جامعة عجمان
AJMAN UNIVERSITY

2025

SDG 13 CLIMATE ACTION

13.3 Environmental education measures

13.3.4 Inform and support government

THE GLOBAL GOALS

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Introduction

As climate change intensifies, the frequency and severity of natural disasters have increased significantly. To mitigate the impact of these disasters and protect vulnerable communities, effective early warning systems and monitoring mechanisms are essential.

Universities, as centers of knowledge and expertise, can play a vital role in supporting government efforts to develop and implement robust early warning systems. By conducting research, providing technical assistance, and disseminating information, universities can contribute to enhancing community resilience and safeguarding lives and livelihoods.

This report delves into the University's commitment to informing and supporting local or regional government in climate change disaster early warning and monitoring. By examining the University's contributions to disaster preparedness and response, we aim to assess its impact on the following areas:

- Community Outreach and Education: The University's efforts to educate and inform the public about climate change risks and disaster preparedness.
- Policy and Decision-Making: The University's role in providing evidence-based information to inform government policies and decision-making.

To evaluate the University's performance, we will focus on the following key indicator:

- **Inform and support local or regional government (13.3.4):** This indicator assesses the University's involvement in providing information and support to government agencies in the areas of early warning systems, risk assessment, and disaster response planning.

By analyzing this indicator, we can gain valuable insights into the University's role in enhancing community resilience and safeguarding lives and livelihoods.

Message from the Senior Sustainability Manager

Climate change poses significant risks to our communities, and effective early warning systems are essential to mitigating these threats.

Our University is committed to supporting local and regional governments in their efforts to build resilience and protect vulnerable populations.

By sharing our expertise and resources, we are working to:

- Provide Data-Driven Insights: Conducting research and analysis to inform decision-making and identify potential risks.
- Educate and Empower Communities: Raising awareness about climate change impacts and promoting disaster preparedness.
- Foster Partnerships: Working with local and regional stakeholders to develop collaborative solutions.

Through these efforts, we aim to contribute to a safer and more resilient future for all.



We are dedicated to leading by example in climate action

MAYA HADDAD
SENIOR SUSTAINABILITY MANAGER

13.3.4 Indicator:
Inform and support government



Ajman University is at the forefront of securing a sustainable future for generations to come, actively collaborating with government authorities to combat the urgent threat of climate change. The University has partnered with key organizations such as the UAE Ministry of Climate Change and Environment (MOCCAE), Environment Agency- Abu Dhabi, Ajman Municipality, Environment Centre for Arab Towns by Dubai Municipality, COP28 Presidency, and Emirates Municipal Environmental Council to develop a holistic approach to climate action.

Through these collaborations, Ajman University's experts are playing a crucial role in informing government strategies and providing the tools needed to address the multifaceted challenges of a changing climate. They are supporting the UAE's efforts to build resilience, promote sustainable development, and ensure a thriving future for all. By sharing their knowledge and research, they are helping to shape policies that not only mitigate the impacts of climate change but also foster innovation, economic growth, and social equity.

From developing renewable energy solutions to creating climate-resilient infrastructure, from advancing sustainable agriculture practices to promoting eco-friendly urban planning, Ajman University is at the heart of the UAE's climate action efforts. Through education, research, and community engagement, the University is empowering the next generation of leaders to tackle the climate crisis head-on and build a sustainable world for all.

Ministry of Climate Change and Environment

Ajman University stands at the forefront of the UAE's fight against climate change. Deeply committed to a sustainable future for generations to come, the university actively supports the nation's ambitious Net Zero 2050 strategy, aligned with the Paris Agreement.

Leading by Example:

Since 2022, Ajman University representatives have actively participated in shaping the UAE's climate adaptation framework. Their contributions span academic consultations, workshops, meetings, and discussions, demonstrating the university's dedication to tackling this critical challenge.

The UAE's Role on the Global Stage:

The UAE has emerged as a regional leader in addressing climate change. They were among the first MENA countries to endorse the Paris Agreement and have launched several initiatives to combat climate threats.

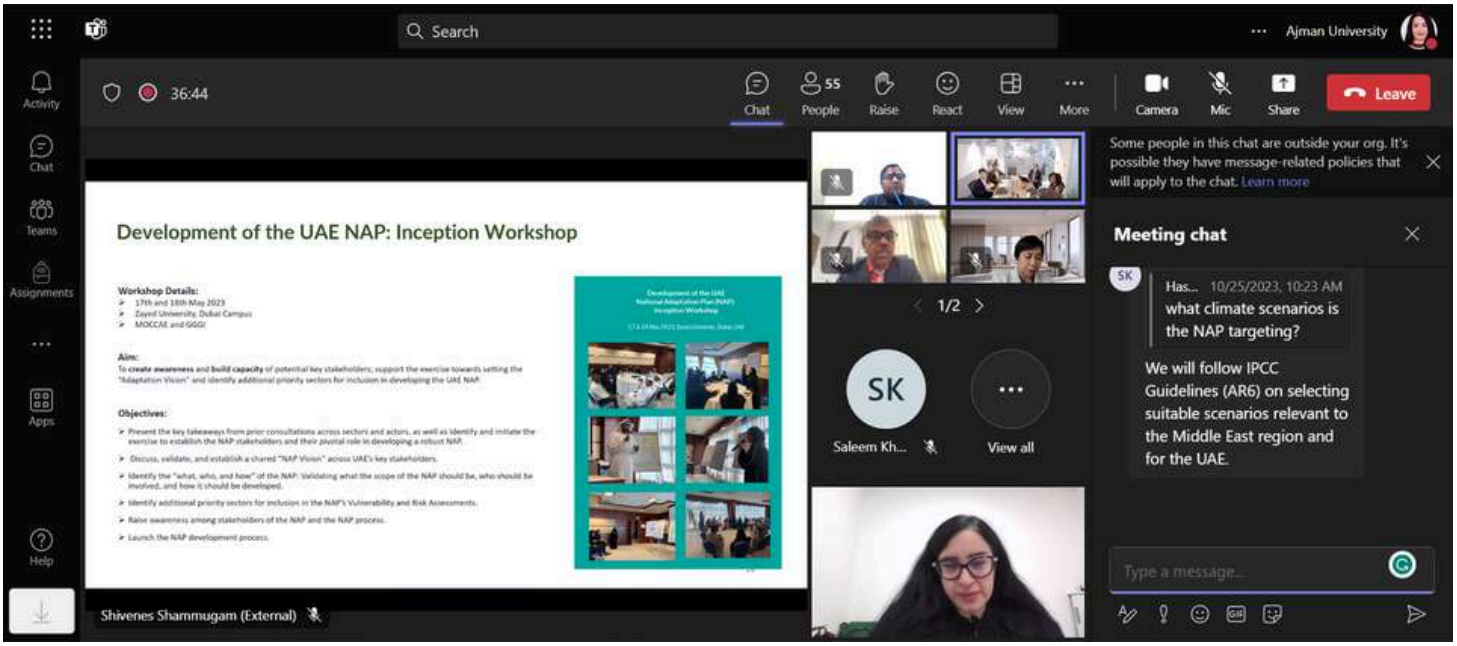
A Crucial Turning Point:

The UNFCCC COP28 conference that was in November–December 2023 served as a pivotal moment to showcase global progress under the Paris Agreement. The UAE's hosting role, alongside the first Global Stocktake, presents a unique opportunity to solidify the nation's leadership in climate action.

National Adaptation Plan: A Roadmap for Resilience

The UAE's National Adaptation Plan (NAP) is anticipated to be a significant milestone in this fight. This comprehensive plan aims to integrate climate resilience strategies across the federal government. By identifying vulnerabilities across the seven emirates, the NAP will pave the way for a more resilient UAE prepared to face future climate risks.

https://sustainablecampus.ajman.ac.ae/en/partnerships/ministry-of-climate-change-and-environment



Ajman University: A Key Partner with the Ministry of Climate Change and Environment in Informing the UAE's Climate Adaptation Strategy

Ajman University has firmly positioned itself as a vital contributor to the United Arab Emirates' national sustainability agenda. The university is committed not only to participating in initiatives but to actively shaping them, ensuring a resilient and sustainable future for the next generation. A core component of this mission involves providing direct academic and research-based support to the government's strategic planning efforts, particularly in the complex field of climate adaptation.

In alignment with the UAE's strategic Net Zero 2050 initiative and the Paris Agreement, Ajman University serves as a crucial knowledge partner. Since 2022, the university's representatives have been actively engaged in a series of academic consultations, workshops, and high-level discussions focused on the UAE's climate adaptation framework. This is not merely passive attendance; it is an active process of informing and supporting the government by translating cutting-edge research, empirical data, and academic expertise into actionable policy recommendations. The university's role is to help bridge the gap between theoretical knowledge and practical implementation, ensuring that the nation's plans are robust, evidence-based, and effective.

The UAE has emerged as a regional leader in this arena, being one of the first MENA nations to support the Paris Agreement. Its leadership will be on full display as it hosts the UNFCCC COP28 in November-December 2023, a pivotal event featuring the first Global Stocktake to assess collective progress under the agreement.

Central to the UAE's strategy is its National Adaptation Plan (NAP). The NAP is designed to be the nation's next significant step in proving its leadership against climate change, integrating climate resilience across the Federal Government and identifying vulnerabilities across all seven emirates. It is precisely within the development of this critical plan that Ajman University's contributions are most impactful. By participating in the consultations for the NAP, the university provides essential insights that help the government identify sector-specific risks from water security and agriculture to public health and infrastructure and develop targeted adaptation measures. This collaborative partnership ensures that the UAE's climate adaptation planning is not only comprehensive but also grounded in the latest scientific and academic understanding, ultimately creating a more resilient nation.

https://ehs.ajman.ac.ae/en/pages/au-climate-action-learning-program

Environment Agency - Abu Dhabi: Sustainable Campus Initiative

The UAE recognizes the power of its young minds. The Sustainable Campus Initiative (SCI), launched by the Environment Agency – Abu Dhabi and sponsored by Borouge, capitalizes on this potential by fostering environmental leadership among university and college students aged 18-35, including those at Ajman University.

This impactful program equips future changemakers with the knowledge and tools they need to address sustainability challenges. Through participation, students gain valuable experience in:

- Green Campus Audits (GCA): Evaluating their institutions' environmental footprint.
- Sustainability Action Projects (SAP): Developing and implementing innovative solutions to reduce environmental impact.
- Green Youth Majlis (GYM): Connecting with peers, sharing best practices, and advocating for change.

SCI's multifaceted approach delivers a range of benefits:

- Mobilizes youth: Inspires students to become active participants in building a sustainable future.
- Networking opportunities: Connects students with local, regional, and international sustainability networks.
- Empowering future leaders: Provides students at Ajman University and other institutions with the skills and confidence to drive positive change.
- Engages educators and mentors: Creates learning opportunities for both students and faculty.
- Promotes action-oriented learning: Encourages students to translate knowledge into practical solutions.

By nurturing young environmental stewards, the SCI empowers the UAE's future generations to build a thriving and sustainable society, with active participation from Ajman University.

https://sustainablecampus.ajman.ac.ae/en/partnerships/sustainable-campus-initiative-with-ead

https://www.ead.gov.ae/en/About-Us

https://sustainablecampus.ead.ae/sis/sciWebsite/web/site/campuses



Ajman Municipality & Planning Department

The MOU between the parties was signed to share events, activities, conferences, and lectures organized or sponsored by both parties. These events align with the UAE strategy for aligning the sustainability and Climate action in the country's infrastructure development. AU Innovation Centre has been conducting joint operation events with new innovative business ideas that bring sustainability to the region. In addition to research collaborations between the College of Architecture, Art and Design and environmental initiatives with the Office of Sustainability and Community Engagement Unit.

https://www.ajman.ac.ae/en/mou/municipality-planning-department



Emirates Municipal Environmental Council

Ajman University plays a vital role in sharing their climate action plan by contributing to several teams that report to the Emirates Municipal Environmental Council. This council, established by the Ministry of Climate Change, coordinates environmental initiatives across municipalities in the United Arab Emirates. Here's a closer look at the specific teams where Ajman University's expertise contributes:

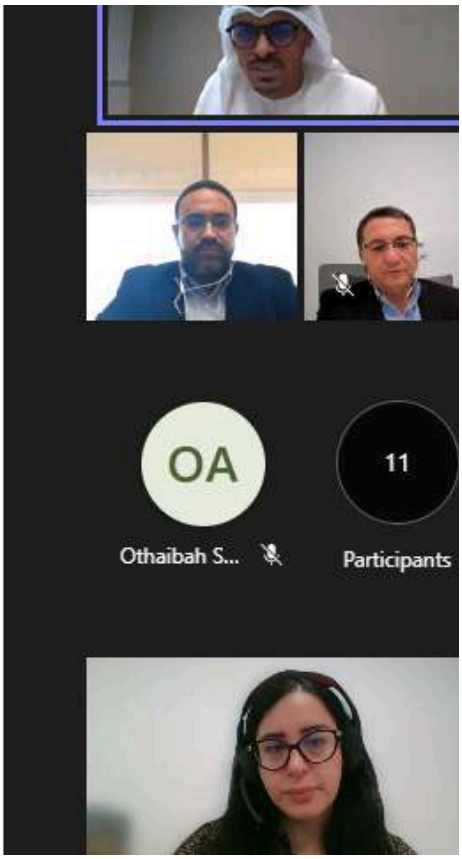
- Environmental and Municipal Studies and Research Team: This team focuses on conducting research and studies related to environmental issues and challenges faced by municipalities. They might analyze data on pollution levels, sustainable practices, or waste management. Their research would inform policy decisions and guide municipalities towards a more sustainable future. Ajman University's faculty and students can contribute valuable research skills and knowledge in areas like environmental science, engineering, and urban planning.
- Education and Awareness Team: This team aims to educate the public and raise awareness about environmental issues and sustainable practices. They might develop educational materials, organize workshops, or run social media campaigns. Ajman University can provide expertise in curriculum development, public outreach strategies, and communication to empower individuals to make environmentally conscious choices.

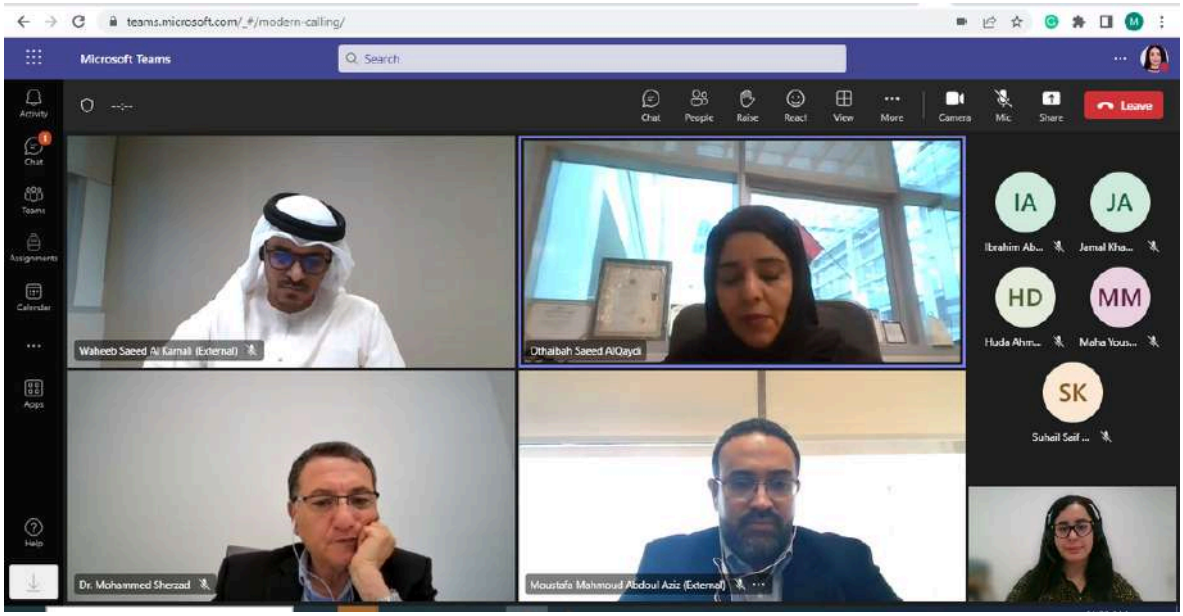
- Regional and International Positions and Participation Team: This team represents the organization in regional and international forums related to the environment and municipal development. They might participate in conferences, negotiate agreements, or collaborate with other organizations on international environmental initiatives. Ajman University's faculty members can lend their academic background and research experience to these international discussions.
- Policies and Legislation Team: This team develops and advocates for policies and legislation that promote environmental protection and sustainable development within municipalities. They might conduct legal research, draft policy proposals, and lobby for their adoption by local governments. Ajman University's legal scholars and social science experts can provide valuable insights on environmental law and policy development.
- Transformational Projects Team: This team focuses on identifying, developing, and implementing innovative projects that address major environmental challenges or promote significant improvements in municipal services. Their projects could involve renewable energy initiatives, green infrastructure development, or waste-to-resource programs. Ajman University's researchers and engineers can play a crucial role in developing and implementing these transformative projects.

By contributing to these critical teams, Ajman University demonstrates its commitment to environmental progress and a sustainable future for the United Arab Emirates.

https://sustainablecampus.ajman.ac.ae/en/partnerships/emirates-municipal-environmental-council



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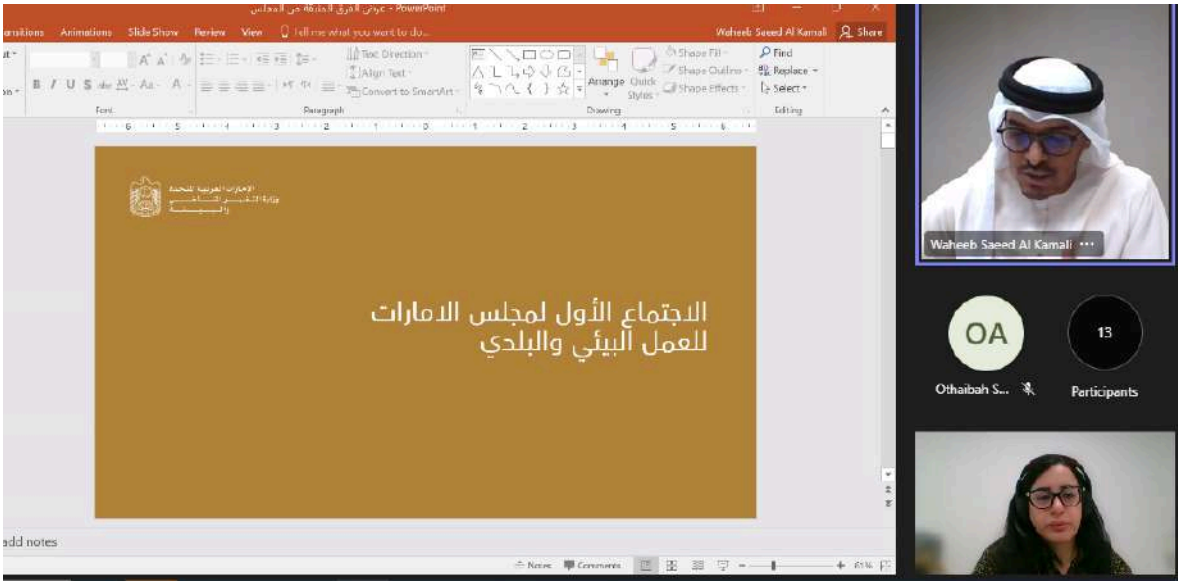
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Participants


أعضاء مجلس الامارات للعمل البيئي والبلدي
معالي مريم بنت محمد سعيد حارب المهيري
وزيرة التغير المناخي والبيئة
رئيس مجلس الإمارات للعمل البيني والبلدي
سعادة الدكتورة آمنه الضحاك الشامسي
وكيل الوزارة المساعد لقطاع الرعاية و وبناء القدرات
وزارة التربية والتعليم
سعادة المهندس عيسى الهاشمي
وكيل الوزارة المساعد لقطاع المجتمعات المستدامة
وزارة التغير المناخي والبيئة
سعادة الدكتور المهندس خليفة مصبح الطنيجي
رئيس دائرة شؤون الزراعة والثروة الحيوانية
إمارة الشارقة
سعادة منذر بن شكر الزعابي
مدير عام دائرة البلدية
إمارة رأس الخيمة
سعادة الدكتور حسين عبد الرحمن الرند
وكيل الوزارة المساعد لقطاع الصحة العامة
وزارة الصحة ووقاية المجتمع
سعادة عبدالله سامي الشامسي
وكيل الوزارة المساعد لقطاع التنمية الصناعية
وزارة الصناعة والتكنولوجيا المتقدمة
سعادة علي خليفة القمزي
مدير بلدية مدينة العين
إمارة أبوظبي
سعادة الدكتور سليمان عبدالله الزعابي
رئيس دائرة شؤون البلديات
إمارة الشارقة
سعادة محمد سيف الأفخم
مدير عام بلدية الفجيرة
إمارة الفجيرة
سعادة عبدالله سلطان الفن الشامسي
الوكيل المساعد لقطاع الرقابة والمتابعة
وزارة الاقتصاد
سعادة أحمد محمد الكعبي
الوكيل المساعد لقطاع الكهرباء والمياه وطاقة المستقبل
وزارة الطاقة والبنية التحتية
سعادة المهندس داوود الهاجري
مدير عام بلدية دبي
إمارة دبي
سعادة عبدالرحمن محمد النعيمي
مدير عام دائرة البلدية والتخطيط
إمارة عجمان
سعادة المهندس أحمد ابراهيم عبيد آل علي
مدير عام دائرة بلدية أم القيوين
إمارة أم القيوين
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Othaibah S...
11
Participants

Environmental Center for Arab Towns (ECAT)

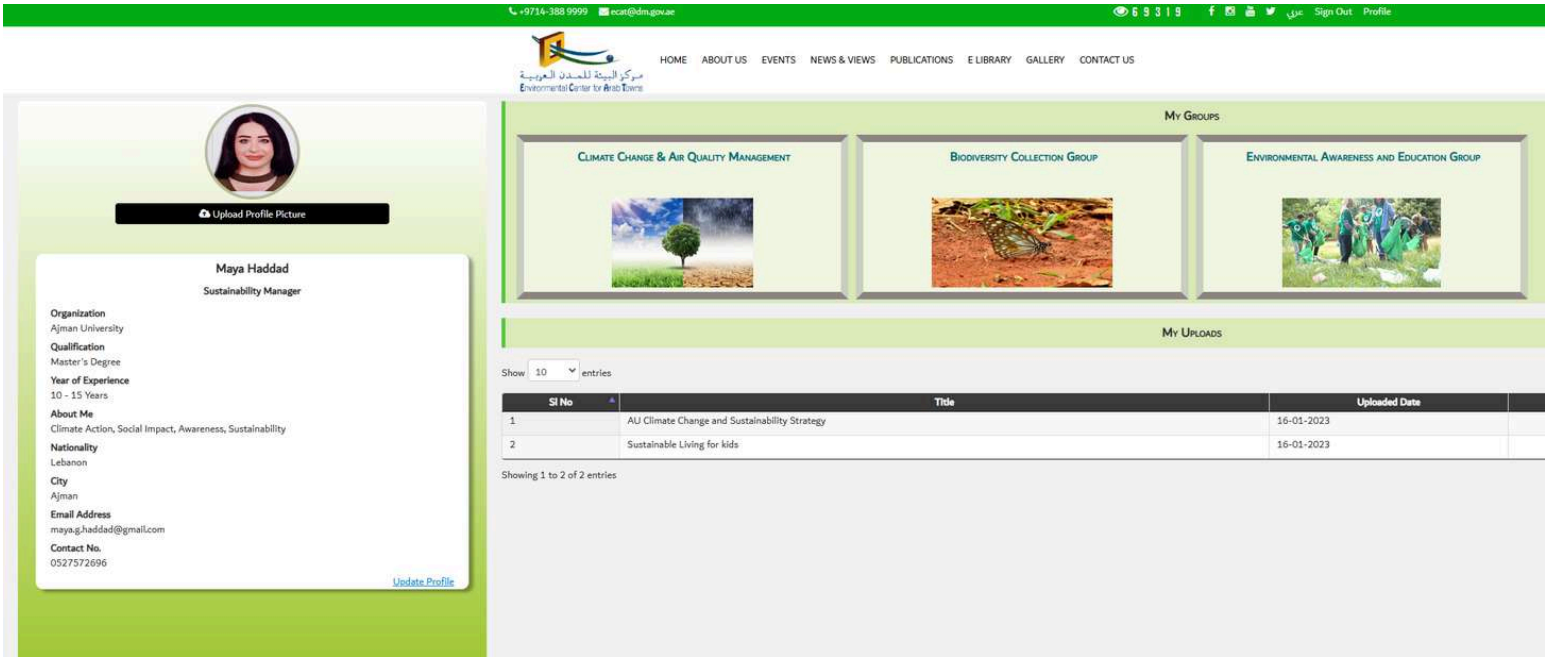
Founded in 2005 by the Arab Town Organization (ATO), the Environmental Center for Arab Towns (ECAT) currently runs under Dubai Municipality and serves as a vital hub for environmental collaboration in the Arab world. Led by H.E. Dawood Al Hajri, ECAT tackles critical environmental challenges and promotes sustainable development across Arab cities and towns.

ECAT boasts a robust network of 50 Arab cities and 138 Arab experts, including Ms. Maya Haddad, Sustainability Manager at Ajman University. This diverse network fosters communication and collaboration, breaking down barriers and allowing urban centers to learn from each other's experiences.

Recognizing the importance of knowledge in achieving sustainability, ECAT facilitates the exchange of critical environmental expertise through conferences and discussion forums. They are also developing a comprehensive knowledge-sharing platform – a valuable resource for researchers, decision-makers, and the general public. This platform will ensure widespread access to vital information, empowering positive environmental action.

ECAT understands the importance of cultivating environmental awareness from a young age. Their Green Ambassador Programme, open to students from Grades 6 to 12, equips young people with the knowledge and skills necessary to become environmental stewards. By fostering a generation of eco-conscious individuals, ECAT paves the way for a greener future for Arab cities.

https://sustainablecampus.ajman.ac.ae/en/partnerships/environment-center-for-arab-towns-ecat





Ajman Youth Hub



Empowering Youth, Building the Future Together

Ajman University is proud to partner with Ajman Youth to create meaningful opportunities that inspire, educate, and empower the next generation of leaders. Together, we are building a vibrant ecosystem where young people can develop their skills, explore their passions, and contribute to the sustainable development of our community and nation.

Through a diverse range of programs, events, and initiatives, our partnership reflects a shared commitment to youth empowerment, innovation, community engagement, and the United Nations Sustainable Development Goals.

Entrepreneurship & Innovation

Green Entrepreneurship Program – Hosted at Ajman Youth Hub, this intensive training and mentorship bootcamp empowers students to develop and launch environmentally and socially sustainable projects. The program includes specialized training workshops, mentorship sessions, and interactive activities that support students in refining their ideas and transforming them into practical prototypes. All sessions are delivered by Ajman University faculty and staff, ensuring participants receive world-class guidance.

Youth Professional Development Campaign – Launched as part of the "Ghaf" graduation projects exhibition, this campaign was developed in collaboration with Ajman Youth Center to support professional growth and career readiness among young people.

Media & Leadership Development

Arab Young Media Leaders Program – Ajman University hosted the 7th edition of this prestigious program, organized by the Arab Youth Center, with the participation of over 50 young men and women from 18 Arab countries. The program featured interactive workshops on smart and community-driven media practices, offering participants practical exposure to modern media tools. Through this initiative, we are preparing a new generation of media professionals capable of leading change and creating positive impact.

Sports, Health & Well-being

Youth Futsal Championship – Organized in collaboration with the Ajman Youth Council, this tournament brought together 12 teams from across the UAE, with over 80 young athletes aged 20-25. The event promoted fitness, teamwork, and an active lifestyle while supporting UN Sustainable Development Goal 3: Good Health and Well-being.

An Hour of Sports Activities – A wellness initiative held in collaboration with the Ajman Youth Council, featuring fitness exercises, friendly matches in football, basketball, and badminton, and fun team games. This initiative promotes sports culture and encourages healthy lifestyle practices across the community.

Capacity Building & Training

Beyond specialized programs, Ajman University delivers a wide range of capacity building and training sessions at the Ajman Youth Hub throughout the year. These sessions are designed to equip young people with the practical skills and knowledge they need to excel in their academic, professional, and personal lives. Covering topics such as leadership development, digital literacy, career readiness, effective communication, project management, and critical thinking, each training opportunity is facilitated by experienced AU faculty members and industry professionals. By offering these continuous learning experiences at the Youth Hub, we ensure that young community members have direct access to world-class expertise in a dynamic and accessible environment.

Community Engagement & Social Responsibility

Emirati Values Iftar – Ajman University's Office of Student Life, in collaboration with the Emirates Red Crescent Club, participated in this community event organized by the Ajman Youth Council at Flag Park, Ajman. The gathering celebrated and reinforced the social fabric by promoting social responsibility and revitalizing authentic Emirati customs.

"Ghars" Initiative – On World Environment Day 2025, Ajman University's Office of Sustainability participated in this initiative launched by the Ajman Youth Council. The event featured panel discussions with experts in environment and sustainability, along with hands-on community farming activities. Ajman University students showcased innovative sustainability research projects, demonstrating their commitment to environmental stewardship.

A Shared Vision for the Future

Through our partnership with Ajman Youth, Ajman University remains dedicated to serving the community and empowering youth through education, training, and strategic partnerships. We strive to provide an innovative learning environment that blends academic knowledge with practical experience, helping prepare qualified graduates to lead sustainable development and meet future challenges.

Together, we are nurturing young minds, fostering innovation, and building a brighter, more sustainable future for Ajman and the UAE.

https://sustainablecampus.ajman.ac.ae/en/partnerships/ajman-youth-hub









Ajman University's Partnership with MAJRA

Ajman University (AU) has established a dynamic and impactful partnership with MAJRA (the National CSR Fund), a federal entity of the UAE government dedicated to advancing corporate social responsibility (CSR) and sustainability practices across the nation. This collaboration underscores AU's strategic commitment to integrating sustainability, community engagement, and impactful research into its core mission.

The partnership encompasses several key areas, including participating in national sustainability challenges, securing research grants, and receiving formal recognition for the university's contributions to social and environmental causes.

Key Achievements & Awards

1. MAJRA Impact Seal – Platinum Level

Ajman University has been honored with the MAJRA Impact Seal at the Platinum Level, the highest tier of recognition awarded by the National CSR Fund. This prestigious seal is a testament to AU's unwavering commitment to embedding sustainability, social responsibility, and positive community impact across all facets of its operations from academics and research to campus life and community outreach. Achieving the Platinum level places Ajman University among the leading institutions in the UAE that have demonstrated excellence, transparency, and measurable outcomes in their CSR and sustainability initiatives.

2. MAJRA Sustainable Impact Award 2025 – Best University-Led Project

Ajman University's community-driven initiative, the "Greening Communities: Mangrove Planting Project," was named the Best University-Led Project and top 20 project at the MAJRA Sustainable Impact Challenge 2025, and received a monetary prize worth AED 70,000.

- Competition & Recognition: The project was selected as one of the Top 20 national sustainability initiatives from a pool of more than 228 entries from across the UAE.
- Award Ceremony: The prestigious award ceremony was held under the patronage of H.E. Abdulla Bin Touq Al Marri, UAE Minister of Economy and Chairman of Majra’s Board of Trustees.
- Impact & Significance: The project stood out for its blend of ecological impact, community engagement, and student involvement. It not only restores vital coastal ecosystems but also actively raises environmental awareness through education and participation.
- Verified Impact Stamp: In addition to the award, the project received the Verified Impact Stamp from MAJRA, which underscores the credibility and effectiveness of AU's approach to sustainability.

3. Support for Modern Heritage Research

Ajman University's commitment to research and cultural preservation was further recognized through a grant from the Modern Heritage Research Grants Program.

- Program Partnership: This program is organized by the UAE Ministry of Culture and Zayed University and implemented in partnership with MAJRA.
- Supported Research: The research project of Dr. Dalia Hafiz, Assistant Professor at AU's College of Architecture, Art and Design, received support under the first cycle of this program.
- Project Focus: Her project, titled "Humanizing Urban Heritage: Revitalizing Al-Satwa through Human-Centered Design (Streets of Memory)," aims to document and analyze the urban and architectural heritage of the Al-Satwa neighborhood in Dubai. This highlights AU's dedication to impactful research that contributes to community development and the preservation of the UAE's architectural and cultural heritage.

Through its partnership with MAJRA, Ajman University continues to demonstrate leadership in sustainability, community service, and academic research, reinforcing its role as a key contributor to the UAE's national goals for a sustainable and prosperous future.

https://sustainablecampus.ajman.ac.ae/en/partnerships/majra







Sharjah National Oil Company

Ajman University's Partnership with Sharjah National Oil Corporation (SNOC)

Ajman University has forged a dynamic and impactful partnership with the Sharjah National Oil Corporation (SNOC), one of the UAE's leading energy companies. This collaboration reflects Ajman University's strategic commitment to advancing health, safety, and environmental (HSE) standards, fostering sustainability, and bridging the gap between academia and industry.

Through active participation in SNOC's flagship events, knowledge-sharing initiatives, and student development programs, Ajman University continues to demonstrate its leadership in sustainability and its dedication to preparing future-ready graduates equipped to address the region's most pressing environmental and energy challenges.

Key Achievements & Collaborative Initiatives

1. HSE Expo 2026 – Executive Committee & Innovation Challenge Lead

Ajman University played a pivotal role in the 3rd edition of the SNOC HSE Expo, held on April 1–2, 2026, at Al Jawaher Reception and Convention Centre in Sharjah. Under the patronage of H.H. Sheikh Sultan bin Ahmed Al Qasimi, Deputy Ruler of Sharjah and President of SNOC, the event brought together industry leaders, regulators, and experts under the theme of Resilience, Sustainability & Operational Excellence.

Ms. Maya Haddad, Senior Sustainability Manager at Ajman University, served as a distinguished member of the event's Executive Committee, which was composed of senior HSE leaders from across the UAE. In this capacity, she contributed to shaping the strategic direction of the expo and ensuring its success as a premier platform for HSE excellence.



In addition to her role on the Executive Committee, Ms. Haddad led the Innovation Challenge section of the expo. This initiative invited professionals and innovators to submit solutions addressing real-world HSE challenges, with selected finalists presenting live at the expo to compete for cash prizes and industry recognition. Her leadership of this segment underscores Ajman University's commitment to fostering innovation and practical problem-solving in the fields of health, safety, and environmental sustainability. Ms. Haddad led the panel of judges of the innovation challenge, which included Rami Elhadi for the Office of Sustainability at Ajman University.

2. Knowledge Partner at SNOC HSE Expo 2025

Ajman University participated as a Knowledge Partner in the Health, Safety, and Environment (HSE) Expo 2025, organized by SNOC and held at Al Jawaher Reception and Convention Centre in Sharjah on April 16–17, 2025.

Ms. Maya Haddad, Senior Sustainability Manager at Ajman University, moderated a session titled "Sustainability Synergy: Integrating Resource Management and Renewable Innovation for a Circular Economy", where she discussed with experts how innovation and modern technologies can be leveraged to enhance resource efficiency and accelerate the transition toward a more sustainable economy. The expo served as a dedicated platform for raising HSE standards and aligning stakeholders around a shared commitment to creating safer and more sustainable workplaces across all sectors.

3. Participation in SNOC HSE Exhibition 2024

Ajman University's Sustainability Office participated in the SNOC Health, Safety, and Environment Exhibition 2024, held at Al Jawaher Reception and Convention Centre in Sharjah under the patronage of Sheikh Mohammed bin Ahmed Sultan Al Qasimi, Vice Chairman of the Oil Council. The exhibition was attended by over 200 professionals and experts from government institutions and private companies interested in occupational health and safety.

Ms. Maya Haddad, Sustainability Manager at Ajman University, played a key role in moderating two important sessions:

- "Transitioning to Net-Zero: Strategies for Organizations in the UAE" – where the University presented valuable insights on achieving environmental sustainability and adopting effective strategies to meet environmental goals.
- "Occupational Health Surveillance: Tools and Techniques for Monitoring Workplace Health" – showcasing the latest methods and technologies to enhance employee health and safety.

Additionally, Ajman University students and staff participated in interactive workshops and training sessions covering emergency response planning, risk assessment, and management.



4. Student Empowerment & Volunteer Opportunities

Ajman University student volunteers have played a pivotal role in supporting SNOC's HSE expos year after year. The Office of Sustainability assigns students annually to key tasks, including assisting with coordination, managing registration, and providing logistical support throughout the exhibitions. This reflects the University's commitment to empowering its students with practical experiences that enhance their skills and foster a strong sense of community responsibility.

5. Green Entrepreneurship Program Collaboration

SNOC has also contributed to Ajman University's entrepreneurial ecosystem. Rawad Barazanji of Sharjah National Oil Corporation served as a judge on the panel for the Green Entrepreneurship Program, a collaboration between Ajman University and AIR that empowers students from universities nationwide to develop environmentally and socially conscious businesses. The program culminated with teams pitching their business projects to a panel of judges, highlighting SNOC's commitment to nurturing young innovators and supporting sustainability-focused entrepreneurship.

6. Career Fair Participation

SNOC has also been an active participant in Ajman University's Career Fairs, providing students and graduates with valuable opportunities to connect with one of the UAE's leading energy companies. SNOC was among the participating companies at the AU Career Fair 2023, demonstrating its commitment to recruiting top talent and supporting the professional development of Ajman University students.

7. Sponsor & Participant – Make it Sustainable Forum 2023

In April 2023, SNOC demonstrated its commitment to sustainability and youth empowerment by serving as a major sponsor of Ajman University's inaugural "Make it Sustainable" Forum. The landmark event, held in partnership with the UAE Ministry of Climate Change and Environment on April 26, 2023, at the Sheikh Zayed Center for Conferences and Exhibitions, marked a significant milestone in the UAE's Year of Sustainability and paved the way for COP28.

SNOC was represented at the forum by a keynote speech from HE Khamis Al Mazroui and Ms. Rawad Barazanji, Process Engineer and Process Safety Team Leader, who participated as a distinguished speaker on a dynamic panel discussion titled "Raising the Climate Capacity, Mobility, and Sustainability in the Region". The forum also featured a vital roundtable discussion titled "Youth Empowerment Towards COP28 and a More Sustainable Future," which explored how universities and organizations can engage young people in the global sustainability movement. The event culminated in the historic announcement of the formation of Ajman University's Sustainable Development Goals (SDGs) Council, making it the first university in the UAE to establish such a council

A Shared Commitment to a Sustainable Future

Through its partnership with Sharjah National Oil Corporation, Ajman University continues to demonstrate its leadership in health, safety, and environmental sustainability. The collaboration provides students with invaluable exposure to industry best practices, networking opportunities with HSE professionals and sustainability advocates, and hands-on experience that prepares them for successful careers.

Ajman University's participation in these initiatives reaffirms its strong commitment to supporting national and regional efforts to promote a culture of health, safety, and sustainability. It also reflects the University's role as an academic institution that fosters impactful partnerships, develops innovative solutions, and contributes to advancing the UAE's vision for a more sustainable future.

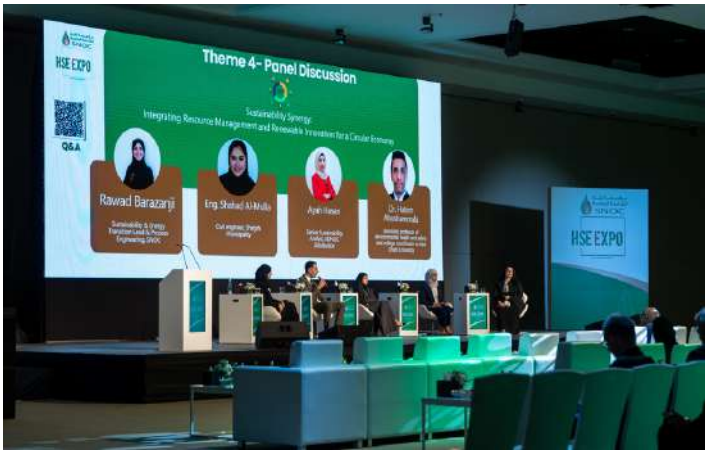
https://sustainablecampus.ajman.ac.ae/en/partnerships/sharjah-national-oil-company






PLATINUM SPONSOR
SILVER SPONSORS
SK
Lampreil
HILONG


HSE
HSE EXPO
SNOC


Theme 4- Panel Discussion
HSE EXPO
Q&A
Rawad Barazanji
Eng. Shahad Al Mulla
HSE EXPO




Rawad Barzanj
Sustainability & Energy Transition Lead & Process Engineering, SNOC
SNOC
HSE EXPO

Ajman University Continues to Co-Lead UAE Universities Climate Network as New Leadership Appointed



The UAE's Universities Climate Network (UCN), a powerful alliance of 38 universities across the Emirates, has announced new leadership to guide its next phase of advancing climate action regionally and internationally. Khalifa University's Dr. Samuel Mao and Dr. Rasha Bayoumi of the University of Birmingham Dubai have been appointed as Co-Chairs, while Ajman University's Maya Haddad has been named Head of Operations, a development that reflects Ajman University's continuing co-leadership of the network.

The official handover ceremony, organized at New York University Abu Dhabi (NYUAD), was attended by His Excellency Edward Hobart, the UK Ambassador to the UAE; His Excellency Ambassador Majid Al-Suwaidi, Director-General of the COP28 UAE Presidency; Professor Sir John O'Reilly, President of Khalifa University; and other key stakeholders.

Ajman University's Continued Co-Leadership

Ajman University remains a co-leading institution within the UCN, and the appointment of Maya Haddad as Head of Operations ensures that the university continues to play a central role in shaping the network's strategy, operations, and regional impact. In her new capacity, Haddad will oversee operational coordination, support cross-institutional initiatives, and help drive the implementation of the UCN's four pillars for thought leadership and action.

Her Excellency Razan Al Mubarak, UN Climate Change High-Level Champion for COP28, commented on the appointments: "Universities play an integral role in supporting climate action. They provide the research, education and expertise to respond to the climate challenge, developing the solutions and capacity to reduce emissions and address the adaptation gap. With the appointments of Dr Samuel Mao, Dr Rasha Bayoumi and Ms Maya Haddad in the UAE, I am delighted that UCN are building on their success at COP28 to take forward this agenda across the MENA region."

Building on COP28 Success

The UAE Universities Climate Network was formed to unify the voices of UAE universities and showcase the crucial role of higher education in tackling climate change. Its lasting impact extends beyond COP28, with a strategy built on four pillars:

- Student Youth Engagement Pillar: Empowering youth climate leaders by igniting a global movement of student climate action, engaging young leaders from the UAE and worldwide.
- Research & Innovation Pillar: Fueling innovation and solutions by disseminating climate research and analysis, providing policymakers with actionable recommendations to accelerate climate solutions.
- Communal Activations Pillar: Engaging communities with action by activating university campuses and stakeholders to broaden public engagement on climate change through evidence-based initiatives.
- Campus Carbon Neutrality Pillar: Leading by example through pioneering carbon neutrality, spearheading university decarbonization plans aligned with the UAE's ambitious 2050 Net Zero strategy.

Ajman University's Ongoing Contributions to the UCN

Ajman University's continued co-leadership of the UCN is rooted in its broader institutional commitment to sustainability. As a signatory of the UN Environment Program's Race to Net Zero for Universities, Ajman University submits annual GHG inventory reports and has made consistent progress toward carbon neutrality.

The university's flagship sustainability initiative, the "Greening Communities: Mangrove Planting Project," won the prestigious QS Reimagine Education Award 2024 in the "Sustainability Education Action" category and was recognized as Best University-Led Project at the MAJRA Sustainable Impact Challenge 2025.

In the Times Higher Education Sustainability Impact Rankings 2026, Ajman University ranked among the world's top 300 universities overall and achieved #1 in the UAE for both SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

Taking the UCN to the Next Stage

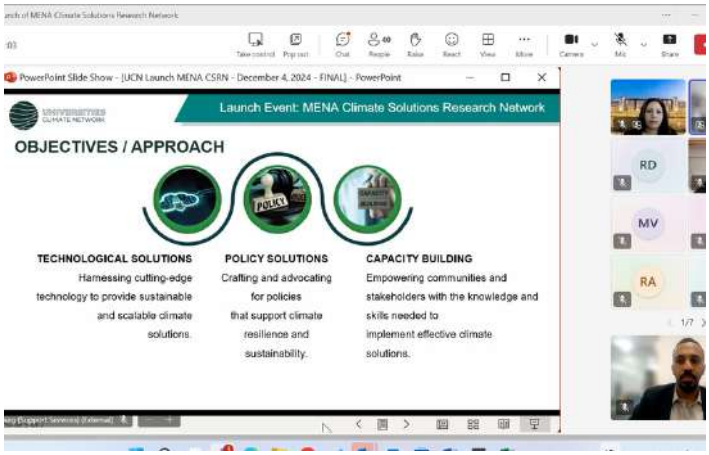
With the new leadership team in place, and with Ajman University continuing to co-lead the network, the UCN is poised to expand its impact across the MENA region and beyond. The network's 38 member universities stand united in the fight against climate change, empowering young minds to become the next generation of environmental leaders.

As Ajman University continues its co-leadership of this vital network, it reaffirms its belief that higher education institutions have a responsibility to drive climate action not only through research and teaching but through operational excellence, community engagement, and regional collaboration.

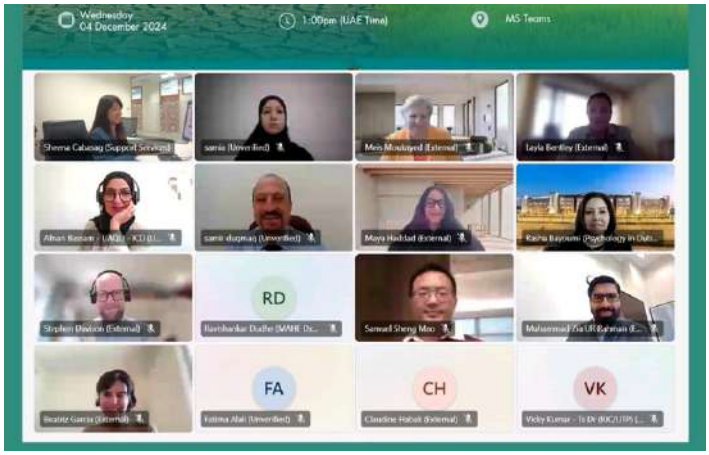
To learn more about the UCN, visit their LinkedIn page.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-continues-to-co-lead-uae-universities-climate-network-as-new-leadership-appointed


Universities Climate Network Meeting
18 December 2024
Agenda include: Post-COP29 Events and
Strategic Planning for 2025


Launch Event: MENA Climate Solutions Research Network
OBJECTIVES / APPROACH
TECHNOLOGICAL SOLUTIONS
Harnessing cutting-edge technology to provide sustainable and scalable climate solutions.
POLICY SOLUTIONS
Crafting and advocating for policies that support climate resilience and sustainability.
CAPACITY BUILDING
Empowering communities and stakeholders with the knowledge and skills needed to implement effective climate solutions.


UNIVERSITY OF BIRMINGHAM
AJMAN UNIVERSITY


Wednesday
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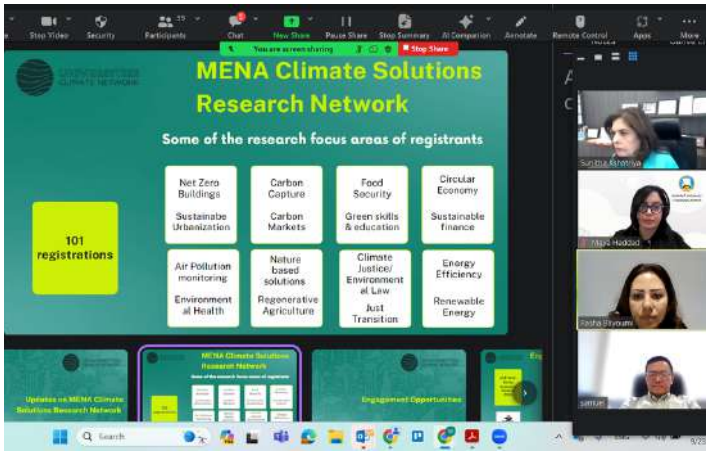
POST-COP29 UPDATES
UAE UNIVERSITIES CLIMATE NETWORK
URBAN PLANNING
WORKSHOP


MENA Climate Solutions
Research Network
Some of the research focus areas of registrants
101
registrations
Net Zero Buildings
Sustainabe Urbanization
Carbon Capture
Carbon Markets
Food Security
Green skills & education
Circular Economy
Sustainable finance
Air Pollution monitoring
Environmental Health
Nature based solutions
Regenerative Agriculture
Climate Justice/ Environmental Law
Just Transition
Energy Efficiency
Renewable Energy

UCN MENA Climate Solutions Research Network

The MENA Climate Solutions Research Network was established by the UAE Universities Climate Network (UCN) to tackle critical climate challenges within the MENA region by implementing solutions aligned with the "2030 Climate Solutions - Implementation Roadmap." The UAE Universities Climate Network (UCN) is currently led by Khalifa University, the University of Birmingham Dubai, and Ajman University. This roadmap, launched at COP28, identifies several thematic priorities: Energy, Transport, Industry, Land Use, Oceans & Coastal Zones, Water, Hunam Settlement and Finance. Our network is dedicated to addressing these areas through a multidisciplinary approach, encompassing technological innovations, policy frameworks, and capacity-building efforts.

Focus Areas:

1. Energy: Accelerate the shift to clean energy, aiming to triple renewable capacity by 2030 while doubling energy efficiency.
2. Transport: Continue electrifying all land transport modes and shift global aviation and maritime shipping to sustainable, zero-emission fuels.
3. Industry: Encourage breakthroughs in clean energy and zero-carbon products.
4. Land Use: Implement sustainable agricultural practices, involve marginalized groups in nature management, utilize nature-based solutions, and shift to nature-friendly farming.
5. Ocean & Coastal Zones: Implement science-based emissions reduction targets, build coastal communities' resilience, and restore marine ecosystems.
6. Water: Address the water crisis, improve water management collaboratively, and integrate water system improvements for resilience and sustainable development.
7. Human Settlements: Drive climate action in cities, aim for near-zero emissions in new buildings and collaborate for sustainable, low-emission, and resilient development.
8. Finance: Mobilize finance and catalyze investment into climate adaptation and resilience for economic imperative.

Approach

- Technological Solutions: Harnessing cutting-edge technology to provide sustainable and scalable climate solutions.
- Policy Solutions: Crafting and advocating for policies that support climate resilience and sustainability.

Capacity Building: Empowering communities and stakeholders with the knowledge and skills needed to implement effective climate solutions.

To learn more about the network, click here.

https://sustainablecampus.ajman.ac.ae/en/au-launches-the-mena-climate-solutions-research-network-along-with-ucn

Events to support Climate Change Initiatives by UAE government organizations

Ajman University Students Participate in the 25th Inter-College Environmental Public Speaking Competition

Ajman University students took part in the 25th edition of the Inter-College Environmental Public Speaking Competition, organized by the Emirates Environmental Group (EEG). This competition serves as a leading educational platform aimed at enhancing youth awareness of environmental sustainability issues, as well as developing their critical thinking, collaboration, and problem-solving skills to address environmental challenges.

Three teams from the College of Dentistry, the College of Engineering and IT, and the College of Pharmacy represented Ajman University in the competition. A team from the College of Dentistry presented a project under the theme "Cosmetics and Clothes: The Environmental and Socio-Economic Footprint," examining the hidden environmental and human costs of the fashion and cosmetics industries, including deforestation linked to palm oil production, water pollution from textile dyeing and microplastics, and the projected rise in fashion-related emissions through 2030. Their presentation also addressed worker health and safety, child labour, animal testing, and the pressure created by unrealistic beauty standards, while proposing fair labour practices, sustainable and biodegradable textiles, circular materials, and greater consumer awareness.

A team from the College of Engineering and IT presented an innovative and sustainable solution under the theme "Rethinking Green: How AI is Redefining Environmental Solutions," introducing OasisGreen, an AI-driven greenhouse model designed for extreme climates. The project combines AI forecasting, precision irrigation, and renewable energy to reduce water consumption by up to 30% and energy waste by 20%, while supporting food security and biodiversity protection in desert regions. The team also outlined a "Circular AI" framework covering green energy, model efficiency, hardware reuse, and lifecycle accountability, alongside a pilot concept for an AI-monitored smart agriculture hub with potential for wider adoption across the GCC. Their work acknowledged that while AI can support climate modelling, renewable energy optimisation, and biodiversity tracking, it also consumes around 1% of global electricity, making sustainable computing practices essential.

Additionally, a team from the College of Pharmacy participated by presenting a project under the theme "Urbanization vs. Wellbeing: The Role of Sustainable Cities in Public Health," which highlighted that more than half of the world's population now lives in urban areas, a figure expected to reach 70% by 2050, and that air pollution alone contributes to more than 6.7 million premature deaths each year. The team emphasised that sustainable urban development, green infrastructure, clean energy solutions, smart urban planning, and equitable access to healthcare and basic services are essential to improving quality of life for city residents.

The participating students highlighted that the competition offered a valuable opportunity to enhance their analytical skills, present ideas on a prestigious platform, and engage with environmental experts. They also appreciated the event's role in promoting environmental innovation and encouraging practical, sustainable solutions for a better future.

For the 2025 edition, EEG established key themes that address pressing environmental issues, including:

- Interlinked Times: Climate Change and Biodiversity and How to Address Them
- Rethinking Sustainability: How Does AI Impact Environmental Solutions?
- Urbanization vs. Wellbeing: The Role of Sustainable Cities in Public Health
- Two Crises, One Solution: Fighting Climate Change to Save Biodiversity

The themes reflect a broader understanding that climate change and biodiversity loss are deeply interconnected crises, with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) estimating that around one million species are threatened with extinction due to human activity. Forests, wetlands, and oceans currently absorb approximately 56% of greenhouse gas emissions annually a vital function that is now under threat while the World Economic Forum estimates that nature-based solutions could deliver up to 37% of the emission reductions needed to keep global temperature rise below two degrees Celsius by 2030.

Ajman University is dedicated to fostering an educational environment that nurtures innovation and sustainability. It actively involves students in competitive platforms where they can analyze environmental issues and propose research-driven, creative solutions. The University also emphasizes the importance of environmental responsibility, creating opportunities for collaboration with sustainability experts and institutions, and empowering students as future leaders in environmental protection and sustainable development.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-participate-in-the-25th-inter-college-environmental-public-speaking-competition


Environmental Impact


SOCIAL PRESSURE
Society
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hand for food and resources. Traditional agriculture
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tainability requires smart innovation.
AI make agriculture thrive where nature struggles?"


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7, 9, 12, 13, 15,


MINIMAX



Ajman University Participate in the "Clean UAE 2025" Campaign to Promote Environmental Sustainability



As part of its commitment to promoting environmental sustainability and fostering community engagement, Ajman University community members and students, along with their families, participated in the 24th edition of the "Clean UAE" campaign. Organized by the Emirates Environmental Group under the patronage of the Ministry of Climate Change and Environment, this initiative reflects the University's dedication to raising environmental awareness among students and the broader community while encouraging the adoption of eco-friendly practices that contribute to preserving natural resources and achieving sustainable development.

Ajman University's participation in this campaign underscores its sustainable approach and commitment to educating students on the importance of environmental conservation and active involvement in meaningful community initiatives. Through this event, students and their families had the opportunity to interact with experts and volunteers from various organizations, gain insights into waste-related challenges, and understand their impact on ecosystems. Additionally, the campaign instilled values of teamwork, volunteerism, and social responsibility among participants, reinforcing their role in building a more sustainable future.

The "Clean UAE" campaign is one of the UAE's leading environmental initiatives. Held from December 6 to 16, 2025, the campaign aimed to enhance environmental awareness and reinforce the concept of social responsibility. It brought together diverse community members to help clean natural areas and responsibly dispose of waste, contributing to environmental preservation and sustainability. The Ajman stop of the campaign took place on December 11, in collaboration with the Ajman Municipality and Planning Department and Ajman Police, and covered a distance of 10 kilometres.

This year's campaign saw participation from various sectors, with 84,000 volunteers from educational institutions, government entities, businesses, and families. Their collective efforts led to the collection of 45,000 kilograms of waste and the cleaning of 98 kilometres of land nationwide.

At the Ajman site alone, 1,025 volunteers collected 2,763 kilograms of general waste, along with 35 kilograms of paper, 60 kilograms of plastic, 15 kilograms of aluminium cans, 50 kilograms of glass, and 20 kilograms of scrap metal, all carefully separated for delivery to local recycling facilities, showcasing their dedication to sustainable environmental practices.
Participants from the University described the campaign as an inspiring experience that increased their awareness of the environmental impact of waste and motivated them to adopt sustainable habits, such as reducing plastic consumption, recycling, and participating in other environmental initiatives. They also expressed gratitude for the organizational efforts that ensured the campaign's success, commending the Ajman University Office of Sustainability for offering valuable opportunities for active involvement in environmental activities and boosting their ecological awareness.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participate-in-the-clean-uae-2025-campaign-to-promote-environmental-sustainability









Ajman University Students Participate in the Environmental Students Forum on Circular Economy



Ajman University students participated in the Environmental Students Forum on Circular Economy, organized by Hutchison Ports. The forum aimed to enhance students' awareness of sustainability issues, provide them with an opportunity to exchange experiences and innovative ideas, and showcase practical solutions that contribute to supporting the circular economy and advancing sustainable development at both regional and global levels.

The forum brought together students from various universities, who were given the option to select from a range of topics covering different aspects of sustainability. These included projects managed on sustainability, community activities, technologies and practices for sustainable growth, sustainability trends in the Middle East, sustainable mobility, and creative strategies for effective waste management and recycling.

Ajman University students Hurairah Faatimah Muzammil, Khadeeja Hashim, and Jon Zaccary presented a prototype project on effective waste management and recycling segregation using artificial intelligence, where they demonstrated how the integration of new technologies could positively impact economic, social, and environmental sustainability. Their efforts were highly commended by the organizers, who extended a special invitation for them to attend the Global Dock School Environmental Students Forum: Green Smart Port – Circular Economy. The program included a panel discussion titled "Building a Sustainable Future: Circular Economy, Supply Chains, and Cross-Sector Collaboration" and participation in the Our Smart Port activity.

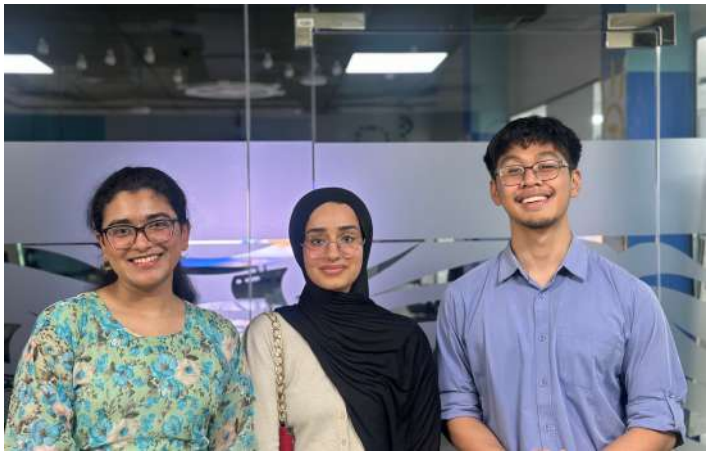
In addition, the students joined a Circular Economy Breakout Group Discussion, where participants were divided randomly into groups led by facilitators. Students stepped into the facilitators' roles to propose improvement suggestions for Hutchison Ports in areas related to the circular economy, climate change, and sustainable supply chains. Each group concluded with a three-minute presentation based on a framework exploring the connection between circular economy principles and port operations, challenges and opportunities for circularity in ports, and innovation and future vision.

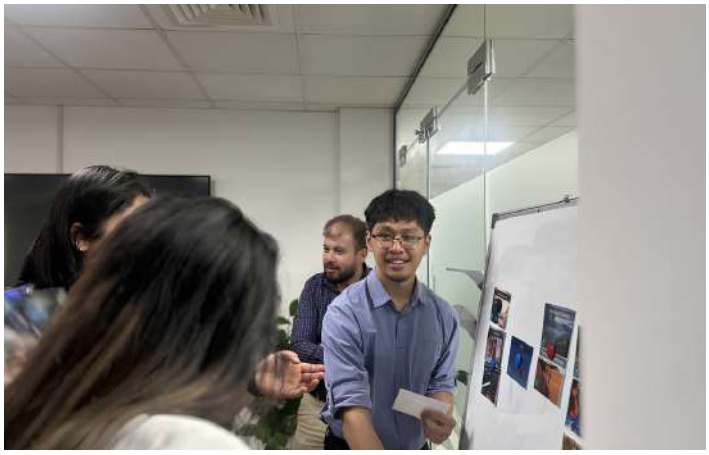
The forum also featured a Climate Fresk activity, an interactive and collaborative workshop designed to make complex climate science accessible in an engaging way. The workshop raised awareness about the urgency of the climate crisis, encouraged collective discussions and solutions, and fostered collaboration across communities, schools, companies, and organizations.

This participation reflects Ajman University's commitment to providing students with enriching academic experiences that combine theory with practice, while preparing future leaders capable of tackling environmental challenges and offering practical solutions that advance sustainable development.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-participate-in-the-environmental-students-forum-on-circular-economy









Ajman University Participates in “Ghars” Initiative on World Environment Day 2025



Ajman University’s Office of Sustainability participated in the “Ghars” initiative, launched by the Ajman Youth Council in collaboration with the UAE Council for Entrepreneurship, the UAE Agriculture Council, Ajman Tourism Development Department, Ajman University, University of Sharjah, Zayed University, and Greenpeace MENA, on the occasion of World Environment Day 2025.

The initiative’s agenda featured a series of intellectual and interactive activities, including two panel discussions with experts and specialists in the fields of environment, agriculture, and sustainable digital content. These sessions also provided university students with the opportunity to present innovative initiatives aimed at developing local environmental solutions, alongside hands-on activities focused on community farming.

Ajman University students showcased innovative sustainability-focused research projects, including:

- Toward Sustainable Wastewater Treatment Using Laser-Enhanced Photocatalysis, a project aimed at developing advanced, eco-friendly solutions for wastewater treatment. The project was presented by students Bayan M. Alradi, Asaad D. Hasan, Rashed Hasson Alabid, and Nagham Elsayed.
- Smart Simulations for Sustainable Solar: Eco-Friendly Buffers, Maximum Performance, a project focused on improving solar energy efficiency using innovative simulation tools. The project was presented by students Bayan M. Alradi and Asaad D. Hasan.

The projects were supervised by Prof. Fares Howari, Dean of the College of Humanities and Sciences, and Dr. Samer Zyoud, Senior Lecturer in the College. In addition, Ms. Asma Al Shamsi, Manager of Athletics at the Office of Student Life, led the Sustainable Art Workshop, which highlighted the connection between creative expression and environmental responsibility.

Ajman University’s participation reflects its strong commitment to promoting environmental awareness and advancing sustainability practices, by empowering its students to put forward innovative ideas and practical solutions that support national efforts toward building a sustainable and prosperous future.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-in-ghars-initiative-on-world-environment-day-2025-091025-124147


Ajman
عجمان











Ajman University Students Participate in Dubai Municipality Sustainability Forum



Ajman University students participated in the Sustainability Forum organized by Dubai Municipality, which brought together specialists, academics, and professionals interested in sustainability. Their participation came as part of the University's engagement, in collaboration with the Office of Sustainability and students from various disciplines, reflecting the role of youth in supporting environmental efforts and promoting a culture of sustainability.

During the forum, students attended dialogue sessions and specialized discussions on the future of sustainability in the UAE. They gained valuable experience and explored new perspectives on environmental and developmental issues.

The forum also featured an interactive debate that discussed the relationship between clean energy, sustainable transportation, and air quality improvement. This session allowed students to interact, share ideas, and propose solutions for building healthier and more sustainable cities.

Ajman University students also actively participated in the Innovation Lab, where they were divided into two groups to work on challenges related to the circular economy and Dubai Municipality's sustainability agenda. Through brainstorming sessions, students developed practical and innovative solutions and presented them to the audience, demonstrating their creative thinking and teamwork skills.

This participation reflects Ajman University's commitment to supporting sustainability initiatives and encouraging students to engage in national events that promote environmental awareness and social responsibility. The University continues to empower students to gain practical experience and develop their leadership skills, helping prepare a conscious generation capable of actively contributing to sustainable development goals.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-participate-in-dubai-municipality-sustainability-forum

Ajman University Participates in Universities Challenge 2025 with “Ni‘matak” Project



Ajman University participated in the Universities Challenge 2025, held at Expo Centre Sharjah as part of the International Government Communication Forum 2025 (IGCF 2025). The challenge was organized by United Arab Emirates University in collaboration with the Sharjah Government Communication Award, bringing together innovative students from universities across the UAE.

This year’s challenge focused on food security as one of the key pillars of building sustainable communities, aligning with the UAE’s sustainability agenda.

Ajman University highlighted the project “Ni‘matak” through an innovative student presentation developed by students Doaa Rafeq Mohammed Al-Alimi, Sara Walhan Abduljalil, and Muneera Kamil Yahya Ahmed under the supervision of the university’s Office of Sustainability.

“Ni‘matak” is an intelligent digital platform designed to rescue surplus food, reduce food waste, and enhance food security by connecting restaurants, cafés, and stores with individuals through affordable options. The platform supports sustainable consumption, promotes charitable giving, and helps relevant entities track and reduce food waste.

The participation reflects Ajman University’s commitment to supporting student innovation and empowering youth to develop initiatives that contribute to community service, in line with the UAE Food Security Strategy and the university’s mission to advance sustainable development.

https://www.ajman.ac.ae/en/education/news/2025/ajman-university-participates-in-universities-challenge-2025-with-nimatak-project






UAEU
جامعة الإمارات العربية المتحدة
United Arab Emirates University
جامعة أبوظبي
Abu Dhabi University
AUS
جامعة خليفة
Khalifa University
NYU ABU DHABI
UAQU






UAEU
United Arab Emirates University
جامعة أبوظبي
Abu Dhabi University
AUS
جامعة خليفة
Khalifa University
NYU ABU DHABI
UAQU

Ajman University Students Attend World Green Economy Summit 2025



A Focus on Sustainable Climate Finance and Public-Private Partnerships

During the summit, students attended a series of panel discussions and sessions focusing on sustainable climate finance, public-private partnerships, NDCs, and regional climate initiatives across Africa and the Middle East. The event also explored strategies for developing bankable green economy projects and expanding access to climate finance.

Students learned about the critical role of green bonds, carbon pricing mechanisms (including carbon tax and emissions trading schemes (ETS)), and the emerging Carbon Border Adjustment Mechanism (CBAM) in mobilizing private sector investment for decarbonization. Discussions highlighted how climate finance can support a just transition, ensuring that developing economies receive the necessary resources to build climate resilience infrastructure without sacrificing economic growth.

Regional Climate Initiatives and Climate Diplomacy

The summit placed particular emphasis on regional climate initiatives across Africa and the Middle East, showcasing how climate diplomacy is fostering cross-border collaboration on renewable energy deployment, energy efficiency, and sustainable mobility / low-carbon transport. Students gained insights into how countries are working together to expand renewable energy sources (solar, wind, hydro, geothermal, tidal) and invest in green hydrogen as a cornerstone of the future low-carbon economy.

Discussions also addressed the importance of electrification of transport, heating, and industry as key pathways for reducing the carbon footprint of high-emitting sectors. Students learned about successful models of public-private partnerships that have accelerated the deployment of climate resilience infrastructure while reducing climate vulnerability in vulnerable regions.

Addressing the Climate Emergency Through Science-Based Targets

Against the backdrop of a global climate emergency, the summit addressed the urgent need for science-based targets aligned with the remaining global carbon budget. Speakers warned of approaching climate tipping points and accelerating climate feedback loops, emphasizing that fossil fuel phase out and methane reduction (from agriculture, waste, and oil/gas sectors) must proceed without delay. Students also learned about the role of black carbon mitigation as a near-term climate solution.

The summit explored the potential of carbon capture, utilization, and storage (CCUS) and direct air capture (DAC) as negative emissions technologies, while emphasizing that these should complement, not replace direct emission reductions. Students heard about the importance of protecting natural carbon sinks (forests, oceans, soil) and investing in nature-based solutions (NbS) such as afforestation, reforestation, ecosystem restoration, and blue carbon conservation (mangroves, seagrasses, salt marshes).

Climate Adaptation, Resilience, and Disaster Risk Reduction

The summit also dedicated significant attention to climate adaptation plans, disaster risk reduction (DRR), and early warning systems as essential components of climate resilient development. Students learned how climate risk and climate vulnerability assessments inform the design of climate resilience infrastructure, and how loss and damage considerations are increasingly shaping international climate negotiations.

Discussions highlighted the role of climate modelling and scenario analysis (SSPs, RCPs) in predicting future climate impacts and guiding investment decisions. Students gained exposure to the climate action tracker as a tool for monitoring national and corporate progress, and to the growing field of climate litigation as a mechanism for enforcing climate commitments.

Circular Economy, Food Systems, and Sustainable Agriculture

Beyond energy and finance, the summit explored the transformative potential of circular economy and zero waste principles in reducing emissions across supply chains. Sessions on food systems transformation addressed sustainable agriculture, agroecology, and the need to reduce methane emissions from livestock while building climate resilience in farming communities.

Students learned how electrification and green hydrogen can decarbonize industrial processes, and how sustainable mobility and low-carbon transport solutions are reshaping urban planning across the region. The integration of nature-based solutions into infrastructure design was highlighted as a cost-effective strategy for enhancing climate resilience while delivering biodiversity co-benefits.

Valuable Exposure to Global Sustainability Practices

The summit provided students with valuable exposure to global sustainability practices and emerging environmental policies, while offering opportunities to engage with experts and gain deeper insight into climate action, green investment, and sustainable development initiatives shaping the future of the region and beyond.

Students networked with policymakers, industry leaders, and academics, returning to campus with concrete ideas for capstone projects, research initiatives, and student-led climate activism. The experience reinforced the importance of climate literacy and behavioural change as foundations for effective climate action, and highlighted the role of grassroots movements and corporate climate accountability in driving the transition to a green economy.

Looking Ahead: From Knowledge to Action

The World Green Economy Summit 2025 served as a powerful reminder that accelerating the green transition requires collective action across governments, businesses, civil society, and academia. Ajman University remains committed to translating the insights gained from such summits into concrete action, whether through curriculum enhancement, research initiatives, operational decarbonization, or community outreach.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-attend-world-green-economy-summit-2025









Ajman University Participates as a Knowledge Partner at HSE Expo 2025



Ajman University participated as a Knowledge Partner in the Health, Safety, and Environment (HSE) Expo 2025, organized by the Sharjah National Oil Corporation at Al Jawaher Reception and Convention Centre on April 16–17, 2025.

Maya Haddad, Senior Sustainability Manager at Ajman University, moderated a session titled “Sustainability Synergy: Integrating Resource Management and Renewable Innovation for a Circular Economy”, where she discussed with experts how innovation and modern technologies can be leveraged to enhance resource efficiency and accelerate the transition toward a more sustainable economy.

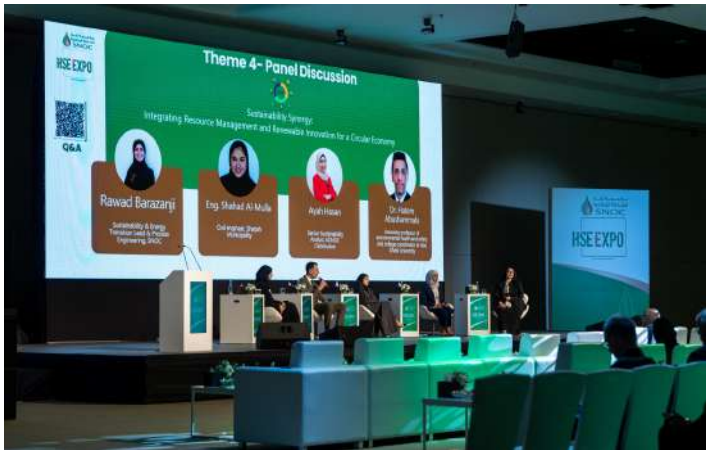
Ajman University student volunteers played a pivotal role in supporting the event, as the Office of Sustainability assigns them annually to key tasks, including assisting with coordination, managing registration, and providing logistical support throughout the exhibition. This reflects the University’s commitment to empowering its students with practical experiences that enhance their skills and foster a strong sense of community responsibility.

The expo served as a dedicated platform for raising HSE standards and aligning stakeholders around a shared commitment to creating safer and more sustainable workplaces across all sectors. It aimed to drive collective progress by fostering collaboration, exchanging knowledge, and applying innovative solutions that benefit not only individual organizations but the wider industry and society as a whole.

The event brought together decision-makers, HSE professionals, and sustainability advocates to shape the future agenda of workplace safety and environmental responsibility, supported by a distinguished group of sponsors and partners.

Ajman University’s participation in this event reaffirms its strong commitment to supporting national and regional efforts to promote a culture of health, safety, and sustainability. It also reflects the University’s role as an academic institution that fosters impactful partnerships, develops innovative solutions, and contributes to advancing the UAE’s vision for a more sustainable future.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-as-a-knowledge-partner-at-hse-expo-2025


Theme 4- Panel Discussion
Sustainability Synergy
Integrating Resource Management and Renewable Innovation for a Circular Economy
Q&A
Rawad Barazanji
Eng. Shahad Al Mulla
Ayah Hasan
HSE EXPO


Rawad Barzanji
Sustainability & Energy Transition Lead & Process Engineering, SNOC
HSE EXPO


HSE EXPO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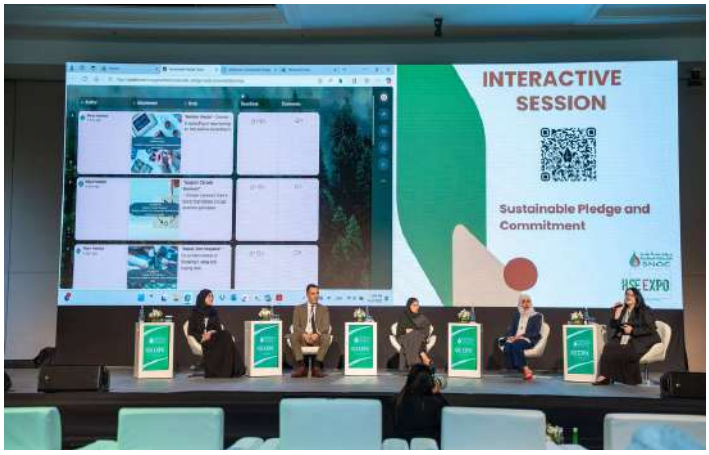
HSE EXPO


INTERACTIVE SESSION
Sustainable Pledge and Commitment
HSE EXPO


INTERACTIVE SESSION
Sustainable Pledge and Commitment
HSE EXPO

Ajman University Students Attend 13th Cycle of Arabia CSR & Sustainability Forum



The 13th Cycle of the Arabia CSR & Sustainability Forum, held under the theme "Sustainable Growth: Orchestrating a Global Change," welcomed students from Ajman University (AU) to Dubai Chambers. Organized under the patronage of the Ministry of Economy and Tourism in strategic partnership with Dubai Chambers, the forum brought together sustainability experts, industry leaders, and high-level dignitaries from across the region alongside the university delegation.

The event provided students with an unparalleled opportunity to engage with the latest thinking on corporate climate accountability, environmental, social and governance (ESG) principles, and the pathways toward carbon neutrality and net-zero emissions all of which are central to the UAE's long-term low-emission development strategies (LT-LEDS) and nationally determined contributions (NDCs) under the Paris Agreement.

Extending the Invitation to National Charity School

As part of Ajman University's deep-rooted commitment to sustainability, community engagement, and climate justice, the Office of Sustainability extended the invitation to students from National Charity School to attend the forum alongside the university delegation. This initiative reflects AU's belief in a just transition ensuring that climate literacy and professional development opportunities are accessible to all members of the community, regardless of background. By fostering climate literacy and behavioural change among young learners, the University is actively contributing to grassroots movements for climate action across the UAE.

A Comprehensive Agenda Across Sustainability Pillars

Throughout the event, students attended keynote speeches, plenary sessions, and interactive discussions focused on a wide range of critical topics, including:

- Sustainability and Corporate Social Responsibility (CSR): Students learned how organizations are integrating climate mainstreaming into their core strategies, moving beyond philanthropy to embed sustainability into operations, supply chains, and governance structures.
- Circular Economy and Zero Waste: Sessions explored how circular economy principles can reduce the carbon footprint of industries, minimize waste, and create economic value from materials that would otherwise be discarded.
- Energy and Decarbonization: Discussions covered the transition to renewable energy sources (solar, wind, hydro, geothermal, tidal), the role of energy efficiency in reducing emissions, and emerging technologies such as green hydrogen and electrification of transport, heating, and industry.
- Water and Climate Resilience: Students gained insights into water conservation strategies, climate resilience infrastructure, and the importance of protecting blue carbon ecosystems (mangroves, seagrasses, salt marshes) as natural carbon sinks.
- Food Systems Transformation: Sessions addressed sustainable agriculture, agroecology, and the urgent need for food systems transformation to reduce methane emissions from livestock and waste, while building resilience against climate vulnerability.
- Construction and Sustainable Materials: The forum highlighted innovations in low-carbon construction materials, green building design, and the integration of nature-based solutions (NbS) into urban planning.
- Sustainable Finance: Students learned about climate finance mechanisms, including green bonds, carbon pricing, emissions trading schemes (ETS), and the emerging Carbon Border Adjustment Mechanism (CBAM) as tools to drive private sector investment in decarbonization.

Insights into Global Sustainability Practices

The forum provided attendees with valuable insights into global sustainability practices and emerging solutions that support climate resilient development. Students heard from industry leaders about the importance of setting science-based targets, measuring and reducing carbon footprints, and avoiding reliance on carbon offsetting until deep emissions reductions have been achieved.

Discussions also touched upon the role of carbon capture, utilization, and storage (CCUS) and direct air capture (DAC) as negative emissions technologies, while emphasizing that these should complement, not replace direct emission reductions. Students learned about the importance of protecting natural carbon sinks (forests, oceans, soil) and restoring ecosystems through afforestation, reforestation, and ecosystem restoration initiatives.

Addressing Climate Risk and the Climate Emergency

Against the backdrop of a global climate emergency, the forum addressed the growing need for disaster risk reduction (DRR), early warning systems, and climate adaptation plans. Students gained an understanding of climate risk and climate vulnerability assessments, and how organizations are integrating these into their long-term strategies. The potential for climate tipping points and accelerating climate feedback loops was discussed as a critical driver for urgent action, including fossil fuel phase out and methane reduction across agriculture, waste, and oil and gas sectors. Discussions also touched upon the role of black carbon mitigation as a near-term climate solution.

The forum also touched upon the role of climate modelling and scenario analysis (SSPs, RCPs) in informing corporate and government strategies, as well as the growing field of climate litigation as a tool for enforcing climate commitments. Students learned how the climate action tracker monitors progress toward national and corporate goals, and how loss and damage considerations are increasingly shaping climate finance discussions.

A Unique Opportunity for Engagement and Professional Growth

The visit offered students a unique opportunity to engage with sustainability experts, expand their professional knowledge, and gain practical exposure to sustainability initiatives and CSR practices shaping the future of the region and beyond. Students networked with industry leaders, participated in interactive Q&A sessions, and returned to campus with concrete ideas for capstone projects, research initiatives, and student-led climate activism.

For the students from National Charity School, the experience was particularly transformative offering early exposure to climate diplomacy, corporate climate accountability, and the principles of a just transition. By participating alongside university students, younger learners gained mentorship opportunities and a clearer understanding of potential career pathways in the green economy, including roles in sustainable mobility, low-carbon transport, and climate resilience infrastructure.

Commitment to Community Engagement and Climate Justice

Ajman University's decision to extend invitations to National Charity School students reflects its unwavering commitment to climate justice and community engagement. The University recognizes that addressing the climate emergency requires collective action across all segments of society, and that climate literacy must begin at an early age. By opening doors to young learners, AU is helping to build a pipeline of future sustainability leaders who are equipped with the knowledge, skills, and values needed to drive climate resilient development.

The forum also reinforced the importance of staying within the global carbon budget, achieving gross zero or true zero where feasible, and recognizing that negative emissions through carbon removal technologies and nature-based solutions are essential for addressing residual emissions. Students reflected on how sustainable agriculture and agroecology can contribute to food systems transformation while reducing agriculture's. contribution to the carbon footprint.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-attend-13th-cycle-of-arabia-csr-sustainability-forum








المنتدى
FARNEK




FORUM
Sustainable Growth
المنتدى

Ajman University's Office of Sustainability Strengthens Global Engagement at the IUCN World Conservation Congress 2025 in Abu Dhabi



Ajman University's Office of Sustainability participated in the IUCN World Conservation Congress 2025, held in Abu Dhabi, reaffirming the University's growing role in advancing sustainability dialogue and environmental action through international collaboration. The Congress is among the world's most prominent gatherings dedicated to nature conservation, bringing together global experts and decision-makers from governments, civil society, the private sector, and academic institutions to address pressing environmental challenges and shape global sustainability priorities.

The participation reflects Ajman University's strategic commitment to embedding sustainability across its academic, research, and community initiatives while contributing to global platforms that foster innovative environmental solutions and policy dialogue. This engagement was further strengthened by the University's partnership with the UAE Ministry of Climate Change and Environment, which hosted the University's official sessions at its pavilion during the Congress.

As part of the program, Maya Haddad, Senior Sustainability Manager at Ajman University, developed and moderated a session titled "Digital Conservation: How Emirati Voices Are Leading the Sustainability Conversation." The session featured Dr. Rashid Karkain, Environmental and Sustainable Development Expert; Eng. Fatma Alhantoubi, Director of Environmental Research and Legislation at Fujairah Environment Authority and an Ajman University alumna; and Khaled Alblooshi, a student from Ajman University's College of Pharmacy and Health Sciences.

The discussion explored the growing role of digital platforms in shaping environmental awareness and highlighted how Emirati experts, youth, and institutions are contributing to a more informed and action-oriented sustainability dialogue. Participants examined how social media and digital communication can mobilize communities, inspire behavioral change, and translate environmental awareness into practical solutions.



Haddad also contributed as a speaker in a session titled “Biodiversity and Climate Change Adaptation: The Imperatives of Social Inclusion in Fostering Resilience.” During the session, she emphasized the critical role biodiversity plays in strengthening communities’ ability to adapt to climate change. She also underscored the importance of engaging diverse segments of society in environmental planning and implementation, noting that inclusive approaches strengthen policy outcomes and support the development of resilient and sustainable communities.

The Congress addressed five central themes: scaling up sustainable and resilient environmental action, mitigating the risks of climate change, advancing environmental justice and equity, transitioning toward nature-positive economies and societies, and fostering innovation and leadership in nature conservation. Together, these discussions contribute to shaping the global environmental agenda for the coming years.

Through its participation, Ajman University continues to expand the impact of its Office of Sustainability, strengthening partnerships with local and international stakeholders while supporting initiatives that advance environmental awareness, research, and community engagement.

This engagement reinforces Ajman University’s commitment to contributing to international efforts that protect natural ecosystems and promote a sustainable future for both people and the planet.

https://www.ajman.ac.ae/en/news/2025/ajman-universitys-office-of-sustainability-strengthens-global-engagement-at-the-iucn-world-conservation-congress-2025-in-abu-dhabi


جناح الإمارات
UAE PAVILION






جناح الإمارات
UAE PAVILION




جناح الإمارات

Ajman University Students Explore Digital Innovation and Sustainable Trade at GITEX 2025



Students from Ajman University (AU) attended an educational visit to GITEX Global 2025 , where they explored the latest advancements in digital innovation, smart technologies, and sustainable trade solutions. The visit was hosted through a special invitation and sponsorship from Dubai Customs under the theme "Enabling Economies and Facilitating Trade."

The experience provided students with a unique opportunity to witness firsthand how digital transformation can contribute to building more sustainable, efficient, and climate-resilient economic systems aligning directly with the UAE's broader decarbonization goals, carbon neutrality target, and net-zero emissions ambition by 2050.

Exclusive Tour of Dubai Customs Booth

During the visit, students were given an exclusive tour of the Dubai Customs booth, where representatives introduced them to a range of innovative technologies and smart customs solutions that are transforming global trade and logistics. The session highlighted how digital innovation can reduce the carbon footprint of cross-border trade while enhancing operational efficiency, transparency, and traceability.

Students learned about:

- Advanced paperless trade initiatives that minimize physical documentation, contributing to circular economy and zero waste principles by reducing paper consumption and associated emissions from printing, shipping, and storage.
- Smart tracking systems powered by emerging technologies, enabling real-time visibility of goods across supply chains and supporting sustainable mobility / low-carbon transport through optimized logistics routing and reduced fuel consumption.
- Digital platforms designed to streamline customs operations, reduce paperwork, and optimize supply chain efficiency directly contributing to energy efficiency gains across the trade ecosystem.

Linking Digital Transformation to Climate Action and Climate Diplomacy

The session also emphasized how these technologies support transparency, traceability, and responsible consumption practices while helping reduce environmental impacts across international trade networks. Students learned that efficient, digitized trade systems can play a meaningful role in climate adaptation plans by reducing delays, waste, and unnecessary energy consumption. This alignment between trade digitalization and environmental goals represents a form of climate diplomacy, demonstrating how non-climate sectors can contribute to the UAE's nationally determined contributions (NDCs) and long-term low-emission development strategies (LT-LEDS).

Discussions touched upon how digital trade solutions can complement broader climate resilience infrastructure by enabling faster response times for essential goods during climate-related disruptions. The integration of smart systems also supports disaster risk reduction (DRR) by improving supply chain visibility and early warning capabilities for potential logistical bottlenecks caused by extreme weather events.

Climate Finance, ESG, and Corporate Accountability

While the primary focus was on digital innovation, students drew connections to the role of climate finance mechanisms such as green bonds in scaling up sustainable trade technologies. They also considered how corporate climate accountability and environmental, social and governance (ESG) criteria are increasingly shaping procurement and logistics decisions across both public and private sectors. The visit sparked discussions on how carbon pricing mechanisms (including emissions trading schemes or a carbon tax) could influence future trade policies, and how the Carbon Border Adjustment Mechanism (CBAM) is already reshaping global trade dynamics by linking market access to carbon performance.

Inspiring Future Research and Academic Initiatives

In addition to expanding their knowledge of emerging technologies, the visit provided students with inspiration for future research, capstone projects, and academic initiatives focused on sustainability and innovation. The experience allowed students to engage directly with industry professionals and witness first-hand how organizations such as Dubai Customs are leading digital transformation efforts in the region.

By observing real-world applications of climate mainstreaming in trade policy, students gained valuable insights into how NDCs and LT-LEDS can be implemented at the operational level. The visit also reinforced the importance of climate literacy and behavioural change among future business and technology leaders, who will be responsible for embedding sustainability into global supply chains. Students recognized that achieving net zero emissions requires not only technological solutions but also a shift in organizational culture and individual decision-making.

Building Climate Resilience Through Trade Innovation

The technologies showcased at the Dubai Customs booth demonstrated how digitalization can reduce climate vulnerability in trade-dependent economies. By enabling more efficient tracking, verification, and documentation, smart customs solutions help minimize the risk of delays, spoilage, and resource waste all of which contribute to a higher carbon footprint. These innovations also support a just transition by ensuring that trade remains accessible and efficient for developing economies, without imposing undue burdens that could exacerbate existing inequalities.

Students reflected on how sustainable trade practices can complement nature-based solutions (NbS) and ecosystem restoration efforts by reducing demand for raw material extraction and promoting responsible consumption. While the visit did not directly cover carbon capture, utilization, and storage (CCUS) or direct air capture (DAC), students noted that efficient trade systems reduce the overall energy demand across supply chains, indirectly supporting carbon removal efforts by lowering baseline emissions. They also discussed the role of carbon sinks (forests, oceans, soil) in absorbing residual emissions, and how trade policies could incentivize the protection of blue carbon ecosystems such as mangroves, seagrasses, and salt marshes.

Addressing Climate Risk and the Climate Emergency

The visit took place against the backdrop of a global climate emergency, characterized by accelerating climate feedback loops and the approach of irreversible climate tipping points. Students learned that sustainable trade systems are an essential component of climate resilient development, helping economies adapt to climate risks while maintaining essential flows of goods and services. By reducing methane and black carbon emissions associated with inefficient logistics and waste, digital trade solutions contribute to near-term climate mitigation alongside long-term decarbonization efforts.

The experience also encouraged students to think critically about the role of climate activism and grassroots movements in holding corporations and governments accountable for their emissions. They discussed how tools like the climate action tracker can monitor progress toward science-based targets, and how climate litigation may increasingly be used to enforce commitments to fossil fuel phase out and emissions reduction.

As the world confronts the escalating climate emergency, Ajman University remains committed to equipping its students with the knowledge, skills, and networks needed to drive positive change. Visits such as this to GITEX Global 2025 exemplify how experiential learning can inspire the next generation of innovators to integrate sustainability into every sector from trade and logistics to design, healthcare, and beyond.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-explore-digital-innovation-and-sustainable-trade-at-gitex-2025













Ajman University Students Showcase Sustainable Innovation at DATE and CARE MENA Event



Ajman University (AU) students participated in the DATE (Digital Acceleration & Technology Expo) and CARE (Climate Action & Regenerative Environment) MENA event, organized by Trescon. Students showcased a range of innovative projects focused on sustainability, design, and emerging technologies, reinforcing the University's commitment to environmental stewardship, decarbonization, and technological advancement.

The event brought together a distinguished cross-section of industry leaders, innovators, policymakers, and young talent to explore cutting-edge advancements in sustainability and future technologies. Through this dynamic platform, Ajman University students had the opportunity to present their creative ideas and engage directly with professionals from various sectors, gaining invaluable real-world exposure and mentorship.

Sustainable Furniture and the Circular Economy

Among the showcased projects were several sustainable furniture and design concepts developed using reclaimed and environmentally friendly materials. Students presented innovative pieces that actively promoted circular economy and zero waste principles, demonstrating how waste materials can be transformed into functional, aesthetically compelling, and creative products. These projects directly address the need for climate resilience infrastructure by reducing demand for virgin materials and lowering the overall carbon footprint of the design and construction sectors.

- "ReForma": This featured project explored a sustainable stool design inspired by architectural structures. Created entirely using reclaimed materials, ReForma exemplifies how structural aesthetics and ecological responsibility can converge in everyday objects. The project supports climate adaptation plans by demonstrating low-impact design solutions that can be deployed across vulnerable communities.

- "Reclaimed Reflections": Another standout project demonstrated the innovative use of reused plastic pipes, recycled cardboard, mirrors, and eco-friendly cement to create durable and stylish sustainable furniture solutions. This project highlights the potential of multi-material upcycling in reducing construction and design waste while contributing to ecosystem restoration through reduced landfill pressure and resource extraction.

Healthcare Innovation: Sleep Apnea Detection Device

In addition to their design-focused projects, students also presented a healthcare-oriented innovation featuring a device designed to assist in the early detection of sleep apnea. This project underscored the intersection of technology, health, and social impact, illustrating how emerging technologies can be harnessed to address pressing medical challenges while improving quality of life. Such innovations contribute to climate justice by ensuring that healthcare solutions remain accessible to climate-vulnerable populations who may face increased health risks due to rising temperatures and worsening air quality.

Advancing Climate Literacy and Behavioural Change

The students' participation in the event also served as a powerful exercise in climate literacy and behavioural change. By engaging directly with industry professionals and policymakers, students demonstrated how grassroots movements and climate activism within academic settings can drive corporate climate accountability and embed environmental, social and governance (ESG) principles into product design and innovation. The event provided a platform for young innovators to advocate for science based targets and long term low emission development strategies (LT-LEDS) aligned with the UAE's Net Zero by 2050 ambition.

A Platform for Global Green Transition and Climate Finance

The CARE event serves as a global platform dedicated to sustainable innovation and the worldwide green transition, while DATE with Tech focuses on emerging technologies shaping the future across industries including artificial intelligence, sustainability, healthcare, and smart infrastructure. Together, these parallel tracks provided Ajman University students with a comprehensive stage to demonstrate their technical skills, creative thinking, and commitment to solving real-world problems.

Discussions at the event also touched upon the role of climate finance mechanisms, including green bonds and carbon pricing (such as emissions trading schemes or a carbon tax), in scaling up student-led innovations. Participants explored how carbon offsetting and carbon removal technologies (including direct air capture (DAC) and nature-based solutions (NbS)) could complement deep emissions reductions, while acknowledging that carbon offsets remain a "last resort" behind direct action. The potential role of green hydrogen, electrification of transport and heating, and sustainable mobility / low carbon transport in future iterations of student projects was also highlighted.

Building Climate Resilience and a Just Transition

The projects showcased by Ajman University students align with broader efforts to build climate resilience, reduce climate vulnerability, and support a just transition that leaves no community behind. By integrating principles of sustainable agriculture, agroecology, and food systems transformation into their design thinking, students demonstrated awareness of the interconnectedness of environmental and social systems. Their work also implicitly addresses the need for disaster risk reduction (DRR) and early warning systems by promoting material efficiency and waste reduction as forms of climate risk mitigation.

Commitment to Innovation and Experiential Learning

Ajman University's participation in the DATE and CARE MENA event reflects its deep-rooted commitment to fostering innovation, sustainability, and experiential learning. By empowering students to develop impactful solutions that address real-world environmental and societal challenges, the University continues to position its graduates as future-ready leaders capable of contributing meaningfully to the UAE's green economy, fossil fuel phase out, and net-zero emissions ambitions. The University also recognizes the importance of climate mainstreaming across all disciplines, ensuring that climate adaptation and mitigation are embedded in curricula and co-curricular activities alike.

As the world confronts climate tipping points, climate feedback loops, and the escalating climate emergency, Ajman University remains steadfast in its mission to prepare students not only to understand these challenges but to act upon them. Through initiatives like the UCN Decarbonization Academy and participation in global platforms thet helps cultivating a generation of innovators equipped to drive climate resilient development and track progress using tools like the climate action tracker.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-showcase-sustainable-innovation-at-date-and-care-mena-event


Enterprise ESG
Infrastructure


SLEEP APNEA




emtribe
Enterprise ESG
Infrastructure


SLEEP APNEA


#CAREforSustainability
THE CARE SONG
By Giovanni Gambardella

Ajman University Student Represents UAE and Masdar at Global Youth 4 Sustainability Program in Malaysia



Ajman University continues to cement its position as a leader in climate action and global youth empowerment, as one of its outstanding students was selected to represent both the UAE and Masdar (Abu Dhabi Future Energy Company) at the prestigious Youth 4 Sustainability (Y4S) Beyond Borders Program.

Held in Kuala Lumpur, Malaysia, in August 2025, the highly competitive program brought together a select group of emerging youth leaders from the UAE, Germany, India, and Malaysia to collaborate under the critical theme of “Energy Transition 2025.”

Engaging with Global Thought Leaders

During the intensive program, the Ajman University representative engaged in expert-led sessions, site visits, and interactive dialogues with local changemakers. The cohort had the unique opportunity to learn from and exchange ideas with prominent global thought leaders, including Nik Nazmi Nik Ahmad (Former Minister of Natural Resources, Energy, and Climate Change), Dr. Renard Siew, Ms. Claire Anthony, and Mr. Rumaizi A. Halim.

These sessions provided the students with a comprehensive understanding of the policy, technological, and social dimensions of the global energy transition, highlighting the diverse approaches taken by different nations toward a sustainable future.

Community Storytelling and Diplomatic Engagement

A major highlight of the program was a hands-on community storytelling project. The Ajman University student and their international teammates went into the local community to interview small businesses, capturing their authentic perspectives on sustainability and how the energy transformation affects them on the ground.

The team synthesized these narratives into a compelling short film, which they proudly presented in the presence of the UAE Embassy in Malaysia, represented by Mr. Aamer Alteneiji. This presentation not only showcased the students' storytelling and analytical skills but also bridged the gap between youth climate action and international diplomacy.



Bridging Healthcare and Energy Transition

The Y4S Beyond Borders Program served as a profound lesson in human-centered collaboration. Reflecting on the experience, the student emphasized how the program significantly enhanced their cross-cultural collaboration skills. Furthermore, the experience deepened their understanding of how different industries are interconnected specifically, how healthcare innovation and the energy transition share the same human-centered foundation, both striving to improve lives and build resilient communities.

Aligning with Ajman University's Strategic Vision

This remarkable achievement aligns perfectly with Ajman University's strategic commitment to the United Nations Sustainable Development Goals, particularly SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals). As an institution ranked #1 in the UAE for these categories in the Times Higher Education Sustainability Impact Rankings 2026, Ajman University is dedicated to providing students with platforms to engage with global networks and become active participants in the green economy.

By representing the UAE and Masdar on the international stage, this Ajman University student has returned with invaluable insights that will enrich the campus community and inspire fellow students to become the next generation of environmental leaders.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-student-represents-uae-and-masdar-at-global-youth-4-sustainability-program-in-malaysia









Ajman University Students Excel at UAE Sustainability Championship as Top Finalists

A team of Ajman University students has achieved remarkable success on the competitive sustainability stage, earning a spot as one of the Top 17 finalists out of 56 competing teams at the UAE Sustainability Championship: 17 SDGs. Organized by SP Jain School of Global Management and held in June 2025, the prestigious competition brought together innovative minds across multiple global hubs, including Dubai, Mumbai, Singapore, and Sydney.

Competing under the name Team Green Pulse, the Ajman University students demonstrated exceptional critical thinking, collaborative problem-solving, and a deep commitment to advancing the United Nations Sustainable Development Goals (SDGs).

Presenting "Nabrah – The Green Heart of the Desert"

At the heart of their finalist presentation was the project “Nabrah – The Green Heart of the Desert.” The team envisioned a comprehensive blueprint for a sustainable, smart city, directly addressing the challenges and opportunities outlined in SDG 11: Sustainable Cities & Communities.

The concept demonstrated a sophisticated understanding of urban planning, integrating smart technologies and ecological design to create a livable, resilient, and environmentally friendly urban environment suited for the region's unique climate and geography.

Fostering Design Thinking and Global Collaboration

Participation in the championship provided the Ajman University students with a dynamic platform to apply design thinking to real-world environmental challenges. The multi-city nature of the competition allowed the team to exchange knowledge, ideas, and best practices with other innovative teams from across the UAE and the wider region.

This experience not only sharpened the students' technical and analytical skills but also enhanced their ability to collaborate across disciplines essential competencies for the next generation of sustainability leaders.

Reinforcing Ajman University's Commitment to SDGs

This impressive achievement aligns seamlessly with Ajman University’s institutional dedication to sustainability and global citizenship. As a university ranked among the world’s top 300 institutions in the Times Higher Education Sustainability Impact Rankings 2026, and #1 in the UAE for SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals). Ajman University actively encourages students to engage in experiential learning that addresses pressing global issues.

By supporting student participation in high-level competitions like the UAE Sustainability Championship, the university continues to bridge the gap between academic theory and real-world environmental impact.

Looking Ahead

Ajman University extends its congratulations to Team Green Pulse for their outstanding representation of the institution and their dedication to shaping a more sustainable future. Achievements like these underscore the vital role that university students play in driving innovation and designing the resilient, sustainable communities of tomorrow.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-excel-at-uae-sustainability-championship-as-top-finalists


SPJ
GLOBAL

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GLOBAL



Ajman University Student Selected for Prestigious Masdar Future Sustainability Leaders Program



An outstanding student from Ajman University has been selected to join the highly competitive Future Sustainability Leaders (FSL) Program 2025, becoming the only student from the university to earn a place in this prestigious global fellowship. Launched by Masdar (Abu Dhabi Future Energy Company) under the patronage of H.H. Sheikh Khaled bin Mohamed bin Zayed Al Nahyan, the FSL program is a year-long initiative designed to cultivate the next generation of global sustainability changemakers.

The selection is a testament to the student's exceptional capabilities and vision, standing out among more than 2,000 international applicants from around the world. Only 50 participants were chosen for the 2025 cohort, making this recognition both highly competitive and globally significant.

Engaging with Global Leaders and Policymakers

Throughout the year-long program, which began in January 2025, the Ajman University representative has engaged in a comprehensive curriculum tailored for youth changemakers. This has included leadership development modules, innovation workshops focusing on renewable energy, climate adaptation, and green finance, as well as high-level policy dialogues with global leaders, industry pioneers, and decision-makers.

A major highlight of the fellowship was participating in Abu Dhabi Sustainability Week 2025. During this landmark event, the student had the distinct honor of interacting with H.H. Sheikh Khaled bin Mohamed bin Zayed and H.E. Dr. Sultan Al Jaber. The student also attended exclusive sessions with prominent diplomats, including H.E. Dr. Nawal Al-Hosany, the Permanent Representative of the UAE to IRENA, gaining invaluable insights into international climate diplomacy and policy.



Merging Pharmaceutical Sciences with Sustainability

The FSL program has proven to be more than just an academic fellowship; it has been a transformative journey. Equipped with practical frameworks, real-world case studies, and a robust peer network, the student is now better positioned to execute a unique vision: merging pharmaceutical sciences with sustainability innovation.

Reflecting on the experience, the student emphasized how the program strengthened their capacity to design healthcare solutions with deep environmental responsibility. This interdisciplinary approach positions them to contribute meaningfully to both national strategies and global sustainability agendas, proving that sustainability is not just about energy, but about human health and well-being.

Aligning with Ajman University's Strategic Vision

This remarkable achievement perfectly embodies Ajman University's commitment to fostering global citizens and advancing the United Nations Sustainable Development Goals. As an institution ranked among the world's top 300 universities in the Times Higher Education Sustainability Impact Rankings 2026, and #1 in the UAE for SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals), Ajman University actively supports students in pursuing opportunities that bridge academic disciplines and real-world impact.

By representing Ajman University at the highest levels of global sustainability dialogue, this student is not only enhancing their own professional trajectory but also bringing invaluable knowledge and inspiration back to the AU community. The university extends its congratulations and looks forward to seeing the continued impact of this transformative journey.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-student-selected-for-prestigious-masdar-future-sustainability-leaders-program

Ajman University Strengthens Youth Sustainability Leadership Through Judging Role in Ajman Sewerage NextGen Innovators Competition



Ajman University contributed to the Ajman Sewerage NextGen Innovators Competition 2025, reinforcing its commitment to sustainability-focused education and youth engagement. The University's involvement reflects its ongoing efforts to support initiatives that encourage innovation, environmental responsibility, and real-world problem solving.

Organized by Ajman Sewerage, the competition brought together school students to develop creative, technology-driven solutions addressing key challenges related to water management, environmental protection, and community wellbeing. The initiative aligned with national sustainability priorities and provided students with a platform to translate ideas into practical applications.

The competition concluded with final presentations and an awards ceremony held at the Ajman Saray Ballroom on 21 November 2025, bringing together student innovators, judges, and key stakeholders. Outstanding teams were recognized with cash prizes, medals, and certificates, including awards for the top three teams and the best presenter, in recognition of their creativity and solution feasibility.

Ajman University was represented on the judging panel by Ms. Maya Haddad, Senior Sustainability Manager, contributing the University's sustainability expertise to the evaluation of student proposals and reinforcing its role in supporting applied learning and community collaboration.

Ajman University's participation in the competition reflects its broader sustainability mission, which emphasizes experiential learning, leadership development, and engagement with national initiatives. Through such involvement, the University continues to extend sustainability impact beyond campus boundaries while supporting the development of future-ready leaders aligned with the UAE's sustainability vision.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-strengthens-youth-sustainability-leadership-through-judging-role-in-ajman-sewerage-nextgen-innovators-competition








NextGen
Innovators
CONGRATULATIONS
INTERNATIONAL INDIAN PRIVATE SCHOOL
THIRD PLACE

CBA Students Join Sustainability Heroes Innovation Competition



The Management Department at the College of Business Administration participated in the launch of the National Innovation Competition, Sustainability Heroes, organized by Nestlé and Injaz. This event offered students a unique opportunity to engage with industry leaders and explore key topics in business, marketing, innovation, and entrepreneurship. Students attended insightful talks by Nestlé executives, gaining valuable knowledge and fresh perspectives on business excellence. After the presentations, student teams showcased their projects and received feedback. Notably, three teams from Ajman University are participating in Injaz's Company Program, receiving mentorship from Nestlé-Injaz experts to refine their ideas for the final national competition in May 2025.

https://www.ajman.ac.ae/en/news/cba-students-join-sustainability-heroes-innovation-competition

Ajman University Students Shine in Prestigious Turab Prize, Making Top 35 GCC Shortlist



Ajman University's College of Architecture, Art, and Design (CAAD) is celebrating a remarkable achievement as two student groups, supervised by the esteemed Dr. Muna Salameh, have been shortlisted in the Top 35 GCC works for the highly competitive Turab Prize.

Organized by the Department of Culture and Tourism in collaboration with the Royal Institute of British Architects (RIBA), the Turab Prize is a central feature of the 14th World Congress on Earthen Architecture (Terra 2026). The competition, themed "Earthen Futures In The Gulf," challenged university students across the GCC to envision innovative, sustainable designs that celebrate earthen architecture and cultural landscapes.

Under Dr. Salameh's expert mentorship, seven Ajman University students successfully navigated a rigorous selection process, securing spots on the prestigious shortlist with two visionary projects.

Group 01: The "Iltiqa Pavilion"

The first shortlisted team, comprising students Fathima Zia and Aysha Nimrah, presented the "Iltiqa Pavilion."

Inspired by the historical caravanserai traditional roadside inns where travelers rested and traded, the Iltiqa Pavilion reimagines this communal concept for the modern era. The design utilizes earthen materials to create a sustainable, climate-responsive structure that fosters community gathering, cultural exchange, and environmental harmony. The project beautifully blends heritage with contemporary sustainable design principles.

Group 02: The "Samar Project"

The second shortlisted team, consisting of Sirajam Muneera, Ayesha Ziyad, Zeena Basim, Glerica Irish Clado, and Ayesha, impressed the judges with the "Samar Project."

The project explores the deep connection between earthen architecture and cultural landscapes. By focusing on sustainable building techniques and the integration of history and community storytelling, the Samar Project highlights the enduring relevance of earth as a building material in the Gulf region, offering a climate-resilient and culturally rich alternative to modern construction methods.

The Power of Faculty Mentorship

The students' success is a direct reflection of the exceptional leadership and mentorship of Dr. Muna Salameh. A dedicated advocate for sustainable and culturally resonant architecture, Dr. Salameh has consistently guided her students to push the boundaries of design thinking.

Her recent recognition as a Sustainability Champion 2025 by the Global Ambassadors of Sustainability (GAoS) underscores her tireless commitment to environmental stewardship and academic excellence. Dr. Salameh's active involvement in industry dialogues including her recent participation in the Emirates Green Building Council's 14th Annual Congress under the theme "Mission to 1.5°C: Be Bold on Buildings" ensures that her students are learning at the very forefront of the global green building movement.

Championing Sustainable Architecture

The Turab Prize shortlisting is a testament to Ajman University's commitment to the United Nations Sustainable Development Goals, particularly SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

Earthen architecture is inherently sustainable, utilizing local, low-carbon materials to create energy-efficient and thermally comfortable environments. By encouraging students to explore these traditional yet innovative building methods, Ajman University is preparing a new generation of architects who are equipped to design resilient, climate-conscious, and culturally authentic urban spaces.

Looking Ahead

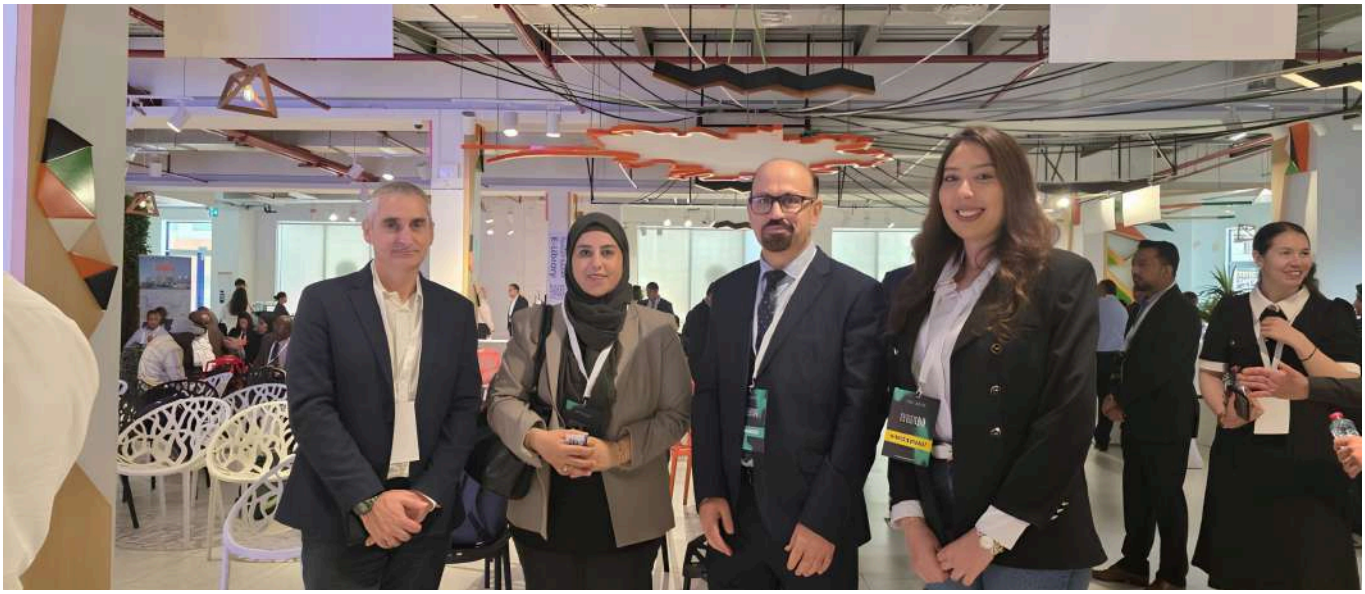
Ajman University extends its immense pride and congratulations to Fathima Zia, Aysha Nimrah, Sirajam Muneera, Ayesha Ziyad, Zeena Basim, Glerica Irish Clado, and Ayesha, as well as to Dr. Muna Salameh for her outstanding mentorship.

As the world looks toward the Terra 2026 World Congress, these students stand as shining examples of how academic innovation and a deep respect for environmental heritage can combine to shape a more sustainable future for the Gulf region and beyond.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-students-shine-in-prestigious-turab-prize-making-top-35-gcc-shortlist



Ajman University's Dr. Muna Salameh Joins Expert Panel to Shape Ajman's Carbon Neutrality Strategy



Ajman University's College of Architecture, Art, and Design (CAAD) continues to play a pivotal role in regional climate action. In a significant demonstration of academic expertise informing public policy, Dr. Muna Salameh was recently invited to serve as an expert panelist at an exclusive closed-door session dedicated to developing Ajman's Strategy for Carbon Neutrality.

Held on May 7, 2025, at the Ajman X Center, the high-level session was organized by the Municipality & Planning Department's Environment & Development team as a key component of the Ajman Sustainable Development International Forum (ASDIF 2025).

Informing Municipal Policy and Climate Action

The closed-door roundtable brought together a select group of policymakers, industry leaders, and academic experts to deliberate on actionable pathways for the emirate to achieve carbon neutrality. As an expert in sustainable architecture and urban design, Dr. Salameh contributed critical insights on decarbonizing the built environment a sector that accounts for a significant portion of global greenhouse gas emissions.

Her contributions focused on integrating climate-resilient design, energy-efficient building practices, and sustainable urban planning into Ajman's broader environmental strategy. By bringing academia to the policymaking table, Dr. Salameh helped bridge the gap between theoretical research and on-the-ground municipal implementation.

A Testament to Academic Leadership

Dr. Salameh's participation in this exclusive forum underscores her growing stature as a leading voice in the UAE's sustainability landscape. It follows a series of major achievements, including:

- Being honored with the Sustainability Champion Award 2025 by the Global Ambassadors of Sustainability (GAoS).
- Attending the Emirates Green Building Council's (EGBC) 14th Annual Congress under the theme "Mission to 1.5°C: Be Bold on Buildings."
- Mentoring Ajman University students to the Top 35 GCC shortlist in the prestigious Turab Prize for earthen architecture.



Her ability to translate complex architectural and environmental concepts into actionable policy recommendations makes her an invaluable asset to both Ajman University and the wider community.

Aligning with Ajman's Vision and the SDGs

Ajman University's active involvement in ASDIF 2025 and the emirate's carbon neutrality strategy directly supports the United Nations Sustainable Development Goals, particularly SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals).

This commitment to local and national climate goals aligns perfectly with the university's outstanding performance in the Times Higher Education Sustainability Impact Rankings 2026, where Ajman University achieved the #1 position in the UAE for both SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

Building a Greener Future for Ajman

As the UAE accelerates its journey toward Net Zero 2050, the collaboration between academic institutions and government entities becomes increasingly vital. Ajman University remains deeply committed to leveraging its intellectual capital to support the Emirate of Ajman in achieving its environmental objectives, ensuring a cleaner, greener, and more resilient future for all residents.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-universitys-dr-muna-salameh-joins-expert-panel-to-shape-ajmans-carbon-neutrality-strategy

Ajman University Team Leads Groundbreaking Underground Urban Planning at Dubai Municipality's Innovation Lab



Ajman University continues to pioneer future-focused architectural solutions, with Dr. Muna Salameh leading the Architecture Team at the prestigious Dubai Municipality Innovation Lab, held as part of UAE Innovation Month 2025.

This remarkable platform brought together top minds to address critical urban challenges, with Dr. Salameh and her team contributing innovative underground urban planning strategies aimed at advancing sustainability and optimizing land use.

Driving Innovation in Subterranean Urban Planning

As cities expand and available surface land becomes increasingly scarce, the strategic use of underground spaces has emerged as a vital frontier for sustainable urban development. The Ajman University team's work focused on tackling key urban challenges by reimagining how subterranean environments can be utilized for infrastructure, public spaces, and essential services.

By integrating advanced architectural thinking with sustainability principles, the team proposed forward-thinking solutions that not only alleviate surface-level congestion but also enhance climate resilience and energy efficiency. This approach directly supports the UAE's broader goals of sustainable urbanization and smart city development.

A Synergistic Team of Faculty and Students

The Innovation Lab provided a unique opportunity for experiential learning and intergenerational collaboration. The Ajman University Architecture Team was comprised of a dynamic mix of faculty expertise and emerging student talent:

Team Lead:

- Dr. Muna Salameh

Team Members:

- Ms. Ayat Elkhazindar (Faculty)
- Aysha Nimra (Fourth Year Student)
- Ban Alsayyed (Fourth Year Student)
- Rawda Ahmed (Fourth Year Student)



This collaboration allowed the fourth-year students to apply their academic knowledge to real-world, high-stakes municipal challenges, working alongside experienced faculty to pitch and develop viable solutions for the city of the future.

Empowering the Next Generation of Innovators

Dr. Muna Salameh expressed her enthusiasm for the project: “I am thrilled to have led the Architecture Team in the prestigious Dubai Municipality Innovation Lab as part of UAE Innovation Month 2025. This remarkable platform allowed us to contribute innovative underground urban planning strategies, addressing critical challenges in sustainability and land optimization.”

This hands-on experience is invaluable for the participating students, equipping them with the critical thinking, design, and problem-solving skills necessary to become the next generation of environmental and urban leaders.

Aligning with Ajman University’s Strategic Vision

Ajman University’s prominent role in the Dubai Municipality Innovation Lab aligns seamlessly with its institutional commitment to the United Nations Sustainable Development Goals, notably SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

This initiative builds on the university's recent achievements in the Times Higher Education Sustainability Impact Rankings 2026, where it ranked among the world's top 300 institutions overall and secured the #1 spot in the UAE for SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

Shaping the Cities of Tomorrow

As the UAE continues to lead the charge in smart, green, and resilient urban development, academic institutions play a crucial role in providing the research, innovation, and talent needed to turn ambitious visions into reality. Through the active engagement of experts like Dr. Muna Salameh and the enthusiastic participation of students like Aysha, Ban, and Rawda, Ajman University is proving that the future of sustainable urbanism is being built right here in the UAE.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-team-leads-groundbreaking-underground-urban-planning-at-dubai-municipalitys-innovation-lab

Ajman University Showcases Sustainable Urban Innovation at Dubai Municipality's UAE Innovation Month 2025 Exhibition



Ajman University continues to establish itself as a leading force in sustainable urban design. Dr. Muna Salameh, representing the College of Architecture, Art, and Design (CAAD), proudly led the Architectural Team at the Dubai Municipality's UAE Innovation Month 2025 Exhibition. Organized by the Excellence and Knowledge Management Department, the exhibition provided a premier platform for visionary minds to showcase solutions to pressing urban challenges.

Pioneering Sustainable Park Design

Through this high-profile initiative, Dr. Salameh guided a dedicated team of faculty and students in presenting innovative sustainable park design proposals. The team's work highlighted cutting-edge green urban solutions, climate-responsive landscapes, and smart sustainability strategies aimed at transforming urban spaces into resilient, ecologically friendly environments.

The proposals directly addressed the critical need for cities to adapt to a warming climate by integrating natural systems into the urban fabric. By focusing on sustainable landscapes and smart design, the Ajman University team demonstrated how public spaces can serve as both community hubs and vital tools for environmental cooling, biodiversity, and carbon sequestration.

Empowering the Next Generation of Architects

A core pillar of Dr. Salameh's approach is the integration of experiential learning with professional practice. By bringing faculty and students together to participate in a prestigious governmental platform, she provided the students with invaluable real-world exposure.

This hands-on experience strengthened the students' engagement with complex sustainability challenges, allowing them to apply their academic knowledge to actual municipal frameworks and professional standards. Dr. Salameh's guidance served as a masterclass in effective leadership and mentorship, showing students firsthand how academic innovation can influence public policy and urban planning.

Dr. Salameh reflected on the achievement, stating: “I am proud to have led the Architectural Team representing Ajman University during Dubai Municipality’s UAE Innovation Month 2025 Exhibition. Through this initiative, I guided faculty and students from the College of Architecture, Art, and Design in presenting innovative sustainable park design proposals, highlighting green urban solutions, climate-responsive landscapes, and smart sustainability strategies. This experience provided students with valuable exposure to professional, governmental platforms and strengthened their engagement with real-world sustainability challenges, demonstrating effective leadership and mentorship.”

A Legacy of Innovation and Leadership

This successful exhibition follows closely on the heels of Dr. Salameh’s recent leadership at the Dubai Municipality’s Innovation Lab, where her team developed innovative underground urban planning strategies. These consecutive achievements underscore her growing reputation as a leading voice in sustainable architecture, further validated by her recent receipt of the Sustainability Champion Award 2025 from the Global Ambassadors of Sustainability (GAoS).

Aligning with Ajman University’s Strategic Vision

Ajman University’s active participation in UAE Innovation Month aligns seamlessly with its institutional commitment to the United Nations Sustainable Development Goals, particularly SDG 4 (Quality Education), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

These efforts are directly reflected in the university's outstanding performance in the Times Higher Education Sustainability Impact Rankings 2026, where Ajman University ranked among the world's top 300 institutions overall and achieved the #1 position in the UAE for both SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

Building the Cities of Tomorrow

As the UAE continues to pioneer smart, green, and resilient urban development, the role of academic institutions in bridging the gap between research, education, and municipal implementation is more critical than ever. Through the visionary leadership of experts like Dr. Muna Salameh and the enthusiastic participation of CAAD students, Ajman University is not just predicting the future of sustainable cities, it is actively designing and building it.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-showcases-sustainable-urban-innovation-at-dubai-municipalitys-uae-innovation-month-2025-exhibition

Dinner: 2025 Annual Women in Climate Community Dinner hosted by Dubai Holding in partnership with Fin-Erth



Ajman University participates in 2025 Annual Women in Climate Community Dinner Hosted by Dubai Holding and Fin-Erth

Maya Haddad, Senior Sustainability Manager at Ajman University, participated in the 2025 Annual Women in Climate Community Dinner, hosted by Dubai Holding in partnership with Fin-Erth. The event brought together leading women in sustainability from across the UAE to celebrate achievements, share insights, and strengthen collaboration on climate action.

The dinner served as a platform to recognize the growing role of women in driving environmental progress and to foster connections among professionals working across government, academia, and the private sector. Discussions centered on advancing climate goals, building resilience, and scaling impactful sustainability initiatives across the region.

Haddad's participation reflected Ajman University's commitment to engaging with the broader sustainability community and to supporting platforms that amplify women's leadership in climate action. Her presence at the event underscored the university's efforts to bridge academia and industry in advancing the UAE's Net Zero targets.

"It was an inspiring evening spent with passionate women who are driving real change in the climate space," said Haddad. "Collaboration and shared purpose are essential to accelerating progress, and I am proud to represent Ajman University in these important conversations."

The 2025 Annual Women in Climate Community Dinner highlighted the power of partnership in advancing sustainability and reinforced the importance of collective action in addressing global climate challenges. Ajman University's participation aligns with its broader strategy of promoting the UN Sustainable Development Goals and fostering a culture of sustainability both on campus and within the wider community.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-in-2025-annual-women-in-climate-community-dinner-hosted-by-dubai-holding-and-fin-erth

Ajman University Participates in MOCCAE Validation Workshop on Adaptation Finance Under UAE National Adaptation Plan



Ajman University participated in the Validation Workshop on the Adaptation Finance Capacity Assessment under the UAE National Adaptation Plan (NAP) Development Project, organized by the Ministry of Climate Change and Environment (MOCCAE). The workshop was held on Thursday, 25 September 2025 at MOCCAE's Emirates Hall Theatre.

Representing Ajman University, Maya Haddad, Senior Sustainability Manager, joined the workshop, which presented the methodological approach adopted in assessing adaptation financing capacity in the UAE, shared preliminary key findings, and provided an opportunity for discussion among diverse stakeholders. The exercise was diagnostic rather than evaluative, encouraging exchange on the critical role of adaptation finance in supporting effective and forward-looking responses to the impacts of climate change.

The workshop's insights and constructive inputs will inform national strategies for enhancing climate resilience through the NAP process at both the development and implementation phases, specifically in the context of adaptation finance. As a key stakeholder in the country's efforts to reduce vulnerabilities and increase climate resilience, Ajman University's participation contributed to accelerating adaptation actions in the UAE.

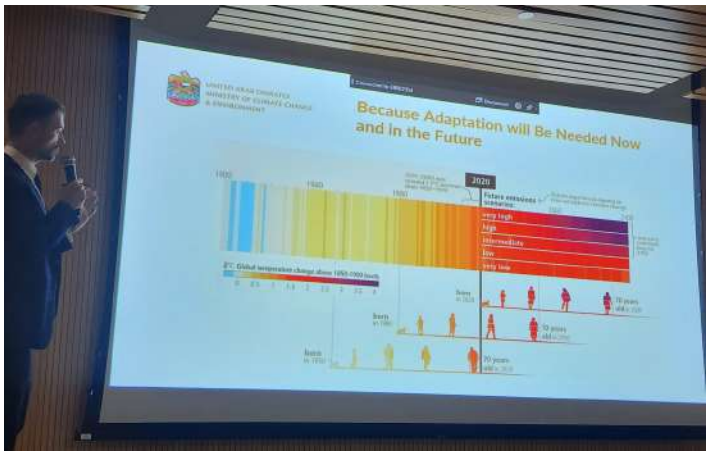
The Ministry of Climate Change and Environment emphasized that stakeholder input is critical for enriching the assessment, and the workshop benefited from the insights of participating organizations. Ajman University's engagement reflects its continued commitment to supporting national climate resilience efforts and advancing the UAE's broader sustainability and adaptation goals.

Ajman University's participation in the NAP validation workshop underscores its role as an active partner in the UAE's climate action agenda, bridging academic expertise with national policy development to strengthen the country's response to climate change impacts.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-in-2025-annual-women-in-climate-community-dinner-hosted-by-dubai-holding-and-fin-erth

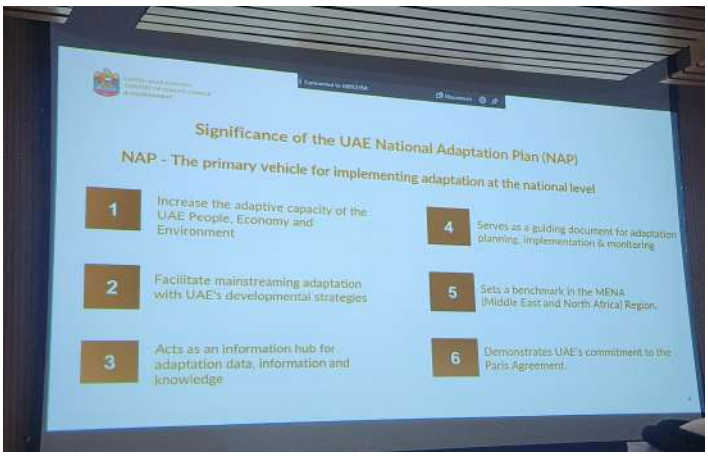

UAE Adaptation Financing Capacity Assessment Validation Workshop
2025 September 25
Ministry of Climate Change and Environment (MOCCAE)
Government of the UAE


Why a plan is important for the UAE
EXTREME HEAT
SEA LEVEL AND COASTAL FLOODING
DESERTIFICATION
WATER SECURITY

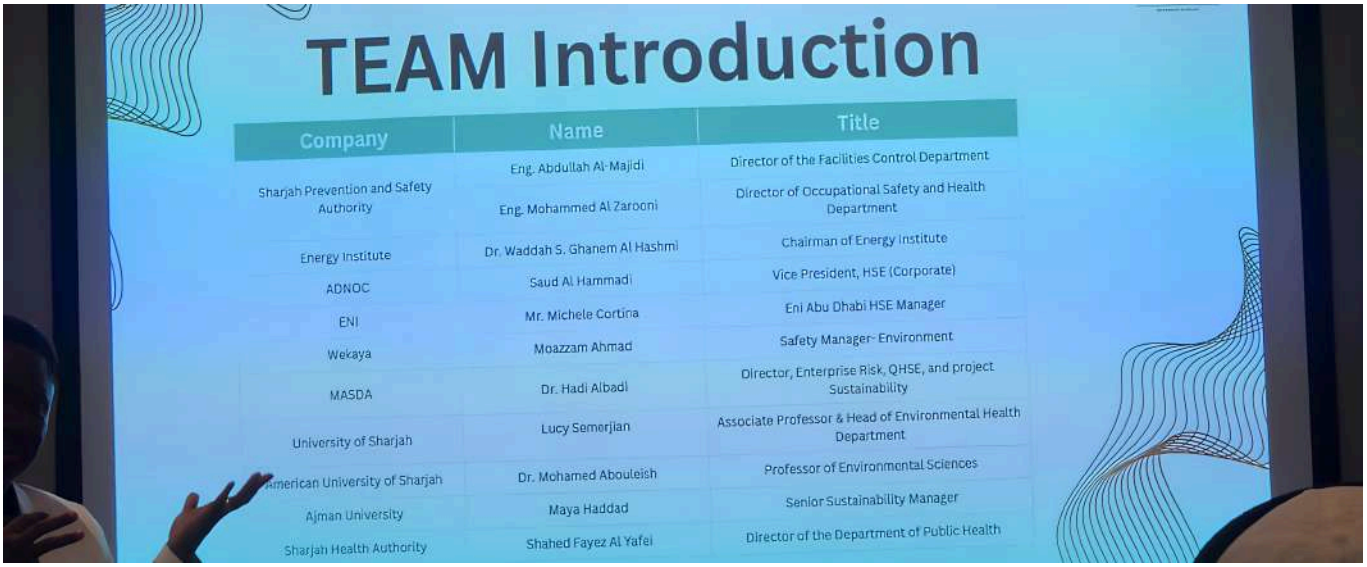

Because Adaptation will Be Needed Now and in the Future
2020
very high
high
intermediate
low
very low


Milestones of the UAE's NAP Development
Ongoing
Milestone 1
Milestone 2
Milestone 3
Milestone 4
Milestone 5
Milestone 6


Purpose of Today's Validation Workshop
Objectives of the Validation Workshop
1. Validate the methodological framework developed for assessing UAE's adaptation financing capacity.
2. Verify the preliminary findings from the desk review and stakeholder consultations.


Significance of the UAE National Adaptation Plan (NAP)
NAP - The primary vehicle for implementing adaptation at the national level
1 Increase the adaptive capacity of the UAE People, Economy and Environment
2 Facilitate mainstreaming adaptation with UAE's developmental strategies
3 Acts as an information hub for adaptation data, information and knowledge
4 Serves as a guiding document for adaptation planning, implementation & monitoring
5 Sets a benchmark in the MENA (Middle East and North Africa) Region.
6 Demonstrates UAE's commitment to the Paris Agreement.

Ajman University Joins Executive Committee of HSE Expo Led by SNOC



Ajman University has been invited to join the Executive Committee for HSE Expo 2026, an initiative led by Sharjah National Oil Corporation (SNOC) aimed at promoting excellence in health, safety, and environmental practices among organizations across the UAE.

Representing Ajman University, Maya Haddad, Senior Sustainability Manager, attended the Executive Committee Kick-off Meeting held on 29 September 2025 at the Sheraton Sharjah Beach Resort in Sharjah. The meeting established the foundation for the committee's work and provided an opportunity to align on objectives, roles, and expectations for the upcoming expo.

The kick-off meeting began with a welcome and opening remarks outlining the purpose of forming the Executive Committee and emphasizing the importance of collective leadership for HSE Expo 2026. Members introduced themselves to build collaboration, followed by a presentation of the event's goals, scope, and vision. The committee then clarified roles, responsibilities, meeting frequency, and expectations, and discussed strategies for expanding partnerships and stakeholder engagement.

Participants also reviewed proposed themes, program structure, and event branding to ensure alignment with objectives and stakeholder expectations, before confirming priorities, responsibilities, and timelines for the road ahead.

Ajman University's participation on the Executive Committee reflects its recognized expertise in health, safety, and environmental practices and its commitment to advancing these standards across the UAE. The university's involvement in shaping the strategic direction of HSE Expo 2026 underscores its role as a key contributor to national efforts promoting workplace safety and environmental stewardship.

The Executive Committee's work will guide the planning and delivery of HSE Expo 2026, which aims to bring together organizations from across the UAE to share best practices, showcase innovations, and foster collaboration in health, safety, and environmental management.

Ajman University's engagement with SNOC and the Executive Committee aligns with its broader commitment to sustainability leadership and to supporting the UAE's goals for a safer, more sustainable future.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-joins-executive-committee-of-hse-expo-led-by-snoc

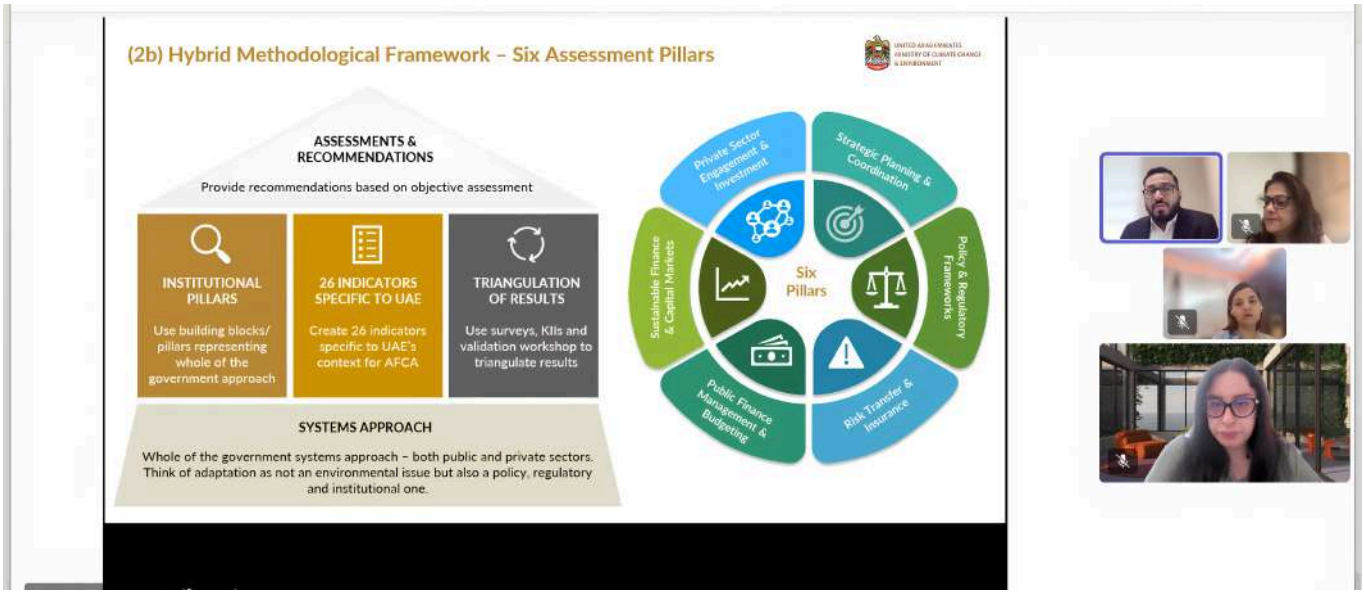
Ajman University Participates in Key Informant Interview for UAE National Adaptation Plan Development



Ajman University participated in a Key Informant Interview (KII) on the Adaptation Finance Capacity Assessment for the UAE National Adaptation Plan (NAP) Development, held virtually on Wednesday, 8 October 2025. The interview was conducted by the Global Green Growth Institute (GGGI) as a follow-up to the Ministry of Climate Change and Environment's (MOCCAE) Validation Workshop held on 25 September 2025.

Representing Ajman University, Maya Haddad, Senior Sustainability Manager, provided expert insights during the semi-structured interview, which serves as a primary qualitative evidence stream to contextualize and validate findings from the desk review and stakeholder survey. The KIIs are designed to verify the existence and implementation of relevant policies and financial instruments, uncover institutional practices and coordination pathways, clarify institutional mandates, map roles and responsibilities, and identify challenges and priority opportunities for strengthening adaptation financing under the UAE NAP.

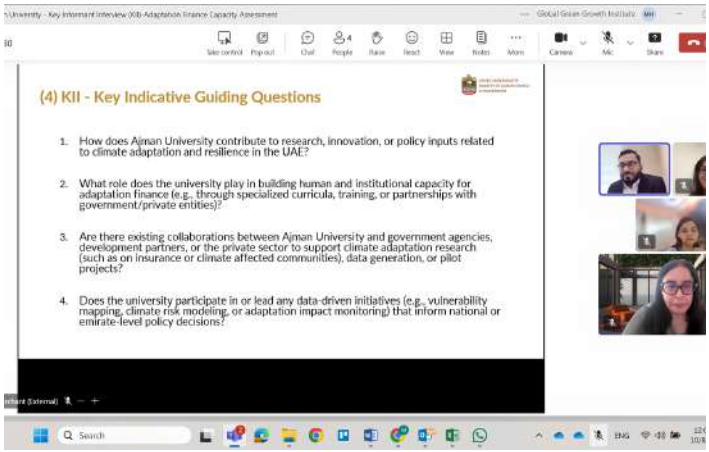
During the interview, Ajman University was asked to share how it contributes to research, innovation, and policy inputs related to climate adaptation and resilience in the UAE. Discussions also explored the university's role in building human and institutional capacity for adaptation finance through specialized curricula, training, and partnerships with government and private entities. The interview further examined existing collaborations between Ajman University and government agencies, development partners, and the private sector to support climate adaptation research, data generation, and pilot projects, as well as the university's participation in data-driven initiatives such as vulnerability mapping, climate risk modeling, and adaptation impact monitoring that inform national and emirate-level policy decisions.

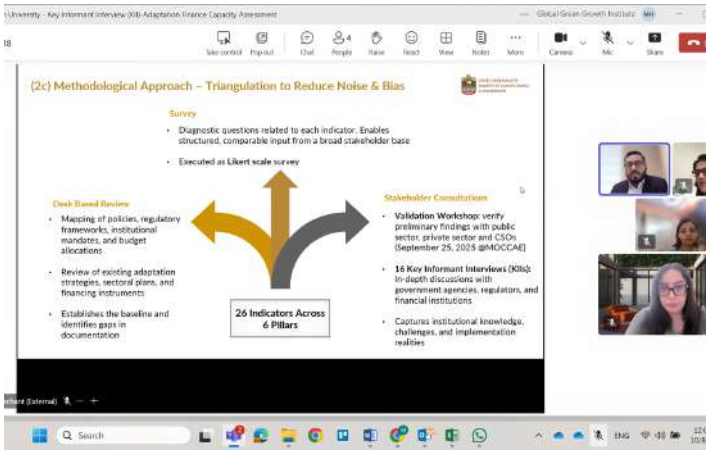


The KIIs are expected to contribute significantly to the triangulation of desk research and ensure the adaptation finance capacity assessment is well-grounded in UAE-specific realities. The outcomes will include a structured set of qualitative insights integrated into the indicator scoring, evidence-backed confirmations of policies and practices, clear articulation of institutional roles and coordination interfaces relevant to adaptation finance, and actionable recommendations to enhance adaptation financing capacity and implementation under the UAE NAP.

Ajman University's participation reflects its continued commitment to supporting national climate resilience efforts and advancing the UAE's broader sustainability and adaptation goals. By contributing academic expertise and operational insights to the NAP process, the university reinforces its role as an active partner in the UAE's climate action agenda, bridging research, policy, and practice to strengthen the country's response to climate change impacts.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-in-key-informant-interview-for-uae-national-adaptation-plan-development





Ajman University Participates in Government Practices Seminar, Highlighting Climate Action Consultations



Ajman University participated in the highly anticipated "Government Practices Seminar" (لقاء الممارسات الحكومية), held under the patronage and in the presence of His Highness Sheikh Ammar bin Humaid Al Nuaimi, Crown Prince of Ajman and Chairman of the Executive Council. Organized by the Ajman Excellence Program under the theme "Governments Make Beauty," the event took place on Tuesday, 28 October 2025, at Saray Hotel in Ajman.

The seminar brought together elite leaders, decision-makers, experts, and academics from various government and private entities to exchange knowledge, showcase pioneering practices, and explore innovative strategies for institutional excellence. The event was structured around four main pillars: government leadership and its impact on the quality of life, creativity and innovation, environment and sustainability, and institutional agility.

Representing Ajman University, a delegation from the Office of Sustainability, including Maya Haddad, Senior Sustainability Manager, actively participated in the event. The university's involvement underscored its commitment to bridging academic expertise with government initiatives to advance sustainable development and institutional excellence.

A key highlight of Ajman University's participation was its engagement in the dedicated climate action session consultations. Within the seminar's "Environment and Sustainability" track, participants explored actionable strategies for advancing climate resilience, environmental stewardship, and green practices across government and private sectors. The consultations provided a vital platform for stakeholders to align their efforts with the UAE's Net Zero targets and the broader objectives of the 2030 Agenda for Sustainable Development.

"Participating in this distinguished seminar reflects our shared vision of integrating sustainability into the fabric of government work," said Maya Haddad. "The climate action consultations were particularly impactful, allowing us to share our academic and operational insights while learning from the remarkable achievements of various entities. Events like these are essential for fostering the collaborations needed to drive real, systemic change."



The seminar also aimed to embed the culture of "Governments Make Beauty" by showcasing success stories, building effective partnerships, and spotlighting modern initiatives linked to the nation’s vision. By participating in these critical discussions, Ajman University continues to reinforce its role as a key partner in the region's sustainability journey, demonstrating how academia and government can collectively enhance the quality of life and achieve the highest levels of excellence.

https://sustainablecampus.ajman.ac.ae/en/news/2025/ajman-university-participates-in-government-practices-seminar-highlighting-climate-action-consultations



Dr. Samer H. Zyoud-Led Ajman University Team Wins Third CCleanTech Hackathon 2025 with Innovative “EcoNano Water Treatment” Project



Cutting-edge nanotechnology solution earns recognition among five winning innovations from 193 applications across seven countries

In a remarkable achievement that underscores Ajman University's commitment to sustainable innovation and applied scientific research, a research team led by Dr. Samer H. Zyoud, Senior Lecturer in the Department of Mathematics and Science, College of Humanities and Sciences, has won the third CleanTech Hackathon 2025, organized by the Sustainability & Innovation Centre of the Dubai Electricity and Water Authority (DEWA) as part of the UAE Innovates 2025 initiative.

The team's groundbreaking project, "EcoNano Water Treatment," was selected among five winning innovations in a highly competitive event that attracted 193 applications from seven countries, bringing significant recognition to Ajman University's contributions to clean technology, environmental sustainability, and applied scientific research.

A Scientific Breakthrough in Water Purification

The EcoNano Water Treatment project introduces an environmentally conscious approach to water purification by integrating advanced nanotechnology, specially engineered metal-doped zinc oxide (ZnO) nanoparticles, and solar-assisted photocatalytic treatment.

The technology utilizes the photocatalytic properties of semiconductor nanomaterials to facilitate the degradation of organic pollutants and other contaminants in wastewater. When activated by suitable solar irradiation, these materials generate reactive chemical species capable of breaking down pollutant molecules, offering a promising alternative or complementary method to conventional water treatment processes.

The research builds on advanced synthesis and material-engineering approaches, including laser-assisted chemical bath synthesis, which enables the development of functional nanomaterials with tailored structural, optical, and photocatalytic characteristics.

The project's main scientific and environmental advantages include:

- Enhanced contaminant degradation through advanced photocatalytic processes
- Harnessing renewable solar energy for sustainable treatment
- Reduced dependence on chemical-intensive treatment methods
- Innovative approaches suitable for sustainable wastewater management

Student Engagement and Academic Mentorship

The project was developed under the research leadership and scientific supervision of Dr. Samer H. Zyoud, with contributions from Prof. Fares Howari, Dean of the College of Humanities and Sciences, and student researchers Bayan Alradi, Farah Thouqan, and Rand Anas.

This initiative exemplifies Ajman University's commitment to engaging undergraduate students in meaningful, application-oriented research that addresses real environmental challenges. Student participation provided an opportunity to connect classroom knowledge with advanced research concepts in nanomaterials, semiconductor physics, chemistry, photocatalysis, and environmental science.

Through the project, the students gained valuable exposure to scientific innovation, multidisciplinary collaboration, research communication, critical thinking, and the practical challenges of translating laboratory research into sustainable technological solutions.

Dr. Zyoud's mentorship and leadership were central to connecting the scientific foundations of the project with its potential environmental applications and positioning the team to compete successfully in an innovation-focused competition.

Building on a Strong Research Foundation

The technological foundation of EcoNano Water Treatment is supported by a broader body of peer-reviewed scientific research involving ZnO-based nanomaterials, laser-assisted synthesis methods, photocatalytic pollutant degradation, and antimicrobial applications. Related research conducted by Dr. Zyoud and his collaborators has examined how modifying semiconductor nanomaterials through metal doping can influence their structural, optical, photocatalytic, and antimicrobial properties.

The project's success illustrates the importance of translating published scientific knowledge into practical concepts that can address real-world water sustainability challenges.

Contributing to UAE Sustainability and Water Security

Water scarcity, environmental contamination, and growing demand for sustainable wastewater treatment remain major challenges for the UAE and the wider region. EcoNano Water Treatment contributes to addressing these challenges by exploring how nanotechnology and renewable energy can be integrated into innovative water purification systems.

The project has potential applications in the treatment of contaminated water, industrial wastewater, environmental remediation, and wastewater reuse, subject to further experimental validation and engineering development.

Its objectives are aligned with several United Nations Sustainable Development Goals, particularly:

- SDG 6: Clean Water and Sanitation
- SDG 7: Affordable and Clean Energy
- SDG 9: Industry, Innovation and Infrastructure
- SDG 12: Responsible Consumption and Production
- SDG 13: Climate Action

Institutional Impact and Future Opportunities

Winning the CleanTech Hackathon strengthened the visibility of Ajman University's research activities within the UAE clean-technology innovation ecosystem. The recognition demonstrates the value of combining academic research excellence, student engagement, scientific mentorship, and sustainability-driven innovation.

The competition also created opportunities for greater interaction with researchers, industry specialists, investors, and other stakeholders interested in advancing commercially relevant environmental technologies.

Future development of EcoNano Water Treatment could focus on:

- Optimizing photocatalytic performance
- Assessing catalyst stability and reusability
- Evaluating treated-water quality and nanomaterial safety
- Developing continuous-flow prototypes
- Establishing industrial partnerships for pilot-scale testing and technology transfer

Such developments could support the progression of the innovation toward practical deployment while contributing to Ajman University's objectives in research excellence, student innovation, sustainability, community engagement, and academia–industry collaboration.

Looking Ahead

The CleanTech Hackathon 2025 award represents an important milestone in student research achievement, faculty mentorship, and scientific innovation at Ajman University. Through Dr. Samer H. Zyoud's research leadership, the contributions of Prof. Fares Howari, and the active engagement of student researchers, EcoNano Water Treatment demonstrates how interdisciplinary academic research can generate innovative solutions to environmental challenges.

The achievement reinforces Ajman University's commitment to empowering students, advancing nanotechnology research, promoting water security, and developing sustainability-focused innovations with potential long-term benefits for the UAE and the wider international community.

https://sustainablecampus.ajman.ac.ae/en/news/2025/dr-samer-h-zyoud-led-ajman-university-team-wins-third-ccleantech-hackathon-2025-with-innovative-econano-water-treatment-project

Dr. Samer H. Zyoud Represents College of Humanities and Sciences at AWS Summit Dubai 2025, Exploring Cloud Computing, AI, and Digital Innovation

Ajman University representative engages with regional technology leaders on cloud computing, generative AI, data analytics, cybersecurity, and digital transformation in higher education

Dr. Samer H. Zyoud, Senior Lecturer in the Department of Mathematics and Science, College of Humanities and Sciences at Ajman University, represented Prof. Fares M. Howari, Dean of the College of Humanities and Sciences, at the prestigious AWS Summit Dubai 2025.

Organized by Amazon Web Services (AWS), the summit served as an important regional platform bringing together technology leaders, researchers, business executives, educators, cloud computing specialists, and digital transformation experts to explore emerging technologies and their growing influence across education, research, industry, and society.

The event showcased innovations in cloud computing, artificial intelligence (AI), generative AI, machine learning, advanced data analytics, cloud security, and scalable digital infrastructure. It featured more than 80 technical sessions, expert-led presentations, practical demonstrations, and professional networking opportunities, offering participants exposure to cloud-enabled innovations and real-world digital transformation applications.

Key Areas of Technological Innovation

1. Artificial Intelligence and Generative AI

A major focus of the summit was the rapidly expanding role of artificial intelligence and generative AI in transforming organizations and knowledge-based institutions. The program addressed the application of AI-driven tools and machine learning solutions to automate complex tasks, improve data interpretation, support decision-making, and enhance organizational productivity.

Technologies such as Amazon Bedrock and Amazon SageMaker illustrated how cloud platforms can support the development, deployment, and management of advanced AI applications. These developments are particularly relevant to universities seeking to integrate intelligent technologies into scientific research, student learning, administrative processes, and institutional planning.

2. Cloud Computing and Advanced Research Infrastructure

The summit highlighted the importance of cloud-based computing environments in supporting large-scale data processing, collaborative research, and the development of sophisticated computational models. Cloud platforms enable researchers to access scalable computing resources, manage extensive datasets, conduct simulations, and collaborate across institutions without relying exclusively on traditional on-campus computing infrastructure.

For Ajman University, these technologies offer potential opportunities to strengthen computational research in physics, mathematics, environmental science, renewable energy, and other interdisciplinary fields.

3. Digital Transformation in Higher Education

Another important dimension of the summit was the application of digital technologies to enhance educational delivery, institutional efficiency, and knowledge management. Cloud-enabled educational systems can support flexible learning environments, virtual laboratories, interactive teaching resources, digital assessment, student performance analysis, and data-informed academic decision-making.

These innovations offer potential pathways for integrating modern technology into curriculum development, enhancing student engagement, and strengthening digital competencies among faculty members and students. The summit's focus on workforce development, digital skills, and professional training was also relevant to preparing graduates for technology-driven employment opportunities.

4. Data Analytics, Cybersecurity, and Digital Infrastructure

The event provided a platform for examining advances in data management, cloud security, infrastructure modernization, and the application of intelligent analytical systems. These technologies are increasingly important for universities managing research information, institutional performance indicators, academic resources, and complex administrative processes.

Cloud-based analytics can potentially support institutional planning, performance monitoring, resource optimization, and evidence-based decision-making, provided that appropriate data security, governance, and privacy safeguards are maintained.

5. Innovation, Sustainability, and Interdisciplinary Research

The summit's technological themes were relevant to Dr. Zyoud's research interests in advanced nanotechnology, semiconductor materials, renewable energy, environmental monitoring, and sustainable water-treatment technologies. Cloud computing and AI-driven modeling offer promising tools for accelerating materials research, analyzing experimental results, optimizing nanomaterial properties, forecasting energy performance, and evaluating environmental sustainability scenarios.

Such approaches may support future interdisciplinary research projects combining experimental physics, environmental science, artificial intelligence, and advanced computational methods.

Relevance to Ajman University's Strategic Priorities

Dr. Zyoud's participation on behalf of the Dean demonstrated the College of Humanities and Sciences' commitment to maintaining engagement with developments in digital innovation and advanced technologies. The event was particularly relevant to several institutional priorities:

- Research excellence: Exploring computational technologies that can improve data analysis, modeling, simulation, and interdisciplinary scientific research.
- Innovative teaching and learning: Identifying digital tools and cloud-based technologies with potential applications in modern educational environments.
- Student development: Increasing awareness of emerging technical competencies, AI skills, and opportunities for technology-focused training and certifications.
- Digital transformation: Understanding technologies that may contribute to academic efficiency, institutional analytics, and informed administrative planning

- Industry engagement: Identifying opportunities for dialogue and potential collaboration with technology companies and cloud-computing specialists.
- Sustainability and innovation: Exploring the role of AI and cloud-based analytics in addressing complex challenges related to energy, water management, and environmental sustainability.

Professional Development and Knowledge Transfer

The summit provided valuable professional exposure to developments in AI, cloud infrastructure, and digital technologies with potential relevance to university teaching, scientific research, and institutional innovation. Participation supported continued professional development by broadening awareness of emerging technologies and possible applications within the College of Humanities and Sciences.

The experience also created opportunities to identify relevant digital competencies that could be incorporated into future academic activities, interdisciplinary research discussions, and professional development initiatives.

Overall Institutional Significance

Dr. Samer H. Zyoud's participation in AWS Summit Dubai 2025, representing Prof. Fares M. Howari, reflects the College of Humanities and Sciences' engagement with international technology developments and regional innovation platforms.

The event provided valuable exposure to emerging cloud computing and artificial intelligence applications that could inform future developments in academic teaching, interdisciplinary research, institutional performance, and industry engagement. This participation represents a professional development and external engagement activity aligned with Ajman University's ambitions to advance educational innovation, strengthen research capabilities, promote digital transformation, and maintain connections with the evolving regional technology ecosystem.

https://sustainablecampus.ajman.ac.ae/en/news/2025/dr-samer-h-zyoud-represents-college-of-humanities-and-sciences-at-aws-summit-dubai-2025-exploring-cloud-computing-ai-and-digital-innovation

Dr. Samer H. Zyoud Participates in 2025 ADIA Lab Seminar Series on Energy Transition and Emerging Clean Technologies

Ajman University representative engages with leading international researchers on predictive modeling, technology diffusion, and commercialization of clean-energy innovations

Dr. Samer H. Zyoud, Senior Lecturer in the Department of Mathematics and Science, College of Humanities and Sciences at Ajman University, attended the second session of the 2025 ADIA Lab Seminar Series, entitled “Energy Transition: Applying Universality and Predictability of Technology Diffusion to the Forecast.” The seminar was held at the ADGM Academy Research Centre, Abu Dhabi, UAE, and organized by ADIA Lab, Abu Dhabi Machine Learning, and the ADGM Academy Research Centre.

The seminar featured two distinguished international researchers: Prof. J. Doyne Farmer, Director of Complexity Economics at the Institute for New Economic Thinking, Oxford Martin School, University of Oxford, and Prof. Samuel Mao, Senior Director of Masdar Institute and Professor of Practice at Khalifa University. The session focused on advanced scientific approaches to accelerating the global energy transition, predicting technological developments, and addressing challenges associated with the commercialization and widespread adoption of emerging clean-energy technologies.

Key Topics and Scientific Insights

Predictive Modeling of Energy Technologies

Prof. Farmer presented innovative approaches to probabilistic technology-cost forecasting, explaining how historical technological development patterns and statistical models can help predict future cost reductions and deployment rates for renewable-energy systems. His presentation highlighted the application of technology diffusion models, particularly S-shaped adoption curves, to solar photovoltaics, wind energy, battery storage, and hydrogen-production technologies such as electrolyzers. These methods offer valuable insights into how technological improvements and decreasing costs may accelerate the transition from fossil fuels toward sustainable energy systems.

Commercialization and Market Adoption of Clean Technologies

Prof. Mao examined the technological, economic, and commercial barriers affecting the market adoption of emerging clean-energy solutions. Through relevant case studies, he discussed the importance of identifying technological competitive advantages, developing commercially viable innovations, understanding market conditions, and establishing appropriate strategies to facilitate the successful introduction of clean technologies into industrial applications. The presentation emphasized the critical relationship between scientific research, technology transfer, industrial collaboration, and sustainable economic development.

Relevance to Ajman University's Research and Sustainability Priorities

Dr. Zyoud's participation was particularly relevant to his research interests in advanced nanomaterials, renewable-energy technologies, semiconductor thin films, solar-cell optimization, environmental monitoring, and sustainable technological solutions. The seminar provided valuable perspectives on integrating predictive modeling, data-driven analysis, and technological innovation into applied research. These approaches are relevant to the evaluation of emerging renewable-energy materials, the economic feasibility of advanced environmental technologies, and pathways for transferring university research outcomes into practical applications.

The seminar's emphasis on technology forecasting and commercialization also complemented Ajman University's broader interests in sustainability, innovation, interdisciplinary research, and academia–industry engagement.

Professional Development and Potential Institutional Impact

Participation in this specialized international research seminar contributed to Dr. Zyoud's continuing professional development by providing exposure to advanced methodologies and international research perspectives on energy decarbonization and technological diffusion. The knowledge gained offers opportunities to strengthen interdisciplinary research initiatives, integrate emerging sustainability concepts into teaching, identify potential research directions, and support future academic–industry collaborations.

Overall Significance

Dr. Zyoud's attendance reflects his continued engagement with international scientific developments and professional activities relevant to renewable energy, sustainability, emerging technologies, and applied research. The session provided insights that can support his ongoing efforts to connect advanced scientific research with practical, environmentally sustainable, and economically viable technological applications. This participation aligns with Ajman University's commitment to advancing research excellence, fostering innovation, and promoting sustainability-focused academic engagement.

https://sustainablecampus.ajman.ac.ae/en/news/2025/dr-samer-h-zyoud-participates-in-2025-adia-lab-seminar-series-on-energy-transition-and-emerging-clean-technologies

Student Research Paper and Projects

Energy efficiency based on passive design solutions in UAE



Energy consumption in the building sector accounts for over 30% of global final energy consumption. This figure is much higher in developed countries like the UAE, where energy consumption by the built sector can reach up to 80%. Thus, developing appropriate future energy and climate change strategies requires alternative methods for the reduction of energy consumption in buildings. Passive design techniques, such as shading devices and courtyards, are used in sustainable architecture to create structures that harness sunlight and wind for lighting and ventilation while keeping away heat gain and glare. This research aims to investigate and create a comparison between the effects of two passive design solutions on a villa housing project in Sharjah, United Arab Emirates, through the use of Revit software. The study concluded that courtyards significantly outperformed shading devices in reducing energy costs, providing a greater overall impact on energy consumption. In this research, a comparative study was done between three building types in the same area: a villa without any passive design solution, a villa with the introduction of shading devices, and a villa with a courtyard. The research shows that courtyards, by enhancing natural ventilation and air circulation, lowered HVAC costs to approximately 14.69 AED/m2 per year, compared to 33.06 AED/m2 per year for louvers. While louvers improved lighting efficiency and reduced lighting needs, they led to slightly higher costs for window shades. Overall, courtyards achieved a cost reduction of 24.24 AED/m2 per year versus 6.61 AED/m2 per year for shading devices, emphasizing the importance of integrating passive design strategies for sustainable building practices and climate change mitigation.

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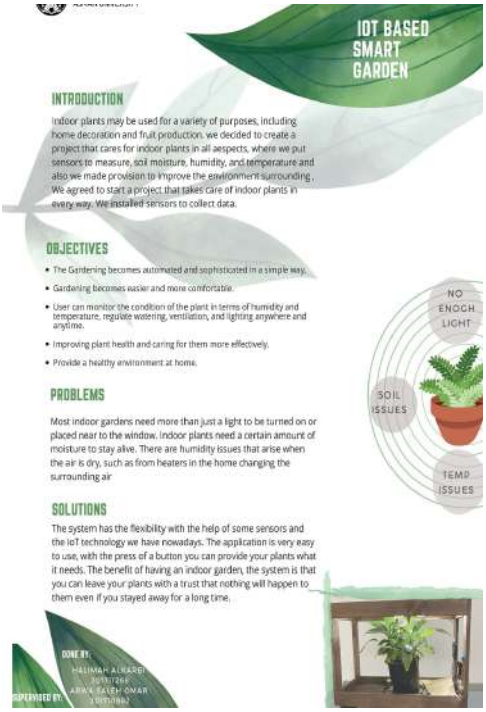
Innovative Environmental Solutions: Pioneering Climate Adaptation

Indoor plants may be used for a variety of purposes, including home decoration and fruit production. We decided to create a project that cares for indoor plants in all aspects, where we put sensors to measure soil moisture, humidity, and temperature and also made provision to improve the environment surrounding. We agreed to start a project that takes care of indoor plants in every way. We installed sensors to collect data. The system has the flexibility with the help of some sensors and the IoT technology we have nowadays. The application is very easy to use, with the press of a button you can provide your plants what it needs. The benefit of having an indoor garden, the system is that you can leave your plants with a trust that nothing will happen to them even if you stayed away for a long time.



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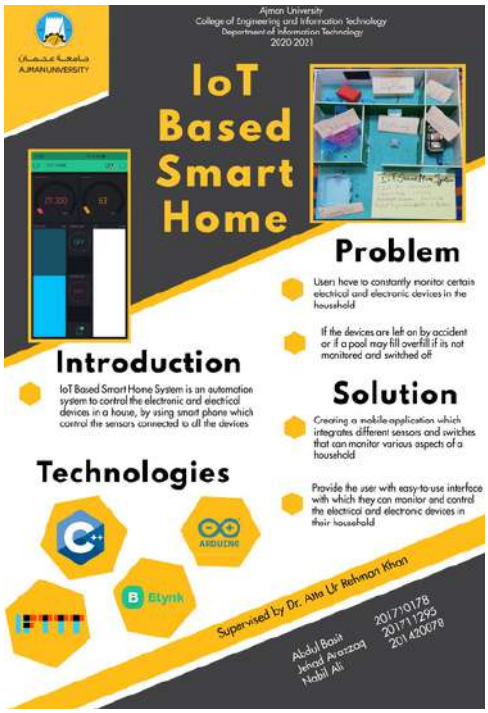
IoT Based Smart Home



IoT Based Smart Home System is an automation system to control the electronic and electrical devices in a house, by using a smartphone which controls the sensors connected to all the devices. The solution involves creating a mobile application that integrates various sensors and switches to monitor multiple aspects of the household. This application provides users with an easy-to-use interface, enabling them to conveniently monitor and control the electrical and electronic devices in their home. By using this system, users can ensure that devices are not left on by accident, helping to prevent issues such as overfilled pools or unnecessary power consumption.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/iot-based-smart-home

How Materials Preserve Food, Health, and Sustainability Crosscheck

Food packaging materials play a vital role in preserving the quality and safety of food. By acting as barriers to contaminants and environmental factors, they ensure food's freshness and extend its shelf life. However, the choice of packaging also raises important health and sustainability concerns.

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https://sustainablecampus.ajman.ac.ae/en/student-research-projects/how-materials-preserve-food-health-and-sustainability-crosscheck

Al Zorah Sustainable School Ajman

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https://sustainablecampus.ajman.ac.ae/en/student-research-projects/al-zorah-sustainable-school-ajman

Plastic Pollution Campaign - Graduation Project



https://sustainablecampus.ajman.ac.ae/en/student-research-projects/plastic-pollution-campaign-graduation-project

https://www.youtube.com/watch?v=9AdSMYXvaoc

Plastic Pollution Animation - Graduation Project



https://sustainablecampus.ajman.ac.ae/en/student-research-projects/plastic-pollution-animation-graduation-project

https://www.youtube.com/watch?v=2OYK9dl0kIM

Water scarcity and sustainability in Dubai



https://sustainablecampus.ajman.ac.ae/en/student-research-projects/water-scarcity-and-sustainability-in-dubai

https://youtu.be/OUMWa-xNk-c

Sustainability Green Print - Graduation Project



https://sustainablecampus.ajman.ac.ae/en/student-research-projects/sustainability-green-print-graduation-project

https://youtu.be/hsCVlxEHcbQ

Integrating Green Infrastructure for Eco-friendly Spaces



https://sustainablecampus.ajman.ac.ae/en/student-research-projects/integrating-green-infrastructure-for-eco-friendly-spaces

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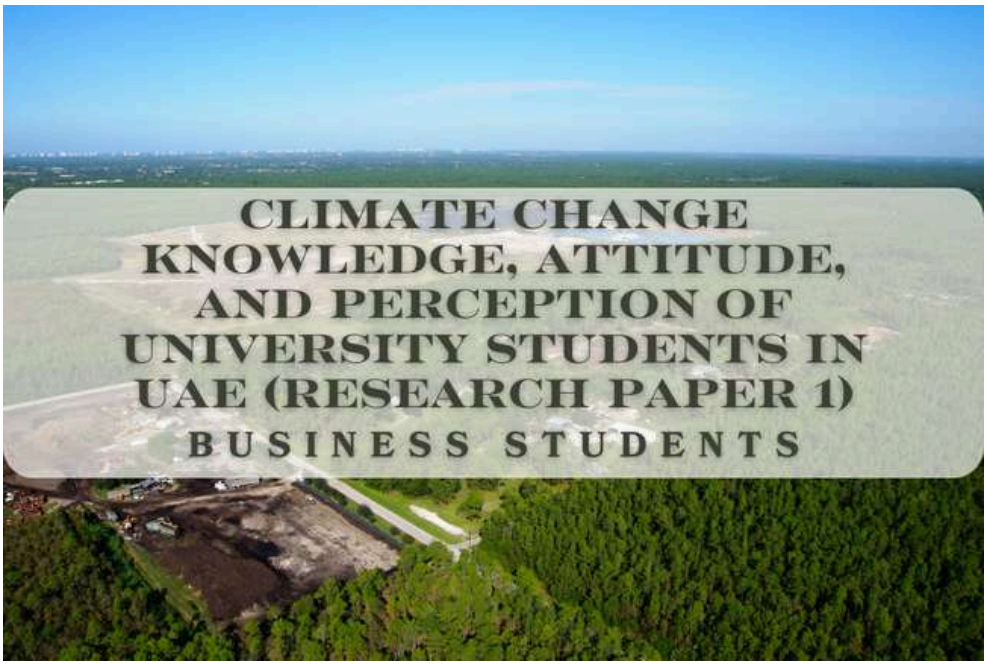
Climate change knowledge, attitude, and perception of university students in UAE (Research paper 1)



This study aims to understand, evaluate, and analyze the level of knowledge, attitudes, and perceptions university students in the UAE have toward climate change, while investigating how various demographics might influence the research results. Climate change is a significant issue faced by people all around the world. Students have the obligation to tend to these concerns in the near future. This year UAE is holding the COP to educate their population and transform the country more sustainable. This research is a step towards the goal of understanding the KAP the students have regarding this phenomenon. We are required to raise our awareness, especially the crucial population that will represent the next generation. There was a need to address the gap of university students missing from any sort of analysis done on them. Before this, almost no research directed their focus on the KAP of students in UAE. We distributed and gathered 50 responses to our questionnaire. University students were surveyed and indicated that they possess a high level of knowledge, attitude, and perception about the ever-changing climate change. The results of knowledge and perception do not have significant differences between genders, while attitude has significant differences. This study also unfortunately encompasses certain gaps, the most common is not distributing the questionnaire to a diverse population as well as the restriction of time.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/climate-change-knowledge-attitude-and-perception-of-university-students-in-uae-research-paper1

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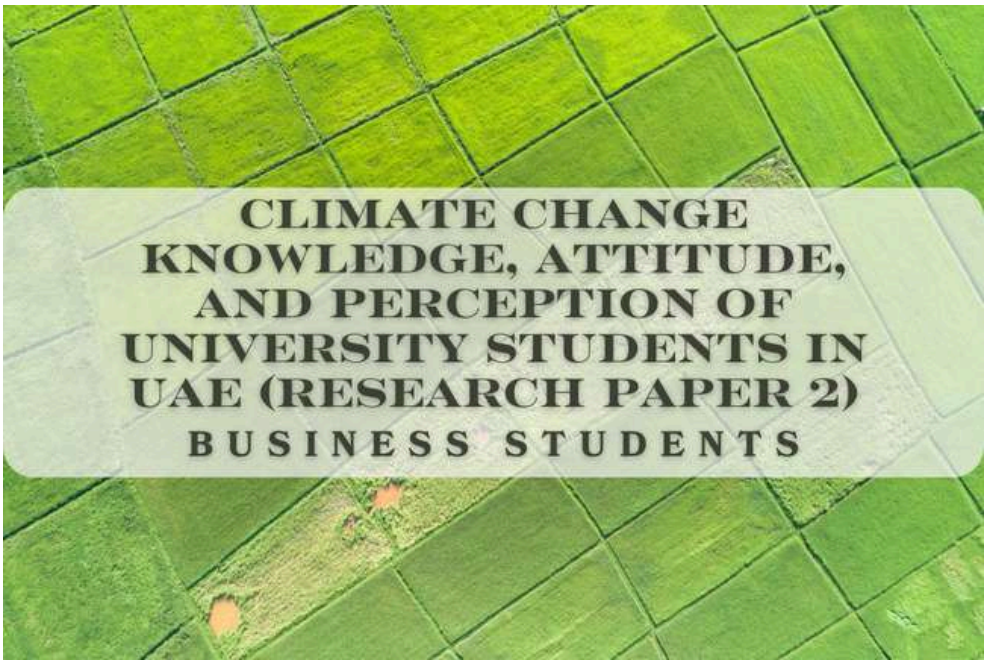
Climate change knowledge, attitude, and perception of university students in UAE (Research paper 2)



This research takes a look at delves into the perceptions, attitudes, and knowledge concerning climate-associated issues among students at Ajman University, UAE. Over 50 college students participated in the survey, presenting insights into their viewpoints on weather exchange and sustainability. The research found an extensive high-quality correlation among perceptions and attitudes towards climate problems, indicating that heightened cognizance regularly aligns with more fine attitudes. Additionally, slight correlations were observed between perceptions/attitudes and knowledge, emphasizing the position of expertise in shaping attitudes and perceptions. Students exhibited numerous stances toward anthropogenic reasons for weather change, highlighting worries approximately the urgency of addressing environmentally demanding situations. The study identifies potential pathways for reinforcing climate literacy and advocacy amongst college students, emphasizing the want for targeted educational interventions and policies to bridge understanding gaps and foster proactive attitudes towards sustainability. These findings lay the groundwork for tailored techniques aimed at cultivating a lifestyle of environmental awareness and movement in many of the more youthful eras in the UAE.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/climate-change-knowledge-attitude-and-perception-of-university-students-in-uae-research-paper-2

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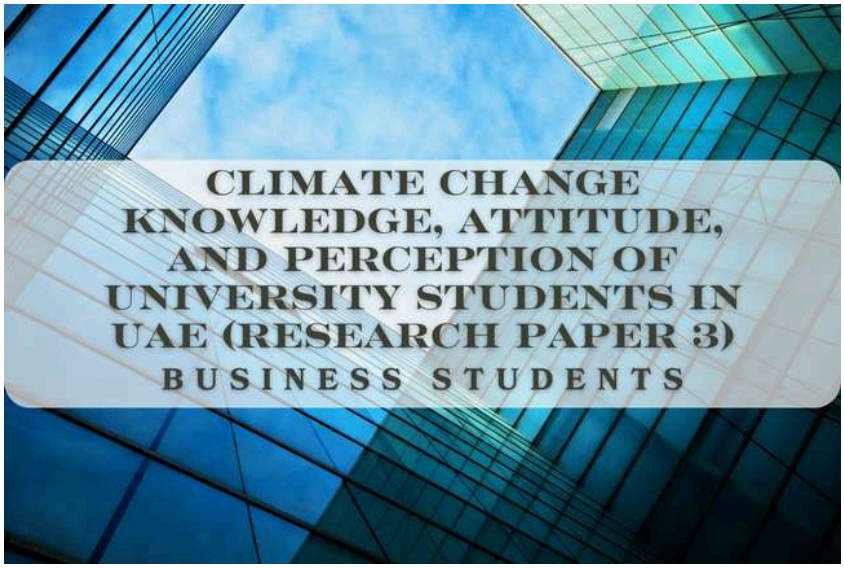
Climate change knowledge, attitude, and perception of university students in UAE (Research paper 3)



This article summarizes a study that looked at how university students in the United Arab Emirates (UAE) perceived and felt about climate change. The study intends to close the research gap by investigating the subtleties of climate change understanding among UAE university students, in recognition of the pressing need for climate action and the possible role of youth in bringing about change. In order to collect data, the study uses a mixed-methods strategy that combines quantitative questionnaires and qualitative focus group talks. Focus group discussions offer more in-depth insights into students' experiences and comprehension of climate change, while the questionnaires evaluate students' knowledge, attitudes, and views of the issue. To promote user comfort and efficient data entry, internet technologies are used to assist the data gathering procedure. Despite possessing a low internal coherence, preliminary results show that the general scale utilized in the study exhibits good dependability for individual items. This implies that the scale captures the desired construct accurately. The document does not, however, include particular statistical analysis results or comprehensive questionnaire and focus group discussion results. Given that university students in the United Arab Emirates have the potential to be future leaders and change agents, the study emphasizes the significance of tackling climate change among them. It highlights the necessity of situation-specific, culturally sensitive interventions that are in line with the goals and problems faced by the young population.. The next generation can be inspired to actively advocate for solutions to climate change by instilling in them a sense of environmental care and responsibility from an early age. This can be achieved through targeted education initiatives and community involvement programs. All things considered, this study advances our knowledge of how UAE university students perceive climate change and offers insightful information to instructors and policymakers. It emphasizes how important it is to create policies and educational programs that operate with the unique sociocultural characteristics and educational frameworks of the United Arab Emirates. The results are intended to guide focused activities that encourage sustainable lifestyle choices and support the country's efforts to combat climate change.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/climate-change-knowledge-attitude-and-perception-of-university-students-in-uae-research-paper-3

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Climate change knowledge, attitude, and perception of university students in UAE (Research paper 4)

This research paper delves into the multifaceted landscape of climate change awareness among university students, focusing on the intertwined dimensions of knowledge, perception, and attitude. Our research was designed around three main questions that we where to answer if we wanted to draw a reasonable conclusion. The first question discusses what the overall levels of knowledge students possess regarding the topic, the second question analyses the perceptions and attitudes of students regarding the topic, the third explores connections between the three main variables of the research and their respective sources of influence. The importance of these questions lies in their ability to establish a more inclusive perspective for all related parties. It also bridges the gap between pre-existing assumptions and the actual reality.

The way we answered the three questions was by, firstly developing four hypothesizes that where drawn from the research questions themselves, followed by conducting an online questionnaire featuring a set of tailored questions directed at assessing the demographic, knowledge, perceptions, and attitudes of forty participants. its main advantage being easily accessible regardless of physical, geographical location or time frame while at same time insuring the secrecy of participants, making them comfortable to answer questions in a credible manner and without fear of judgment. After which, we undergone a process of converting the data gathered from the responses of participants to a quantitative form which was easier to analyze and interpret using the software tools. And then lastly testing the hypothesis using the variables calculated and collected from the questionnaire.

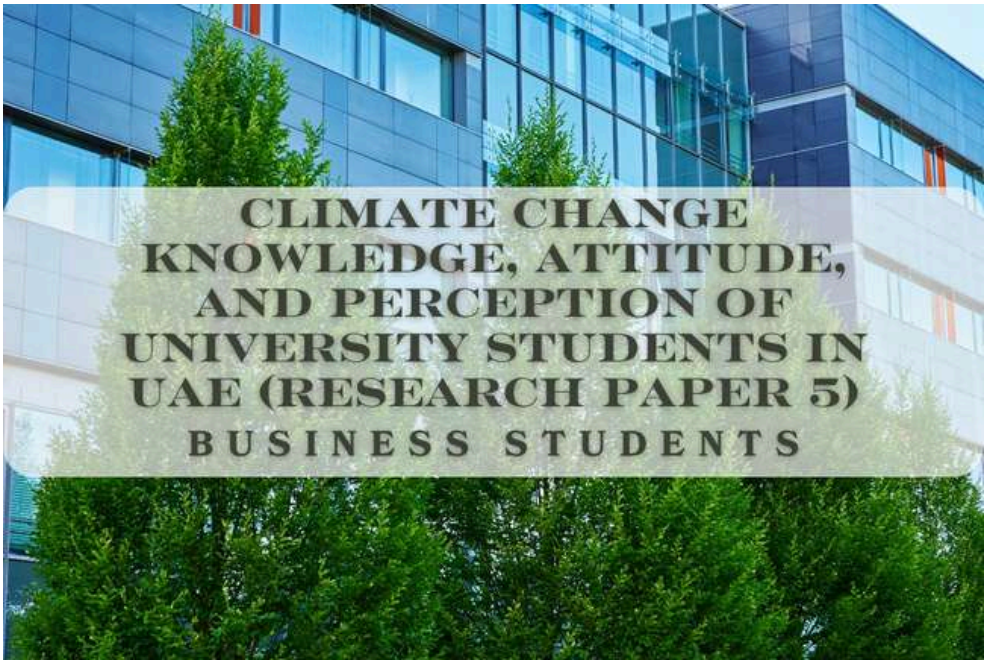
The result we got from the data analysis process showed that the discrepancies among students in respect to the three spheres of knowledge, perception, and attitude where nonexistent or minimal / negligible at best. Although different in educational background or demographic characteristics, the majority shared almost the same results across the board. Additionally, the tests showed that the majority of respondents showed little interest in the topic of climate change. We were, however, successful at answering the three research questions. We found that the majority of the respondents possessed sufficient levels of knowledge, they also hade the correct perceptions, and yet did not showcase the appropriate attitude regarding the topic of climate change.

The main conclusion to draw from this is that university students in the UAE, although knowledgeable, lack motivation and incentive to behave in a more positive manner. The may perhaps be attributed to reasons outside the norm or other unknow variables that were not included in this study. And in the process of raising awareness regarding this particular topic or any other moder-day problems among youth, increasing knowledge is just simply not sufficient enough.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/climate-change-knowledge-attitude-and-perception-of-university-students-in-uae-research-paper-4

https://sustainablecampus.ajman.ac.ae/upload/files/ehs/2232762419_-_Yusuf_Ahmed.pdf

Climate change knowledge, attitude, and perception of university students in UAE (Research paper 5)



One of the most important global issues of our day is climate change, which calls for widespread knowledge and action. This study examines the connections between university students in the United Arab Emirates (UAE) and their knowledge, attitudes, and perceptions regarding climate change. The study included a sample of 340 pupils from various demographic backgrounds. The results show a strong correlation between these three important factors. information of climate change showed a weak but positive correlation with attitude, suggesting that attitudes tend to become more favorable as information grows. Knowledge and perception showed a stronger, more positive correlation, highlighting the role that knowledge plays in influencing people's opinions of climate change. Furthermore, a somewhat positive correlation between attitude and perception was found. The study offers insightful information for campaigns aimed at raising public awareness and education about climate change. Integrated climate change education, advocacy groups, required courses on climate change, and customized educational campaigns are among the recommendations. Future research must address the study's weaknesses, especially the sample and data collection techniques. In addition to adding to the current conversation on climate change education, this study emphasizes the importance of knowledge, attitude, and perception in promoting climate change awareness and constructive action among UAE youth, who are crucial players in tackling this global issue.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/climate-change-knowledge-attitude-and-perception-of-university-students-in-uae-research-paper-5

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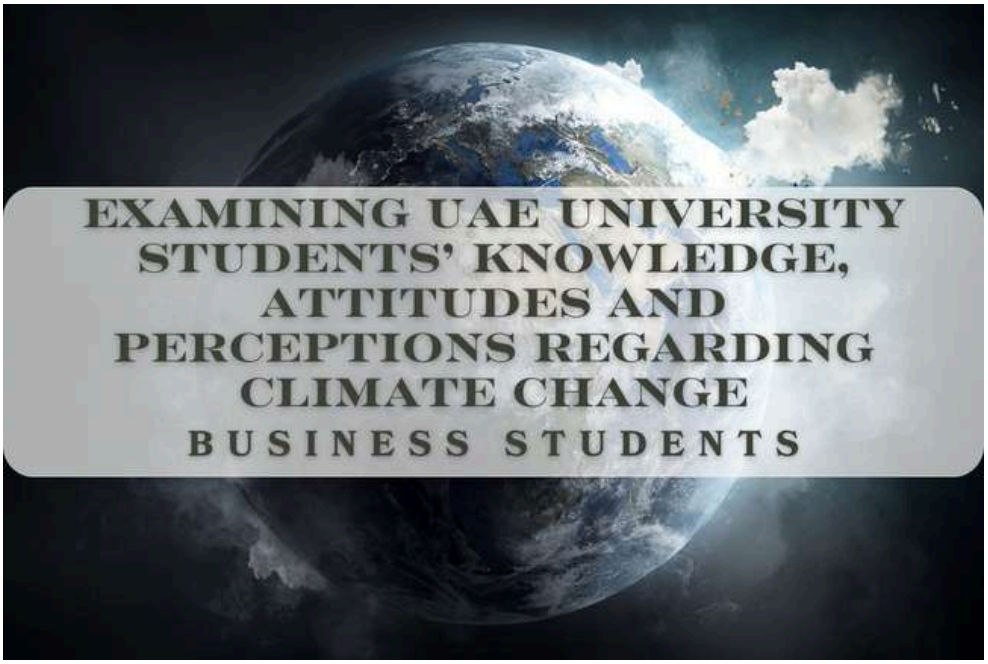
Examining UAE University Students' Knowledge, Attitudes and Perceptions Regarding Climate Change



Understanding climate change among university students is critical in addressing global environmental challenges. This research investigates their knowledge, attitudes, and perceptions towards climate change by employing a range of statistical analyses including Descriptive Analysis, Regression Analysis, Reliability Analysis, and Confirmatory Factor Analysis. The Descriptive Analysis uncovered distinct patterns in participant demographics, highlighting a strong representation of the 18-25 age group, a male majority, and a prevalence of Business Administration majors among participants. Regression analysis revealed a weak positive correlation between a student's knowledge and their year level, explaining 20% of the knowledge variability. Reliability analysis depicted varying strengths in data reliability, with students' perceptions showing the highest reliability, followed by attitudes and knowledge. The Confirmatory Factor Analysis suggested a significant relationship between students' attitudes and perceptions; however, a commendable level of climate change knowledge among UAE university students. The overall findings showed strong evidence supporting the awareness and understanding of climate change among UAE university students. Furthermore, the statistical analyses indicated no significant difference in the average knowledge of male and female students regarding climate change. This comprehensive exploration of climate change understanding among UAE university students offers valuable insights into their knowledge, attitudes, and perceptions. This research highlights the strengths and weaknesses in their comprehension, shedding light on pivotal areas for educational enhancements and awareness initiatives on climate change in the UAE.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/examining-uae-university-students-knowledge-attitudes-and-perceptions-regarding-climate-change

https://sustainablecampus.ajman.ac.ae/upload/files/ehs/2227810060_-_Yahyia_Elhadi.pdf

Innovative Green Electric Pots



Air pollution, a global crisis, has reached alarming levels, especially in rapidly developing urban settlements. Despite its rapid modernization, the United Arab Emirates, is grappling with a serious air quality challenge that directly affects public health. PM2.5 levels, a key indicator of air quality, are eight times higher than the WHO's recommended limit, underscoring the urgent need for action. This has severe health consequences, including increased risk of cardiovascular disease, cancer, and chronic illnesses. A survey conducted among university students found that 35% linked air pollution to these health problems.

To address this issue, we propose a revolutionary system of advanced green electric pots to transform urban environments. Strategically placed on university campuses, particularly in outdoor gathering spaces, these pots offer a multi-faceted solution. They integrate air quality monitoring, purification, hydroponics/aeroponics, solar power, and smart connectivity. By utilizing plant species specifically suited to the UAE's climate, these pots create sustainable, self-sustaining ecosystems. These ecosystems will mitigate air pollution, promote urban greening, and enhance the quality of life for city dwellers.

As urbanization and indoor living increase, efficient and sustainable plant care practices become crucial. Traditional methods often fall short in terms of efficiency and resource utilization. These pots offer a promising solution to these challenges, providing a sustainable and effective approach to improving air quality in the UAE.

This project aligns with several United Nations Sustainable Development Goals (SDGs):

- SDG 3: Good Health and Well-being: Ensures healthy lives and access to quality healthcare for sustainable development.
- SDG 11: Sustainable Cities and Communities: Promotes inclusive, safe, and sustainable urban development.
- SDG 13: Climate Action: Combats climate change and its impacts through emission reduction and resilience.
- SDG 17: Partnerships for the Goals: Strengthens global cooperation and resource mobilization to achieve all SDGs.

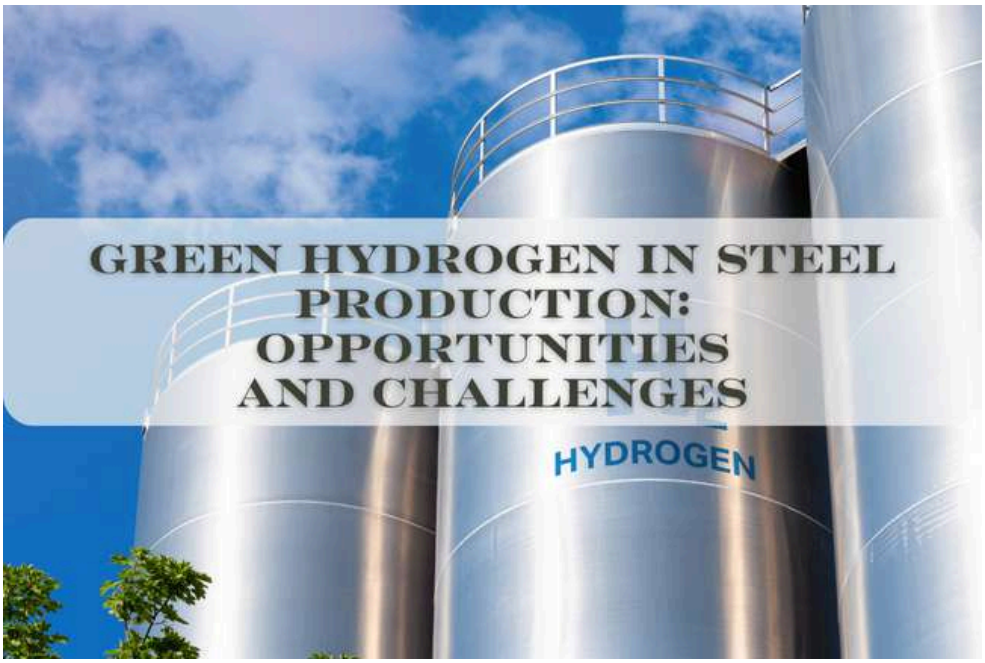
To know more about this research, click here.

This project has won first place in the Green Campus Competition run by Khalifa University.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/innovative-green-electric-pots

https://sustainablecampus.ajman.ac.ae/upload/files/ehs/GCC_pitch_The_Innovative_Green_electric_pots_.pptx

Green Hydrogen in Steel Production: Opportunities and Challenges



Student Research Spotlight: Green Hydrogen in Steel Production: A Pathway to Climate Action

Ajman University's Office of Sustainability is highlighting a new student research paper by the students from the College of Business Administration, Green Hydrogen in Steel Production: Opportunities and Challenges, which explores how green hydrogen can help decarbonize one of the world's most emissions-intensive industries: steel manufacturing.

The paper explains that green hydrogen is produced by electrolyzing water using renewable electricity from solar or wind sources. Unlike grey or blue hydrogen, it produces no CO_2 emissions during production. In steelmaking, green hydrogen can replace natural gas in Direct Reduced Iron (DRI) processes and reduce iron ore using hydrogen instead of carbon-based fuels. According to the research, this can cut CO_2 emissions by up to 90% in steel production and enable near-zero-emission steel when integrated with renewable electricity.

The student research also identifies major implementation challenges. Green hydrogen production costs remain 2–3 times higher than fossil-based alternatives, and high capital investment in electrolyzer technology, energy intensity, and limited production scale remain barriers. Renewable energy scale-up faces additional hurdles, including land requirements, grid integration, geographic constraints, and intermittency issues that require storage solutions.

A feasibility assessment in the paper suggests that short-term pilot projects and demonstrations may have limited commercial viability without subsidies, while medium-term first commercial-scale plants could narrow the cost gap through technological improvements. Long-term, widespread adoption and cost parity with conventional methods may be achievable. The paper also notes economic and environmental implications, including 30–80% higher initial production costs, new jobs in the renewable sector, reduced carbon tax exposure, premium pricing for green steel, and up to 98% reduction in CO_2 emissions.

The case study on Kalyani highlights market opportunities driven by automotive demand for green steel and EU carbon import taxes, alongside strategic recommendations to monitor regulations, form research partnerships, and balance investment between conventional and new methods.

Supporting SDG 13: Climate Action

This student research directly supports Sustainable Development Goal 13 by advancing climate action through industrial decarbonization, renewable energy integration, and significant emissions reduction. It underscores the importance of policy support, technological innovation, and industry collaboration in achieving net-zero steel and a low-carbon future.

Keywords: Green hydrogen, steel decarbonization, SDG 13, Climate Action, renewable energy, direct reduced iron (DRI), CO_2 emissions reduction, net-zero industry, energy transition, sustainable manufacturing, carbon neutrality, clean technology, climate policy, green steel, industrial decarbonization, #SDG13 #ClimateAction

To read more about this research paper, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/green-hydrogen-in-steel-production-opportunities-and-challenges

https://sustainablecampus.ajman.ac.ae/upload/files/ehs/Green_Hydrogen_in_Steel.pdf



MBA Student Research Spotlight: CCUS and the Path to Green Steel in India

MBA Student Research Spotlight: CCUS and the Path to Green Steel in India

Graduate students in MBA 605 (Operations Supply Chain Integration) are undertaking a semester-long research analysis on carbon capture, utilization, and storage (CCUS), using Kalyani FeRRESTA: India's first green steel company as a real-world case study. The project accounts for 50% of the course mark and concludes with in-class presentations.

The research examines how organizations in hard-to-abate industries can decarbonize their products and processes, what qualifies as green steel and which technologies enable it, how steel production waste streams can be managed to create circularity, and what trade regulations such as CBAM mean for global green steel production. It also highlights the role of green financing in developing countries and the importance of ESG and sustainable enterprise models.

Students investigate why Kalyani Steel began its green journey in 2022, compare decarbonization strategies and technologies pursued by leading Indian steelmakers in 2023, and analyze greenhouse gas emissions under Scopes 1, 2, and 3. Using case exhibits, they compute emissions for crude steel produced through BF-BOF and EAF technologies versus green steel, and consider why Scope 3 emissions were not included. The Saarloah plant strategy, emission and cost differences, pricing approaches for green steel products, and future technology investment decisions are also central to the analysis.

By connecting CCUS, green steel, and sustainable supply chain integration, this course-based research prepares students to address real-world challenges in industrial decarbonization and net-zero transitions.

Supporting SDG 13: Climate Action

This research supports SDG 13 by advancing understanding of how carbon capture, utilization, and storage, green steel technologies, circular economy practices, and climate policy can reduce greenhouse gas emissions in hard-to-abate sectors. It underscores the importance of policy support, green finance, trade regulations, and industry collaboration in achieving net-zero goals.

Keywords: CCUS, carbon capture utilization and storage, green steel, SDG 13, Climate Action, hard-to-abate industries, decarbonization, net-zero, ESG, CBAM, green financing, circular economy, Scope 1, Scope 2, Scope 3, BF-BOF, EAF, sustainable supply chain, Kalyani FeRRESTA, industrial emissions, climate policy, #SDG13 #ClimateAction

To read more about this course, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/mba-student-research-spotlight-ccus-and-the-path-to-green-steel-in-india

THE PLANET: Merging Real-World Recycling with Immersive Digital Play



A new graphic design student project published on Behance is bringing together physical recycling and digital entertainment to encourage environmental action. Titled “THE PLANET,” the project is described as an innovative, interactive experience that merges real-world recycling with an immersive digital game. At its core is a Smart Bin, which connects everyday recycling behavior with a gamified digital world, turning a routine environmental action into an engaging and rewarding experience.

The project, published on Behance in December 2025, reflects a growing trend in sustainable design: using interactive technology to make climate-positive behaviors more accessible, motivating, and fun. By linking the physical act of sorting waste with a digital game, “THE PLANET” encourages participants to recycle consistently while providing immediate, playful feedback an approach that can help build long-term eco-friendly habits, particularly among younger audiences.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by promoting climate action through innovative, technology-driven engagement. By gamifying recycling and making sustainable behavior rewarding, “THE PLANET” helps reduce waste sent to landfills and supports circular economy principles, key components of climate mitigation. It also demonstrates how creative student work can contribute to the UAE’s broader sustainability goals by encouraging everyday environmental responsibility.

Keywords: THE PLANET, Smart Bin, interactive recycling, gamification, SDG 13, Climate Action, sustainable design, circular economy, waste reduction, environmental engagement, eco-friendly habits, digital game, student innovation, Behance, climate technology, #SDG13 #ClimateAction

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/the-planet-merging-real-world-recycling-with-immersive-digital-play

Ajman University MBA Students Explore Green Steel as a Climate Action Strategy



College of Business Administration Students in Operations & Supply Chain Integration (MBA605) have developed a research presentation titled “KALYANI FeRRESTA: India’s 1st GreenSteel Is Ready!” The project prepared by Afra Muhammad, Aysha Ahmed, Reem Musleh, Salma Abdulkarim, and Lana Altakriti under Dr. Maher Itani, examines how Saarloha, part of the Kalyani Group, is producing green steel using scrap and renewable energy to cut emissions.

The research highlights hydrogen-based direct reduction (H-DR), electric arc furnace (EAF) technology, and renewable energy as core decarbonization strategies. It also applies GHG accounting scopes: Scope 1 direct emissions, Scope 2 purchased electricity, and Scope 3 value-chain emissions. The students note that Scopes 1 and 2 are directly controllable, making them a practical starting point for emissions reduction.

Key emissions findings include: BF-BOF at 2.32 tons CO_2 per ton of steel; EAF carbon steel at 0.55; and EAF green steel at just 0.029. The project also assesses market demand, noting that EU policies such as CBAM (2026) and global buyers like Ford and Volvo are driving interest, while Indian uptake remains slower due to price sensitivity and awareness gaps. Pricing recommendations include a 10–15% premium for KALYANI FeRRESTA™ and 20–30% for FeRRESTA™ PLUS, supported by third-party certification, transparent emissions data, and client education.

The team recommends investing in green hydrogen-based DRI + EAF over traditional BF-BOF or scrap-based EAF, citing regulatory alignment, decarbonization potential, scrap scarcity risk, innovation, energy independence, government incentives, and future cost competitiveness. The work directly supports SDG 13: Climate Action by linking supply chain decisions to industrial emissions reduction and sustainable production.

Keywords: SDG 13, Climate Action, green steel, industrial decarbonization, hydrogen-based direct reduction, electric arc furnace, renewable energy, GHG Protocol, Scope 1 2 3 emissions, CBAM, net-zero, sustainable supply chain, circular economy, ESG, climate policy, low-carbon manufacturing, Ajman University sustainability.

To read more about this project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ajman-university-mba-students-explore-green-steel-as-a-climate-action-strategy

Ajman University Student Research Highlights the Urgency for Green Steel

Student Research Spotlight: The Urgency for Green Steel

As part of College of Business Administration at Ajman University's growing portfolio of student-led sustainability research, a new paper, The Urgency for Green Steel, examines the steel industry's carbon footprint and the pathways to decarbonization. The research highlights that steel accounts for roughly 7% of global CO_2 emissions, while India's steel sector contributes about 12% of national GHG emissions. With the EU's Carbon Border Adjustment Mechanism (CBAM) set to impact exporters across steel, iron, aluminium, cement, fertilisers, electricity, and hydrogen, the paper argues that green steel is no longer optional, it is a strategic necessity.

The paper focuses on Saarloha's FeRRESTA, India's first certified green steel. Produced in an Electric Arc Furnace (EAF) using 100% renewable power and over 70% steel scrap, FeRRESTA achieves low Scope 1 and zero Scope 2 emissions. FeRRESTA PLUS reaches net-zero Scope 1 and 2 with offsets. Both are DNV certified and aligned with the First Movers Coalition.

The research compares expansion options. Scaling up EAF is proven but constrained by scrap supply and cost. Green H_2 + DRI can cut emissions by 90%, but requires about $1.1 billion per year for 1 million tons and is not yet mature. The recommended path: start small, pilot green hydrogen, and build partnerships. Traditional BF-BOF remains cheapest and highest-capacity but also highest-emitting, risking stranded assets after 2030.

The paper also notes that green steel currently costs about 2x conventional steel, with fewer subsidies in India than in the EU. Yet market signals are strengthening: exporters, automakers, and ESG-focused firms are paying premiums, and India's Green Hydrogen Mission and carbon credit trading are creating new momentum. The proposed dual-track strategy scale EAF for short-term brand-building while investing in a green H_2 pilot through JVs and green funds positions sustainability as a long-term ROI and competitive edge, not just CSR.

Keywords: SDG 13, Climate Action, green steel, green hydrogen, steel decarbonization, CBAM, Carbon Border Adjustment Mechanism, Electric Arc Furnace, EAF, Direct Reduced Iron, DRI, renewable energy, industrial emissions, Scope 1, Scope 2, net zero, First Movers Coalition, DNV certification, scrap steel, circular economy, stranded assets, India Green Hydrogen Mission, carbon credits, ESG, sustainable supply chain, Ajman University.

To read more about this research paper, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ajman-university-student-research-highlights-the-urgency-for-green-steel

Ajman University Students Spotlight the Hidden Environmental and Socio-Economic Footprint of Cosmetics and Clothes

Ajman University Students Spotlight the Hidden Environmental and Socio-Economic Footprint of Cosmetics and Clothes

Students from Ajman University's College of Dentistry Rand Barakat, Jude Nemer, Izzet Duraid, and Layan Badawneh have developed a student research presentation titled "Cosmetics & Clothes: The Environmental and Socio-Economic Footprint." The project was prepared for the 25th Cycle of the Inter-College Environmental Public Speaking Competition and examines how fast fashion and cosmetics supply chains affect the planet, wildlife, workers, and society.

The presentation highlights several critical environmental impacts: palm oil-driven deforestation, water pollution from textile production, and plastic and microbead pollution in cosmetics and fashion. It also links these industries to wildlife harm, including habitat loss, biodiversity decline, plastic entanglement, animal testing, and the exploitation of animals for fur and down. On the socio-economic side, the students address worker health and safety, child labor, and the mental health toll of manufactured beauty standards, captured in their message: "When perfection is manufactured, confidence is destroyed."

The research presents striking data: global fashion emissions are projected to rise from roughly 900 $MtCO_2e$ in 2019 to over 1,200 $MtCO_2e$ by 2030, while the Living Planet Index has fallen from 100 in 1970 to below 30 by 2020, a stark indicator of biodiversity loss. The team also compares fast fashion brands with sustainable alternatives, such as Shein vs. The Giving Movement, North Face vs. Patagonia, Adidas vs. Veja, MAC vs. Axiology, Maybelline vs. Ilia Beauty, and Pantene vs. Ethique.

Their proposed solutions include fair labor laws and safe working conditions, sustainable and biodegradable textiles, circular and bio-based materials, responsible advertising, mindful consumption, and education and awareness campaigns. The presentation closes with a four-phase vision: Awareness, Transition, Global Impact, and a Sustainable Future, a fully circular, low-carbon, cruelty-free industry that protects climate, biodiversity, and people worldwide.

This student work directly supports SDG 13: Climate Action by addressing industrial emissions, resource consumption, pollution, and waste, while also connecting to SDG 12 (Responsible Consumption and Production), SDG 14 (Life Below Water), SDG 15 (Life on Land), SDG 8 (Decent Work), and SDG 3 (Good Health and Well-Being). It is a strong example of how Ajman University students are advancing sustainability through research, advocacy, and cross-sector solutions.

Keywords: SDG 13, Climate Action, sustainable fashion, fast fashion, cosmetics, microplastics, deforestation, palm oil, water pollution, circular economy, biodegradable textiles, ethical sourcing, fair labor, responsible advertising, mindful consumption, biodiversity, Living Planet Index, carbon emissions, animal testing, child labor, Ajman University, sustainability, student research.

To read more about this research project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ajman-university-students-spotlight-the-hidden-environmental-and-socio-economic-footprint-of-cosmetics-and-clothes

OasisGreen AI-Powered Sustainable Agriculture for Extreme Climates

Students from Ajman University's College of Engineering and IT have developed a research presentation titled "Rethinking Green: Oasis Green, an AI-Powered Sustainable Agriculture for Extreme Climates" for the 25th Cycle of the Inter-College Environmental Public Speaking Competition 2025. The project explores how artificial intelligence can help agriculture thrive in arid and extreme climates, where traditional farming places heavy pressure on water and land ecosystems.

With the global population expected to exceed 9.7 billion by 2050, the students ask a critical question: "How can AI make agriculture thrive where nature struggles?" Their answer is OasisGreen, a climate-resilient, AI-driven greenhouse model designed for desert regions. It combines AI forecasting, precision irrigation, and energy optimization to reduce water use by 30% and energy waste by 20%, while supporting food security and biodiversity protection.

The system architecture integrates AI vision to detect plant health and nutrient deficiencies, IoT sensors to monitor soil moisture, temperature, and humidity, machine learning to optimize irrigation, ventilation, and light cycles, and solar power for continuous renewable operation. The research also introduces a Circular AI Framework: green energy integration, compact model efficiency, hardware reuse, and lifecycle accountability for energy, water, and waste.

The students propose a pilot concept, the AI Ain Smart Agriculture Hub, featuring AI-monitored greenhouses for desert farming with 15–20% improved crop yield and strong early adoption potential across the GCC. They also call for policy and community integration: governments implementing Green AI certification, universities leading interdisciplinary AI sustainability research, industries adopting circular production for agri-tech hardware, and communities building smart farming literacy.

Looking ahead, the paper notes that Green AI could reduce total tech emissions by 4% by 2035, and AI-powered farming could help feed 2 billion people sustainably. The presentation concludes with a powerful message: "OasisGreen proves that technology and sustainability are not opposing forces but partners."

This student research directly supports SDG 13: Climate Action by advancing climate-resilient agriculture, renewable energy use, water conservation, and low-carbon food systems. It also connects to SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals).

Keywords: SDG 13, Climate Action, AI-powered agriculture, sustainable agriculture, extreme climates, OasisGreen, Circular AI, precision irrigation, renewable energy, solar power, IoT sensors, machine learning, water conservation, energy efficiency, food security, biodiversity, desert farming, GCC, Green AI, e-waste, climate-resilient agriculture, Ajman University, student research.

To read more about this research project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/oasisgreen-ai-powered-sustainable-agriculture-for-extreme-climates

“WATER MAT” Smart Design for Water Conservation and Climate Action



Alya Almazrooqi a graphic Desgin student has designed a published project on Behance is tackling water waste in arid climates through smart, everyday design. Titled “WATER MAT,” the project is described as a smart, eco-friendly shower mat that collects and repurposes greywater, turning a routine daily activity into an opportunity for conservation. At its core is a multi-layered mat that captures water during showers and redirects it for non-potable uses such as plant irrigation, helping households reduce their water footprint without changing their daily habits.

The project, published on Behance in December 2025, goes beyond the physical product. It includes a fully developed mobile application and website that allow users to track water usage in real time, view savings statistics, and learn about sustainable water practices. The app highlights potential water savings of up to 70%, making conservation measurable and actionable. A comprehensive branding and awareness campaign further supports the initiative, featuring a cohesive visual identity and powerful slogans such as “Save Every Drop” and “Shower Smart, Grow Green,” aimed at shifting public behavior toward mindful water consumption.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by promoting water efficiency and reducing the energy required for water heating, pumping, and treatment. By lowering household water waste, the Water Mat helps decrease the carbon footprint associated with water systems, a key component of climate mitigation. It also demonstrates how creative student work can contribute to the UAE’s broader sustainability goals by encouraging everyday environmental responsibility. The project further aligns with SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production).

Keywords: WATER MAT, water conservation, smart shower mat, greywater reuse, SDG 13, Climate Action, sustainable design, water efficiency, eco-friendly habits, student innovation, Behance, climate technology, Ajman University, #SDG13 #ClimateAction

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/water-mat-smart-design-for-water-conservation-and-climate-action

“Ihyaa Project” Reviving Nature Through Art and Awareness



A new graduation project done by a graphic design's students is using the power of visual design to inspire wildlife conservation and environmental responsibility. Titled “Ihyaa” (إحياء), which translates to “Revival,” the project is a comprehensive awareness campaign that aims to rebuild a balanced relationship between humans and nature. At its core is a mission to protect four critical natural environments, the desert, forest, sea, and snow, and to contribute to the rescue of endangered species that represent the heart of our planet’s biodiversity.

The project, published on Behance in December 2025, reflects a growing trend in sustainable design: using compelling visual storytelling and strategic branding to make environmental issues more accessible and urgent. By creating a complete visual identity system, the project helps bridge the gap between scientific facts about biodiversity loss and public understanding. The campaign features a distinctive Arabic calligraphy logo inspired by the natural elements it seeks to protect, along with a cohesive color palette drawn from the environments themselves. The visual system is applied across a wide range of materials, from social media campaigns and outdoor billboards to an educational children's book that introduces younger audiences to conservation through storytelling.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by promoting climate action through education, awareness, and creative engagement. By highlighting the interconnectedness of ecosystems and the urgent need to protect endangered species, “Ihyaa” helps build public support for conservation efforts, a key component of climate mitigation. It also demonstrates how creative student work can contribute to the UAE’s broader sustainability goals by encouraging everyday environmental responsibility and fostering a culture of stewardship. The project further aligns with SDG 15 (Life on Land), SDG 14 (Life Below Water), and SDG 12 (Responsible Consumption and Production).

Keywords: Ihyaa Project, wildlife conservation, biodiversity, SDG 13, Climate Action, sustainable design, environmental awareness, student innovation, Behance, Ajman University, #SDG13 #ClimateAction

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ihyaa-project-reviving-nature-through-art-and-awareness

“ATHAR” Transforming Volunteerism into a Visual Identity for Social Good

A new graduation project published on Behance is redefining how volunteerism is perceived and practiced, turning fleeting acts of kindness into a lasting, sustainable lifestyle. Titled “ATHAR” (أثر), which translates to “Impact” or “Trace,” the project is a comprehensive social awareness campaign that seeks to institutionalize the culture of volunteerism. At its core is the belief that every individual possesses a unique “fingerprint” that can leave a positive mark on society.

The project, published on Behance in November 2025, reflects a growing trend in socially conscious design: using strategic branding and compelling storytelling to address community challenges. By creating a complete visual identity system, “ATHAR” bridges the gap between the abstract concept of volunteering and the tangible, everyday actions that constitute it. The campaign features a distinctive logo inspired by the human fingerprint symbolizing individuality and the unique impact each person can make. This visual language, combined with a thoughtful color palette and authentic photography, creates a cohesive and emotionally resonant brand that encourages participation and celebrates contribution.

The project’s deliverables demonstrate a deep understanding of integrated campaign design. This includes a comprehensive brand guideline, a suite of office stationery, eye-catching outdoor and indoor posters, a fully functional mobile application for logging volunteer hours and discovering opportunities, and an interactive website that connects volunteers and organizers. Furthermore, a dedicated magazine titled “ATHAR” was created to document stories of positive change, providing a platform for volunteers to share their experiences and inspire others.

Supporting SDG 13: Climate Action

This project supports the spirit of Sustainable Development Goal 13 by promoting the social and civic engagement that underpins climate action. By creating a structured, accessible, and rewarding ecosystem for volunteering, “ATHAR” helps build the social capital necessary for community-led environmental initiatives. It also demonstrates how creative student work can contribute to the UAE’s broader sustainability goals by encouraging active citizenship and collective responsibility. The project further aligns with SDG 11 (Sustainable Cities and Communities) and SDG 17 (Partnerships for the Goals).

Keywords: ATHAR, volunteerism, social impact, sustainable community, SDG 13, Climate Action, social responsibility, brand identity, student innovation, Behance, Ajman University, #SDG13 #ClimateAction

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/athar-transforming-volunteerism-into-a-visual-identity-for-social-good

“MUSTADEEM” A Visual Identity for Sustainable Winter Tourism in the UAE

A new student project published on Behance is reimagining winter tourism in the UAE through the lens of environmental responsibility and cultural heritage. Titled “MUSTADEEM” (مستديم), which translates to “Sustainable” in Arabic, the project is a comprehensive visual campaign designed to encourage people to enjoy the winter season responsibly. At its core is a powerful message: protect the four natural environments, the desert, forest, sea, and snow while celebrating the UAE’s local heritage.

The project, published on Behance in November 2025, reflects a growing trend in sustainable design: using strategic branding and immersive visual storytelling to make responsible tourism accessible and appealing. By creating a complete visual identity system, “MUSTADEEM” bridges the gap between the joy of winter travel and the urgent need for ecological awareness. The campaign features a distinctive logo that merges the Arabic word “مستديم” with the silhouette of a camel, a symbol of Emirati heritage, and a green leaf representing sustainability. This visual language, combined with a thoughtful color palette of green, black, white, and beige, creates a cohesive brand that promotes responsible exploration.

The project’s deliverables demonstrate a deep understanding of integrated campaign design. This includes a comprehensive brand guideline, a suite of office stationery, eye-catching outdoor and indoor posters, a fully functional mobile application for discovering sustainable tourism activities, and a dedicated website that connects visitors with eco-friendly experiences. Furthermore, a vibrant social media campaign with a distinct Instagram presence was created to engage the public and share tips for responsible travel.

Supporting SDG 13: Climate Action

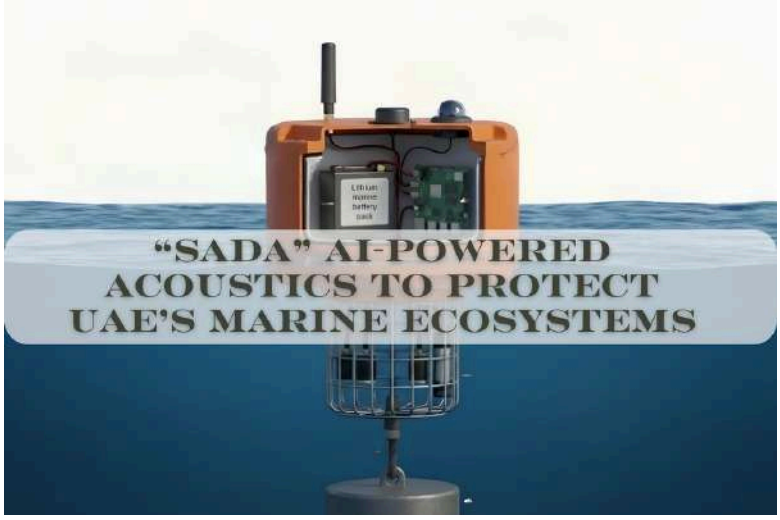
This project directly supports Sustainable Development Goal 13 by promoting climate action through responsible tourism and environmental education. By encouraging visitors to choose eco-friendly activities and respect natural habitats, “MUSTADEEM” helps reduce the carbon footprint and ecological impact of the tourism sector, a key component of climate mitigation. It also demonstrates how creative student work can contribute to the UAE’s broader sustainability goals by fostering a culture of environmental stewardship and supporting the national strategy for sustainable tourism. The project further aligns with SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 15 (Life on Land).

Keywords: MUSTADEEM, sustainable tourism, winter tourism, UAE, SDG 13, Climate Action, sustainable design, environmental awareness, brand identity, student innovation, Behance, Ajman University, #SDG13 #ClimateAction

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/mustadeem-a-visual-identity-for-sustainable-winter-tourism-in-the-uae

“SADA” Using AI-Powered Acoustics to Protect UAE’s Marine Ecosystems



A new student research project developed at Ajman University is transforming how the UAE monitors and protects its marine environment. Titled “SADA” (صدى), which translates to “Echo” in Arabic, the project is an autonomous, AI-powered marine environmental surveillance network designed to support ecosystem protection and compliance management within the UAE’s maritime borders. Developed by students Doaa Rafeq Al Alimi, Sara Walthan Al Jebori, and Muneera Kamil Yahya Ahmed, under the supervision of Office of Sustainability, the project was created for the Artificial Intelligence Applications in Sustainability domain.

The project addresses critical gaps in marine monitoring. Traditional surveillance relies heavily on AIS/GPS tracking and manual patrols, which fail to detect illegal, unreported, and unregulated (IUU) fishing vessels that intentionally disable their trackers to enter protected zones. Over 70% of the UAE’s commercial fish stocks are currently overexploited, with key species like hamour and kingfish seeing declines of up to 80% over the past three decades. Furthermore, seasonal ban violations and silent ecological shifts, such as changes in pH, dissolved oxygen, and turbidity often go unnoticed due to limited real-time data.

The SADA system introduces a shift from reactive monitoring to proactive, data-driven protection. Each autonomous floating node is equipped with high-sensitivity hydrophones and multi-parameter environmental probes. The core innovation lies in its Hierarchical Edge AI architecture. It uses unsupervised machine learning (Isolation Forests) to detect water quality anomalies and deep learning (MobileNetV2 CNNs) to classify acoustic signals. By processing complex data locally on the device, SADA transmits only validated alerts, significantly minimizing power consumption and extending the battery life of the nodes.

The project’s results demonstrate high accuracy in real-time simulations. The Random Forest model successfully classified commercial vessels, small unauthorized fishing boats, and background ocean noise. When the geospatial logic confirms an empty coastline, the system activates its deep learning model to identify endangered marine mammals, successfully detecting species such as the False Killer Whale with 82.4% confidence. The SADA dashboard also showcases intelligent power management, placing heavy neural networks into "sleep mode" when acoustic interference from multiple ships is detected, reserving computational power for actionable intelligence.

Supporting SDG 13: Climate Action

While SADA is deeply rooted in SDG 14 (Life Below Water), it directly supports SDG 13: Climate Action by enhancing the resilience of marine ecosystems against climate-induced stressors. The Arabian Gulf is one of the most ecologically stressed marine regions, warming at nearly 0.6°C per decade. By providing continuous monitoring of sea surface temperatures, dissolved oxygen, and biodiversity, SADA enables early warning alerts for hypoxic events and ecosystem degradation key climate adaptation strategies. By safeguarding marine biodiversity and preventing overfishing, the project helps maintain the ocean's capacity to sequester carbon (blue carbon) and protects the economic stability of the UAE's Blue Economy for future generations. It also aligns with SDG 2 (Zero Hunger) through food security and SDG 9 (Industry, Innovation and Infrastructure) through its advanced AI application.

Keywords: SADA, marine conservation, AI-powered surveillance, SDG 13, Climate Action, Edge AI, acoustic monitoring, IUU fishing, biodiversity protection, ocean health, sustainable fisheries, blue economy, Ajman University, student innovation.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/sada-using-ai-powered-acoustics-to-protect-uaes-marine-ecosystems

“AURA” Turning Hidden HVAC Duct Leaks into Measurable Energy Savings

A student-led project at Ajman University is turning a spotlight on the invisible energy losses that quietly inflate campus utility bills and carbon footprints. Titled “AURA” (Campus HVAC Energy Intelligence System), this initiative introduces an autonomous robotic solution that detects, measures, and prioritizes hidden duct leaks in heating, ventilation, and air conditioning (HVAC) systems. By transforming undetected problems into measurable actions, AURA offers a scalable model for smarter, more sustainable building maintenance.

The challenge AURA addresses is significant: an estimated 25–40% of cooled air escapes through hidden duct leaks. Traditional maintenance is periodic and often misses these inaccessible issues. AURA changes that by deploying a compact in-duct robot that autonomously navigates the duct network. When a critical leak is found, the robot places an AURA SmartTag, a magnetic RFID marker that allows technicians to locate and repair the exact spot quickly from outside the ceiling. The robot then returns to verify the repair, closing the loop on maintenance efficiency.

All of this data is centralized in the AURA Insight Dashboard, a live HVAC health overview that visualizes the campus duct network, calculates real-time energy and cost losses, and prioritizes repairs based on return on investment. The dashboard highlights the tangible impact: potential annual savings of 218,450 kWh of energy and AED 65,535 in costs, while preventing 104.2 tCO_2e from entering the atmosphere each year.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by addressing the root cause of excessive energy consumption in buildings. By reducing the energy wasted through duct leaks, AURA lowers the total electricity demand of campus facilities, which directly reduces greenhouse gas emissions associated with power generation. It also aligns with SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production). AURA demonstrates how student research can deliver practical, high-impact climate solutions by optimizing the very infrastructure we use every day.

Keywords: AURA, HVAC efficiency, energy intelligence, CO2 reduction, SDG 13, Climate Action, smart campus, in-duct robotics, sustainable maintenance, energy savings, Ajman University, student innovation.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/aura-turning-hidden-hvac-duct-leaks-into-measurable-energy-savings

“ECaust” A Low-Cost Retrofit Solution for Cleaner Last-Mile Delivery in the UAE

Student Project Spotlight: “ECaust” A Low-Cost Retrofit Solution for Cleaner Last-Mile Delivery in the UAE

As e-commerce continues to surge across the UAE, the environmental cost of last-mile delivery is mounting. Transport already accounts for 19–22% of the nation’s carbon emissions, and last-mile logistics alone contributes over half of all logistics emissions. With urban populations exceeding 85% and delivery demand growing by 15–20% annually, the need for immediate, scalable solutions has never been clearer.

Enter ECaust, a student-developed retrofit emission system designed to curb pollution from existing diesel delivery fleets. Unlike costly electric vehicle transitions that require new infrastructure and years of planning, ECaust is a plug-and-play exhaust device that can be installed on any diesel van, truck, or motorcycle in under 30 minutes. Using a mesh-based catalytic filter, it breaks down harmful gases and reduces NOx and PM2.5 emissions by up to 85%. The technology is compatible with 100% of current fleets, requires no engine modifications, and demands maintenance only every 50,000 km.

The economic case is equally compelling. At just AED 750 per unit roughly 15% the cost of replacing a vehicle with an EV-ECaust delivers 10–15% fuel savings, helping fleets recover their investment within 6–9 months. It also shields companies from environmental fines of AED 1,000 or more per vehicle and strengthens their ESG performance. With over 150,000 commercial delivery vehicles operating in the UAE, the market potential is substantial, and the solution aligns directly with the UAE National Air Quality Strategy 2031 and Net Zero 2050 goals.

Supporting SDG 13: Climate Action

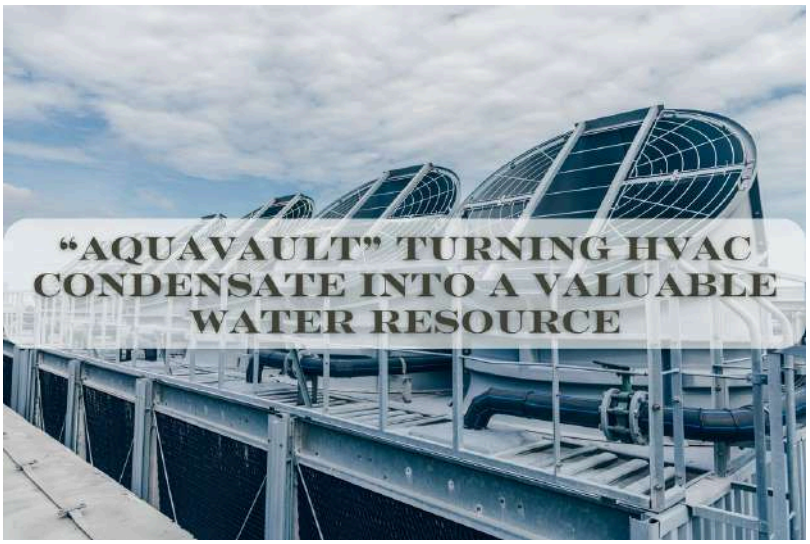
This project directly supports Sustainable Development Goal 13 by reducing greenhouse gas emissions and air pollutants from the transport sector one of the largest contributors to urban carbon footprints. By retrofitting existing diesel fleets instead of waiting for full electrification, ECaust offers an immediate, low-cost pathway to cleaner air and lower emissions. It also aligns with SDG 3 (Good Health and Well-Being) through improved air quality, SDG 9 (Industry, Innovation, and Infrastructure) by advancing clean technology, and SDG 12 (Responsible Consumption and Production) by extending the life of existing vehicles. The project demonstrates how student innovation can deliver practical, scalable climate solutions for the UAE’s growing cities.

Keywords: ECaust, last-mile delivery, retrofit emission system, SDG 13, Climate Action, air pollution, NOx reduction, PM2.5, diesel fleets, UAE Net Zero 2050, sustainable logistics, clean technology, student innovation, Ajman University.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ecaust-a-low-cost-retrofit-solution-for-cleaner-last-mile-delivery-in-the-uae

“AQUAVAULT” Turning HVAC Condensate into a Valuable Water Resource



A Biomedical students at Ajman University has developed a project transforming an overlooked byproduct of air conditioning into a valuable water resource for buildings. Titled “AQUAVAULT,” the project is described as a smart building-scale system that captures, monitors, filters, and reuses HVAC condensate for non-potable applications. At its core is a fully automated system that connects to existing HVAC drainage infrastructure, turning a routine waste stream into a sustainable water supply for landscape irrigation and other non-potable uses.

The project, developed for the WiE Women Innovator Challenge 2026, reflects a growing trend in sustainable engineering: using smart technology to make water conservation more accessible, measurable, and impactful. By capturing condensate that would otherwise be discharged to drainage, “AQUAVAULT” helps buildings reduce their reliance on desalinated water while providing immediate, quantifiable water savings. For a G+20 building in Dubai, the system can recover an estimated 2,600 liters per day equivalent to 949,000 liters per year and at scale, 100 buildings could recover 94.9 million liters annually.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by reducing the energy and carbon emissions associated with water desalination and supply. By turning HVAC condensate into a reusable resource, “AQUAVAULT” helps lower the demand for energy-intensive desalinated water, a key component of climate mitigation in the UAE. It also aligns with SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production). The project demonstrates how student innovation can contribute to the UAE’s broader sustainability goals by encouraging water efficiency and responsible resource management in the built environment.

Keywords: AQUAVAULT, HVAC condensate, water recovery, water conservation, SDG 13, Climate Action, sustainable buildings, desalination, energy efficiency, circular economy, student innovation, WiE Women Innovator Challenge

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/aquavault-turning-hvac-condensate-into-a-valuable-water-resource

“EcoPharm AI” Smart Pharmaceutical Waste Disposal Machine

Student Project Spotlight: “EcoPharm AI” Smart Pharmaceutical Waste Disposal Machine

A new student research project at Ajman University is tackling the growing challenge of pharmaceutical waste through an innovative smart disposal machine. Titled “EcoPharm AI,” the project is described as a smart, automated system designed to ensure safe and sustainable management of expired medicines and medical waste. At its core is a machine that accepts unused or expired medications, sorts them by dosage form, and rewards users with points that can be redeemed for vouchers turning a routine environmental action into an engaging and rewarding experience.

The project, developed by a team of College of Pharmacy students at Ajman University, responds to a pressing global issue: global pharmaceutical spending has reached an astounding $1.2 trillion annually, according to the IQVIA Institute, yet improper disposal of medicines remains widespread. A survey of 112 respondents conducted as part of the study revealed that 73.2% dispose of solid dosage forms in the rubbish bin, while 96.4% agreed that improper disposal harms the environment and health. These findings underscored the need for a centralized, user-friendly solution.

The EcoPharm machine features automated sorting and IoT connectivity, allowing users to scan their medicine, select the appropriate category (solid, semi-solid, liquid, or gaseous), place the item into the machine, and collect reward points. The system is designed to raise awareness among future generations about best practices in medical waste disposal, motivate the public to participate, protect the environment from pollution, and even benefit from recycled drugs converting them into substances such as building materials or fertilizers.

By preventing contamination and promoting responsible disposal, EcoPharm offers a scalable, eco-friendly solution that supports sustainable waste management and protects public health. The project demonstrates how student innovation can address complex environmental challenges while engaging the community in meaningful action.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by reducing the environmental and health hazards associated with improper pharmaceutical disposal. When medicines are flushed down sinks or thrown in regular trash, they can contaminate water systems and soil, harming ecosystems and contributing to the spread of antimicrobial resistance. By providing a safe, centralized disposal system and incentivizing participation, EcoPharm helps prevent pollution at the source, supports circular economy principles through recycling, and reduces the carbon footprint associated with waste treatment. It also aligns with SDG 3 (Good Health and Well-Being), SDG 6 (Clean Water and Sanitation), and SDG 12 (Responsible Consumption and Production). The project exemplifies how student research can contribute to the UAE’s broader sustainability goals by encouraging everyday environmental responsibility and protecting public health.

Keywords: EcoPharm AI, pharmaceutical waste, smart disposal machine, SDG 13, Climate Action, medical waste management, recycling, environmental health, circular economy, IoT, student innovation, Ajman University.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/ecopharm-ai-smart-pharmaceutical-waste-disposal-machine

“LoopBite” Turning Food Waste into Community Wealth

A new student startup pitch developed through the Green Entrepreneurship Program at Ajman University is tackling the UAE’s food waste crisis with a circular economy solution. Titled “LoopBite,” the project is described as a waste collection service that acts as a bridge between households, businesses, and farms turning discarded food into compost and biogas while rewarding participants for sustainable behavior. At its core is a smart bin network and mobile app that connects everyday food waste disposal with tangible community and environmental benefits.

The project, led by team members Nihmathullah, Mohammed, Syrin, and Nazmi, responds to a pressing problem: the UAE wastes 3.27 million tonnes of food annually, resulting in AED 13 billion in losses. In Ajman alone, roughly 100 tonnes of food waste is generated daily, with food making up 40% of household waste. When sent to landfills, this waste produces methane a greenhouse gas 84 times more potent than CO_2. LoopBite addresses this by offering a convenient, reward-driven system for food waste segregation and collection, while providing local farms with affordable, high-quality compost.

How it works is simple yet impactful. Families and individuals drop food waste at nearby smart bins and earn LoopPoints, which can be redeemed for discounts on fresh, local produce. Businesses in high-waste sectors like events, hospitality, and retail can subscribe to a flexible paid service that supports their CSR goals. Farms benefit from compost that is 70–90% cheaper than conventional fertilizer, improves soil health with 30% better water retention, and comes with a marketing boost as a local, sustainable input. The entire process from collection using AI-routed pickups and cold storage, to processing via composting and anaerobic digestion, to output as compost, biodiesel, and app-based rewards is designed to keep resources circulating within Ajman.

A pilot project is planned for Al Jurf or Al Rawda over 3–4 months, with a budget of AED 19,000–23,000. The pilot aims to divert 5–10 tons of food waste from landfill, produce several tons of compost and hundreds of liters of biodiesel, and demonstrate the full operational workflow. The team has already secured support from key partners including Ajman Municipality, Tadweer, and the Warsan Waste-to-Energy Plant, who have agreed to facilitate logistics, permits, and access to processing infrastructure.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by reducing methane emissions from landfills one of the most immediate and potent contributors to climate change. By diverting food waste into composting and biogas, LoopBite prevents the release of harmful greenhouse gases while producing valuable resources that displace energy-intensive fertilizers and fossil fuels. It also aligns with SDG 11 (Sustainable Cities and Communities) and SDG 17 (Partnerships for the Goals). Through its gamified app and community engagement model, LoopBite demonstrates how student innovation can drive behavioral change and build a more circular, climate-resilient future for the UAE.

Keywords: LoopBite, food waste, circular economy, composting, SDG 13, Climate Action, waste-to-farm, gamification, smart bins, Ajman, student innovation, Green Entrepreneurship Program

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/loopbite-turning-food-waste-into-community-wealth

“Na'matak” A Smart Platform for Food Security and Community Sustainability

A new student project developed at Ajman University is tackling the UAE's food waste crisis through a smart digital platform that connects households, businesses, and government entities. Titled “Na'matak” (نعمتك), which translates to “Your Blessing,” the project is described as an integrated platform for food management and community sustainability. At its core is a mobile application that reduces food waste by connecting surplus meals from restaurants and stores directly to consumers at affordable prices, while rewarding users for sustainable behaviors.

The project, developed by students Duaa Al-Alimi, Munira Kamel, Sara Waleed, and Layan from Ajman University, responds to a pressing national challenge: the UAE wastes an estimated 2.7 kilograms of food per person daily 225 kilograms annually resulting in an economic loss of approximately AED 13 billion per year. A survey of 6,083 respondents conducted as part of the study revealed that 85% consider food waste a national challenge, but 67% struggle to reduce it due to a lack of awareness and accessible options.

Na'matak addresses this through a comprehensive digital ecosystem. The platform features a government dashboard for entities like the Ministry of Climate Change and Environment (MOCCAE) to monitor surplus food saved, CO_2 reduced, active businesses, and community members in real time. A business dashboard enables restaurants, bakeries, and supermarkets to track meals sold, revenue, and items near expiry. Users earn points for sustainable actions, such as rescuing food or completing educational challenges, which can be redeemed for eco-friendly rewards like seed kits, solar chargers, and bamboo cutlery. An AI-powered assistant, NematukGPT, provides budget-smart shopping guidance and recipe suggestions to help households reduce waste at the source.

The platform also includes a community awareness hub with campaigns, challenges, and courses to promote a culture of responsible consumption. By bridging the gap between food surplus and food need, Na'matak supports the UAE's National Food Security Strategy 2051 and the Emirates Food Security Council's vision.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by reducing methane emissions from food waste in landfills one of the most potent greenhouse gases. By rescuing surplus food and redirecting it to consumers, Na'matak also lowers the carbon footprint associated with food production, transportation, and disposal. It aligns with SDG 2 (Zero Hunger), SDG 12 (Responsible Consumption and Production), and SDG 17 (Partnerships for the Goals). Through its reward-driven platform and community engagement model, Na'matak demonstrates how student innovation can drive behavioral change and build a more resilient, climate-conscious food system for the UAE.

Keywords: Na'matak, food waste, food security, SDG 13, Climate Action, sustainable consumption, smart platform, community engagement, behavioral change, AI assistant, UAE, student innovation, Ajman University

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/namatak-a-smart-platform-for-food-security-and-community-sustainability

“MADAR” Transforming Bus Shelters into Sustainable Urban Hubs



A new student project developed at Ajman University is reimagining urban transit infrastructure. Titled “MADAR,” the project is described as a smart transit node that transforms conventional bus shelters into active, sustainable urban hubs. At its core is a multi-layered design that integrates renewable energy generation, carbon-sequestering materials, and AI-driven smart systems to enhance commuter comfort while actively combating the urban heat island effect.

The project, developed by student Afaf Zeiab Alnajm, reflects a growing trend in sustainable architecture: using advanced materials and smart technology to turn passive structures into active contributors to climate mitigation. By integrating radiative cooling films, phase-change materials (PCM), and piezoelectric flooring, “MADAR” cools its immediate environment while generating its own clean energy. The station also features IoT sensors and LiDAR to monitor air quality and occupancy, transmitting real-time data to transport authorities like the RTA to optimize bus dispatching and improve the commuter experience. The structure itself actively purifies the air using photocatalytic coatings and carbon-sequestering concrete, effectively turning the shelter into a small-scale urban air purifier.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by addressing the urban heat island effect and reducing carbon emissions in the built environment. By cooling the air through passive radiative technologies and sequestering CO_2 through photocatalytic coatings and carbon-infused concrete, “MADAR” helps lower ambient temperatures and improve air quality in cities. It also aligns with SDG 11 (Sustainable Cities and Communities) and SDG 7 (Affordable and Clean Energy). By transforming static infrastructure into a dynamic, life-supporting system, the project demonstrates how creative student work can contribute to the UAE’s Net Zero commitments while enhancing the quality of urban life.

Keywords: MADAR, smart transit node, urban heat island, radiative cooling, piezoelectric energy, SDG 13, Climate Action, sustainable design, smart cities, carbon sequestration, Ajman University, student innovation

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/madar-transforming-bus-shelters-into-sustainable-urban-hubs

“Effective Waste Management and Recycling Segregation” Smart Bins and AI for a Circular Future

A new student research project at Ajman University is tackling the global waste crisis through an innovative combination of artificial intelligence, smart technology, and community-driven incentives. Titled “Effective Waste Management and Recycling Segregation,” the project is described as a comprehensive solution that uses AI-powered smart bins and reverse vending machines to automatically sort waste at the source. At its core is a mobile application that connects users to a reward system, turning everyday recycling into a gamified, rewarding experience.

The project, developed by students Hurairah Faatimah Muzammil, Jon Regala, Khadeeja Hashim, and Mohammed Bayan, addresses a critical issue: when waste isn’t separated, everything ends up in landfills, polluting soil and water while releasing methane from rotting organic matter. Manual segregation is often confusing, inconsistent, and time-consuming. To solve this, the team proposes AI-driven segregation that can identify plastic, paper, glass, metal, organic waste, and even medical waste with high precision, speed, and safety. These smart bins are linked to a mobile app where users earn points based on what they dispose of. The system makes points type-dependent, meaning eco-friendly waste like biowaste generates more points than single-use plastics actively encouraging users to reduce their consumption of unsustainable products.

Beyond collection, the project explores creative pathways for the segregated waste. Organic waste can be converted into bioplastics, natural compost, or used for waste-to-energy through anaerobic digesters. Electronic waste can be upcycled into circuit board jewelry or DIY STEM kits. Plastics can be shredded into 3D printing filament, combined into plastic-wood composites for furniture, or used to create eco-bricks and art installations. The team also highlights circular economy design, such as closed-loop product lines where old items are returned for redesign or points.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by reducing greenhouse gas emissions associated with landfill waste. When organic waste decomposes anaerobically in landfills, it produces methane a greenhouse gas 84 times more potent than CO_2 over a 20-year period. By segregating and composting organic waste, the project prevents these emissions while producing valuable compost that improves soil health. Furthermore, by recycling materials like plastic, glass, and metal, the system reduces the energy and carbon emissions required to extract and process virgin materials. The AI-driven reward system encourages long-term behavioral change, making sustainable waste management an accessible and rewarding part of daily life. The project also aligns with SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 9 (Industry, Innovation and Infrastructure).

Keywords: waste segregation, AI smart bins, reverse vending machines, SDG 13, Climate Action, circular economy, recycling, methane reduction, sustainable waste management, gamification, bioplastics, e-waste upcycling, Ajman University, student innovation.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/effective-waste-management-and-recycling-segregation-smart-bins-and-ai-for-a-circular-future

“Your Planet Needs You” Raising Awareness for Life Below Water and Life on Land

A community service initiative developed by students at Ajman University is inspiring action on two critical Sustainable Development Goals: SDG 14 (Life Below Water) and SDG 15 (Life on Land). Titled “Your Planet Needs You,” the project was created by team members Amna Muhammad Ashfaq, Nasima Mohammad Helal, Amreen Fatima, and Zainab Mohiuddin, under the supervision of Engineer Abeedallah Saafan. The project aimed to raise awareness about environmental conservation and sustainable living within the university and the broader community.

The team began with a survey to gauge understanding of SDGs 14 and 15, receiving over 70 responses that revealed a need for greater education. They then organized a series of impactful events: a mangrove plantation at Al Zorah Golf Club in Ajman, an interactive workshop for grades 1–4 at Al Ma’arifa International Private School, and a reusable bag distribution campaign for students, faculty, and female hostel residents to reduce single-use plastics. A digital awareness campaign, including social media posts and an article on the Ajman University website, helped extend their reach beyond the campus, garnering nearly 1,000 views on a live broadcast of the school event.

The project’s impact was evident in post-campaign surveys: 78.1% of respondents reported learning more about SDGs 14 and 15, and 71.9% rated the initiatives as highly effective. When asked what changes they had made, 62.5% reported reducing plastic use, 65.6% participated in recycling, 43.8% adopted sustainable consumption habits, and 31.3% volunteered for environmental causes. By engaging all ages from preschool children to university professors the team fostered a culture of sustainability that extends beyond the campus.

Supporting SDG 13: Climate Action

While the project directly supports SDGs 14 and 15, it also contributes to SDG 13 (Climate Action) by promoting practices that reduce greenhouse gas emissions. Mangrove planting, for instance, sequesters carbon and protects coastal ecosystems. Reducing plastic use lowers the carbon footprint associated with plastic production and waste. Encouraging sustainable consumption and recycling further reduces energy demand and emissions. Through education and hands-on action, “Your Planet Needs You” demonstrates how community service can drive both environmental awareness and tangible climate benefits.

Keywords: Your Planet Needs You, SDG 14, SDG 15, climate action, mangrove planting, reusable bags, plastic reduction, environmental awareness, community service, Ajman University, student innovation.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/your-planet-needs-you-raising-awareness-for-life-below-water-and-life-on-land

“SPECTRUM” Real-Time Hyperspectral Imaging for Mangrove Monitoring

A new student research project at Ajman University is making environmental monitoring faster, cheaper, and more accessible. Titled “SPECTRUM,” the project introduces an AI-powered system that converts ordinary RGB drone images into hyperspectral-like data in real time, enabling instant analysis of vegetation health and ecosystem conditions. Developed by students Murtada Ali, Nasima Mohammed Helal, and Wessam Shehieb, the project is designed to support mangrove conservation and other critical environmental monitoring needs.

Current hyperspectral and multispectral imaging systems are slow, costly, and generate massive data files, taking 20–30 seconds per image and creating a gap between data capture and decision-making. In fast-changing ecosystems like mangroves which are vital for carbon storage, coastal protection, and biodiversity this delay can mean the difference between timely intervention and irreversible degradation. SPECTRUM addresses this gap by using advanced U-Net and CNN models trained on real hyperspectral datasets (HySpecNet-11k and GiQ) to reconstruct spectral information from standard RGB images. The system operates on drones equipped with embedded processors and 4G/5G connectivity, delivering real-time insights through a cross-platform dashboard. It removes the need for expensive HSI/MSI cameras, processing images within seconds and achieving high accuracy rates of over 90% in applications such as water quality monitoring and agricultural assessment.

The project, developed under the Ajman University Innovation Center, aligns with the UAE’s Net Zero 2050 and Blue Carbon initiatives. By enabling rapid, low-cost monitoring of mangroves, SPECTRUM helps environmental agencies, researchers, and policymakers detect ecosystem changes early and act quickly.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by enhancing the speed and scalability of climate-related environmental monitoring. Mangroves are among the most effective carbon sinks on the planet, and their protection is critical for climate mitigation. SPECTRUM’s real-time insights allow for timely conservation actions, helping to preserve these vital ecosystems and maintain their carbon sequestration capacity. By making advanced monitoring affordable and accessible, the project also supports SDG 14 (Life Below Water) and SDG 15 (Life on Land). It demonstrates how student innovation in AI and remote sensing can contribute to the UAE’s sustainability goals and global climate action.

Keywords: SPECTRUM, hyperspectral imaging, RGB-to-HSI, mangrove monitoring, SDG 13, Climate Action, real-time environmental monitoring, AI, drone, Ajman University, student innovation

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/spectrum-real-time-hyperspectral-imaging-for-mangrove-monitoring

“SSPN” Smart Solar Pedestrian Nodes for Sustainable Urban Infrastructure

A new feasibility study developed at Ajman University is reimagining urban pedestrian crossings as active, sustainable infrastructure. Titled “SSPN” (Smart Solar Pedestrian Nodes), the project proposes retrofitting existing signal-controlled crossings in Dubai with self-powered, sensing, and shading units that generate clean energy, harvest water from ambient humidity, and use edge AI to improve pedestrian safety all without expanding the physical footprint.

The study addresses a critical urban challenge: pedestrian crossings currently represent unused real estate that offers no energy generation, no data collection, and no protection from extreme heat, which exceeds 45°C for roughly four months of the year in Dubai. The SSPN solution integrates a bifacial solar PV canopy that shades the waiting area and generates net-positive electricity, an atmospheric water generation (AWG) unit that condenses humidity for panel cleaning and irrigation, and an edge AI vision system that processes crowd density and wait times locally discarding frames on-device to preserve privacy. The node also includes automatic priority for People of Determination (POD) through wheelchair and white cane detection, extending green phases within RTA’s safety envelope. A central dashboard with a drag-and-drop, button-only workflow builder allows operators to configure rules without coding, reducing human error.

The project aligns directly with Dubai’s 2040 Urban Master Plan, Clean Energy Strategy 2050, and RTA’s Smart Transport and Vision Zero objectives. By turning existing crossing poles into distributed generation points and data nodes, SSPN supports walkability, heat safety, and inclusive mobility for vulnerable commuters.

Supporting SDG 13: Climate Action

This project directly supports Sustainable Development Goal 13 by advancing renewable energy generation and energy efficiency in urban infrastructure. The solar canopy produces clean electricity that can be exported to the local grid, reducing reliance on fossil-fuel power. The AWG unit uses condensation to clean panels and irrigate streetscape planting, closing a maintenance loop that improves PV yield and conserves water a critical resource in the Gulf. By mitigating urban heat exposure and promoting active mobility, SSPN also reduces the carbon footprint associated with private vehicle use. It aligns with SDG 11 (Sustainable Cities and Communities), SDG 9 (Industry, Innovation and Infrastructure), and SDG 6 (Clean Water and Sanitation). The project demonstrates how student innovation can deliver practical, scalable climate solutions for the UAE’s net-zero ambitions.

Keywords: SSPN, smart solar pedestrian node, renewable energy, urban heat island, edge AI, atmospheric water generation, SDG 13, Climate Action, sustainable cities, Dubai 2040, RTA, Ajman University, student innovation.

To view the project, click here.

https://sustainablecampus.ajman.ac.ae/en/student-research-projects/sspn-smart-solar-pedestrian-nodes-for-sustainable-urban-infrastructure

Faculty Scientific Research Paper and Projects

Energy Efficiency Based on Passive Design Solutions in UAE



Back

Energy Efficiency Based on Passive Design Solutions in UAE

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DOI: 10.1007/978-3-031-84371-6_15

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Energy consumption in the building sector accounts for over 30% of global final energy consumption. This figure is much higher in developed countries like the UAE, where energy consumption by the built sector can reach up to 80%. Thus, developing appropriate future energy and climate change strategies requires alternative methods for the reduction of energy consumption in buildings. Passive design techniques, such as shading devices and courtyards, are used in sustainable architecture to create structures that harness sunlight and wind for lighting and ventilation while keeping away heat gain and glare. This research aims to investigate and create a comparison between the effects of two passive design solutions on a villa housing project in Sharjah, United Arab Emirates, through the use of Revit software. The study concluded that courtyards significantly outperformed shading devices in reducing energy costs, providing a greater overall impact on energy consumption. In this research, a comparative study was done between three building types in the same area: a villa without any passive design solution, a villa with the introduction of shading devices, and a villa with a courtyard. The research shows that courtyards, by enhancing natural ventilation and air circulation, lowered HVAC costs to approximately 14.69 AED/m2 per year, compared to 33.06 AED/m2 per year for louvers. While louvers improved lighting efficiency and reduced lighting needs, they led to slightly higher costs for window shades. Overall, courtyards achieved a cost reduction of 24.24 AED/m2 per year versus 6.61 AED/m2 per year for shading devices, emphasizing the importance of integrating passive design strategies for sustainable building practices and climate change mitigation.

To access the full paper click here

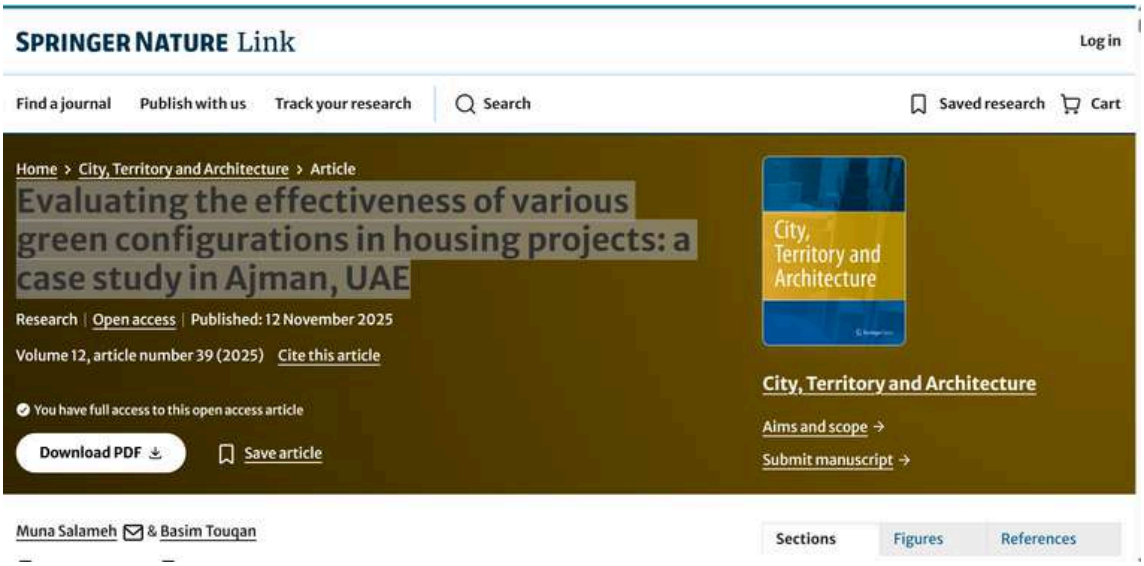
Proposal for Promoting Sustainable Architecture through Energy Efficiency Education in the UAE



Given that the building industry is one of the biggest consumers of energy, it is important to support educational initiatives that increase the understanding of students on sustainable design principles in relation to the local context. This study used a quantitative methodology based on a literature review and a survey distributed to architecture students and recent graduates. The analysis of the results highlighted the need for practical applications of local sustainability regulations in architecture education, the lack of incorporation of energy efficiency concepts in architecture education, and the importance of energy simulation tools with user-friendly interfaces and integration with BIM tools. The results were employed to suggest an educational approach for sustainability in architectural programs. The suggested approach includes starting with an introduction to energy efficiency concepts relevant to the climatic conditions and the local regulations of the UAE, then, using the energy simulation tool (Autodesk Insight 2022) to test the impact of energy efficiency parameters directly on the Revit model of a residential villa as a case study, and finally, combining the theoretical knowledge and the simulation tool to achieve the Estidama Pearl Rating System, mainly the Resourceful Energy category. This study ran 22 simulations using active and passive techniques on an existing villa in the UAE and successfully showed the impact of each parameter on energy consumption with reference to Estidama Rating Systems. Integrating energy simulation in undergraduate programs would support students with the concepts of sustainability and energy efficiency.

To access the full paper click here

Evaluating the effectiveness of various green configurations in housing projects: a case study in Ajman, UAE



In the hot arid climate of the united Arab Emirates (UAE), housing projects face significant challenges in maintaining comfortable indoor environments, minimizing energy consumption, and improving outdoor thermal conditions. One effective and sustainable solution that has gained attention is the implementation of various greenery configurations, including green façades, green roofs, green walls, green hedges, and green shading structures. This study aims to evaluate the advantages of these greenery interventions in enhancing outdoor thermal comfort in housing projects within the uae's challenging climate. Utilizing ENVI-met software for high-resolution simulations, this research investigates the impact of different greenery configurations on key thermal parameters such as air temperature, mean radiant temperature (MRT), wind speed, humidity, and physiological equivalent temperature (PET). The findings reveal that green roofs are the most effective in reducing peak air temperatures by up to 2.3 °C, Lowering MRT by up to 15.2 °C, and decreasing PET by up to 6.43 °C. Green walls also showed some improvements, particularly in reducing peak MRT by 10 °C. Green shading structure and hedges provided moderate benefits, with less substantial reductions in thermal stress. These results highlight the critical role of greenery configurations such as green façades, green roofs, green walls, hedges, and green shading structures in mitigating heat stress and enhancing outdoor thermal comfort. By integrating these strategies, housing projects can support the uae's broader sustainability objectives, promoting more livable and climate-resilient communities

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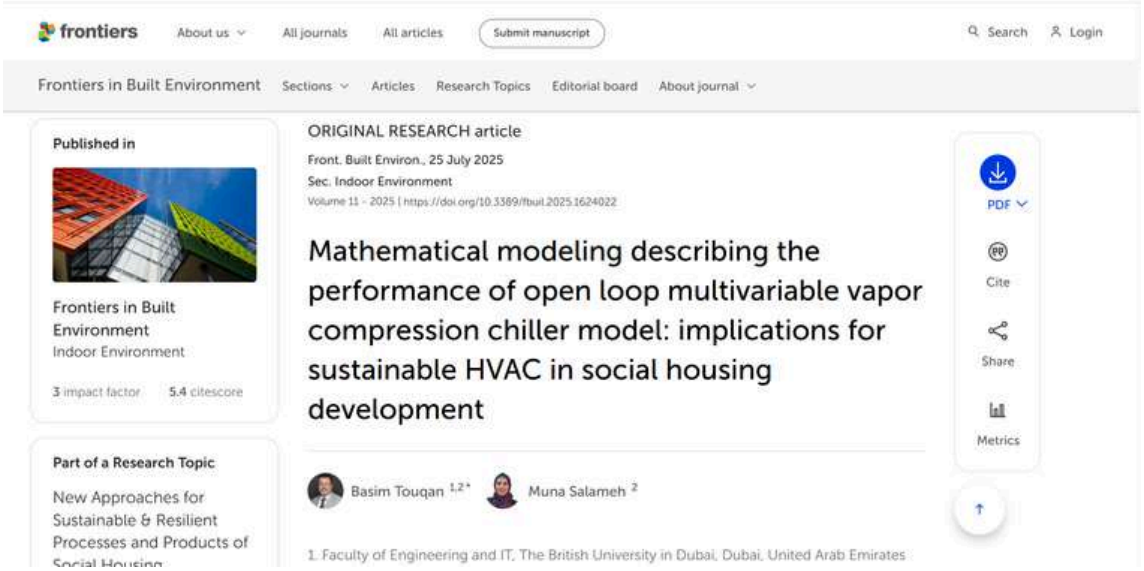
Mathematical modeling describing the performance of open loop multivariable vapor compression chiller model: implications for sustainable HVAC in social housing development



This study introduces a simplified multi-variable state-space model of a vapour compression chiller system, focusing on key components such as the condenser and evaporator.

Methods:

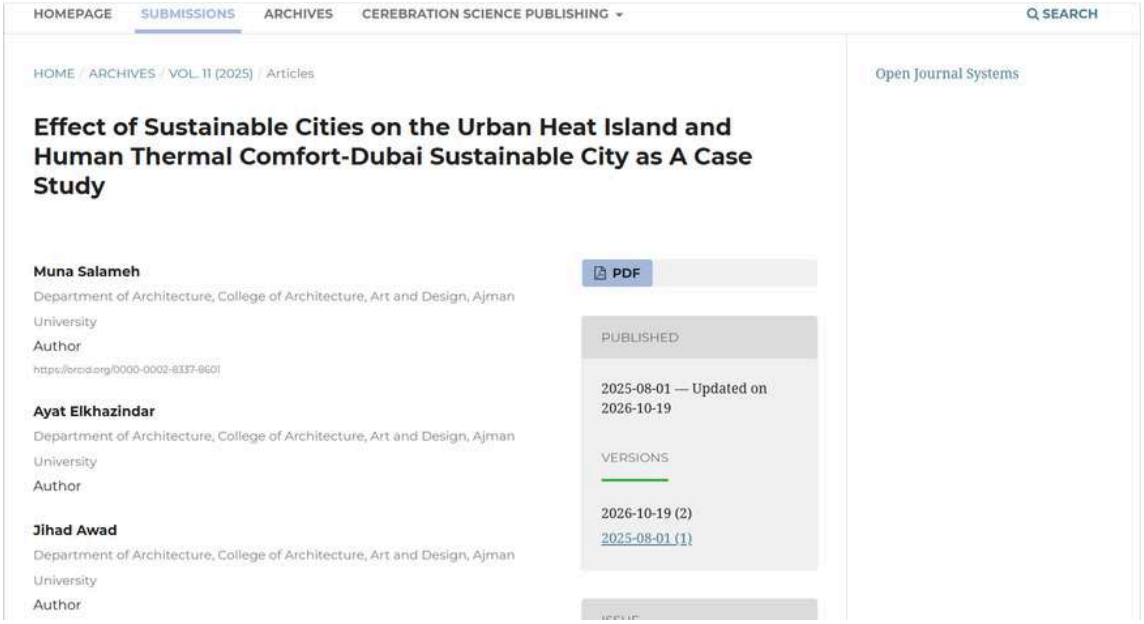
The model is based on a previously validated state-space framework and has been further developed to generate a transfer function matrix with two inputs (refrigerant and cold carrier flow rates) and two outputs (cooling capacity and outlet temperature). The simplified model offers an accurate yet computationally efficient representation of the system's dynamics. Simulations of the open-loop system were carried out using SIMULINK/MATLAB software. The results were plotted to validate the model's ability to predict system responses accurately. These simulations encompassed various conditions, including operational changes, fouling on the evaporator, and thermal load fluctuations.

Open-loop simulation results show that the system reaches steady-state values with a response time of approximately 40 seconds for the cold carrier temperature and 70 seconds for cooling capacity. Meanwhile, the system exhibits strong coupling between inputs and outputs, with disturbances such as inlet temperature variations causing oscillations in the cooling capacity.

The novelty of this work lies in reducing a complex validated chiller model into a practical two-input, two-output framework, which enables simplified analysis and serves as a robust foundation for advanced multivariable control design. This contribution addresses the critical need for efficient HVAC control strategies in sustainable building applications. This research presents a foundational mathematical model for developing advanced feedback control strategies that can enhance system stability, improve energy efficiency, and support sustainable HVAC operations while maintaining thermal comfort. These advancements are especially relevant for social housing, where energy-efficient HVAC systems are essential for achieving sustainable and resilient building practices in extreme climate conditions.

To access the full paper click here

Effect of Sustainable Cities on the Urban Heat Island and Human Thermal Comfort-Dubai Sustainable City as A Case Study



Due to the adverse effects that rising air temperatures have on urban dwellers' health and thermal comfort, the urban heat island phenomenon (UHI) is a global problem that worries architects. The high energy consumption of buildings, particularly in hot, arid areas, to maintain comfortable indoor temperature conditions for users, is one of the primary causes of UHI. Because of the rise in carbon dioxide levels, urban heat islands are becoming more common, especially in urban areas. Urban geometry is a key factor affecting the intensity of the UHI phenomena. As a result, the aim of this study is to evaluate and contrast the impact of sustainable cities and conventional urban forms on lowering outdoor air temperatures, reducing UHI effects, and improving human thermal comfort in the United Arab Emirates (UAE). Specifically, this research aims to assess how the urban form and layout of Dubai's Sustainable City compare with a conventional residential district in Ajman, focusing on their influence on microclimate and thermal comfort. The study uses a qualitative approach, employing ENVI-met urban microclimate simulation software to assess the UHI effects in both districts. The findings revealed that lower air temperatures were observed in the sustainable district, particularly between the hours of 10 a.m. and 6 p.m. On August 21, at 1 p.m., the sustainable district exhibited air temperatures 1.11 °C to 2.90 °C lower than those in the conventional district. The average air temperature at 1 p.m. was 40.52 °C, which was 2.02 °C cooler than in the conventional district. Additionally, the sustainable district showed lower levels of Predicted Mean Vote (PMV), indicating improved human thermal comfort. This discrepancy was attributed to the courtyards and semi-attached buildings in the sustainable district, which enhanced shading and reduced variables affecting sky views. This study aims to demonstrate the beneficial effects of passive design strategies associated with sustainable urban forms, such as compact layouts and courtyards, in lowering outdoor air temperatures and improving thermal comfort in hot, arid climates.

To access the full paper click here

Improving Thermal Comfort and Air Quality: PET and CO_2 Evaluation of School Courtyard's Orientation



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Improving Thermal Comfort and Air Quality: PET and CO_2 Evaluation of School Courtyard's Orientation

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This study aims to investigate the thermal conditions related to the variations in the school courtyard's orientation, focusing on mass temperature (Tm), outdoor air temperature, and Physiological Equivalent Temperature (PET). A qualitative methodology based on ENVI-met software was adopted. Simulations for the existing school building were performed in the four basic orientations on 21 March and 21 September to assess the thermal impact of the courtyard's orientations. Results showed that orientation produced slight but meaningful differences in Tm, with variations of 0.16°C in September and 0.20°C in March. Though modest, these differences become significant when scaled to the large mass of the school buildings, where even small reductions affect energy demand and comfort. For outdoor air temperature, the south orientation achieved reductions of 0.53–1.13°C in September and 1.1–1.9°C in March compared to ambient conditions. PET and wind maps supported these findings, with the south orientation allowing better airflow and better thermal comfort. Furthermore, analysis of CO_2 concentration confirmed that the south-facing courtyard provided the healthiest air quality. The study highlights that courtyard orientation should not be overlooked in large educational buildings, as even slight orientation-driven improvements become critical, reinforcing the importance of integrating orientation into holistic passive design strategies.

To access the full paper click here

Sustainable energy adoption in UAE homes (villas and apartments)



ORIGINAL RESEARCH article

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Sustainable energy adoption in UAE homes (villas and apartments)

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Global warming is a major 21st-century challenge, requiring a shift toward sustainable lifestyles especially in how homes are designed and powered. This study investigates the factors shaping household adoption of residential solar (renewable energy) in the UAE, where buildings (including housing) account for nearly 80% of total electricity consumption. Understanding what drives UAE residents to adopt renewable energy at home is essential for accelerating sustainable housing and supporting climate-change mitigation.

A quantitative, cross-sectional survey was conducted using a structured questionnaire targeting UAE households. Data were analyzed using factor analysis in SPSS. The initially calculated sample size was 73; of 90 respondents, 82 valid responses were included in the final analysis.

The findings show that economic benefits are the strongest motivator for adopting renewable energy in residential settings. The study provides a quantified ranking of adoption motivators: economic benefit (41.8%) as the primary factor, followed by government role (17%), and climate-risk awareness (6.4%). Overall, four extracted factors explain approximately 82.4% of the total variance.

The study's key contribution is the quantified ranking and relative weight of household adoption drivers in the UAE an evidence granularity that is not commonly reported in prior UAE research. These results provide actionable direction for policymakers and practitioners: strengthening financial attractiveness and enabling government mechanisms appears most influential, while awareness-related drivers play a smaller (but still relevant) role. The findings also indicate that additional determinants likely exist beyond the extracted factors, supporting further research to identify other barriers and enablers for wider deployment of renewable energy solutions across UAE housing types (villas and apartments).

To access the full paper click here

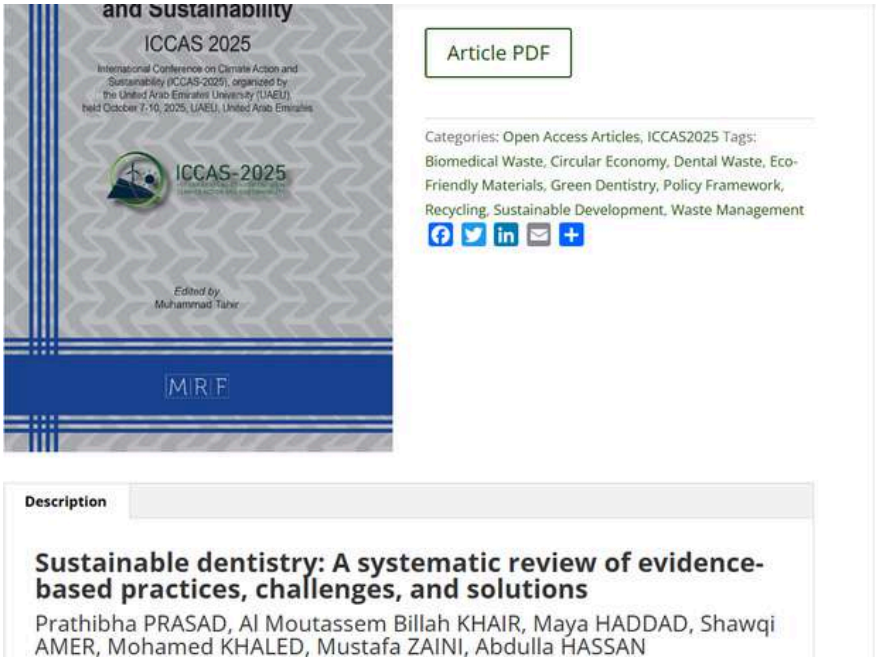
Assessing pharmacists' knowledge, attitudes, and practices on medicines waste reduction in the UAE



Pharmaceutical waste entering the ecosystem can harm both human health and the environment. This study highlights the global concerns about the improper disposal of unwanted medications and the use of out-of-date medicines. To address these health and environmental risks, the study evaluated pharmacists' knowledge, attitudes, and practices related to pharmaceutical waste. It also explored the potential role of pharmacies as local collection points for the safe disposal of unwanted medicines. A cross-sectional study was conducted using face-to-face interviews with 603 randomly selected pharmacists to identify factors influencing pharmacists' knowledge, attitudes, and practices. The findings revealed that levels of knowledge, attitudes, and practices among pharmacists were generally low. Only 32.8% had good knowledge, 17.7% demonstrated positive attitudes, and 32% exhibited good practices. Certain factors were linked to higher levels of knowledge, attitudes, and practices, including being male, having more years of experience, working in a chain pharmacy, holding the position of chief pharmacist, and receiving training on environmental impact and waste management. This study identified significant gaps in the knowledge and practices of community pharmacists in the United Arab Emirates regarding reducing pharmaceutical waste. Although awareness exists, nearly half of the pharmacists lacked adequate knowledge, and best practices were not consistently applied. Educational campaigns, comprehensive training, and policy interventions are necessary to address these shortcomings.

To access the full paper click here

Sustainable dentistry: A systematic review of evidence-based practices, challenges, and solutions



Abstract. Background: Sustainable dentistry addresses the environmental impact of oral healthcare by integrating eco-friendly practices into clinical care. Dental services contribute significantly to healthcare-related carbon emissions and waste, needing systematic approaches for sustainable practice. Objective: This systematic review synthesizes evidence-based strategies, identifies challenges, and proposes actionable solutions for implementing sustainable dentistry practices, focusing on general dental clinics and the broader dental industry. Methods: A comprehensive literature search was conducted across PubMed, Scopus, Web of Science, and Google Scholar for articles published between 2000 and 2025. Keywords included “sustainable dentistry,” “green dentistry,” “eco-friendly dental practices,” and “dental waste management.” Both qualitative and quantitative studies were included, focusing on clinical sustainability interventions, excluding non-clinical and non-English publications. Results: Key sustainable measures found include digital radiography to reduce hazardous chemicals, the use of non-toxic restorative materials, effective biomedical waste segregation, and energy-efficient clinic designs. Despite growing awareness, adoption is still limited due to barriers such as lack of practitioner education, unclear regulatory frameworks, cost constraints, and dependency on disposable products. Conclusions: Advancing sustainable dentistry requires integrating circular economy principles, policy support, interdisciplinary collaboration, and patient engagement. Adding sustainability components to dental education and clinical guidelines can enhance care quality, reduce environmental harm, and lower operational costs. Future research should prioritize real-world implementation studies, especially in low-resource settings, to develop practical, long-term, and context-specific solutions.

To access the full paper click here

A new multidisciplinary approach for groundwater resources sustainability in arid regions: case study from Fujairah Emirate



Population growth, and enhanced irrigation practices in arid regions have driven an increase in groundwater mining for agricultural purposes over the past seventy years. The World Economic Forum identified water-scarcity issues as the foremost global risk in 2023. Improper water resources management in arid areas can be attributed to several factors: inaccurate assessment of available water resources and their sources of replenishment, and the misconception that climate change uniformly exerts negative impacts across all times and regions, which is not accurate. Additionally, there is a lack of interdisciplinary approaches in evaluating and planning water resources in general, and agricultural water in particular. The challenge of water scarcity jeopardizes both water and food security in arid regions, primarily due to improper management rather than insufficient water availability. Most existing water security models primarily focus on large-scale variations, often at the national level. While such approaches provide a rapid assessment of water security challenges, their utility for local-scale water resources planning is highly limited. Addressing this shortcoming constitutes the central focus and primary innovation of the present study. The developed multidisciplinary framework was adopted to evaluate water availability and security, integrating a GIS-based Analytical Hierarchy Process (AHP), groundwater budget modeling, estimation of groundwater extraction rates, and assessment of replenishment ratios from multiple recharge sources. The resulting analyses were then applied to develop several sustainable management alternatives for groundwater resources in both surficial and deep aquifers of the Fujairah Emirate, United Arab Emirates, serving as a representative case study of arid-region conditions.

To access the full paper click here

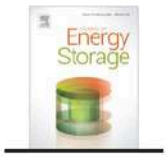
Retrofit Design for Climate Resilient Housing: Strategies for Architectural Adaptation to Climate Change



This study examines design flaws in single-family homes in the UAE, worsened by climate change-triggered rainfall and escalating maintenance requirements. The research focuses on three objectives: identifying existing weaknesses, analyzing building materials and construction methods, and proposing enhanced retrofit design standards. The methodology comprises both secondary data, gathered through literature reviews, and primary data obtained via site visits, participatory observation, and case studies. Examining multiple UAE regions, particularly six case studies in affected housing in Dubai, Sharjah, and Ajman, underscores widespread concerns in resilient housing, revealing deficiencies in drainage, waterproofing, and protective detailing. Notable problems include inadequate drainage slopes, subpar sealing around structural penetrations, and insufficient moisture barriers. These issues compromise structural integrity, inflate maintenance costs, and pose health hazards from mold and poor indoor air quality. By assessing current conditions, the study suggests various retrofit solutions, such as improved water-resistant coatings, slope modifications, drip edges, and overhangs. Findings emphasize rigorous detailing, robust materials, and periodic inspections to mitigate impacts from intensifying rainfall. Additionally, broader urban planning strategies, such as flood risk assessments and upgraded infrastructure, are crucial in minimizing future water intrusion. Collectively, these insights advocate novelty in research and set a blueprint for a fundamental shift in UAE housing design, prioritizing climate resilience, structural longevity, and occupant well-being in an era of rapidly changing environmental conditions.

To access the full paper click here

Energy management of a microgrid with integration of renewable energy sources considering energy storage systems with electricity price



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Energy management of a microgrid with integration of renewable energy sources considering energy storage systems with electricity price

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What do these dates mean?

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The growing concerns surrounding global warming, diminishing fossil fuel reserves, and the urgent need for clean energy solutions have made the electrification of transportation in microgrids (MGs) a crucial strategy for addressing these pressing challenges. Vehicle-to-grid (V2G) technology offers an efficient and cost-effective approach to integrating electric vehicles (EVs) into power grids. This research employs the unscented transform (UT) to account for uncertainties in EV charging and discharging demands, wind turbines, photovoltaic (PV) systems, load demands, and market price variations. The problem is formulated as a constrained single-objective optimization task, aimed at minimizing the total operational costs of microgrids while satisfying practical constraints. To achieve this, a novel and efficient optimization technique, the modified marine predators algorithm (MMPA), is utilized for optimizing microgrid operations. The feasibility and performance of the proposed method are validated on an IEEE test system, where simulations reveal that integrating EVs improves power dispatch among distributed generation sources, reducing both power losses and costs.

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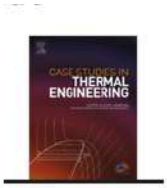
Economic- environmental optimization of heat pump-assisted distributed renewable energy systems for building applications



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Economic- environmental optimization of heat pump-assisted distributed renewable energy systems for building applications

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The growing emphasis on energy efficiency and carbon emission reduction has positioned integrated distributed energy systems (DES) as a pivotal solution for multi-building applications. This study develops and tests a comprehensive optimization model designed to evaluate the economic and environmental performance of DES. The model integrates critical components, including natural gas turbines, photovoltaic panels, heat pumps, and energy storage systems, to address electrical, thermal, and cooling energy demands. A Pareto Frontier Analysis is employed to balance the dual objectives of minimizing operational costs and reducing carbon emissions. The model is tested under various scenarios to assess the impact of carbon tax rates, natural gas prices, and energy demand profiles. Results demonstrate that DES can achieve significant cost reductions compared to grid dependency, with potential savings of $1913 for office buildings and $3144 for commercial buildings. Sensitivity analyses identify economic thresholds, such as carbon tax rates above $0.061/kg for office buildings and $0.052/kg for commercial buildings, and natural gas prices below $0.37/m³ and $0.40/m³, respectively, to ensure cost-effective operations. Testing further confirms that the integration of energy storage enhances DES performance by stabilizing costs during peak demand periods. By presenting a novel optimization framework, this research provides actionable insights into improving the sustainability and economic viability of distributed energy systems in the context of multi-building energy management.

To access the full paper click here

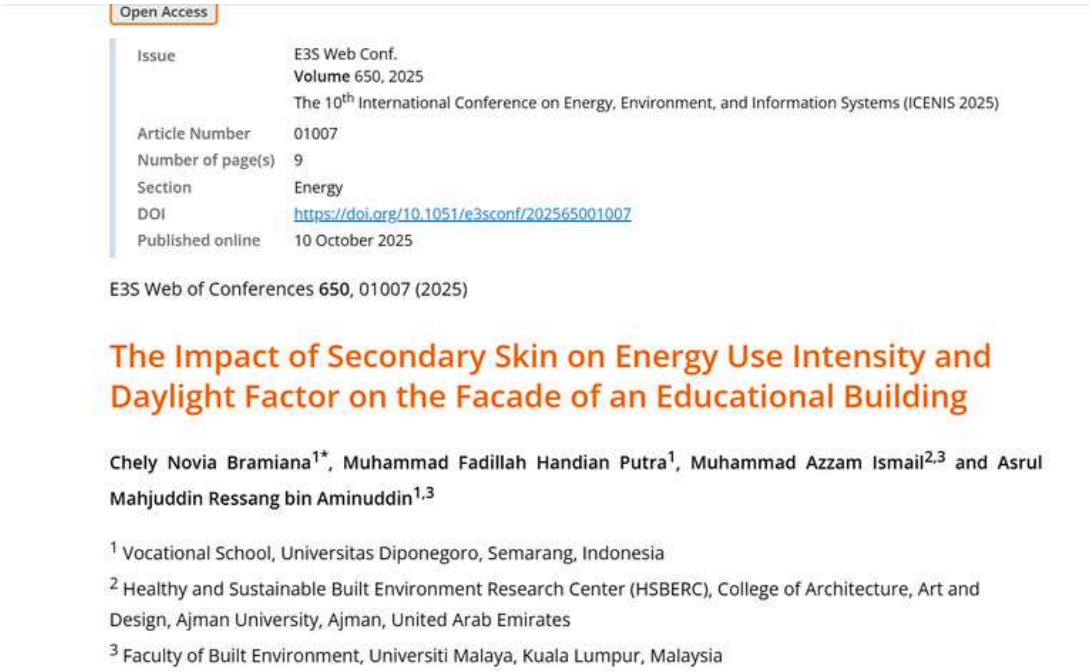
Assessment of eco-driving strategies on carbon emissions for hybrid vehicles through portable emissions measurement systems



Eco-driving is considered a cost-effective way to reduce fuel consumption and carbon emissions. However, eco-driving strategies for hybrid electric vehicles (HEVs) are understudied. Therefore, this study analyzed extensive road test data to assess HEV carbon reduction under different driving behaviors and to identify optimal eco-driving conditions. Firstly, the portable emissions measurement system (PEMS) was used to characterize the real-world emissions from two vehicles, one conventional vehicle (CV) and the other HEV. The results indicate that HEVs reduce average CO2 emissions by 24.5%–54.7% compared to CVs. Secondly, based on the measured data, the impact of driving behavior on emission was investigated. It demonstrated that driving behavior was closely linked to engine operating state in HEVs, which in turn significantly affects carbon emissions. Notably, the emission reduction advantage of HEVs diminishes when considering only the engine-on state. At cruising speeds below 10 m/s, HEVs emit approximately 68% more CO2 than CVs due to frequent start-stop cycles occurring. Finally, an eXtreme Gradient Boosting (XGBoost) model was proposed to predict engine operating status based on driving behavior and external traffic conditions. Combined with the Local Interpretable Model-Agnostic Explanation (LIME) algorithm, this model provides insights into the factors influencing engine state predictions, thus offering real-time eco-driving strategies for HEVs' drivers. These findings reveal the carbon emission characteristics of HEVs under microscopic driving behavior and enhance the carbon reduction potential of HEVs in combination with eco-driving.

To access the full paper click here

The Impact of Secondary Skin on Energy Use Intensity and Daylight Factor on the Facade of an Educational Building



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The Impact of Secondary Skin on Energy Use Intensity and Daylight Factor on the Facade of an Educational Building

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This study evaluates the impact of secondary skin design on the Energy Use Intensity (EUI) and Daylight Factor (DF) of the Psychology Building at Diponegoro University, Semarang. The research employs energy simulation and daylight analysis using Autodesk Revit, with performance benchmarks based on the Green Building Council Indonesia (GBCI) and the Indonesian National Standard (SNI 03–2396-2001). Results show that the existing secondary skin achieves an EUI of 229 kWh/m²/year and a DF of 1.9%. Without the secondary skin, the EUI increases to 236 kWh/m²/year and DF rises to 3.9%. Two alternative designs were proposed: a horizontal louver system, which achieved an EUI of 228 kWh/m²/year and DF of 3.0%, and an egg-crate design, which achieved an EUI of 229 kWh/m²/year and DF of 3.5%. The horizontal louver provided the best balance between energy savings and daylight quality. Beyond building performance, this research highlights the role of façade strategies in reducing operational energy demand, lowering carbon emissions, and supporting Indonesia's energy transition agenda. By optimizing daylight and energy use, secondary skin design contributes to environmental sustainability and aligns with global goals such as SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action).

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Does climate policy uncertainty affect a firm's lease versus buy decision? Evidence from the US



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Does climate policy uncertainty affect a firm's lease versus buy decision? Evidence from the US

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We examine whether US firms prefer to use operating leases to purchase assets when faced with elevated climate policy uncertainty (CPU). Using a sample of 83,666 firm-year observations from 2000 to 2017, we find that CPU exhibits a significant positive relationship with operating lease intensity. The findings are robust to alternative lease and CPU proxies and alternative model specifications. Additionally, we find that financially constrained and environmentally exposed firms are more likely to increase their operating lease intensity during periods of tighter CPU. Consistent with the hedging property of leasing described by Smith (1979), leasing allows firms to form an ideal hedge against asset ownership when exposed to heightened risks induced by CPU. The findings are also consistent with financial contracting motivation (Smith Jr & Wakeman, 1985), suggesting that firms faced with greater CPU depend on leasing to avoid the higher cost of debt financing.

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Covert Moral Enhancement: Are Dirty Hands Needed to Save the Planet?



Michael Walzer's article 'Political action: the problem of dirty hands' initiated a new wave of discussion over a persistent problem in moral philosophy: are there situations in which ethical rules must be relaxed so as to bring about a greater good? In this article, we consider whether this 'dirty hands' approach may be applied to our current climate crisis. One proposed solution to the problem of global warming is the administration of moral enhancements to the population. Assuming that the administration of moral enhancements is a necessary condition in the prevention of a climate crisis, Parker Crutchfield argues that this procedure ought to be covert. This implies lying to the public, and such dishonesty amounts to immoral behavior. We conclude that despite the severity of global warming, there is no justification for a dirty hands approach. Lying to the public in order to save the planet would probably create bigger problems, and it would ultimately be very counterproductive in trying to save the planet.

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Changing dynamics of renewable energy investments ecosystem: A scientometrics analysis



Renewable energy investments have undergone significant changes over the last two decades, largely influenced by the United Nations' sustainable development goals (SDGs), particularly those addressing climate change and the global demand for sustainable energy solutions. While significant progress has been made, persistent investment gaps and pronounced geographical disparities continue to pose challenges. The primary aim of this study is to assess the evolution and trajectory of research in the field of renewable energy investments, with a view to informing effective policy-making and strategic planning. The study employed a scientometric analysis covering the period from 2000 to 2024. An initial dataset of 20,141 documents was retrieved from the Scopus database. Using the PRISMA methodology, the dataset was refined and filtered down to 15,298 relevant publications. VOSviewer and Bibliometrix were then utilized for visualization and analytical mapping. These tools enabled a detailed examination of research patterns, thematic developments, and scholarly networks within the field. The analysis explores the dynamics of renewable energy investment research, offering a global perspective on strategies, policy instruments, and regulatory frameworks across different regions. In addition, the content analysis yields key insights into policy-relevant factors, investment evaluation techniques, the role of public-private partnerships (PPPs), and emerging economic and investment trends. This study makes a valuable contribution to the existing literature by serving as a reference point for understanding current trends and developments in renewable energy investment, while also offering insights into future research directions in the field.

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