

How the Middle East can assume the mantle of green energy leadership

To build a more sustainable future, the world needs green electrons to power energy grids, green molecules to make products including chemicals and metals less carbon intensive, and innovative greener technologies that can reduce or eliminate emissions. And all of this is needed at a time when demand for power is growing. To give one example, an internet search using GenAI consumes 10 times more energy than doing the same search with a traditional web browser—and we are still only at the beginning of the GenAI era.

In this context, the Middle East has some unique advantages that mean it could lead global sustainability efforts now under way. Saudi Arabia, the UAE, and other Gulf Cooperation Council countries are both highly vulnerable to the effects of climate change and exceptionally well placed to become the most important global producers of various forms of green energy, thanks to abundant sunshine, wind, and available land on which to build the installations that can generate these new energy sources. Saudi Arabia alone is home to the world's cheapest solar electricity at **Shuaiba**—almost 1 cent per kilowatt-hour. Four of the 10 most cost-effective solar projects are here.

The region can turn this renewables competitive advantage into a molecular one offering all colors of hydrogen at competitive prices and becoming a hub for precision fermentation, which produces protein-based foods. It also has the potential to become a cost-competitive center for green manufacturing.

So far, green foreign direct investment is not flowing here, however. **Foreign direct investment data** shows that more than \$0.9 trillion in large-scale green FDI has been announced, with more than 80% of it allocated to hydrogen, renewable energy, and batteries. For now, Europe is the main destination—while the Middle East is missing out, despite its considerable advantages.



GCC countries are both highly vulnerable to the effects of climate change and exceptionally well placed to become the most important global producers of green energy.

To pick up the mantle of green leadership, the region needs to focus on several critical elements. The first is energy security. The region's hydrocarbon resources mean it can act as a global stabilizer in the future of energy, helping to ensure that energy supplies—both fossil fuel and renewable—are secure in this time of energy system changeovers.

Second is the need for the transition to be affordable. It has to work for everyone. Imagine green hydrogen, a game-changer for industries from steel to fertilizer. It could potentially slash emissions by **more than 80% for some uses**—but it comes at a cost. Using it for fertilizer, for example, could increase prices significantly. Who will shoulder that burden? If clean energy becomes a luxury, we risk pricing out the very communities and sectors that need it most. To succeed, green must be affordable and accessible.

Finally, there's the question of how and what to finance. Massive investment will be needed to ensure that the region is well placed to exploit its green advantage. It will be essential to put the region's strong financial resources to productive use. That means funding not just a new energy infrastructure but also a range of industries that could and should spring from it, including low-emission manufacturing. Competition is already heating up: our analysis suggests that, globally, more than \$1.4 trillion has already been pledged in global green incentives, from the Inflation Reduction Act in the U.S. to the EU Green Deal, Japan's GX Plan, and others.

In a book I co-authored with my colleague Shihab Elborai, *Arabian Gambit*, we estimated that GCC countries will need to spend about \$3 trillion if they want to truly revamp and reorient the economy to become a green powerhouse. The incentives will need to be aligned among all the actors to ensure the money is well spent. The fossil fuel economic linkages that have been built within the region will need to evolve into green ones with green economic corridors.

Ultimately, to make green tech viable, “green diplomacy” is needed in the form of partnerships that can make transition investments fruitful. Technologies like hydrogen face risks of high costs and uncertain returns. Along with innovation, green technology needs infrastructure and investment. To scale up, it also needs customers.

It's time to think beyond borders. Imagine a “green corridor” linking Europe and the Middle East, where historical hydrocarbon routes become pathways for greener energy, products, and bytes. Green diplomacy and cross-regional partnerships will help de-risk investments in the electricity grid and make critical technologies like hydrogen viable. To avoid energy instability, sustainability, affordability, and security will need to become priorities. Above all, a comprehensive vision is called for—a multi-nation “Green Charter” that binds countries together in the pursuit of a sustainable, inclusive, and prosperous future.

Dr. Yahya Anouti is a Partner and Practice Leader for Energy, Resources, and Sustainability at Strategy&, Middle East. He is co-author of *Arabian Gambit: The path to leadership in a shifting global energy landscape*.

Dr. Yahya Anouti

Partner

yahya.anouti@strategyand.pwc.com

www.strategyand.pwc.com/me