

FROM INNOVATION TO INVESTMENT: ESTABLISHING THE UAE AS A GLOBAL CLIMATE TECH HUB



Hosted by

Executive Summary

Industry experts took part in an ADSW Roundtable on the topic of establishing the UAE as a leading climate technology hub. Taking place on the sidelines of UAE Climate Tech, the Roundtable convened leading industry voices to discuss progress in the sustainability sector – from innovation, to infrastructure, to finance – and emphasized the UAE’s commitment to addressing climate change and the strategic initiatives underway to continue to become a global leader in climate action. In this unique year for the UAE as host of COP28, it is critical that leaders come together to support and nurture collaboration in climate technology.



UAE Climate Tech builds on the UAE’s legacy of climate leadership and practical and progressive climate solutions.

Why the Ecosystem in the UAE is suitable for FDI:

The UAE’s ambitious goal of achieving Net Zero emissions by 2050 is testament to its commitment to addressing climate change head-on. The country’s success in commercializing climate technologies, exemplified by companies like Masdar, serves as a foundation for continued progress towards this goal. Masdar was established to accelerate the deployment of renewable energy in the UAE globally and is now active in over 40 countries, investing in projects

with a combined value of \$30 billion and a focus to achieving a renewable energy portfolio capacity of at least 100 gigawatts by 2030.

Part of the UAE’s strategic initiative involves creating an environment that actively promotes climate tech investment and innovation. Leveraging its robust infrastructure, investment mechanisms and state-of-the-art facilities, allows the country to establish an ecosystem of growth.

The UAE's well-established diplomatic ties and strategic partnerships worldwide enable it to access international expertise, resources, and markets. This fosters collaboration, attracts global climate-tech players, and solidifies the UAE's position as a prominent player in the clean tech industry. Furthermore, the UAE's focus on building a knowledge-based economy supports innovation, research, and development, creating a supportive environment for the growth of climate tech companies and the creation of high-value jobs.



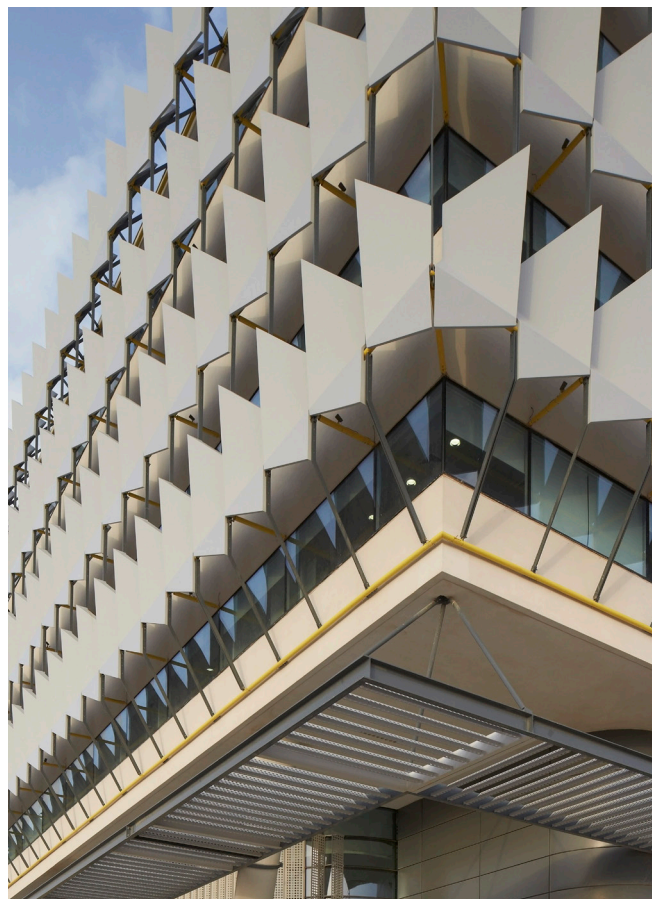
The UAE can leverage its strengths:

CAPACITY BUILDING

The establishment of a climate tech hub in the UAE that prioritizes investments in digital and native infrastructure, following an open architecture approach, is of utmost importance for the country's leadership in the global energy transition. Leveraging the UAE's existing smart city infrastructure in Abu Dhabi, Dubai, and Masdar City, along with its extensive expertise in upstream energy, presents a unique opportunity to foster multistakeholder collaborations focused on climate and city data infrastructure. By bringing together governments, businesses, research institutions, and other relevant stakeholders, the UAE can create a platform for sharing knowledge, best practices, and innovative solutions that can be replicated in other cities worldwide, particularly in the Global South.

Supporting other countries in replicating successful models and facilitating collaboration in climate-related processes is a priority for the UAE as it emerges as a global climate tech hub. By sharing expertise and providing training opportunities, the UAE can help countries develop capabilities to address climate challenges and implement effective solutions.

Additionally, the UAE can attract companies to set up operations in the country by offering incentives for equipment manufacturing, services, and applications related to climate tech. This not only enhances the research and development ecosystem, but also contributes to economic growth and job creation in the field of climate tech.



INFRASTRUCTURE

Focusing on net-zero buildings and the widespread adoption of solar-powered electric vehicles is of paramount importance in the quest to reduce emissions, recognizing the significant impact that cities have on carbon emissions. As urban areas continue to grow, it becomes crucial to prioritize sustainable practices in the construction and operation of buildings while transitioning to clean transportation solutions.

The UAE is playing a pivotal role in driving climate action by hosting the first global stock take at COP28 later this year. This milestone event offers a unique opportunity to enhance readiness for comprehensive stocktaking over the next five years. This involves the development and implementation of robust tools for greenhouse gas accounting, the formulation of effective climate transition plans, the identification of mitigation strategies, and the establishment of knowledge networks that promote collaboration and sharing of best practices in climate action.

Achieving sustainability goals requires major infrastructure investments. To address the challenges associated with sustainable infrastructure development, a collaborative approach involving multiple stakeholders is crucial. By fostering partnerships among governments, businesses, research institutions, and civil society, a supportive ecosystem can be created to pilot and implement innovative solutions across supply chains.

The UAE is well-positioned to capitalize on the opportunities presented by the climate tech industry. The country benefits from abundant and affordable energy sources, favorable net-zero pricing trends observed in northern Europe, ample available land, and essential raw materials for various industries. Leveraging these advantages, the UAE can become a hub for climate tech innovation, attracting investments and talent while driving sustainable development and economic growth.





GREEN AND INNOVATIVE FINANCING

The UAE recognizes the significance of innovative financing models in overcoming funding challenges and driving the development and deployment of advanced technologies. As a leader in sustainable initiatives, the UAE actively promotes the role of green financing to address the specific funding needs of sustainable projects and the construction of environmentally friendly developments.

Green financing serves as a dedicated mechanism for allocating funds exclusively to projects that have a positive environmental impact. It ensures that financial resources are channeled towards initiatives that promote sustainability, such as renewable energy projects, energy-efficient infrastructure, and environmentally conscious urban planning. By specifically targeting sustainable projects, green financing accelerates the transition to a low-carbon economy and supports the achievement of the UAE's ambitious environmental goals.

Globally, there has been much progress in green financing that can support the UAE's development as a global climate tech hub. In 2021 study by the IEA and the Centre for Climate Finance and Investment, found that listed renewable power portfolios outperformed fossil fuel portfolios in all markets studied. Clean energy portfolios saw an average return of 422.7% over a 10-year period, demonstrating the potential economic benefit for green financing as well as climate action.

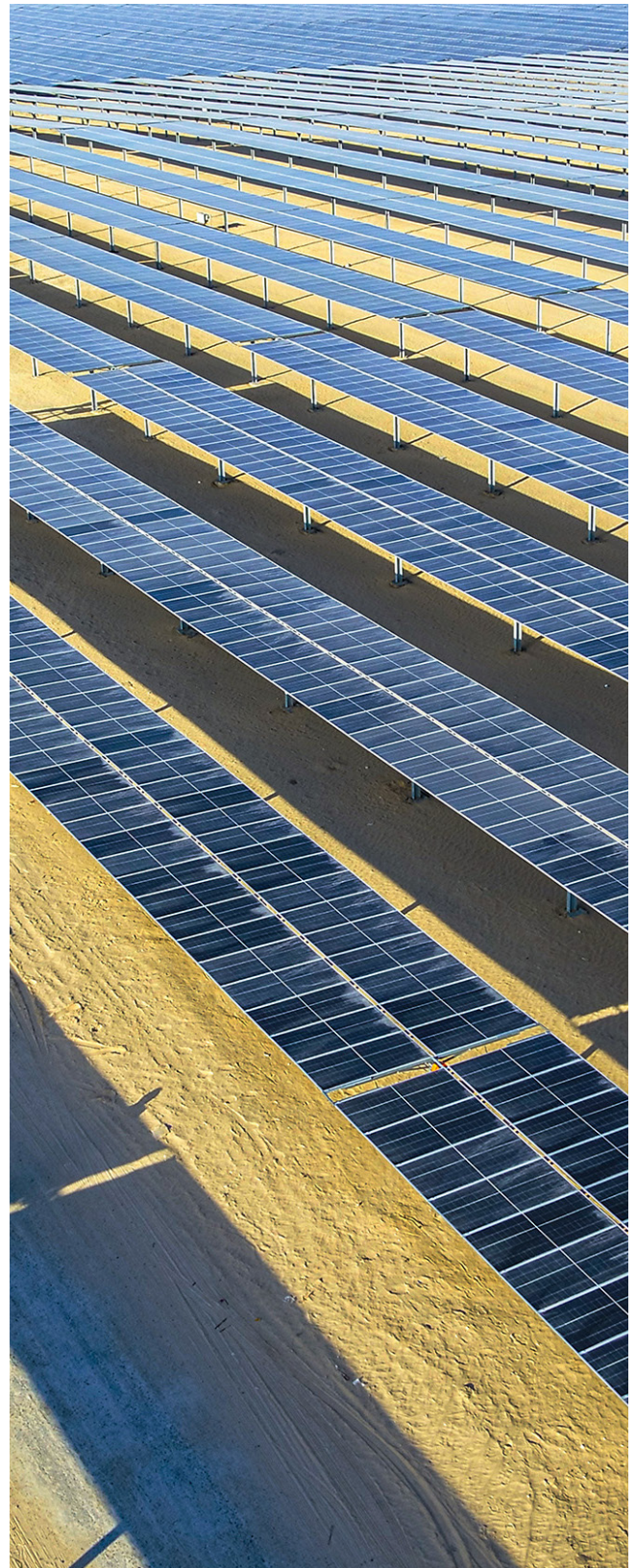
The UAE's commitment to promoting green financing goes beyond financial support. It involves fostering an ecosystem that encourages collaboration between financial institutions, government entities, private sector organizations, and technology innovators. This collaborative approach enables the sharing of expertise, resources, and best practices, facilitating the development and deployment of cutting-edge technologies across various sectors.

LOCALIZATION

The UAE offers an attractive landscape for the localization of climate tech solutions. Several factors contribute to this favorable environment, including the availability of low-cost energy - supported by the world's lowest tariffs for the Al Dhafra solar plant - and ample land resources. The region's abundance of raw industrial components further strengthens its potential for climate tech localization, providing a solid foundation for the development and deployment of innovative technologies.

Moreover, the UAE benefits from access to substantial capital resources, including the presence of sovereign wealth funds. This financial strength plays a crucial role in supporting and accelerating the investment in climate tech projects and localization efforts. With the backing of these financial institutions, the UAE can leverage its resources to provide substantial funding, thereby attracting entrepreneurs, startups, and established companies in the climate tech sector.

By capitalizing on these advantages, the UAE can position itself as a hub for climate tech localization, fostering innovation and driving sustainable growth. This localization not only contributes to the country's own climate goals but also offers an opportunity to share expertise and solutions with other regions facing similar challenges. The UAE's commitment to investing in climate tech and creating a supportive ecosystem for its development holds the potential to expedite the transition towards a greener and more sustainable future, both locally and globally.



The UAE's future as a Climate Tech Hub

The establishment of the UAE as a Climate Tech Hub should be based on two main pillars. Firstly, we must invest in UAE's digital and native infrastructure to create an open architecture ecosystem that enables open knowledge sharing and multistakeholder collaboration. This knowledge can then be shared and replicated in other parts of the world, enabling global dissemination of successful climate technology solutions, particularly in the Global South. At present, there is a lack of fit-for-purpose infrastructure in addressing climate change-related challenges. We need to look at where such solutions have been successfully implemented in other sectors, such as finance, for inspiration.

Secondly, the hub will serve as a center for capacity building, where individuals and organizations from around the world can come to the UAE for training and direct support.

There are significant opportunities for the UAE to become a future hub for Climate Tech. By leveraging its unique position and showcasing key examples of successful projects like Abu Dhabi and Masdar City, the UAE can create a platform for knowledge dissemination and capacity building. Through multistakeholder collaboration, the UAE can replicate its successes in other cities and countries, particularly in the Global South. Hosting the first global stocktake at COP28 will reinforce the UAE's role as a leader in driving sustainable solutions and a key partner of all countries in their climate action journey.



Opportunities for Growth and Development in the UAE:

Creating conditions that encourage collaboration between large companies and startups is imperative. In present circumstances, access to industry buyers and decision makers at large companies remains a challenge for startups and pilot projects. A supportive climate tech community and greater transparency at large companies will help to promote opportunities for newcomers, promote a fair market and encourage prospective innovation from emerging markets.

Domestically, fostering a culture of entrepreneurship will also help to inspire young demographics working in startups and help new businesses compete in a changing job market. Furthermore, it will help beat the stigma that startups are destined to fail and are therefore not considered as serious employment places for young talent.

Ventures in potentially transformative opportunities can be held back in the interest of shareholders. Introducing a centralized match-making tool and processes that connect large corporations with credible innovators will improve shareholder relations for industry-leading companies and enable effective collaboration between these competitive segments.

Closer ties and improved integration of expertise from academia will also help industry leaders plug knowledge gaps, accelerate innovation, and unlock new opportunities.



Technology

In the race to achieve net-zero targets and combat climate change, there is an urgent need to embrace advanced technologies that can accelerate progress while ensuring commercial viability. However, one of the major challenges faced by organizations is establishing trust and validation for new technologies. It is crucial to address this challenge by openly sharing lessons learned from past failures and successes. By fostering a culture of transparency and collaboration, the climate tech industry can build confidence in innovative solutions and encourage their widespread adoption.

Furthermore, it is imperative to prioritize a nature-first approach in technological development. This means integrating environmental considerations at the core of technological advancements and leveraging technology to support and enhance environmental goals. By aligning technological innovation with sustainability objectives, we can ensure that progress is made in an environmentally responsible manner.

To achieve a successful transition to a sustainable future, it is crucial for stakeholders, including governments, businesses, and research institutions, to collaborate and invest in cutting-edge technologies that drive positive environmental outcomes.

Stakeholder - Challenges for industry leaders in the region

Established organizations in the industry face several challenges that hinder their progress and collaboration with innovative solutions. Firstly, these organizations encounter limitations in investing in risky ventures, as they are more inclined to invest in zero-risk innovations that have been thoroughly vetted by credible sources. This cautious approach is partly driven by the involvement of shareholders who prioritize minimizing risk.

Secondly, there is an absence of a centralized match-making tool or process that can effectively connect these organizations with credible startups offering zero-risk solutions. Despite a strong interest in collaboration, the lack of a centralized source or entity hinders the streamlined connection process.

Additionally, there is a disconnect between large corporations and academia, making it challenging to establish connections and collaborative partnerships to address specific industry challenges. The engagement between academia and industry does not occur organically, further impeding progress.

Moreover, the presence of multiple entities in the climate tech landscape leads to fragmentation and communications challenges. To overcome this, there is a need for a centralized organization that can help industry groups solve challenges by fostering coordination and effective communication.

Establishing partnerships between industry players, academia, and financial institutions presents a challenge that must be addressed. While access to universities and research institutions can help solve industry challenges, finding the right mechanisms to facilitate collaboration and risk-sharing in the UAE can be difficult. By addressing these challenges and implementing targeted solutions, the UAE can create an environment conducive to collaboration, innovation, and sustainable growth in the climate tech sector.

Stakeholder - Challenges for Start-Ups in the region

While the UAE has shown great potential in fostering innovation and technological advancement, there are several areas that require attention and action.

The slow decision-making processes of large companies in the UAE poses a significant hurdle for startups, with collaborations and pilot projects often facing delays. In one case, it took 18 months for a startup to secure a pilot project with a prominent UAE-based company. Prolonged implementation periods can hinder the growth and progress of startups.

Another challenge is accessing industry buyers and decision makers for collaboration. Establishing connections and partnerships with large companies is essential for startups but gaining access to decision makers remains a difficulty that needs to be addressed. Furthermore, there is a need to broaden the scope of innovation recognition beyond conventional players like Silicon Valley.

Acknowledging and embracing innovations emanating from economies like Bangladesh and other emerging markets will foster a more inclusive and diverse climate tech landscape. The absence of a supportive climate tech community is another concern. Startups and SMEs would greatly benefit from a supportive network where mutual support, knowledge exchange, and collaboration are encouraged. Additionally, the lack of transparency from large companies is problematic. Many companies are not publicly sharing information about their projects or pilot initiatives with emerging climate tech startups. Greater transparency and openness would create more opportunities for collaboration and partnership.

Moreover, a shortage of trained professionals further hinders the growth of startups. There is a scarcity of skilled individuals available for hire, and a prevailing societal taboo discourages UAE

youth from working in startups, instead favoring larger, established organizations. Addressing this issue and fostering a culture that encourages entrepreneurship and innovation is crucial. More recently, the rise of AI and other new technologies will impact the job market across the MENA region. Startups must adapt, create new job opportunities, and provide training to ensure their workforce is prepared for the changing landscape.

Finally, partnerships and collaborations are vital for the growth and expansion of startups. Without such alliances, it can be difficult for startups to enter new markets or scale their operations. Encouraging and facilitating partnerships will accelerate the progress of startups and foster a thriving climate tech ecosystem.



The Vision Moving Forward

The UAE is well underway to establishing itself as a global climate tech hub. Its commitment to leadership through climate action is an integral part of the UAE's vision as a global leader in the energy transition. As part of this vision, there is ample opportunity to advance the clean tech ecosystem and develop the knowledge economy to expand and share the UAE's expertise and leadership in this sector with the rest of the world.

The strategic shift to diversify the UAE's economy towards renewable energy, as per the UAE Green Agenda 2015-2030, has resulted in continued benefits for the country including job creation, and solidifying the UAE's international reputation as a pioneer and innovator in clean energy.

As the UAE prepares towards hosting COP28, it will continue to showcase to the world its credentials and commitment to climate action leadership.

ⁱ <https://www.imperial.ac.uk/business-school/faculty-research/research-centres/centre-climate-finance-investment/research/clean-energy-investing-global-comparison-investment-returns/>

ⁱⁱ <https://www.forbes.com/sites/dominicdudley/2020/04/28/abu-dhabi-cheapest-solar-power/?sh=60c287f24924>

Roundtable Participants

Ahmed Baghoum, Chief Executive Officer, Masdar City

Aniruddha Sharma, Co-Founder and Chief Executive Officer, Carbon Clean

Chase Lochmiller, Co-Founder and Chief Executive Officer, Crusoe Energy

Dr. Jennifer Holmgren, Chief Executive Officer, LanzaTech

Dr. Thomas Philbeck, Managing Director, SWIFT Partners

Florian Merz, Head, Business Development (Europe), Masdar Green Hydrogen

Helmut von Struve, Chief Executive Officer, Siemens Middle East

Jane Galvan, Co-Founder, DistantImagery

Jonathan Blackburn, Partner and ClimateTech Lead, PwC Middle East

Martin Wainstein, Executive Director, OpenEarth

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Partners

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Abu Dhabi Sustainability Week (ADSW) is a global initiative championed by the UAE and its clean energy powerhouse Masdar to accelerate sustainable development and advance economic, social and environmental progress.

Established in 2008, ADSW provides a global platform for all who have a stake in the future of our planet. ADSW brings together leaders from across governments, the private sector and civil society, to discuss and engage on bold climate action and the innovations that will ensure a sustainable world for future generations.

ADSW is not only a premier convenor for global dialogue, but a catalyst for concrete results, providing multi-stakeholder platforms where thought leadership can evolve into thoughtful action.



Abu Dhabi Future Energy Company (Masdar) is the UAE's clean energy champion and one of the largest companies of its kind in the world, advancing the development and deployment of renewable energy and green hydrogen technologies to address global sustainability challenges.

Established in 2006, Masdar is today active in over 40 countries, helping them to achieve their clean energy objectives and advance sustainable development. Masdar is jointly owned by Abu Dhabi National Oil Company (ADNOC), Mubadala Investment Company (Mubadala), and Abu Dhabi National Energy Company (TAQA), and under this ownership the company is targeting a renewable energy portfolio capacity of at least 100 gigawatts (GW) by 2030 and an annual green hydrogen production capacity of up to 1 million tons by the same year.



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