Interview with Menelaos Vakalopoulos

Investment Associate, Gulermak Renewables and Head of London Branch, Greek Energy Forum, U.K.

Menelaos Vakalopoulos recently joined the renewable energy power producer, Gulermak Renewables. Prior to this position, Menelaos was a Senior Analyst within EDHEC Infra & Private Assets, a leading provider of unlisted infrastructure equity and debt index data and analytics. In his role, he specialized in conducting research, performing investment valuation, and analyzing the energy and infrastructure sectors. Previously, Menelaos served as a Derivatives Products Analyst at EDF Trading, offering functional support across all desks and energy products, and in earlier roles he contributed to S&P Global's Oil Markets and Downstream consulting team, providing *ad hoc* market analysis, investment appraisals, and business strategies for international clients. Currently, Menelaos is also the Head of the Greek Energy Forum's London branch. He holds an M.Sc. in Petroleum, Energy Economics & Finance from the University of Aberdeen (U.K.), complemented by a B.Sc. in Geology from Aristotle University of Thessaloniki (Greece). We are honored to have the opportunity to interview Menelaos for the *CID*.

Can you share what initially sparked your interest in energy markets and infrastructure sectors? How has your academic background in petroleum, energy economics, and geology shaped your professional journey?

My interest in energy markets and economics developed in a somewhat unconventional way. My initial studies in geology were not directly related to economics, but as a young student, I became increasingly curious about economic systems — particularly as Greece was at the center of the financial crisis at the time. I wanted to understand what was really happening beyond the headlines, so I started self-studying, subscribing to publications like *The Economist* and *The Financial Times*, which I found to be invaluable resources.

During my final year of university, I took a petroleum geology course where the professor demonstrated how closely exploration and production are linked to global markets. He also highlighted the critical role of geologists in reserves valuation, which was a turning point for me. This course helped me find the missing link between geology and economics, shaping the direction of my career.

Motivated by this realization, I decided to pursue a Master's degree in Energy Economics & Finance at the University of Aberdeen, where I deepened my understanding of financial modeling, investment analysis, and market dynamics in the energy sector. After completing my M.Sc., I joined IHS Markit's Oil Markets & Downstream consulting team, a role that allowed me to apply both my technical and commercial knowledge. While working there, I was also exposed to the renewable energy space through various projects, which ultimately led me to transition into this sector.

Looking back, what started as a curiosity about economics evolved into a career in energy markets and infrastructure — bridging my technical background in geology with finance and market analysis.

Your career has spanned roles in energy trading, market analysis, and consulting. What key skills or experiences have been most critical in navigating these diverse areas?

In the early stages of a career, I believe it is crucial to take risks and seize opportunities, especially if you feel that you are not yet where you aspire to be. You should not be afraid to move into roles that may seem quite different from what you have done so far — as long as you have strong fundamental skills and a willingness to work hard to fill any gaps.

To directly answer your question, I think the most critical skills for navigating different areas within energy trading, market analysis, and consulting are solid analytical capabilities — including financial analysis, modeling, and statistics — combined with a strong understanding of energy market fundamentals and economics. If you have these skills and are willing to invest the effort to understand the nuances of a new role — its services, expectations, and key drivers — then you can successfully transition across different functions within energy finance and market analysis.

Of course, this approach may not apply to highly specialized technical roles that require deep domain expertise, but for analytical and commercial roles, adaptability and a strong foundational skill set can open many doors.

As someone with experience across both traditional energy markets and renewable infrastructure, what do you see as the biggest challenges and opportunities in transitioning to a sustainable energy future?

That is a great question. I think we have made good progress in the energy transition over the past decade, but there are still quite a few challenges — both financial and technical — that need to be tackled.

One of the biggest issues is keeping investors engaged in financing the transition. Over the past couple of years, we have seen a slowdown in renewable energy investments, largely because interest rate hikes have made financing more expensive. At the same time, post-COVID supply chain disruptions and inflation have driven up CAPEX for many renewable projects, making some of them financially unviable. A good example of this is offshore wind, where costs have shot up due to rising material, labor, and supply chain costs, leading to project cancellations and delays.

On the technical side, we are starting to see more constraints as renewables take up a larger share of the energy mix. Issues like electricity curtailment and price cannibalization are making it harder for projects to stay profitable, and grid connection delays are slowing down development, especially in Europe.

That said, there are still plenty of opportunities. Investing in grid upgrades, energy storage, and hybrid projects will help smooth out these issues and allow for better renewable integration. On the financial side, we are starting to see innovative funding mechanisms that will keep capital flowing into the sector.

In your past role at EDHEC Infra & Private Assets, you focused on financial modeling and valuation of energy infrastructure assets. Could you elaborate on the methodologies you used to assess asset value and performance?

We primarily used the income approach, or discounted cash flow (DCF) method, to value energy infrastructure assets, but because private markets are less transparent and sometimes biased, we did not just rely on a standard spreadsheet approach.

Instead, we collected data directly from private firms and markets, which gave us a more accurate picture of how these assets actually perform. From there, we used advanced financial modeling, statistical analysis, and programming tools to refine our valuations and ensure they reflected real-world conditions. We also applied machine learning techniques to spot patterns in the data and improve our forecasts.

This data-driven, scientific approach helped us produce objective and reliable valuations, which are essential for investors making decisions in the complex and evolving energy infrastructure space.

You developed a revenue forecasting framework for U.K. energy assets using Python. How do data-driven approaches like this enhance decision-making in the energy infrastructure space?

In today's finance world, using data-driven approaches is essential to staying relevant and making informed decisions. For us, we worked with past hourly data on electricity production at the asset level, calculated some key stats, and then trained a model to predict future production based on that historical data. I really believe this is the way forward, especially in the energy sector. There is a huge push right now for analytical models across the industry. Everyone is trying to make sense of the data to predict trends in supply and demand, weather patterns, and price signals.

How do you see programming languages like Python shaping the future of energy infrastructure analytics, especially in terms of scalability and innovation?

I think it is becoming essential for professionals in the energy sector to get comfortable with Python or similar programming languages. The volume of data we are dealing with is expanding quickly, and a lot of the traditional software used in the industry just cannot keep up. Python, however, is highly adaptable and works well with processing large datasets, which speeds up analysis and allows for deeper insights. This opens up new opportunities for innovation.

Given your experience in both fossil fuels and renewables, how do you see the role of traditional energy sources evolving in the next decade amid global decarbonization efforts?

That is a very interesting question without a straightforward answer, but I will share my perspective.

Traditional energy sources, particularly oil and gas, will continue to play a significant role in the global energy mix over the next decade, but their function is shifting considerably due to decarbonization efforts.

Natural gas will remain a key part of the mix in Europe and the U.S. for quite some time. Right now, Europe is focused on securing reliable gas supplies by expanding LNG infrastructure and diversifying its suppliers. As renewable penetration increases and coal is phased out, gas-fired power generation will continue to provide flexibility and stability — especially during periods when the wind does not blow, and the sun does not shine.

Oil demand is likely to peak within the decade, but it will not disappear. Sectors like transportation, aviation, and petrochemicals will still rely on oil. However, we are seeing strong EV adoption in many advanced economies and in China, alongside advancements in biofuels and synthetic fuels. These alternative fuels are considered the most sustainable path for hard-to-decarbonize sectors like shipping and aviation, but there is still a long way to go before they become commercially viable at scale.

Coal, on the other hand, is in structural decline in most developed markets. However, in emerging economies where energy demand is rising rapidly, coal is still being heavily utilized due to its low cost and the fact that it remains a major employer in certain regions.

We are also getting mixed signals from traditional oil & gas companies. At the start of the decade, many pledged to invest heavily in renewables, hydrogen, and other low-carbon technologies. But more recently, we have seen some companies scaling back those commitments — selling off renewable assets and shifting focus due to fiscal challenges, geopolitical uncertainty, and investor pressure. The challenge for these companies is balancing near-term demand with long-term sustainability goals, and many are still looking for the right strategy to diversify into low-carbon sectors.

The future is not about fossil fuels disappearing overnight — it is about a gradual transformation toward a cleaner and more flexible energy system.

What trends in energy infrastructure investment do you believe will dominate in the next five years, particularly in regions like Europe and Asia?

I will mostly focus on Europe as this is my area of expertise. I think that over the next five years energy infrastructure investment will be shaped by three major trends: renewable energy expansion, grid modernization, and energy security.

Firstly, I believe that investment in traditional renewables like solar and wind will continue, although we might see a minor slowdown in the short-term due to lack of grid availability and regional planning constraints. I believe that there will also be a major focus towards energy storage as the need for flexibility increases.

Additionally, we will need to see significant grid investments to integrate more renewable assets. Also, grid interconnectors will be expanded to improve cross-border electricity trading and support with intermittency.

Finally, LNG infrastructure will continue to grow, as European countries seek alternatives to piped gas.

As someone involved in market analysis, how do macroeconomic factors such as inflation, interest rates, and geopolitical tensions impact energy asset valuations and investment strategies?

Renewable energy projects are particularly sensitive to inflation in material and labor costs, as it drives up capital expenditure for new developments. A clear example of this is the offshore wind sector in the U.K., where we have seen significant project delays and cancellations in recent years due to cost inflation. In response, the U.K. government increased strike prices in the AR6 Contracts for Difference (CfD) auction[1] last year to help incentivize future investment.

Rising interest rates have made financing energy projects — especially renewables — more expensive, as these projects require large upfront capital investments. This directly lowers internal rates of return and slows down new investment. As expected, higher interest rates also put downward pressure on valuations, which has been evident in the struggles of publicly listed thematic funds in recent years. As a result, investors have shifted capital away from riskier or lower-yielding energy projects.

In geopolitically unstable regions, investors demand higher risk premiums, making financing for energy projects more expensive and less attractive. This has led to capital outflows from riskier markets and a preference for more stable investment environments, further shaping global energy investment trends.

For young professionals aspiring to enter the energy or infrastructure sectors, what technical and analytical skills would you advise them to develop?

For young professionals looking to build a career in the energy or infrastructure sectors, developing a strong mix of technical, analytical, and market-related skills is essential. A solid understanding of financial concepts, particularly cash flow modeling and project finance, is crucial for roles in energy investment, infrastructure finance, and asset management. Additionally, the ability to analyze large datasets — whether through spreadsheets or programming languages — is becoming increasingly valuable as data-driven decision-making grows in importance.

Beyond technical skills, understanding how different energy markets function — whether in electricity, oil & gas, renewables, or carbon markets — is fundamental. Market dynamics are influenced by factors such as supply and demand shifts, policy incentives, and geopolitical risks, all of which impact investment decisions and operational strategies. Given the highly regulated nature of the energy sector, staying informed about policies like carbon pricing, emissions regulations, and renewable incentives is critical, particularly for those involved in strategic planning or investment analysis.

Equally important is the ability to translate complex analysis into clear, actionable insights. Whether working with investors, policymakers, or corporate leadership, strong communication skills are essential to bridge the gap between technical expertise and strategic decision-making, ultimately driving better outcomes in this fast-evolving industry.

Reflecting on your career so far, is there a particular project or achievement that stands out as especially meaningful or transformative?

Looking back on my career so far, I feel fortunate to have had several memorable moments. If I had to pick one, it would be my visit to one of the world's largest oilfields in Kazakhstan while working at S&P Global as part of the commercial due diligence consulting team. It was a unique experience that gave me a first-hand look at the sheer scale and complexity of such a massive project. Seeing the on-the-ground challenges — rather than just analyzing them on paper — was eye-opening and reinforced how intricate energy operations can be. I would say that was one of the highlights of my career so far.

Finally, as Head of the London Branch of the Greek Energy Forum, how do you see forums and networks like these fostering collaboration and knowledge exchange in the energy sector?

I believe networking is one of the biggest accelerators for career growth. Professional forums and industry networks provide a platform for meaningful knowledge exchange through events, panel discussions, and thematic sessions. These are especially valuable for busy professionals who want to stay up to date with industry developments but may not have the time to do so on their own.

At the Greek Energy Forum, we try to foster knowledge sharing by organizing insightful events with high-caliber speakers, combined with networking sessions that allow professionals to engage in deeper discussions after the panels and expand their network. I would also like to take this opportunity to thank Bayes Business School, which has been a great supporter of our activities for years. I strongly believe that our collaboration in organizing events has helped university students, alumni, and seasoned professionals alike to broaden their knowledge and grow their professional networks.

Thank you, Menelaos Vakalopoulos, for your insights!

Endnote

1 The AR6 CfD auction refers to the sixth allocation round (AR6) of the U.K. government's Contracts for Difference (CfD) scheme — the main mechanism for supporting low-carbon electricity generation in the U.K. The CfD is a subsidy scheme designed to incentivize investment in renewable energy by providing price stability. Developers bid for a strike price per MWh, and winners are awarded a 15-year contract, which gives investors predictable revenues and reduces exposure to wholesale market volatility. In this scheme, if the market price is lower than the strike price, the government tops it up. If it is higher, the developer pays back the difference.