AI isn't just about chatbots and automation—it's revolutionizing the energy sector.

Think about this: AI can optimize power grids, predict energy demand, streamline solar and wind farm planning, and even fast-track project approvals.

Modern AI, especially Generative AI (Gen AI) and High-Performance Computing, is transforming everything from material science and equipment design to project planning, permitting, and interconnection management. These advancements mean faster deployment of renewable energy, a critical factor in meeting global climate targets.

Is Fossil Fuel Investment Over?

Not yet. The reality is that while renewables are scaling up, fossil fuels—especially natural gas—still play a key role in energy security. Investors haven't abandoned them entirely, and for good reason. Transitioning an entire global energy system takes time, and fossil fuels remain part of the equation—for now, whilst availability of energy as such is a question for many people.

However, the direction is clear. Renewable energy is gaining ground, and companies that fail to adapt will be left behind.

Beyond Energy: A Transformation Across Industries

The energy transition isn't just about wind farms and solar panels. It's reshaping entire industries. For example:

- Investments in clean energy supply chains are rising
- Tech companies are developing AI-driven solutions for energy efficiency.
- Industrial businesses are decarbonizing their operations. From green hydrogen to EV infrastructure and energy storage, the investment landscape is expanding. And it's not just about building new assets—it's about making existing businesses part of the transition.

The Road Ahead: A Call to Action

So, where do we go from here? The energy transition isn't just a necessity—it's an opportunity. The question isn't whether this shift will happen, but how fast we can make it a reality.

For Azerbaijan, this is a defining moment. We have the resources, the ambition, and the commitment. Now, we must accelerate action—by attracting investment, fostering innovation, and ensuring that the right policies are in place.

At KPMG, we stand as a trusted partner to investors navigating the complexities of the energy transition. As energy policies and regulatory frameworks evolve at an unprecedented pace, our global presence, combined with deep local expertise, allows us to guide clients through the risks and opportunities that emerge.

Our role is to support investors throughout the entire deal lifecycle, from initial strategy development to maximizing post-deal value. By facilitating partnerships, leveraging innovative tools like secured off-take agreements, and offering a comprehensive view of the energy value chain, we are uniquely positioned to drive the clean energy transition forward.

Together, we can accelerate the transition to clean energy, fostering growth and prosperity for generations to come. At KPMG, we are committed to ensuring that the future of energy is not only sustainable but also driven by innovation, collaboration, and opportunity. Let's lead the way toward a greener world.

Bio of author:

Vitaliy joined the firm in 2007 and currently serves as Managing Partner for KPMG in Azerbaijan the Deal Advisory Partner for KPMG Caucasus and Central Asia (KPMG CCA). Besides, he was a member of the KPMG London team from 2010 to 2012 and has made a vital contribution to the development of practices in KPMG Caucasus and Central Asia. He is Head of Infrastructure and TMT sectors in Deal Advisory, leading client services in these industries.

Vitaly possesses extensive expertise in Energy & Natural Resources, Infrastructure & Transport, Technology, Media, and Telecom. He also provides strategic advisory to KPMG clients on valuation and corporate finance matters. He has led numerous transactions and landmark projects within the energy sector and telecom sectors in the region, including the sale of renewable energy portfolios, the development of auction mechanisms for renewables, securing investors for thermal power plants, and creating tariff mechanisms for infrastructure sectors. His experience spans all sectors within the Power & Utilities domain.

Vitaly is a frequent speaker and moderator at international conferences and events, addressing topics such as renewable energy development, energy sector challenges, and sustainability. He has diverse range of interests outside work - from guitar playing to mountain climbing and finishing IRONMAN triathlon.