



About

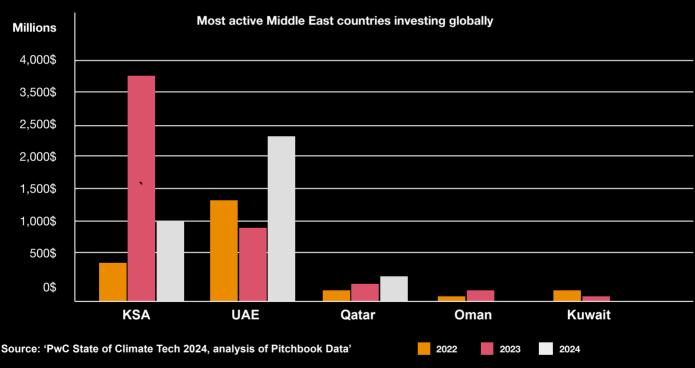
As part of an Abu Dhabi
Sustainability Week dialogue,
this white paper sets out the
latest thinking from industry
stakeholders on the critical role
of local investment, policy
incentives and collaboration in
accelerating the adoption of
climate technologies in the UAE.



The UAE is rapidly emerging as a global hub for climate innovation, driven by a recognition among its leaders and entrepreneurs of the urgent need to decarbonise. The country has revised its energy strategy to triple the share of renewables by 2030, with a goal of generating 55% of Abu Dhabi's electricity from clean sources by 2025.

This commitment to climate goals is reflected not only in domestic policies but also in the UAE's growing role as a global leader in climate tech investment from within the region. Findings from PwC Middle East's latest climate tech report reveal that while global climate tech investment contracted sharply, dropping 29% in the 12 months to September 2024, the UAE increased its climate tech investments globally by 138% between 2023 and 2024, spending US\$2.3 billion over this period¹.

Figure 01: The UAE has become the most active Middle East country investing in climate tech globally



Within its borders, the UAE is driving innovation through initiatives in renewable energy, sustainability and environmental conservation. Initiatives such as the UAE Climate Tech programme, combined with climate-focused investments from sovereign wealth funds like Mubadala and ADQ, position the country as a leading source of start-up capital and innovation. Meanwhile, hubs like Masdar City's Catalyst, Hub71 and the Dubai Future District Fund play a pivotal role in supporting climate tech start-ups through funding, mentorship and access to valuable networks.

Despite these efforts, greater emphasis is needed on fostering homegrown innovation in climate technologies, integrating climate tech start-ups into domestic supply chains and advancing solutions for high-emission sectors. For example, according to the findings of the 2024 Middle East Climate Tech report, at the regional level, investment in energy by Middle East investors saw a decline from US\$22 million in 2023 to US\$13 million in 2024. Given that energy accounts for 45% of the Middle East's emissions, these levels are far from sufficient. This disparity suggests a critical underinvestment in one of the region's most significant sources of emissions. Addressing these gaps is essential to tackling the region's unique climate challenges, driving innovation and building resilience.

Figure 2.1: Middle East investment into global climate tech sectors in 2024 is concentrated within Mobility and Energy, with Mobility representing 84% of investment.

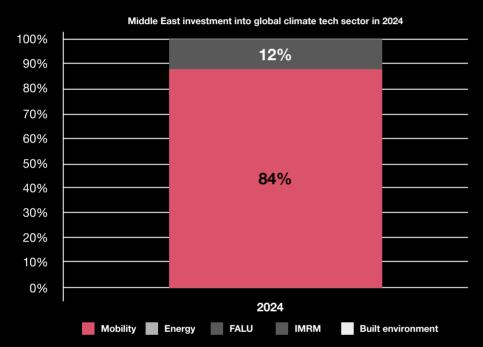
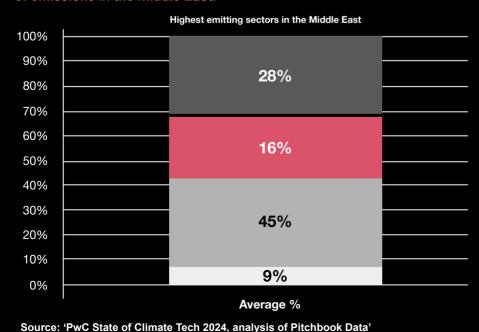


Figure 2.2: Energy, Mobility and Transport and IMRM account for 89% of emissions in the Middle East.



IMRM

Built environment

Mobility Energy FALU

During COP28 in the UAE

Abu Dhabi Sustainability Week (ADSW), in partnership with PwC Middle East, held a roundtable on scaling climate tech innovations, the output of which concluded with the importance of prioritising local investments to ensure greater capital deployment within the region and the need for incentives and policies to develop local climate tech hubs.

Now, 12 months on, we set out the findings of the latest discussions held by key stakeholders in the climate tech ecosystem who are committed to help scale climate tech deployment in the UAE.

These discussions took the form of virtual roundtables hosted by the ADSW Virtual Working Group which comprised corporate participants, PwC Middle East, who hosted participants from their Net Zero Future50 initiative² and the Global Climate Finance Centre (GCFC). They gathered insights from members of accelerator programmes, a multinational energy company and a UAE-based research hub. We would like to thank them for their time and contributions.

This continuing initiative, led by ADSW in collaboration with PwC Middle East and the GCFC, aims to drive growth in this area through targeted roundtables, networking events and pilot projects with selected industry champions, providing actionable pathways to bridge the gaps inhibiting progress, aligning with the UAE's ambition to lead global efforts in sustainability and innovation.

Insights gathered for the white paper

ADSW

UAE based corporate participants

Global Climate Finance Centre

Accelerator programmes and climate tech enablers

PwC Middle East

PwC Middle East Net Zero Future50 innovators

This paper details the output of discussions structured across

seven key challenge areas:

- **01.** Complex regulatory frameworks: Highlights the need for unified standards, sandboxes and dynamic policy reviews.
- **02.** Financial constraints and restricted research, development and innovation funding: Discusses mechanisms such as government-backed loans, financial guarantees, tax incentives and grants for research, development and innovation.
- **03.** Lack of centralised piloting and testing infrastructure: Emphasises the need for national testing facilities, regional innovation hubs and effective incubators.
- **04.** Barriers with corporate procurement and integration: Explores the misalignment of objectives between large corporations and climate tech start-ups.
- **05**. Limited access to resources, skilled talent and scaling opportunities: Addresses the limitations in accessing skilled talent, resources and scaling opportunities, particularly in capital-intensive sectors.
- **06.** Gaps in collaborative innovation: Advocates for partnerships between start-ups, corporates, government entities and academia can uplift the UAE climate tech ecosystem.
- **07.** Unlocking market opportunities through offtake agreements: Highlights how such agreements enable climate tech start-ups to unlock new

Highlights how such agreements enable climate tech start-ups to unlock new market opportunities.





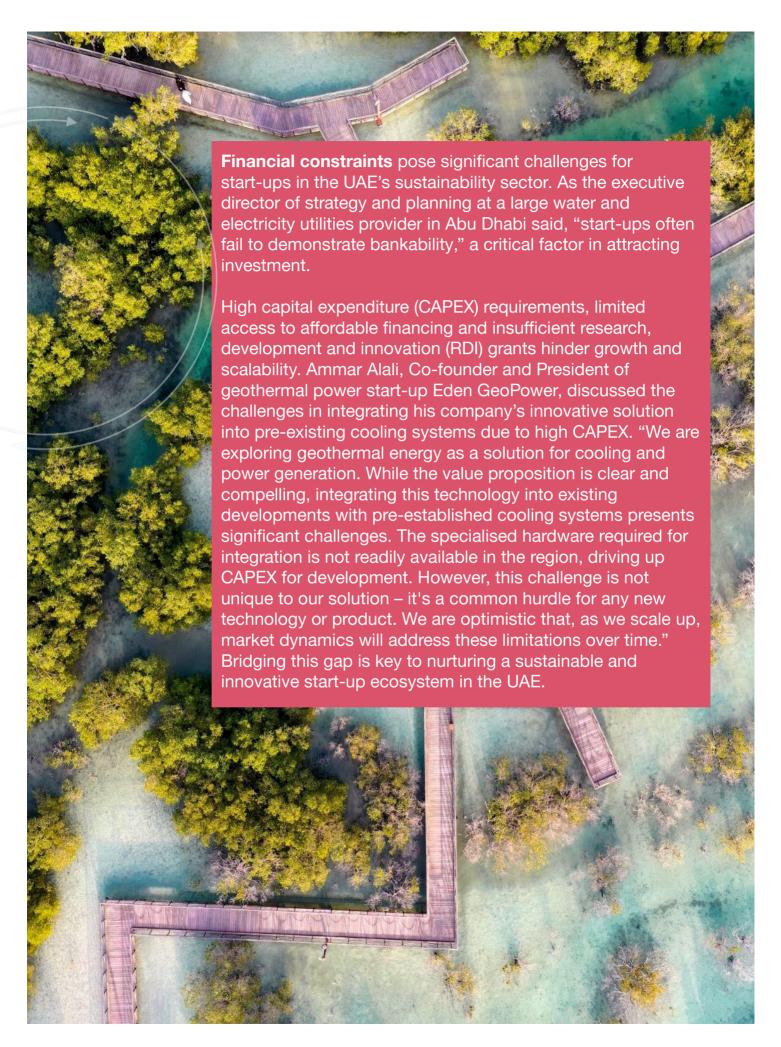
Cultivate a regulatory ecosystem for innovation

Expand regulatory sandboxes and conduct dynamic reviews: Regulatory sandboxes like those developed by the Abu Dhabi Global Market (ADGM) and Dubai Future Foundation allow start-ups to test their solutions with reduced compliance burdens, validating technologies without penalty risks. Expanding these programmes across all emirates, particularly in high-impact areas like hydrogen or renewable energy, will align with national priorities and reduce bureaucratic hurdles. Additionally, a national task force could conduct regular policy reviews, ensuring regulations evolve with technological advancements. This collaborative effort would streamline approval processes and maintain the UAE's competitive edge.

Establishing unified national standards: Localised frameworks such as Abu Dhabi's Estidama and Dubai's Al Sa'fat may create silos that impede scalability. Omar Saif, Director of International Partnerships at the Global Climate Finance Centre, explained, "Differing regulations complicate compliance and deter collaboration." A unified national framework would streamline regulatory processes, foster inter-emirate collaboration and enable seamless scaling of innovations. This approach would also improve alignment with global investor expectations by creating a cohesive and predictable regulatory environment, enhancing the UAE's appeal as a destination for sustainability-focused investments.







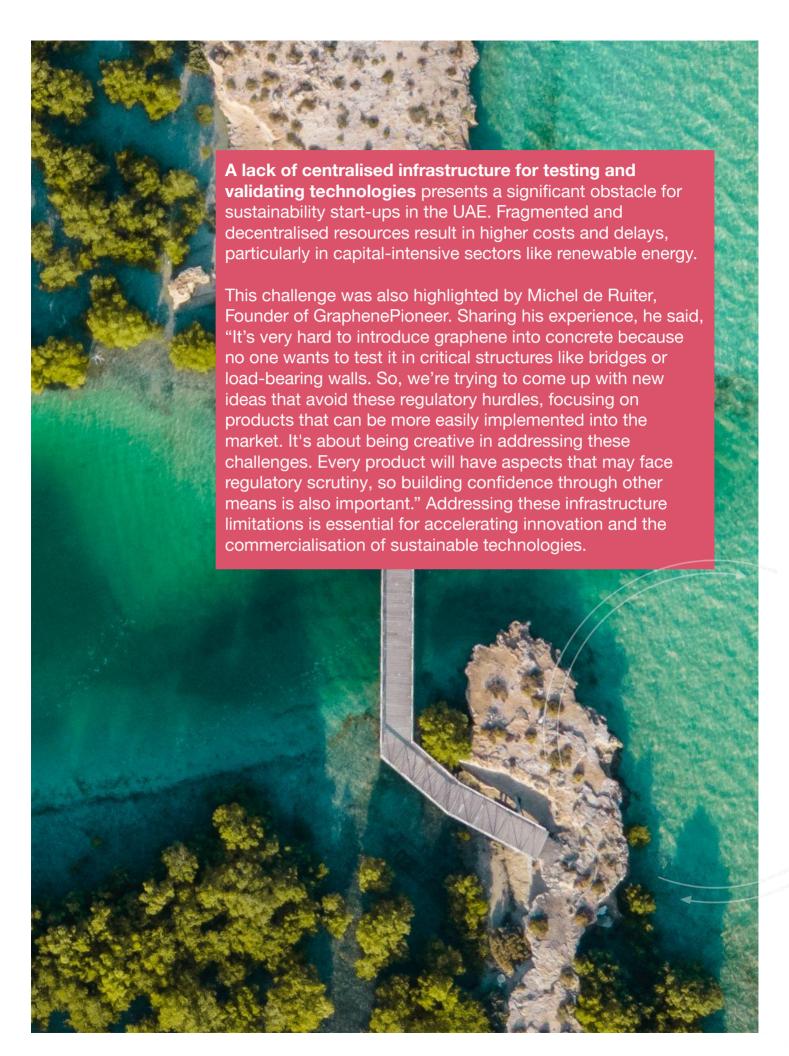
Address financial barriers

Expanding access to government-backed financial support: Expanding access to government-backed financing, introducing financial guarantee mechanisms and implementing tax incentives and subsidies can alleviate financial burdens for start-ups and encourage investments. Tailored, government-backed loans and guarantees can reduce CAPEX burdens and attract investors by sharing financial risks. An ESG leader at one of the UAE's largest steel and building materials manufacturers noted that "financial support tailored to sustainability start-ups is vital to scaling their solutions and achieving national goals," while the strategy director of a utilities provider suggested that "financial guarantees enhance bankability, making start-ups more attractive to investors." Additionally, tax incentives and subsidies for R&D activities and pilot projects can further reduce the financial strain, fostering private-sector investment in climate tech and driving adoption and scalability.

Increasing RDI grant availability: RDI grants provide crucial funding for early-stage development, enabling start-ups to bridge the gap between concept and commercialisation. A representative from the steel manufacturing sector said, "dedicated RDI funding is critical to encouraging long-term innovation in emerging sectors." Expanding grants to include areas such as energy storage, green building materials and advanced batteries would align with national sustainability priorities. Collaborative grants involving academia and industry could further maximise resources and impact.







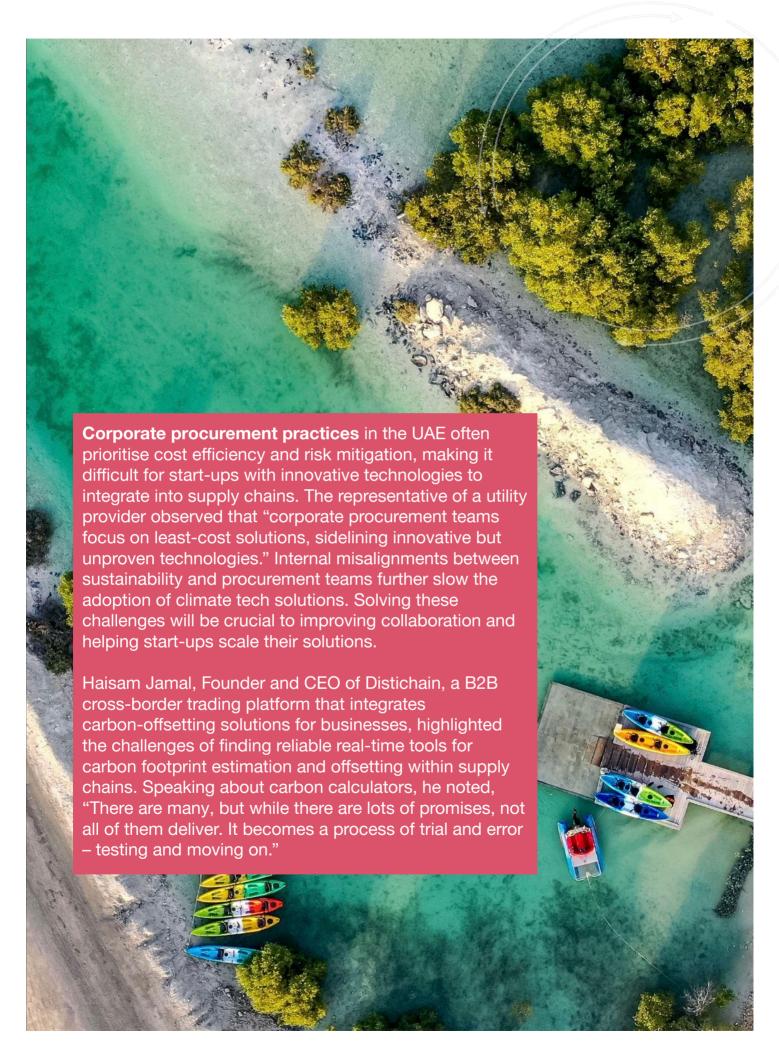
Build the right infrastructure

Establishing national testing facilities: Establishing national testing facilities, such as Masdar's renewable energy-powered desalination facility in Ghantoot, can reduce logistical challenges while encouraging partnerships across academia, industry and start-ups. According to the representative of a water and electricity provider, "centralised facilities streamline testing and foster collaboration, reducing costs for start-ups." The Ghantoot facility, 90 kilometres northwest of Abu Dhabi, hosted four pilot projects at a small-scale test facility at the plant⁵.

Empowering innovators and incubators: Expanding hubs like the Sharjah Research, Technology and Innovation Park (SRTI Park) create ecosystems that foster collaboration and innovation, providing start-ups in traditionally underserved regions greater access to resources. The chief strategy and partnerships officer at a UAE-based pioneering climate tech start-up specialising in carbon emission management and offsetting solutions emphasised that "hubs focusing on sector-specific needs can improve accessibility and foster local innovation." Dedicated hubs for energy storage or water management would align with national priorities. Enhanced incubation programmes like Masdar's accelerator initiatives to provide tailored tracks for emerging industries. offering mentorship, funding and market access. Sector-specific support and long-term mentorship can sustain growth beyond acceleration phases.





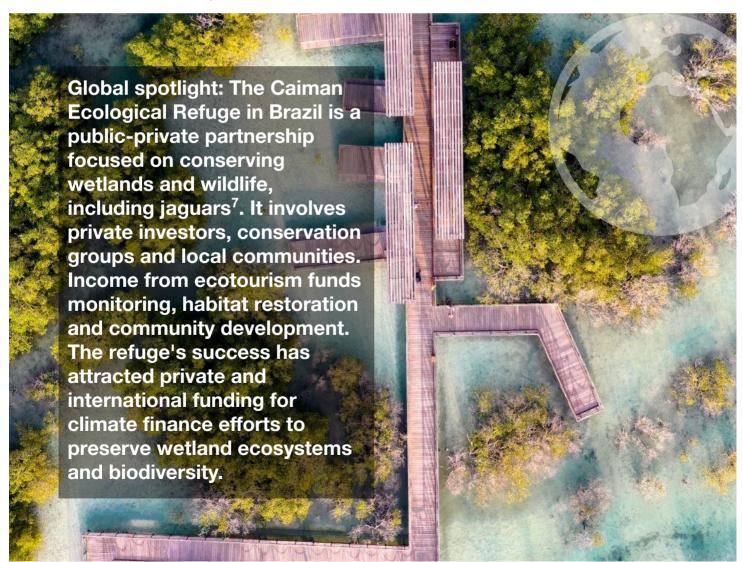


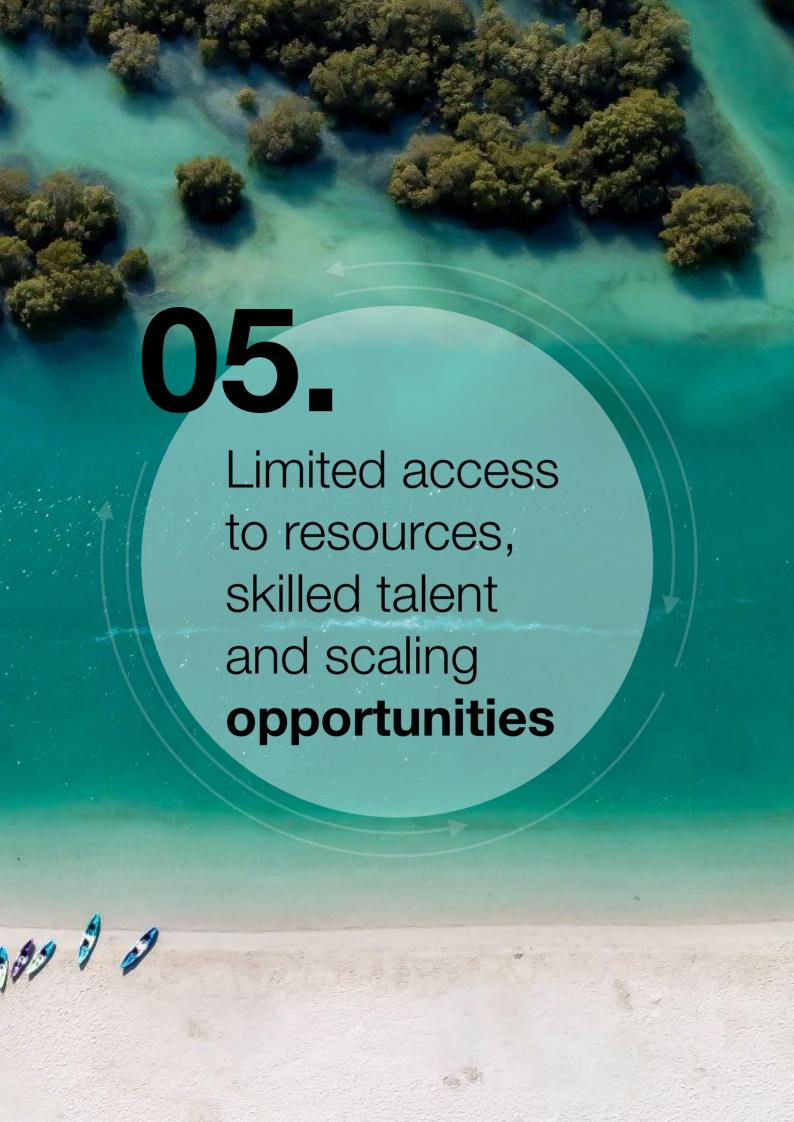
Integrate into corporate supply chains

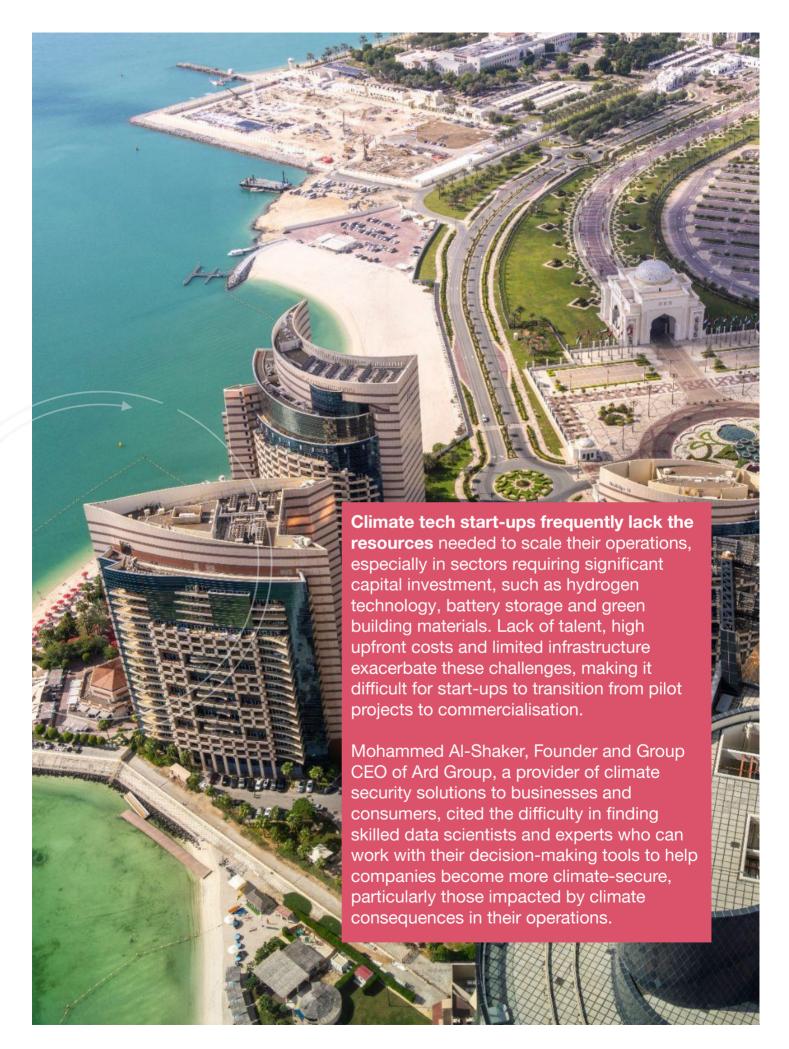
Reforming procurement policies: Short-term cost priorities in procurement often outweigh long-term sustainability goals. Oisin Commane, Head of Thought Leadership and Programming at ADSW and Masdar, suggested publishing utility challenges to guide start-ups towards corporate needs. By reforming policies to consider carbon savings and lifecycle value, alongside introducing pilot-friendly contracts with shared-risk models, greater startup integration into supply chains could be encouraged.

Public-private partnerships (PPPs): PPPs enable risk-sharing and incentivize adoption. These initiatives allow start-ups to develop solutions collaboratively with corporates and governments. The energy portfolio director at a Sharjah-based waste management and renewable energy group mentioned that such collaborations "reduce barriers for start-ups and foster trust in corporate supply chains." Joint procurement programs would also streamline the entry of start-ups into high-demand sectors like energy or logistics

Building internal capacity: Internal misalignments between procurement and sustainability teams delay technology adoption. The real estate developer's representative observed that "conflicting priorities hinder progress." Capacity-building initiatives, such as training workshops and cross-departmental alignment programs, can resolve these challenges, aligning procurement decisions with sustainability mandates.







Leverage PPPs to bridge the gaps

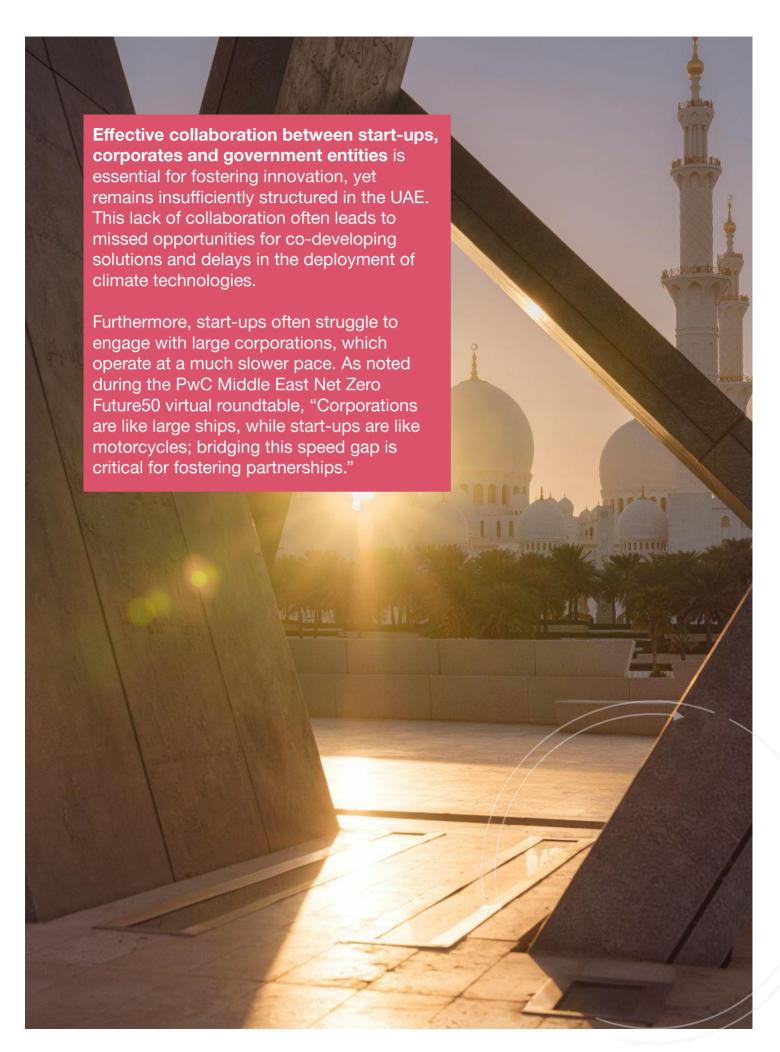
Building capacity and showcasing success: Public-Private Partnerships (PPPs) play a critical role in knowledge sharing and capacity building. They provide start-ups access to shared R&D centres, testing hubs, innovation clusters and co-investment mechanisms that help them grow beyond pilot projects. Mentorship programmes, such as Startupbootcamp's Green Sprint, pair start-ups with corporate mentors to navigate commercialisation challenges, providing valuable credibility and insights – something raised by participants at the PwC Middle East Net Zero Future 50 roundtable. Skills development and training initiatives address talent gaps, particularly in advanced climate technologies like AI and machine learning. Highlighting successful case studies and pilot programmes inspires greater participation from corporates and investors, "amplifying the visibility of sustainable businesses and encouraging further action across the ecosystem," as emphasised by Companies Creating Change (C3).

Joint public-private sector buy-in: Finding leaders in the region who are willing to take calculated risks and place bets on scaling innovative solutions is crucial for scaling innovative solutions in the region. Alp Katalan, Business Development Manager at Desolenator, a desalination start-up that aims to deliver sustainable water through renewable, modular and circular climate tech, highlighted the importance of partnering with Dubai Electricity and Water Authority (DEWA) and Silal, a UAE food and agri-tech company funded by ADQ, on two pilot plants. These pilots helped Desolenator achieve Technology Readiness Level (TRL) 7 – a tangible proof of concept. However, transitioning to full-scale commercial plants is challenging. Katalan noted, "This is often referred to as the 'valley of death' in climate tech, where companies risk getting stuck in 'death by a million pilots'." Identifying partners with a strong commitment to sustainability and innovation is essential. "We're working with sectors like energy, chemicals and food and beverage, which are critical for ensuring water security. These industries, however, have long development cycles and are risk-averse."

Joint funding initiatives between public and private stakeholders can mitigate risks and enable start-ups to scale more confidently. Participants in the PwC Middle East Future50 roundtable noted that co-funding models not only build trust but also provide financial stability, allowing start-ups to focus on innovation.







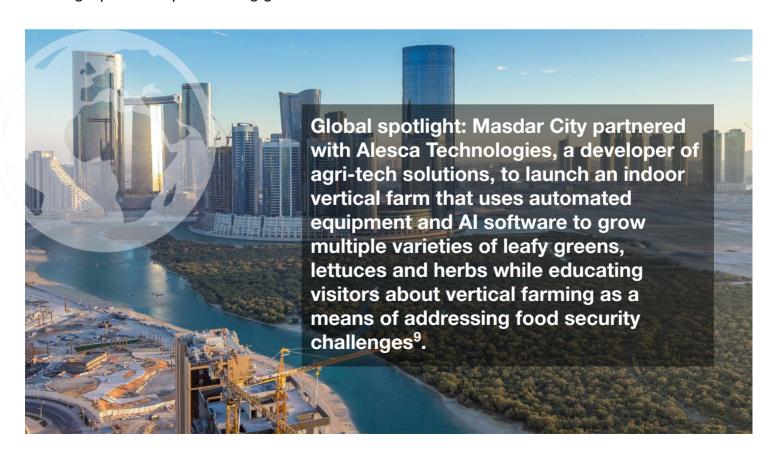
Collaborate to advance innovation

Joint pilot programmes: Organising pilot programmes that bring together start-ups, large corporations and government entities can validate new technologies and demonstrate their real-world applicability, with many pointing out that "pilot projects not only validate technologies but also create pathways for large-scale adoption."

Cross-sector partnerships: Encouraging partnerships that involve academia, industry and government can bring diverse expertise and resources to the table. Participants of the ADSW Virtual Working Group noted that collaborations between start-ups and large-scale utilities, such as Masdar, provide "credibility and validation" to innovative solutions, opening doors to new markets.

This was also indicated by Jay Sadiq, Founder and CEO of FortyGuard, which works in the area of urban climate intelligence. "At FortyGuard, we've been fortunate to join Hub71, which provided us with significant market access and project opportunities. It played a key role in shaping our commercial journey. We began as a company focused on modifying asphalt to cool surfaces, but through our journey, we evolved into a data-driven business. When we first approached Masdar with the idea of piloting our asphalt solution, the question was: 'Where will you apply it?' While our initial response was 'everywhere', their feedback was, 'you can't do it everywhere'.

"This mentorship was instrumental in helping us pinpoint the real problem. It led us to start collecting data ourselves, shifting our focus toward building a data solution. Masdar provided invaluable support, helping us capture insights and develop a scalable solution. Urban planners, engineering consultants and landscape architects worked with us to identify the core value of our solution and shape a viable commercial model. Collaborating with an entity like Masdar City not only validated our approach but also provided a crucial stepping stone for future partnerships." The experience has opened the doors for Sadig in other global markets, showcasing the power of strategic partnerships in driving growth and innovation.



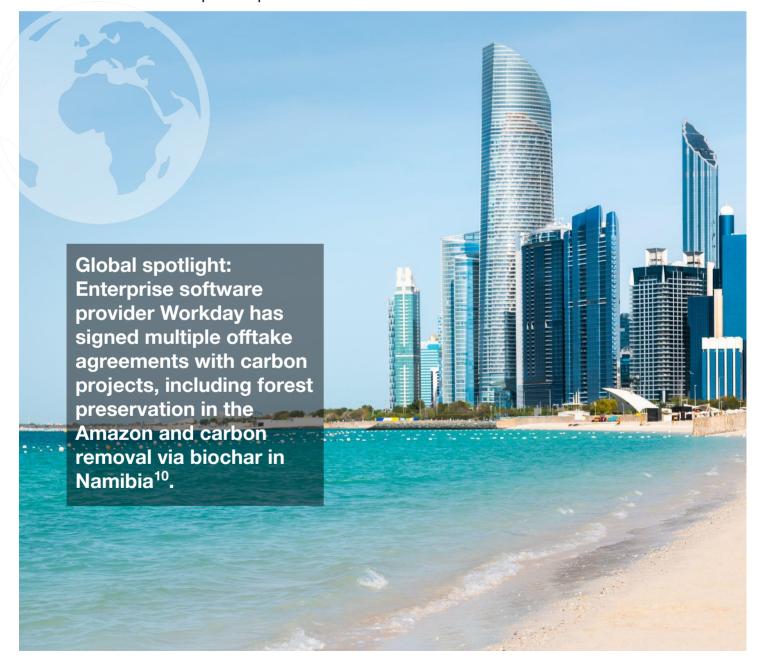


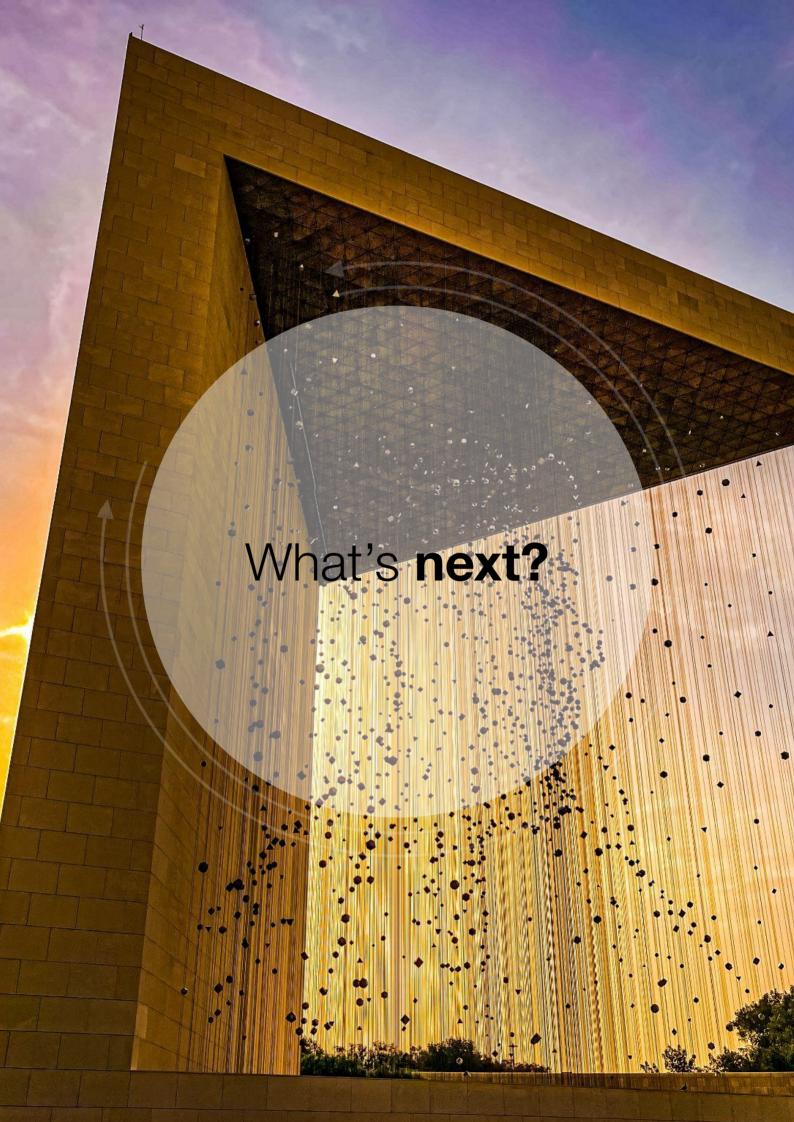


Drive market demand and scale opportunities

Facilitating offtake agreements: PPPs can act as intermediaries to negotiate long-term offtake agreements between start-ups and corporates. By de-risking these partnerships, PPPs can unlock new market opportunities for climate tech start-ups.

New corporate innovation frameworks: To enhance corporate and industry adoption of climate tech solutions in the UAE, a "paradigm shift" in corporate innovation frameworks is essential, said Zain Tarawneh, Climate Tech Lead at Hub71, an Abu Dhabi-based global tech ecosystem that helps early-stage start-ups establish a foothold in the region and scale their innovations to global markets. "One of Hub71's main focuses is to help integrate the innovative technologies of our start-ups into corporates' core business strategies. This requires the establishment of robust innovation programmes that prioritise long-term partnerships and allocate strategic funding to scale impactful solutions. Additionally, by fostering a collaborative ecosystem where corporates, start-ups and regulators co-design solutions can drive more impactful offtake, we ensure the involvement of all the important parties to drive scale."





The path ahead involves a concerted effort from all stakeholders – climate tech start-ups, investors, large UAE-based corporations and government officials – to address the challenges and harness the opportunities identified in this white paper. As Michel de Ruiter of GraphenePioneer said, "You shake your head, stumble, dust off your knees and go at it again. The more opportunities we have and the more progress we see, the more we're motivated to keep going."

To build on the momentum:

Climate tech start-ups should focus on innovation and agility. Leveraging pilot projects, engaging in collaborations and seeking mentorship can overcome initial hurdles. Start-ups must showcase their viability to attract investment.

Investors and VC funds play a crucial role by providing capital and strategic guidance, helping start-ups navigate market complexities and scale solutions. They should stay attuned to emerging technologies and regulatory changes.

UAE corporations must align procurement practices with sustainability objectives. Reforming policies to prioritise long-term value and collaborating with start-ups are key steps.

Government officials should create and maintain an enabling environment for climate tech innovation. This includes expanding regulatory sandboxes, unifying standards and providing financial incentives. Dynamic policy reviews and fostering public-private partnerships are crucial for sustaining momentum toward a sustainable future.

Collectively, these efforts will ensure that the UAE remains at the forefront of climate tech innovation, driving national sustainability goals while setting an inspiring example for the rest of the world.

This report was produced as part of a collaboration between Abu Dhabi Sustainability Week, PwC Middle East and the Global Climate Finance Centre.



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About Abu Dhabi Sustainability Week

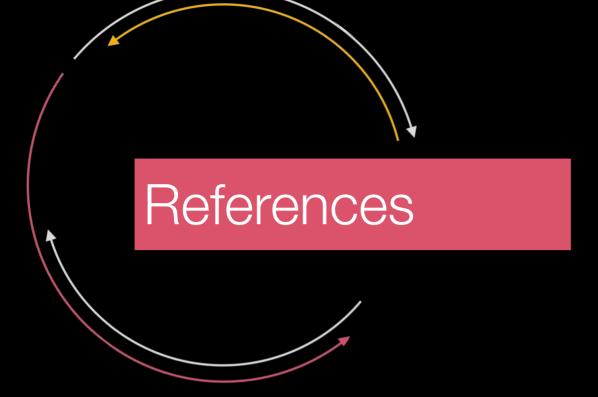
Abu Dhabi Sustainability Week (ADSW) is a global platform supported by the UAE and its clean energy leader, Masdar, to address the world's most pressing sustainability challenges through crucial conversations accelerating responsible development and fostering inclusive economic, social and environmental progress.

For more than 15 years, ADSW has convened decision-makers from governments, the private sector and civil society to advance the global sustainability agenda through dialogue, cross-sector collaboration and impactful solutions. Throughout the year, ADSW conversations and initiatives facilitate the knowledge sharing, innovation and collective action that will ensure a sustainable world for future generations.

About Global Climate Finance Centre

Launched at COP28, the Global Climate Finance Centre (GCFC) is based in Abu Dhabi Global Market (ADGM), the UAE's international financial centre. Established in partnership with leading global institutions, GCFC aims to position the UAE as a premier hub for climate investment. The Centre drives accountability for COP28 initiatives, mobilizing capital and advancing climate technologies to support green and transition projects in emerging markets. Through partnerships and innovative de-risking strategies, robust finance mechanisms and high-integrity carbon markets, GCFC delivers scalable solutions to global climate challenges.

As the host to the secretariats of Innovate for ClimateTech (I4C) and the Africa Green Investment Initiative (AGII), GCFC connects startups, corporates, and governments to drive innovation, streamline regulatory frameworks, and create scalable solutions. By championing de-risking strategies and facilitating access to capital, GCFC empowers climate-tech startups and accelerates clean energy deployment, aligning with the UAE's climate ambitions and global leadership in sustainability.



- 1) Source:
 - https://www.pwc.com/m1/en/publications/2024-middle-east-climate-tech-report.ht ml
- 2) Source: https://www.pwc.com/m1/en/sustainability/insights/future50.html
- 3) Source: https://www.forestvalley.org/for-startups
- 4) Source: https://www.energy.gov/lpo/title-17-clean-energy-financing
- 5) Source:

https://masdar.ae/-/media/corporate-revamp/downloads/masdar-annual-sustainability-reports/desalination_report-2018.pdf

- 6) Source:
 - https://e-estonia.com/ulemiste-city-introduced-test-city-a-unique-testing-environment-for-new-technologies-in-the-nordics/
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