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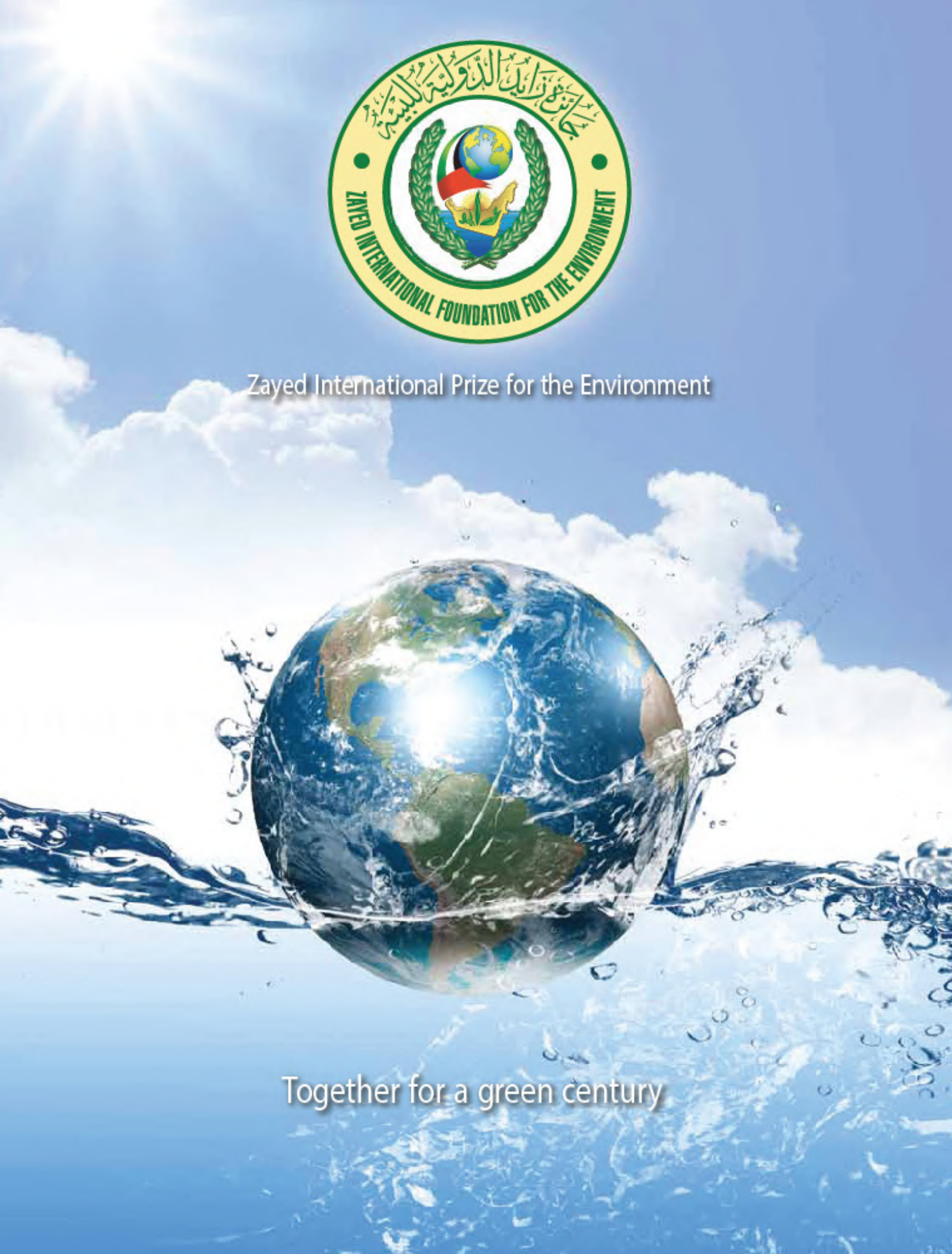
CREATING GREEN COMMUNITIES FOR A BETTER TOMORROW

The 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) forges a unified vision for Green AI deployment


جائزة زايد الدولية للبيئة
ZAYED INTERNATIONAL FOUNDATION FOR THE ENVIRONMENT
Zayed International Prize for the Environment
Together for a green century

Prof. Mohammed bin Fahad

Executive Editor

The success of the inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) marks a pivotal moment in the global discourse on sustainable development.

Over two days, a distinguished group of academics, environmental scientists, researchers, industry professionals, and policymakers converged in Dubai to chart a strategic course for the responsible development and deployment of Green AI. A significant outcome was the shared understanding that Green AI must be the guiding approach for all responsible technological development.

For the Zayed International Foundation for the Environment, hosting DICEGAI 2026 represented a natural expansion of our enduring commitment to environmental protection. It underscored that effective environmental leadership in the 21st century demands proactive engagement with emerging technologies, ensuring their application actively supports ecological balance. This conference has strengthened the Foundation's role in connecting critical environmental imperatives with future innovation.

The conference reiterated the necessity of cross-sectoral collaboration. Complex environmental challenges, from climate change mitigation to resource management, demand integrated solutions that transcend disciplinary and organizational boundaries. True progress requires seamless cooperation among government entities, industry leaders, academic institutions, and technology innovators.

The Foundation is committed to leveraging DICEGAI's momentum to play a catalytic role, strengthening alliances to foster sustained dialogue and cooperation, and moving from conceptual frameworks to tangible, scalable environmental solutions.

The rapid advancements in AI compel us to critically examine how technology interacts with both society and our natural world. Initiatives like DICEGAI 2026 are vital platforms for accelerating the transfer of knowledge and technological innovation into practical, impactful solutions. The ongoing work stemming from the conference will directly contribute to mitigating environmental impacts and strengthening climate adaptation strategies. Fostering such partnerships and encouraging leadership in harnessing emerging technologies is paramount to securing a sustainable future for the UAE and the global community.

Contents

14

Harnessing the power of Green AI for a sustainable planet: Dr. Anour F A Dafa-Alla

18

'Soil health is fundamental to achieving all 17 UN Sustainable Development Goals (SDGs) by 2030': Prof. Pon Selvan

22

A reliable framework for navigating AI's ethical frontier: Nader Torki

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The 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) forges a unified vision for Green AI deployment

The inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) successfully concluded at the Dubai Police Academy, with two days of intensive discussions reflecting the conference's focus on aligning advanced technologies with societal benefit, security, and responsible practices.

The event convened a diverse assembly of academics, environmental scientists, researchers, industry professionals, educators, and students to chart a course for the responsible development and deployment of green AI to address global environmental priorities, foster public trust, strengthen governance, and ensure long-term impact.

Over the two-day gathering, thought leaders highlighted and explored solutions to address the environmental implications of advanced technologies and the unparalleled potential of 'Green AI' as a catalyst for sustainable development.

Held under the patronage of His Excellency Major General Abdullah Khalifa Al Marri, Commander-in-Chief of Dubai Police, the opening remarks at the two-day conference were delivered by Professor Amar Kaka, Vice-Chancellor of Curtin University – Dubai; Dr. K. Anand, Managing Director of the Adishankara Institute of Engineering in India; and Professor Dr. Mohammed bin Fahad, Chairman of the Zayed International Foundation for the Environment. They emphasized the value of cross-sectoral collaboration in translating research, policies, and innovations into practical outcomes.

With the growing momentum around sustainability-driven AI, the sessions were attended by engineers and technologists, governance and policy stakeholders, reflecting the Conference's shared agenda that implementing Green AI requires reliable standards, realistic implementation pathways, and transparent decision-making across various organizations and industries. The presence of a large number of educators and students reflected their determination to shape the next phase of responsible innovation.

On the opening day, Dr. Anour F A Dafa-Alla, author

of 'Artificial Intelligence for a Green Planet' and an acclaimed AI and Data Privacy Researcher, emphasized the practical considerations that decision-makers must address to ensure that AI deployments remain accountable, robust, and aligned with desired outcomes.

Prof. Chithirai Pon Selvan, Director of Research and Head of School, Science and Engineering, Curtin University Dubai, addressed current global environmental issues and challenges, linking technological choices to broader pressures shaping global sustainability priorities. He emphasized that achieving tangible progress requires both scientific rigor and operational realism. The interplay of security, governance realities, and environmental context was emphasized throughout the conference, with speakers underlining that green AI must be safe, purposeful, and designed to deliver measurable benefits without creating new risks or unforeseen costs.

Following these opening proceedings, the program included honoring partners and sponsors in recognition of their ongoing collaboration in advancing applied research, mobilizing expertise, and supporting ambitious programs on a large scale. This recognition segment reflected the conference's focus on shared ownership, where progress depends not on a single group of stakeholders, but on coordinated contributions from institutions, experts, and supporters committed to responsible innovation. This collaborative tone continued throughout the sessions on both days, reinforcing a shared objective: accelerating green AI, but with clear governance, accountability, and tangible value.

Eminent speakers and experts led discussions on how to develop and responsibly deploy green AI to support environmental priorities while enhancing public trust, governance, and long-term impact


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DUBAI POLICE ACADEMY
DICEGAI 2026
Zayed International Foundation for the Environment
Curtin University
Dubai
1st Dubai International Conference & Exhibition on
Green AI (DICEGAI 2026)
Harnessing Technology to Achieve
Environmental Sustainability


DICEGAI 2026
Dubai
1st Dubai International Conference & Exhibition on
Green AI


Curtin University
Dubai


Lunch Break

A special exhibition, featuring student projects from various universities, demonstrated best practices in the use of AI in sustainable environmental applications

The sessions on AI ethics and governance, chaired by Dr. Hamdan Khalifa Al Shaer, Vice Chairman, Zayed International Foundation for the Environment, addressed a practical question facing many organizations: how to make ethical AI viable for leaders and operators, rather than just a theoretical aspiration. It emphasized governance as an enabling framework that clarifies accountability, enhances oversight, and ensures that environmental intentions are aligned with operational controls, transparency, and defensible decision-making throughout the AI lifecycle.

The sessions on the built environment, chaired by Dr. K. Anand, further emphasized the conference's focus on implementation and scale. This segment highlighted how green AI impacts design, engineering, operational efficiency, and the economic cycle, particularly given the potential for cumulative improvements across infrastructure and supply chains. Speakers explored how to engineer sustainability outcomes into algorithms and systems from the outset, and how to ensure that AI applications remain transparent, traceable, and aligned with broader environmental performance goals, rather than focusing on limited, short-term improvements.

The practical discussions on the second day of DICEGAI 2026 touched upon methodologies for making AI itself more resource-efficient through lightweight architectures and optimized algorithms. Speakers presented actionable blueprints for a circular economy and emphasized the expansive applications of 'Green AI', showcasing how intelligent systems can revolutionize sectors from healthcare optimization to smart cities and industrial processes.

“Green AI is a guiding approach for responsible technological development”: Dr. Hamdan Khalifa Al Shaer

The success of DICEGAI 2026 has reinforced the imperative for a “Green AI first approach” across sectors, according to **Dr. Hamdan Khalifa Al Shaer, Vice Chairman of the Zayed International Foundation for the Environment**. He asserted that the conference cemented a collective belief that integrating sustainability into Artificial Intelligence development from the outset is crucial for aligning environmental priorities with future technological innovation.

What do you consider to be among the most significant outcomes or unexpected breakthroughs of DICEGAI 2026? How has the hosting of this event expanded the Foundation's commitment to the critical areas of Green AI and sustainable development?

One of the most meaningful outcomes of DICEGAI 2026 was seeing environmental experts, technologists, practitioners, and scientists come together around a shared understanding that artificial intelligence should be developed with sustainability in mind from the start. We observed a growing recognition that 'Green AI' is not just an academic concept but is increasingly seen as a guiding approach for responsible technological development.

Hosting DICEGAI 2026 allowed the Zayed International Foundation for the Environment to extend its long-standing commitment to environmental protection into the digital and technological space. It also highlighted that environmental leadership today involves engaging with emerging technologies and ensuring they are used in ways that support ecological balance. In this sense, the conference strengthened the Foundation's role in connecting environmental priorities with future innovation.

How will the Zayed International Foundation for the Environment translate the insights and recommendations from DICEGAI 2026 into concrete actions, research initiatives, or pilot projects?

The Zayed International Foundation will play a catalytic role in supporting researchers and advancing innovative solutions by strengthening collaboration with universities, research institutes, and innovators. DICEGAI 2026 is not a one-time event, but marks the beginning of an ongoing process of dialogue and cooperation. Building on the discussions from the conference, the Foundation aims to help create opportunities for research partnerships that explore the role of artificial intelligence in addressing environmental challenges.

Another important focus will be encouraging knowledge exchange and supporting initiatives that bring together environmental scientists and

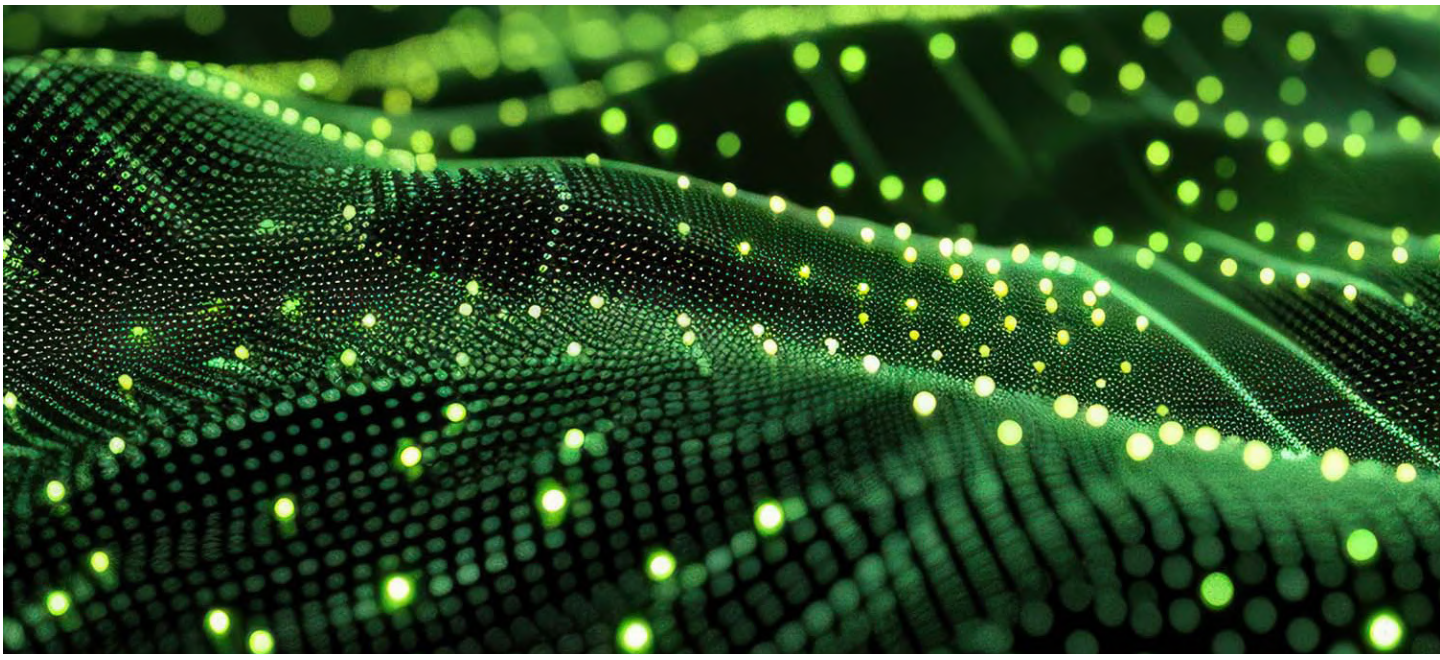
technology experts. By fostering collaboration across disciplines, the Foundation hopes to support the generation of new ideas and research directions related to Green AI and sustainable development.

What, according to you, are among the most promising Green AI applications unveiled at DICEGAI 2026 that could genuinely accelerate our progress towards a more sustainable future?

The applications related to the built environment, particularly in areas such as energy efficiency and smarter building management, stood out as some of the most promising directions discussed at the conference. In the UAE and the wider region, where buildings account for a significant share of energy consumption, AI has strong potential to improve how buildings operate by optimizing energy use, supporting intelligent HVAC systems, and advancing cooling technologies that can significantly reduce overall energy demand.

There was also considerable discussion around the role of AI in developing smarter and more sustainable cities. By using data and advanced analytics, AI can support urban planning, improve resource efficiency, and help cities manage infrastructure more efficiently. This is especially relevant as cities across the UAE and the region continue to grow and invest in urban development.

Another important area highlighted was smart monitoring systems within buildings, particularly for indoor air quality and building performance. These technologies can help create healthier indoor environments while also improving energy efficiency. Overall, these applications show how artificial intelligence can contribute to more sustainable infrastructure and help reduce environmental impacts across the UAE and the region.



One of the major features of DICEGAI 2026 was engaging students in exploring ways to address pressing environmental challenges through innovation and friendly competition. Students were encouraged to develop practical ideas on how AI can be applied to sustainability issues, fostering creativity and critical thinking among the next generation of researchers and practitioners. The competition also recognized

and honored the most promising projects, highlighting the potential of student-driven solutions to contribute to real-world environmental progress.

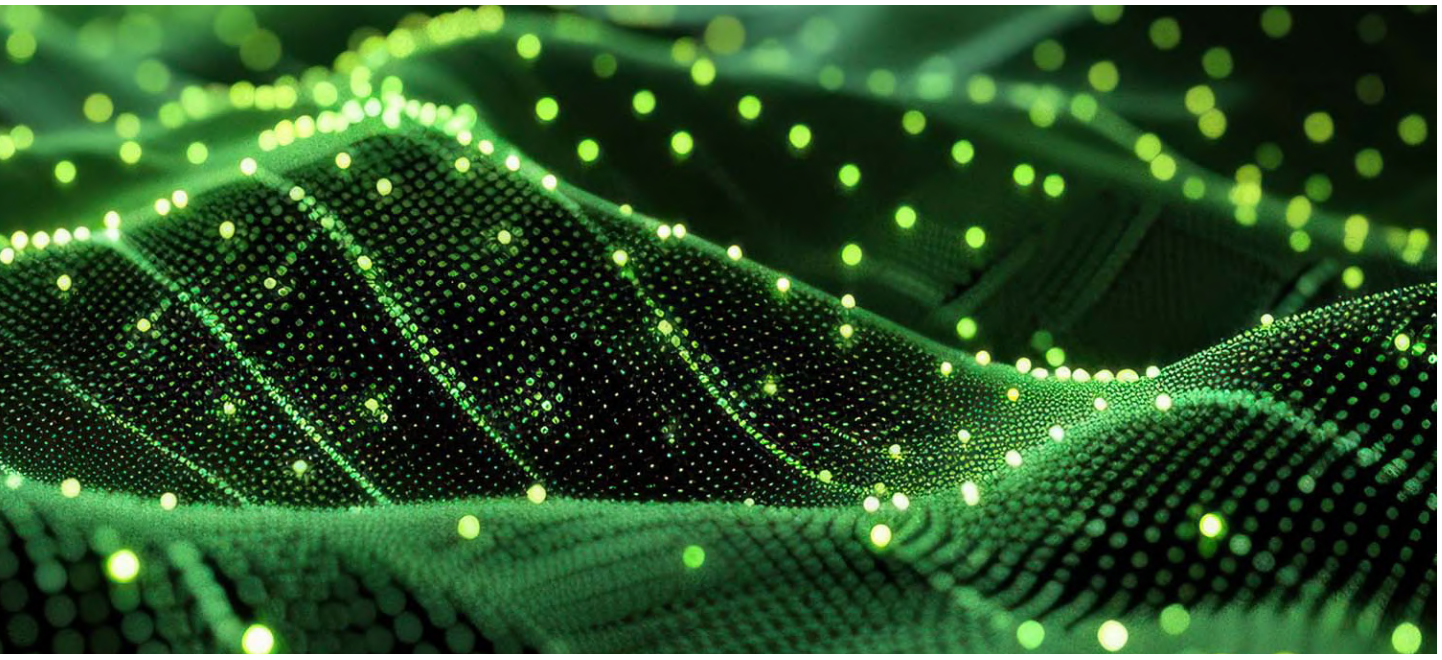
Building on the momentum of this successful first edition, what preliminary thoughts can you share regarding the next edition of DICEGAI?

Following the success of the first edition, one possible direction for the next DICEGAI conference is to explore the idea of a new social contract between humans, artificial intelligence, and nature. As AI continues to develop rapidly, it raises important questions about how technology should interact with both society and the natural environment. This concept could help guide discussions on how AI can be designed and used in ways that support environmental sustainability while also benefiting communities.

In line with this perspective, future discussions could bring together experts from environmental science, engineering, urban planning, health, and other fields to explore how AI can help address major challenges such as climate change, biodiversity loss, and environmental sustainability.

With 2030 fast approaching and given the critical climate tipping points, how do events like DICEGAI 2026 pave the way for addressing this pressing global countdown?

Looking ahead to 2030, we hope that initiatives like DICEGAI can help support progress toward sustainability goals. However, achieving these goals requires continued collaboration across disciplines and institutions.



Conferences such as DICEGAI play an important role in creating spaces where scientists, researchers, and practitioners can exchange ideas and explore new directions for innovation. They also help accelerate the transfer of knowledge and technologies into practical solutions that can mitigate environmental impacts and strengthen climate adaptation. Similar conferences and workshops that bring together experts from different fields will be essential to fostering partnerships and encouraging leadership in harnessing emerging technologies to support environmental sustainability.

‘Harnessing the power of Green AI for a sustainable planet’

Dr. Anour F A Dafa-Alla delivers a keynote address at the 1st Dubai International Conference & Exhibition on Green AI: Artificial Intelligence for a Green Planet (DICEGAI 2026), hosted by the Zayed International Foundation for the Environment in strategic partnership with the Dubai Police Academy and Curtin University Dubai

At the inaugural edition of the Dubai International Conference & Exhibition on Green AI (DICEGAI 2026), Dr. Anour F A Dafa-Alla, author of ‘Artificial Intelligence for a Green Planet’ and an acclaimed AI and Data Privacy Researcher, delivered a foundational keynote address exploring the complex relationship between technological progress and planetary health.

Dr. Dafa-Alla represents both the Sudanese ICT Professionals Association in Qatar (SIPAQ) and the Sudanese Researchers Foundation (SRF). A computer scientist and a UNODC senior certified cybercrime trainer, Dr. Dafa-Alla is also the author of the conference’s reference book, ‘Artificial Intelligence for a Green Planet: Harnessing Technology for Environmental Sustainability’, making his perspective vital for aligning algorithmic power with ecological preservation.

Dr. Dafa-Alla outlined how AI can serve as a powerful tool for environmental stewardship by bridging human technology with nature’s intelligence—such as using acoustic AI to monitor whale songs or coral reef health. In his opening address at the two-day conference, Dr. Dafa-Alla emphasized the role of AI in several high-impact use cases. These include:

Water Security: With 40% of the global population facing water scarcity, AI solutions are critical. In regions like Port Sudan and the GCC, integrating


Training a large model like GPT-3 once emits 552 metric tons of carbon emissions, equivalent to the lifetime emissions of five average cars

weather data and soil sensors reduces agricultural water usage by 50%.

Climate Modeling: The development of "Digital Twins" of the earth and "Physics-Informed Neural Networks" (PINNs) ensures precise, real-time local simulations. This provides policymakers with extreme event forecasting and strategic data for rapid decision-making.

Biodiversity Monitoring: AI acts as a guardian for the one billion species at risk of extinction. Dr. Dafa-Alla highlighted the "AI for Earth" project, which supports over 700 conservation projects across 100 countries, achieving 95% accuracy in automated deforestation detection.

Circular Economy: AI enables "Material Intelligence," a system used to track, analyze, and optimize the flow of materials from sourcing through to recycling.

Emissions Accountability: Moving beyond self-reported estimates, AI uses planetary sensors to monitor greenhouse gas emissions, making "Greenwashing" impossible.

The Hidden Life Cycle: The Environmental Cost of Intelligence

Dr. Dafa-Alla emphasized that intelligence carries a heavy price, visible through the 'Hidden Life Cycle of AI'. This includes:

Hardware Manufacturing: The cycle begins with the extraction of rare minerals, an energy-intensive process fraught with geopolitical tensions.

Model Training: Training a large model like GPT-3 once emits 552 metric tons of carbon emissions, equivalent to the lifetime emissions of five average cars. Notably, 40% of the total energy consumed in the AI lifecycle is spent solely on training.

The Inference Illusion: The greatest challenge lies in daily usage (inference). Two standard Google searches consume enough energy to boil a tea kettle; AI prompts multiply this cost exponentially.

The Cooling Dilemma: Data centers require massive amounts of fresh water for cooling, and

40% of total computing power is dedicated strictly to thermal management systems.

E-Waste: Discarded hardware often ends up in developing countries, leaking toxins into local ecosystems.

Transitioning to "Green AI": Strategies for the Future

In his keynote address, Dr. Dafa-Alla advocated for the adoption of "Green AI" through technical pathways, including:

Green Programming: Utilizing techniques like "Model Pruning" (removing redundant neural connections) and "Quantization" (lowering data precision) to reduce the energy cost of every prompt.

Renewable Power: Shifting infrastructure toward sustainable sources and utilizing data centers that employ liquid recycling for cooling.

In his book, the author further proposes the "Nine Principles for a Green Planet": Energy Management, Climate Modeling, Smart Cities, Biodiversity & Agriculture, Green Financing, Digital Awareness, Intersectional Challenges (Cybersecurity), Strategic Framework for the Arabic Region, and the Carbon Footprint of AI.

Dr. Dafa-Alla concluded his talk by reminding the audience of the ethical imperative of Green AI. He identified three pillars for responsible adoption:

Data Equity: Ensuring the inclusion of data from the Global South.

Algorithmic Transparency: Moving from "black box" systems toward explainable AI.

Inclusive Access: Ensuring environmental AI benefits are shared globally.

The DICEGAI 2026 conference grew from a webinar concept Dr. Dafa-Alla had initially presented to the Zayed International Foundation for the Environment on Earth Day in April 2025. He identified a critical gap: while global summits frequently discuss AI, few focus exclusively on the environmental necessity of 'Green AI'. His central thesis posits that while AI drives unprecedented efficiency, this innovation must be balanced against the massive resource consumption required to sustain it.

‘Soil health is fundamental to achieving all 17 UN Sustainable Development Goals (SDGs) by 2030’: Prof. Pon Selvan

Healthy, carbon-rich soils improve agricultural productivity (SDG 2), enhance water filtration (SDG 6), sequester carbon (SDG 13), and support ecosystems (SDG 15)

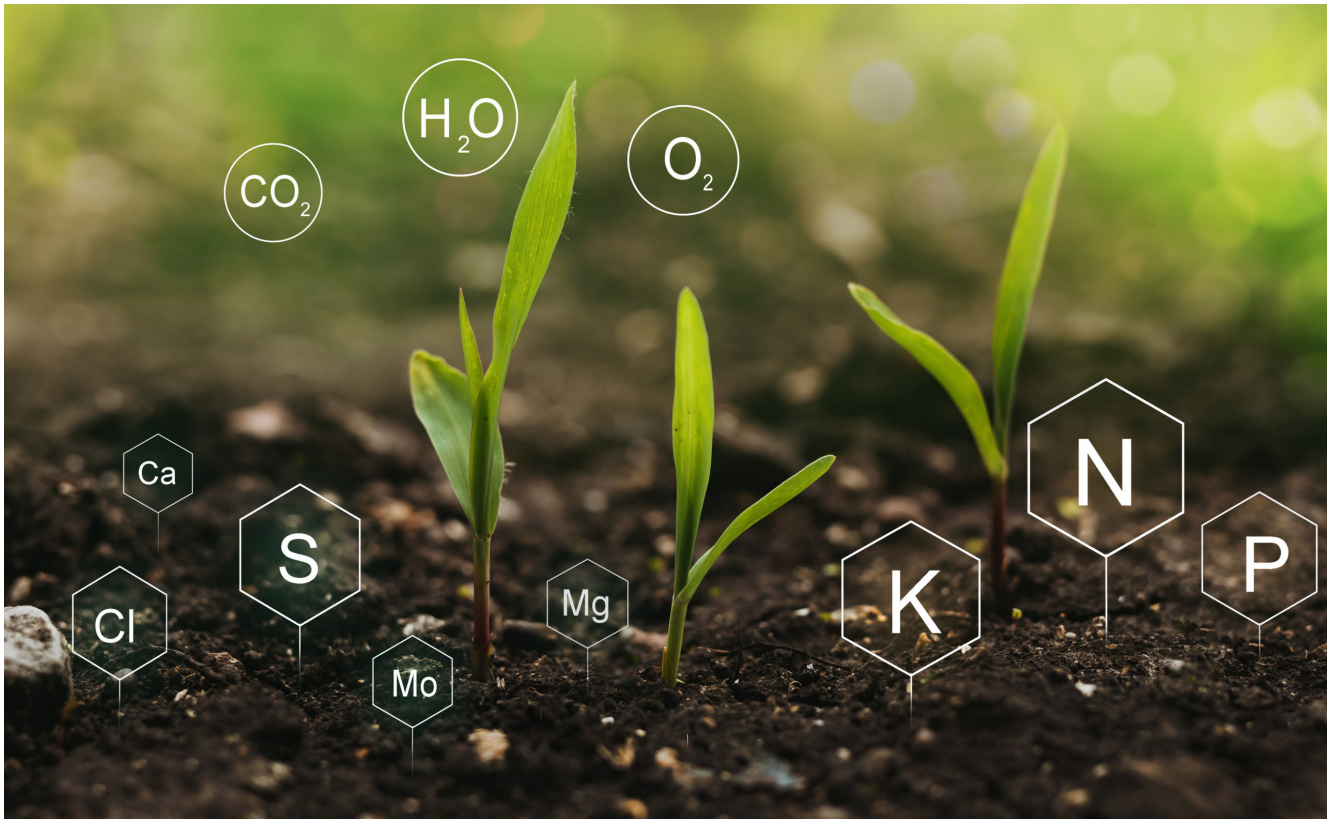
In his keynote address delivered at the 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), Prof. Chithirai Pon Selvan, Director of Research and Head of School, Science and Engineering, Curtin University Dubai, called for urgent action to improve the health of the world’s limited soil resources to ensure that future generations have enough supplies of food, water and energy.

The session titled “Current Global Environmental Issues & Challenges” offered a comprehensive overview of the planet’s unique environmental challenges and critical threats, emphasizing the interconnectedness of global ecological systems. The session also spotlighted the degradation of soil as both a central problem and a foundational solution to mapping a pathway toward a more sustainable future for all.

The urgency of environmental action

Prof. Selvan commenced his presentation with a sobering reminder that the world has less than five years remaining to achieve the United Nations Sustainable Development Goals (SDGs). With less than 50% of goals currently met, this timeline is a reminder of an escalating climate crisis, evidenced by a global mean temperature increase of approximately 1.5 degrees Celsius above pre-industrial levels (1850-1900).

Having witnessed the third warmest year in a row in 2025, Prof. Selvan underlined the immediate consequences of this trend, which has manifested



in widespread bushfires, forest fires, wildfires, and deadly heatwaves.

Beyond immediate disasters, the rise in temperature also contributes to biodiversity loss and severe droughts, which in turn impact water availability and food production. The United Nations Office for Disaster and Risk Reduction projects a 30% increase in droughts between 2001 and 2030.

Simultaneously, increased evaporation driven by higher temperatures leads to greater cloud formation and rainfall, resulting in more frequent and intense flood events, placing 1.8 billion people at risk, he pointed out.

Moreover, rising sea levels pose an existential threat to many coastal regions and island nations. With glaciers melting at an unprecedented rate, studies predict a 2.5-meter sea-level rise by the end of the century. Such an increase would submerge vast areas, including parts of Indonesia, and could entirely engulf nations like the Maldives by 2050, fundamentally altering the world map.

Non-degraded healthy soil is a direct necessity for 95% of the food production for more than 8 billion people

The Intergovernmental Panel on Climate Change (IPCC) reports suggest that children born today will spend their adult lives "between disasters," with both the frequency and intensity of these events projected to be exceptionally high. The UNDP forecasts 560 disasters annually by 2030, exceeding one per day, underscoring the severity confirmed by reports compiled by over 1,000 scientists from more than 180 nations.

Resources, Pollution, Consumption: An interwoven crisis

Prof. Pon Selvan cited human activities as primary drivers of these environmental challenges. He asserted that every individual contributes through the consumption of energy, water, and materials. Processes like water desalination are energy-

intensive and rely on fossil fuels, which contribute to climate change. The production of everyday household goods such as refrigerators and washing machines involves extensive mining, processing, manufacturing, and transportation, all requiring significant energy derived predominantly from fossil fuels.

This dependency on fossil fuels results in an alarming emission rate, as 1.3 million kgs of carbon dioxide enter the atmosphere every second globally. This CO2 persists for 50 to 200 years, forming a layer that traps heat. However, Prof. Selvan pointed out that the planet can absorb only another 280 billion tons of CO2 before the critical threshold of a 2-degree Celsius warming is reached, beyond which climate change becomes irreversible, a point we are rapidly approaching.

He also highlighted the escalating human population, which is projected to reach 9.8-9.9 billion by 2050 and 12 billion by 2075, from the current 8.4 billion. This would aggravate the strain on resources, leading to water scarcity, energy dependence, material depletion, and air and plastic pollution. Mankind's current unsustainable consumption patterns equate to 1.8 planets, a figure projected to rise to three planets by 2050 if current trends continue.

"Earth is the only planet we have. There is no planet B," he added.

Perhaps more dangerous than any visible calamity is soil degradation, which Prof. Pon Selvan termed as "the biggest disaster unfolding." Soil is fundamental to food production, but 75% of the world's soil is degraded, and is expected to reach 90% by 2050 if current practices continue. This

degradation directly fuels global hunger, leading to tragic consequences such as farmer suicides.

The decline in soil quality necessitates the mass application of chemical fertilizers and pesticides, which, while temporarily boosting yields, further degrade soil and diminish the nutritional value of food.

Prof. Selvan emphasized the vital role of soil microorganisms—8 to 10 billion in a handful of soil—which represent the largest living system on the planet. The top 30 to 40 inches of soil support almost all life, he said, and its degradation leads to 67% of biodiversity loss.

Focus on soil health

Soil health is the singular, most impactful solution to address a multitude of environmental crises, he added. Healthy soil functions as a significant carbon sink, is the "largest water soak on the planet," and supports local food production, reducing the need for energy-intensive transportation, plastic packaging, and chemical preservatives.

He asserted that by addressing soil degradation through "a focused and determined approach", humanity could effectively tackle all 17 SDGs. He advocated for one-third of all land to be under vegetation, such as natural grasses, cover crops, trees, and plants, to restore ecological balance.

Prof. Selvan concluded with a powerful call for collective action. "For the sake of our future generations, we must act very quickly. We cannot fix what we did yesterday, but together, we can make tomorrow better."

A reliable framework for navigating AI's ethical frontier: Nader Torki

At DICEGAI 2026, AI strategist Nader Torki presented a practical framework for ethical AI, detailing critical risks, core principles, and actionable steps for leaders to build trust and ensure transparent development

At the 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) held at Dubai Police Academy, Nader Torki, an AI & Innovation strategy consultant, provided a comprehensive and practical framework for understanding and implementing ethical Artificial Intelligence in organizations.

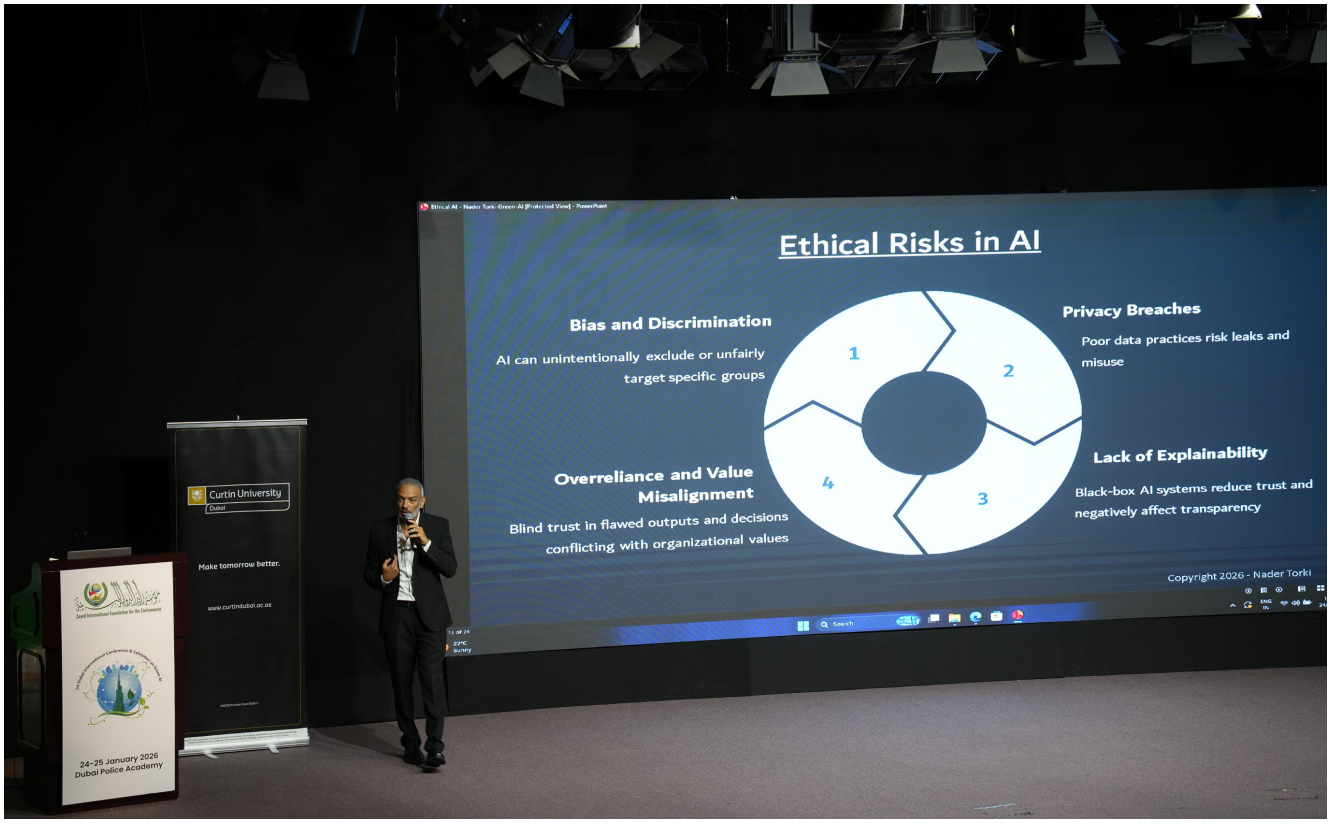
In a session titled 'Ethical AI for Decision Makers', the speaker, who helps companies build business use cases, AI initiatives, and successful Digital Transformation strategies, emphasized that the burgeoning field demands not just theoretical understanding, but immediate and concrete action to ensure responsible development and deployment.

Torki's session illuminated the profound challenges of AI's rapid advancement, particularly highlighting a critical lack of clear accountability within AI systems.

He stressed the necessity of building trust, mitigating risks, fostering innovation, and, above all, establishing transparent lines of responsibility in an era where AI's decisions increasingly impact human lives.

What is Ethical AI?

In his session, Torki presented the widely accepted but evolving definition of "ethical AI" as the development and use of AI in ways that align with the principles of fairness, transparency, accountability, privacy, sustainability, and respect for human values.



The speaker highlighted four compelling reasons why organizations must proactively integrate ethical AI into their operations. These include building trust to foster confidence among customers and regulators; reducing risks to minimize legal, financial, and reputational hazards; enabling innovation to support sustainable and responsible practices; and ensuring clear accountability of AI systems.

Torki elaborated extensively on accountability concerns by presenting a hypothetical scenario of an autonomous car operating under extreme conditions. If AI systems, in attempting to save the driver's life by swerving from an obstacle, instead hit a smaller car carrying three children, the question of responsibility becomes deeply complex, he said. The question is: Who is accountable for the accident? Is it the AI autopilot, the human driver who relinquished control, the car manufacturer, or the software company that developed the AI system?

Torki extended these concerns to broader societal impacts, citing the potential for AI-driven financial manipulation in stock markets, leading to billions in losses, or even wrongful judicial decisions influenced by AI-generated evidence. This critical lack of clarity demands immediate resolution, requiring stakeholders to define whether responsibility lies with the manufacturer, the end-user, the software provider, or other entities.

Addressing the urgent need for ethical AI, Nader Torki's session provided decision-makers with a comprehensive guide, emphasizing human oversight, robust governance, and continuous training for responsible adoption

Identifying and Mitigating Risks

Torki categorized the current risks associated with AI into four distinct areas:

Bias and Discrimination: AI systems can unintentionally exclude specific groups due to the biased data they are trained on.

Privacy Breaches: Poor data practices can lead to leaks and misuse of personal information.

Lack of Explainability: AI often operates as a "black box," where the architecture is understood, but the precise generation of replies or decisions remains opaque. This makes understanding the underlying algorithms and reasoning challenging.

From defining ethical AI to implementing human oversight, Nader Torki offered a roadmap for organizations to proactively integrate ethics into their AI strategies, fostering accountability and mitigating risks

Over-reliance and Value Misalignment: As AI systems become more prevalent, there's a risk of over-reliance, while AI's logic-based decision-making might conflict with nuanced human, organizational, or institutional values.

The Six Principles of Ethical AI

To address these risks and guide ethical AI development, Torki detailed six core principles, providing practical examples for each:

Fairness: Ensuring AI systems are equitable such as IBM Watson's OpenScale, which helps financial institutions identify and rectify biases in credit scoring models, thereby preventing unfair historical data from skewing current decisions.

Transparency: Clearly disclosing how AI systems function. Here, Torki cited DeepMind's AlphaFold, which earned the 2024 Nobel Prize for predicting 200 million protein structures in just two years, revolutionizing medicine and drug development by rapidly deciphering the "building blocks of life."

Explainability: The ability for AI to articulate its

decision-making process and underlying algorithms. DARPA's XAI (Explainable AI) program was highlighted for its work in developing healthcare AI tools that explain diagnostic results.

Privacy: Protecting personal data. Apple's implementation of differential privacy in iOS was discussed, where data (e.g., emoji usage) is collected with added "noise," ensuring user anonymity while still providing valuable aggregate insights.

Accountability: Establishing clear responsibility for AI's actions. Torki cited the proactive stance of Microsoft, Amazon, and IBM in collectively pausing the sale of facial recognition technology to law enforcement until appropriate regulations were in place, demonstrating a commitment to responsible use.

Sustainability: Leveraging AI for environmental benefit. For instance, DeepMind, through Google, developed an AI-driven energy efficiency program that reduced cooling requirements in their data centers by 40%.

Actionable Steps for Ethical AI Leadership

Integrating ethical AI begins at the top, Torki emphasised. Leaders must set the tone, assign clear accountability for AI systems, engage all stakeholders, and conduct regular reviews for continuous improvement. Crucial self-reflection questions include: Does this AI align with our values? How does it protect data? Is it explainable and bias-tested? Who's accountable for harm?

For organizations, a structured approach is vital. The strategy phase demands robust governance, including an ethics committee, value alignment, and strong data governance. Implement regular bias checks and model audits, especially in sensitive areas like hiring.

During execution, Torki stressed the importance of maintaining human oversight, ensuring "a human in the loop" for critical decisions. He also encouraged the audience to map small initiatives against ethical principles, asserting that small deliberate steps build trust and enable responsible AI adoption at scale.

Prof. Pon Selvan outlines a 3-point recommendation plan for Green AI-driven circularity and soil health

Prof. Chithirai Pon Selvan, Director of Research and Head of School, Science and Engineering, Curtin University Dubai, delivered an impactful set of recommendations at DICEGAI 2026. He outlined a strategic roadmap for advancing circularity through Green AI, focusing on operationalizing cutting-edge technologies and emphasizing the fundamental importance of soil health for long-term environmental sustainability.

Operationalize DPPs as Core Circular Infrastructure

Mandate Digital Product Passports across priority sectors (plastics, electronics, construction) and integrate them with AI systems to enable real-time lifecycle traceability, verified ESG reporting, and reliable end-of-life decision-making.

Deploy Green AI for High-Impact Recovery and Logistics

Use energy-efficient AI (computer vision, predictive models, route optimization) powered by DPP data to dramatically improve sorting accuracy, reduce contamination, cut transport emissions, and increase material recovery yields at scale.

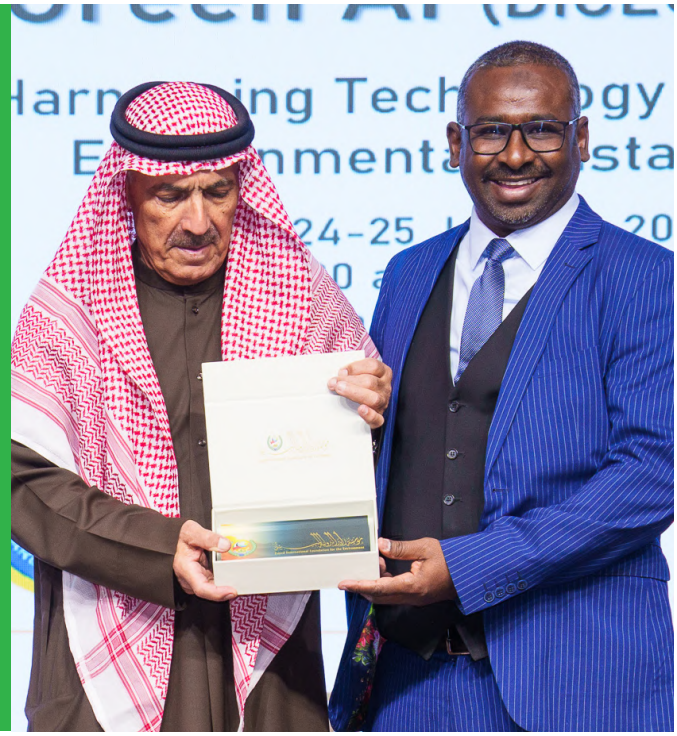
Build a Multi-Layer Visibility Ecosystem through Collaboration

Combine ground-level AI (DPPs, IoT, recycling systems) with satellite intelligence and logistics data through partnerships between municipalities, industry, startups, and space-tech, positioning Dubai as a global reference model for AI-driven circularity.

General recommendations

- Recognize soil as a critical natural asset and position soil health at the core of sustainability discourse, as healthy soil directly influences food security, water retention, carbon sequestration, and ecosystem resilience.
- Encourage the application of Green Artificial Intelligence in soil monitoring and management, including AI-driven assessment of soil moisture, nutrient balance, contamination levels, and erosion risks to enable data-informed environmental interventions.
- Promote integrated soil–water–climate strategies, acknowledging that effective soil management can mitigate climate impacts, reduce land degradation, and enhance natural carbon sinks.
- Foster cross-sector collaboration among academia, government, industry, and local communities to develop scalable, AI-enabled solutions for soil restoration and sustainable land use practices.
- Recommend future editions of the conference to include a dedicated thematic track on Soil, Land, and Green AI, reinforcing the idea that addressing soil degradation can unlock solutions to multiple interconnected environmental challenges.

Dr. Anour Dafa-Alla calls for mandating green cloud, nature-integrated AI, and biodegradable sensors



At DICEGAI 2026, Dr. Anour F A Dafa-Alla, author of 'Artificial Intelligence for a Green Planet' and an acclaimed AI and Data Privacy Researcher, unveiled three critical recommendations designed to embed sustainability deep within the AI lifecycle. He advocated systemic changes, including financially incentivizing green cloud computing, designing AI that dynamically responds to ecological health, and prioritizing biodegradable hardware to mitigate e-waste.

1. Mandate "Sustainability-Indexed Costs" in cloud computing for AI development

I propose the implementation of a Sustainability-Indexed Costs model, where cloud providers adjust pricing based on the carbon intensity of the energy sources utilized. This creates a direct economic incentive for developers and researchers to schedule intensive compute tasks during periods of peak solar or wind generation, effectively reducing the carbon footprint of AI model training and deployment.

2. Incorporate "Nature-in-the-Loop" as a design standard for environmental AI

We must establish a governance framework that requires environmental AI projects to integrate ecological feedback—Nature-in-the-Loop—into their optimization processes.

This ensures that AI systems do not manage the environment solely based on human-defined metrics but actively adapt to the real-time health and resilience of the monitored ecosystem (e.g., smart irrigation systems that prioritize long-term soil health alongside crop yield).

3. Prioritize transient, biodegradable sensors to mitigate E-waste

Recognizing that e-waste is a critical challenge in the hardware manufacturing and disposal phases of the AI lifecycle (Phase 4), I recommend significant investment and R&D subsidies for "transient electronics".

Developing biodegradable sensors for environmental monitoring networks will address the "End-of-the-Line" e-waste crisis, ensuring that the very tools we use to protect nature do not eventually become toxic pollutants.

Note: The above recommendations are grounded in the book, ***AI for a Green Planet: Harnessing Technology for Environmental Sustainability***

Farah Alkhateeb champions AI as a catalyst for elevated systems, cross-sector innovation, and intentional resource optimization

Farah Alkhateeb, Founder and CEO of eGreenBadge, presented a forward-thinking set of recommendations, advocating for Artificial Intelligence not merely as a problem-solver but as a powerful enabler to evolve existing systems. She urged an open mindset towards AI to unlock cross-sectoral innovation and stressed the importance of intentionally and responsibly using AI to optimize resources, reduce waste, and uncover new forms of value across communities and businesses.

1. Use AI as an enabler to elevate existing systems, not only as a problem-solver.

AI can help us evolve what already works, making systems more accurate, more adaptive, and more intelligent.

It is not about replacing human effort but augmenting it so we can create better outcomes with less friction.

2. Encourage an open mindset toward AI so innovation can emerge across sectors.

AI is a catalyst for imagination.

When teams allow themselves to explore new ideas, new models, and new ways of thinking, AI becomes a partner in discovery, not just efficiency.

3. Use AI intentionally and responsibly to optimize resources, reduce waste, and unlock new forms of value.

AI can help governments, communities, and businesses make smarter decisions, improve performance, and reduce environmental impact.

The focus should be on intentional use, not restricted use.

DICEGAI 2026 outlines the blueprint for a circular economy with AI and Digital Product Passports

At DICEGAI 2026, Gowri Shankar unveiled a powerful vision for a circular economy, demonstrating how Artificial Intelligence and Digital Product Passports can meticulously trace, sort, and recycle materials, turning the tide on global plastic pollution and unlocking new pathways for sustainable resource management

As global waste volumes grow and supply chains become more complex, the inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) explored how Green AI can be applied to trace, sort, and recycle materials at scale by integrating artificial intelligence, logistics data, and satellite intelligence.

Gowri Shankar, a leading academician, engineer, AI consultant, and sustainability-focused entrepreneur, presented a powerful vision for leveraging Artificial Intelligence and Digital Product Passports (DPPs) that offer a scalable, data-driven pathway toward a circular economy. The speaker underscored the urgent global crisis of plastic pollution, highlighting that every day, the equivalent of 2,000 garbage trucks full of plastic are dumped into the world's oceans, rivers, and lakes, and every year, 19-23 million tonnes of plastic waste leak into aquatic ecosystems.

Gowri Shankar is the Founder of SpaceNXT Labs, which leverages satellite imagery and geospatial AI for environmental intelligence and sustainability applications, and the Co-Founder of RecycleNXT, a circular-economy venture that transforms plastic waste into durable consumer products. He has also founded DAIC – a leading AI community in Dubai.

Speaking at the conference, he revealed that plastic is projected to account for 15% of greenhouse gas emissions by 2050, presenting an environmental challenge that demands immediate, scalable solutions.

"We face an overwhelming challenge, particularly with plastics, where current systems fall short," stated Gowri Shankar. "Even after sorting, 53% of plastics still end up in landfills or energy recovery. This isn't just inefficient; it's unsustainable. Our goal is to transform what we call 'waste' into traceable, valuable resources."

He introduced Digital Product Passports as a cutting-edge concept that could lead the plastics industry towards a circular economy, particularly with impending EU regulations like the Eco-Design Sustainable Product Regulation (ESPR). DPPs are product-specific digital records, accessible via QR codes, RFID, or NFCs, that track a product's entire lifecycle: from material composition and origin to manufacturing, usage, repairability, and end-of-life pathways.

"Imagine a future where every product tells its story," Shankar elaborated. "A DPP ensures transparency, providing crucial data on a product's climate impact, water usage, and emission reduction. This eliminates the guesswork in recycling and empowers manufacturers, recyclers, regulators, and consumers with actionable intelligence."

AI-driven Digital Product Passports (DPPs) empower manufacturers, recyclers, and consumers with unprecedented transparency, ensuring every product's journey contributes to a greener, more efficient recycling ecosystem

AI: The engine for a circular future

Shankar detailed how Artificial Intelligence supercharges the effectiveness of DPPs. By integrating AI, the process of sorting and identifying materials becomes profoundly more accurate than current computer vision systems

alone. AI-powered DPPs support responsible recovery and recycling decisions. At the operational level, AI-driven computer vision and sensor fusion systems automatically identify, classify, and sort waste streams with high accuracy, improving material purity and recycling yields. Machine learning models further optimize recycling workflows by predicting contamination, degradation, and recovery potential.

Gowri Shankar unveiled how AI-powered Digital Product Passports, complemented by ventures like RecycleNXT and SpaceNXT Labs, offer verifiable solutions for end-to-end traceability, boosting material recovery, and reducing operational costs by 25-30%

The key advantages are:

- **Enhanced Material Recovery:** Guiding sorting processes based on precise compositional data, boosting recycling rates.
- **Reduced Operational Costs:** AI optimization can cut collection costs by 25-30%.
- **Waste Prevention:** Identifying and diverting non-recyclable items early, preventing inefficient processing.
- **Lifecycle Traceability:** Using blockchain and AI to provide an immutable record of a product's journey.

Drawing from his own venture, Recycle NXT, Shankar demonstrated real-world applications. The RecycleNXT app, developed jointly with engineers from the University of Bristol, demonstrates how AI can address upstream environmental impacts by tracking pollution during logistics operations.

The app tracks recycled plastic through its transformation into new products such as laptop bags and handbags and gives real-time feed on emissions throughout the entire logistics lifecycle. This system incentivizes consumers for returning products, ensuring a continuous, traceable loop.

Furthermore, Recycle NXT employs AI to monitor logistics emissions, ensuring that even the recycling process itself adheres to sustainability metrics.

SpaceNXT Labs, on the other hand, leverages satellite imagery and geospatial AI to analyse pollution patterns and large-scale waste disposal. This case study demonstrates how Green AI can provide end-to-end visibility from production to disposal, supporting sustainable resource management, regulatory compliance, and circular economy outcomes.

UAE: A Global Hub for Sustainable Innovation

Shankar emphasized the UAE's unique position to lead this sustainable revolution. "Dubai is not just a logistics hub; it's a vibrant innovation ecosystem," he noted. "There's immense potential here for developing sustainable technologies in plastics, electronics, construction waste, and low-carbon logistics.

"By embracing DPPs and AI, the region can transition from being an importer of global AI technology to a benchmark setter in responsible, 'energy-aware' artificial intelligence."

He also highlighted the powerful role of satellite imagery, demonstrating how AI can verify claims of ethical waste management by cross-referencing industry assertions with real-world satellite data on waste truck routes, ensuring accountability.

Shankar concluded with a poignant reflection: "Nothing is truly waste; everything is a spent resource waiting to be transformed. True growth acknowledges and respects the journey of every material. By embedding climate accountability into our digital future through AI and DPPs, we pave the way for genuine, sustainable progress."

A dual framework for achieving sustainable AI in the GCC

At the inaugural DICEGAI 2026, Dr. Mazin Gadir laid out a transformative vision for Artificial Intelligence in the GCC, by presenting a dual framework that aims to decouple digital growth from emissions and unlock massive economic potential for the region

The 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), held at Dubai Police Academy, witnessed a thought-provoking address that focused on the critical intersection of advanced computing and environmental sustainability in Artificial Intelligence. Led by Dr. Mazin Gadir, Director, Healthcare Life Sciences, Alvarez and Marsal, UAE, the session offered a deep dive into how advanced computing, particularly quantum technologies, can be harnessed to usher in an era of truly green Artificial Intelligence, securing a sustainable digital future for the GCC and beyond.

Titled 'Green Algorithm and Sustainable AI Design', the presentation explored the dual concept of "Green in AI" and "Green by AI", evaluating how sustainable design, specifically through lightweight architectures, model pruning, and quantization, can reduce the carbon footprint of the region's digital transformation.

Dr. Mazin Gadir began by highlighting the escalating energy consumption of modern AI, driven by large-scale models and expanding data centers, which place a significant toll on global energy and water resources, and underscored the urgency of adopting sustainable practices. He emphasized that the current "huge rush for data centers" is driving an unsustainable consumption of energy and water, and that the environmental cost of its massive computational requirements poses a significant challenge. This unchecked expansion of large-scale models and data processing capabilities, while fueling

unprecedented innovation, inadvertently accelerates environmental degradation. Training large-scale models and maintaining hyper-scale data centers consume vast amounts of energy and water, potentially conflicting with regional sustainability mandates such as Saudi Vision 2030 and the UAE's Net Zero by 2050 strategy, he added.

While AI presents an immense economic growth potential for the GCC, projected to reach USD 350 billion by 2030, Dr. Gadir critically highlighted a disconnect between ambition and action in green investments. He pointed out that while green projects could unlock a staggering USD 2 trillion for the wider Middle East in the next decade, foreign direct investment in such initiatives within GCC countries currently stands at a mere USD 26 billion, representing just a fraction of its true potential. He stressed the leadership role that the UAE and Saudi Arabia are poised to play in inviting more green projects and steering the region towards a more sustainable future.

To address the dilemma of advancing AI without compromising environmental needs, he presented

As Artificial Intelligence (AI) becomes a cornerstone of economic diversification in the GCC countries, the environmental cost of its massive computational requirements poses a significant challenge

a dual framework for achieving sustainable AI:

Green in AI: This approach focuses on making the process of AI development itself more resource-efficient through several actionable strategies such as lightweight architectures that require less computational power and energy; model pruning to reduce redundant connections within AI models without sacrificing performance; and quantization to create more energy-efficient AI systems He cited examples like DeepSeek's achievement of high accuracy with minimal computing power,

demonstrating that efficiency doesn't have to compromise performance.

Green by AI: This involves leveraging AI solutions and tools to address climate change and drive sustainability across various sectors. He revealed that healthcare, for instance, contributes 6% to the worldwide carbon footprint, with operating rooms being a major factor. AI tools, he suggested, could significantly reduce this impact by optimizing hospital operations and broader climate tech initiatives. Beyond healthcare, AI can also revolutionize sectors like energy management, smart cities, and agriculture, driving resource efficiency and climate resilience.

The GCC is uniquely positioned to transition from a consumer of global AI technology to a leader in sustainable innovation, he said. By embedding climate accountability into national AI stacks, member states can decouple digital growth from emissions, transforming the region into a global hub for responsible, "energy-aware" artificial intelligence. He laid out a broad transformation path for the region: from importing global AI technologies and adapting them to local capabilities, through a critical transition period (2026-2033) focused on building sustainable AI capabilities, to ultimately becoming a global leader and benchmark in sustainable AI.

Dr. Gadir further outlined key actions for policymakers and organizations, including mandating energy reporting for AI initiatives, asserting that "what cannot be measured cannot be improved". He also pointed out the urgency of incentivizing green design, developing and adopting regional standards based on global benchmarks, and significantly investing in clean infrastructure. He reiterated that without embedding climate accountability, regulations, and measurable policies, AI initiatives cannot truly be sustained.

The 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) was hosted by the Zayed International Foundation for the Environment in partnership with the Dubai Police Academy and Curtin University Dubai.

AI's role in engineering a climate-resilient future

With the climate crisis escalating rapidly, Artificial Intelligence emerges as a powerful tool and an indispensable accelerator in our urgent quest to build a resilient, net-zero future

The escalating climate crisis demands not only mitigation strategies but also robust adaptation and resilience measures. The Intergovernmental Panel on Climate Change (IPCC) has warned of escalating risks, underscoring that human-induced climate change is widespread, rapid, and intensifying. As global temperatures rise, extreme weather events become more frequent and intense, threatening ecosystems, economies, and human lives.

The World Meteorological Organization has shown that the past three years, 2023-2025, were the warmest years on record. UNEP's 2025 Emissions Gap Report, released in November 2025, shows that even if countries fully implement their Nationally Determined Contributions (NDCs), global temperatures could still rise by 2.3 to 2.5°C this century.

Based on the evidence in the most recent IPCC reports, it is now almost inevitable that 1.5°C of global warming will be exceeded in the near term. This is due to insufficient climate action and the consequent continued increase in greenhouse gas emissions.

Against this backdrop, Artificial Intelligence (AI) is seen as a powerful ally in offering unprecedented capabilities to understand, predict, and respond to climate impacts. From sophisticated climate modeling to optimizing resource management and safeguarding biodiversity, AI's potential to build a more resilient world is rapidly becoming indispensable.

New research by the Grantham Research Institute

"The global climate crisis demands not just our attention, but our most advanced solutions. At the Zayed International Foundation for the Environment, we recognise that Artificial Intelligence is an indispensable ally in our efforts in accelerating decarbonization, protecting vulnerable ecosystems, and engineering a truly resilient future for our planet. Leveraging AI responsibly and strategically is no longer an option; it is a global imperative to safeguard our shared environmental heritage."

— Prof. Dr. Mohamed Bin Fahad, Chairman, Zayed International Foundation for the Environment

on Climate Change and the Environment and Systemiq, published in the Nature journal '*npj Climate Action*', has revealed that AI can play a powerful role in supporting climate action while boosting sustainable and inclusive economic growth. The authors of the report argue that the world faces an unprecedented opportunity to leverage AI as a catalyst for the net-zero transition. They estimate the potential for

From predicting extreme weather to optimizing entire energy grids, AI offers unprecedented capabilities to confront our ecological crisis, transforming environmental challenges into pathways for sustainable growth and emission reduction

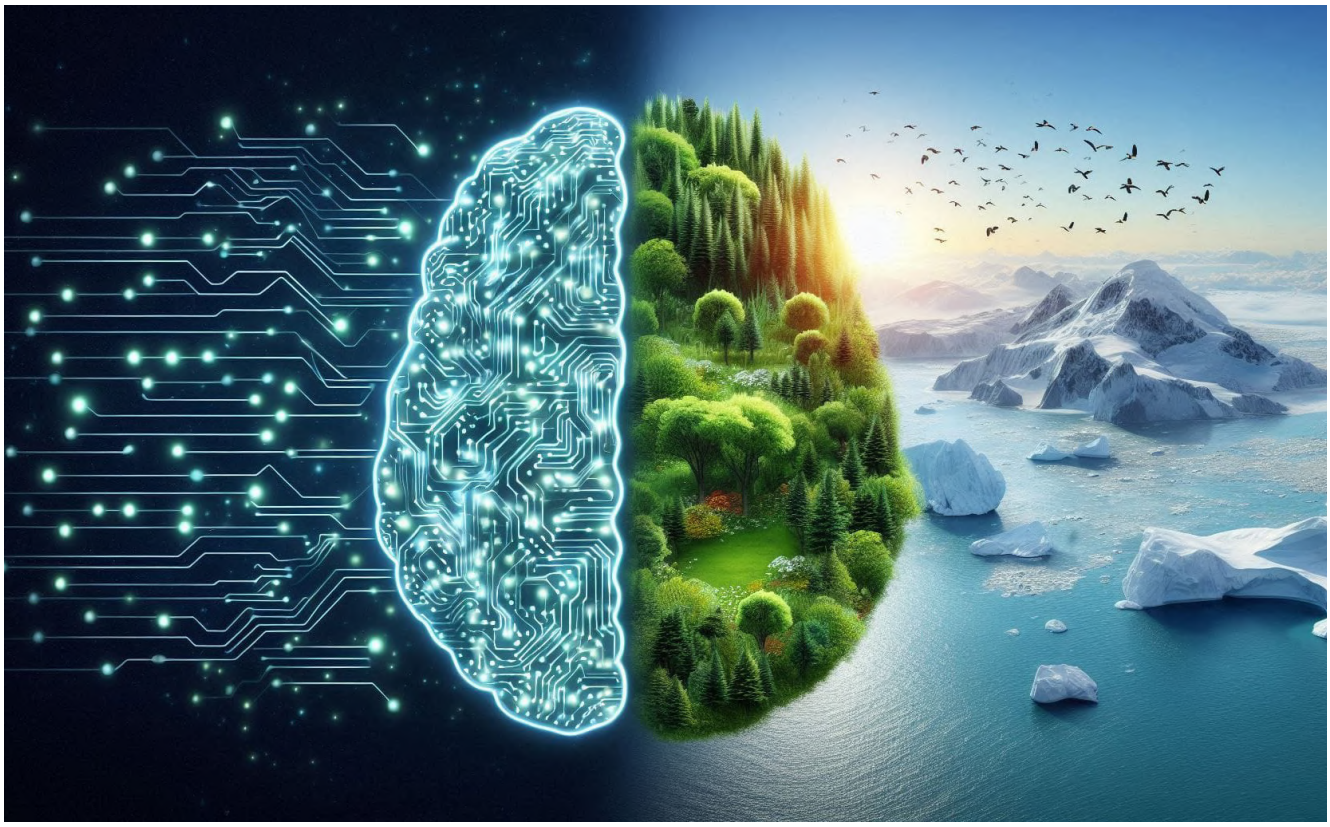
greenhouse gas emission reductions through AI applications in three key sectors – power, food and mobility – which collectively contribute nearly half of global emissions.

The authors argue that advancements in AI in these three sectors could reduce global emissions of greenhouse gases by 3.2 to 5.4 billion tonnes of carbon-dioxide-equivalent annually by 2035. And if AI is effectively applied in key impact areas, the estimated emissions reductions "would outweigh increases from global power consumption of data

centres and AI."

The authors have identified five impact areas through which AI can help build an effective response to climate threats:

- **Transforming complex systems:** AI reimagines interconnected systems like power, transport, cities, and land use. In power systems, it improves grid stability and productivity by forecasting supply and demand and integrating renewables and storage efficiently.
- **Innovating technology discovery and resource efficiency:** Meeting net-zero goals requires not just scaling current solutions but also creating new technologies. The International Energy Agency (IEA) estimates nearly half of emissions reductions by 2050 will come from technologies not yet fully developed.
- **Nudging and behavioural change:** AI empowers consumers to make climate-friendly choices through tailored interventions. For example, Google Maps' eco-friendly routing uses AI to suggest routes with fewer hills, less traffic, and constant speeds, helping prevent over 1 million tonnes of CO2 annually in its rollout phase in select cities in Europe and the US.
- **Modelling climate systems and policy interventions:** AI enhances the precision of climate impact predictions and policy evaluations. Tools like IceNet and Google's FloodHub process vast datasets in real time, providing early warnings for floods and sea ice changes. This enables governments and communities to take proactive measures to mitigate damage, saving lives and significant costs.
- **Managing resilience and adaptation:** AI strengthens resilience to climate impacts by improving long-term adaptation strategies. For example, AI-powered drought forecasting, combined with canopy water content assessments, helps identify vulnerable regions. Such insights enable governments and communities to invest and manage the



mitigation of risks more effectively, fostering stability and security.

These five areas illustrate how AI provides not just incremental gains, but fundamental shifts in the approach to supporting climate action. The authors also point out that AI can be used to better predict investment risks and returns, and improve financial decisions where information is scarce. This is especially helpful in emerging markets where perceived risk is high, often due to limited information.

While AI presents a unique opportunity to manage the climate crisis and accelerate the transition, seizing this opportunity requires urgent, coordinated action from governments, businesses, and civil society working together and with markets. Such concerted action will drive innovation, growth, and resilience as AI's ability to enhance, optimize, and reinvent systems, can help align the global economy with net-zero goals.

Leveraging AI to transform waste into value for smart cities and citizens

From making recycling engaging for individuals to providing real-time waste movement insights for cities and businesses, Farah Alkhateeb's eGreenBadge demonstrates how intelligent digital systems can close critical loops and accelerate the transition to a scalable, transparent circular economy

How can individuals, businesses, and cities transform waste into value? And how can sustainability be made engaging, rewarding, and accessible to communities and organizations? These issues were at the heart of discussions at the inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), as Farah Alkhateeb, Founder and CEO of UAE-based green tech startup eGreenBadge, unveiled a pioneering solution designed to close the circularity loop by leveraging Artificial Intelligence (AI) and transform waste management into a data-driven, rewarding ecosystem.

Her address, "Closing the Loop: Leveraging AI for a Circular Economy", highlighted that the biggest challenge in achieving true circularity is not infrastructure alone, but a critical lack of verified, real-time data at the consumer and household level.

Alkhateeb, a long-standing circular economy advocate, and social entrepreneur with a strong background in business and sales, passionately argued against the perception of sustainability as merely a "tree-hugging phenomenon."

"I worked with targets, results, numbers, and revenue," she stated, "and this was my motive to build eGreenBadge, because I do believe that it is a great opportunity on an economic level, not solely as a nature-loving individual."

She underscored that despite global efforts and investments, and the tripling of volume of discussions, debates and articles on the concept,

circularity remains in decline, according to the 2024 Global Circularity Gap Report. This persistent gap, she explained, stems from three core issues: consumption increasing faster than circular systems can cope, an economy still dominated by a "take-make-waste" model, and critically, a complete absence of measurable, real-time waste movement data from households onwards.

"Imagine if we have a digital identity for every waste item moving inside the system, and we can track it and measure it? Then, the circularity responsibility model will no longer be a dream; it will be a reality," she asserted.

AI to close loops in the circular ecosystem

In today's world, circularity is disconnected and lacks transparency. Recycling is incomprehensive and lacks traceability. Residents often lack convenient infrastructure and clear guidance, making it difficult to recycle consistently.

While technology is a powerful enabler, true circularity demands seamless integration of people, infrastructure, and data. eGreenBadge is designed precisely to close this gap by connecting every player in the recycling loop through data and shared responsibility.

eGreenBadge directly addresses this data void by using AI as the intelligence layer that connects consumers, recycling infrastructure, recyclers, and regulators into one end-to-end circular data system. At the core is an AI-powered mobile application that removes friction for the consumer:

eGreenBadge offers AI-powered smart bins, a powerful mobile app, and real-time analytics to turn recycling activities into measurable climate and community impact

The eGreenBadge app empowers citizens to recycle easily and earn rewards for every item they drop off

Intelligent identification: Users scan waste items (like a packaging box or a shampoo bottle) with their phone camera. The AI instantly reads information, creating a unique digital identity for that specific item, tracking brand, material, and even the point of purchase.

Seamless logging: The app guides users through quick questions, logging items effortlessly and capturing crucial behavioral data.

Verified recycling actions: Users locate nearby eGreenBadge bins via an in-app map, drop their logged items, and scan a QR code on the bin. This validates the recycling action, creating an auditable trail.

Integrated feedback: Recycling partners then log collection and treatment data into the same system, ensuring end-to-end traceability from household disposal to second life.

This unified approach transforms everyday recycling behavior into auditable ESG (Environmental, Social, and Governance), Scope 3 emissions, and EPR (Extended Producer Responsibility) compliance data. The real-time data feeds into dashboards accessible by governments and businesses, providing unprecedented insights into waste movement and circularity performance.

Alkhateeb emphasized eGreenBadge is actively operating in several residential communities in the UAE with 102 onboarded bins and 250 active users. For consumers, AI removes friction by automating classification, reducing effort, and making participation both accessible and engaging. This is critical, as consumer behavior has historically been the missing data point in circular systems. Once logged, these actions are connected to verified collection and treatment data from recycling partners, transforming

everyday recycling behavior into auditable ESG, Scope 3, and EPR data, she explained.

By using AI to simplify participation, improve data accuracy, and unify fragmented stakeholders, eGreenBadge demonstrates how intelligent digital systems can close the loop, turning waste into resources and data into a foundation for scalable, transparent circular economies.

Farah Alkhateeb urged the DICEGAI audience to be part of a smarter system that makes recycling visible, measurable, and rewarding. eGreenBadge offers real-time tracking, AI sorting, and actionable insights all in one platform, she reiterated. Businesses can cut carbon emissions and accelerate ESG by tracking sustainability metrics, waste diversion, and carbon reduction. They will also gain insights into value chain performance, including deep visibility into how much waste has been diverted from landfills, the types of materials being recycled, and the engagement levels of their users.

Red AI vs Green AI: A call to ensure responsible development and deployment

At DICEGAI 2026, Sarath Kumar Pachayil highlighted the urgent ideological split in AI development: Red AI's resource-intensive pursuit of dominance versus Green AI's commitment to responsible, accessible, and environmentally conscious innovation, urging a necessary shift

Sarath Kumar Pachayil, Executive Director of Acsendia Aerospace, addressed the significant divide between Red AI and Green AI as two distinct, often opposing, directions in AI development, while speaking at the 1st Dubai International Conference on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), held at Dubai Police Academy. In a session titled "Green AI and Red AI: Two Divergent Paths of Artificial Intelligence Development", the speaker delivered a compelling address to highlight the need to navigate these two approaches to ensure AI development is both technologically advanced and ethically responsible.

The session underscored a critical but often overlooked conversation vital for the future of technology. Pointing out that Artificial Intelligence is no longer a futuristic concept but a living force currently shaping economies, security systems, healthcare, aviation, and governance, Pachayil said that beneath AI's success lies a growing ideological and operational divide between Red AI and Green AI which must be addressed urgently.

Pachayil highlighted that while AI innovation frequently focuses on larger models, higher accuracy, and increased computational power – a phenomenon he terms "Red AI" – this pursuit often sidelines crucial considerations of energy consumption, environmental impact, and long-term sustainability. Red AI, characterized by its reliance on energy-intensive data centers, rapid deployment, and continuous, resource-intensive training, contributes significantly to carbon emissions and fosters technological monopolies.

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Master Sri Akarshana has since amassed over 3 million followers, students, and disciples across the globe. Sharing the message of love, consciousness, and manifestation.

He believes that not everyone was born with all the tools and knowledge, but with the right guidance, anyone can manifest the life that they desire.

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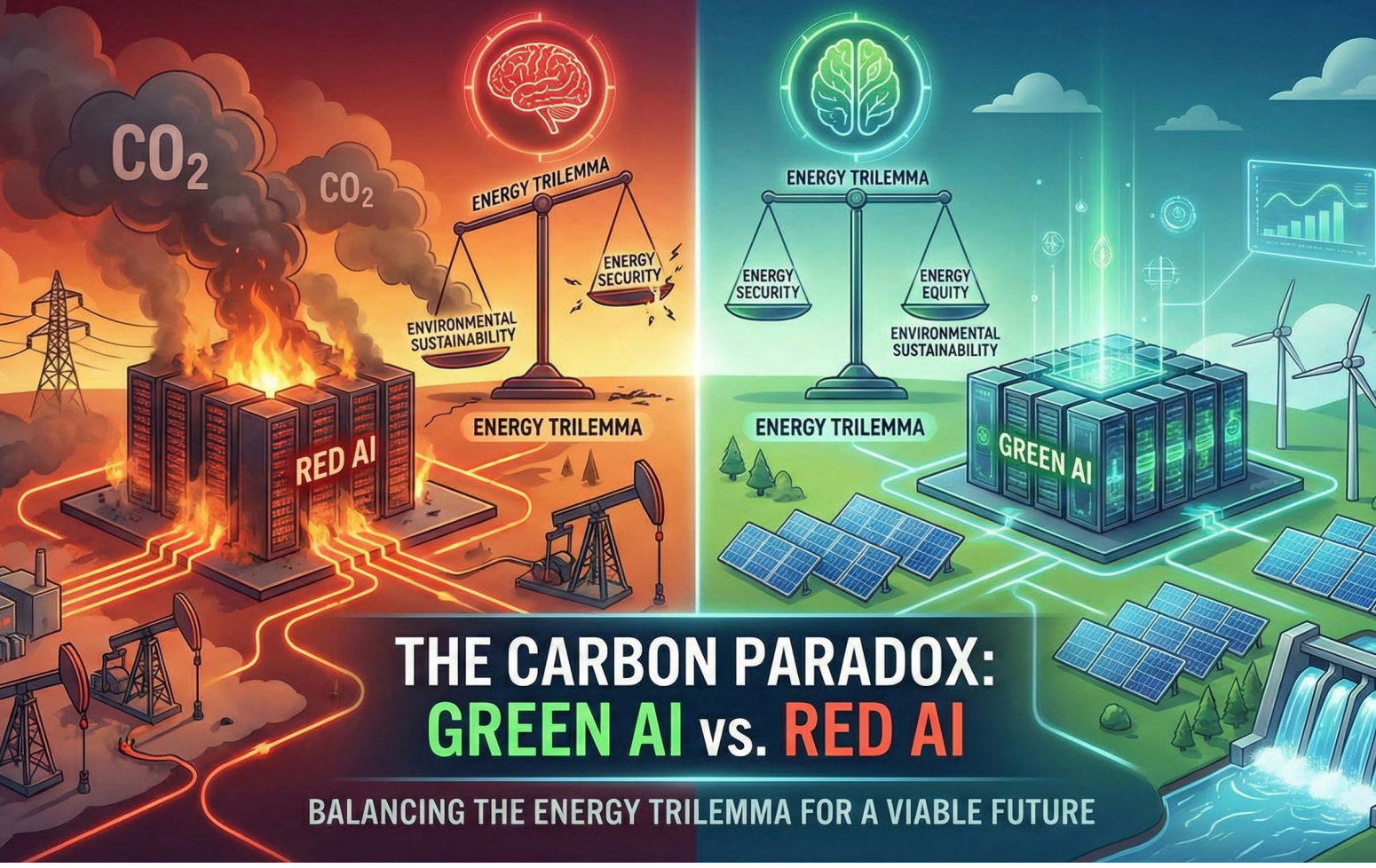
"Red AI" is focused on power and performance, often with a high environmental cost, while "Green AI" is a philosophy-driven approach prioritizing efficiency, sustainability, and ethical alignment for the future of technology

"Red AI is about power and performance," Pachayil stated, "Its focus is speed, scale, accuracy, and dominance. Here, the hidden price is enormous carbon footprint, ethical blind spots, social manipulation risks, and long-term sustainability threats."

In stark contrast is "Green AI", a philosophy-driven approach that prioritizes efficiency, sustainability, and ethical alignment. Green AI aims to develop efficient AI systems that consume less energy, fewer resources, and responsible deployment, while maintaining strong performance and protecting the environment. "Green AI is about responsibility," he emphasized, detailing how it prioritizes optimized algorithms, smaller models, efficient training processes, and controlled energy usage. This approach makes AI more accessible, transparent, and affordable, democratizing its benefits beyond the grasp of a few corporate giants to startups, educational institutions, and developing nations.

The speaker drew a sharp comparison between



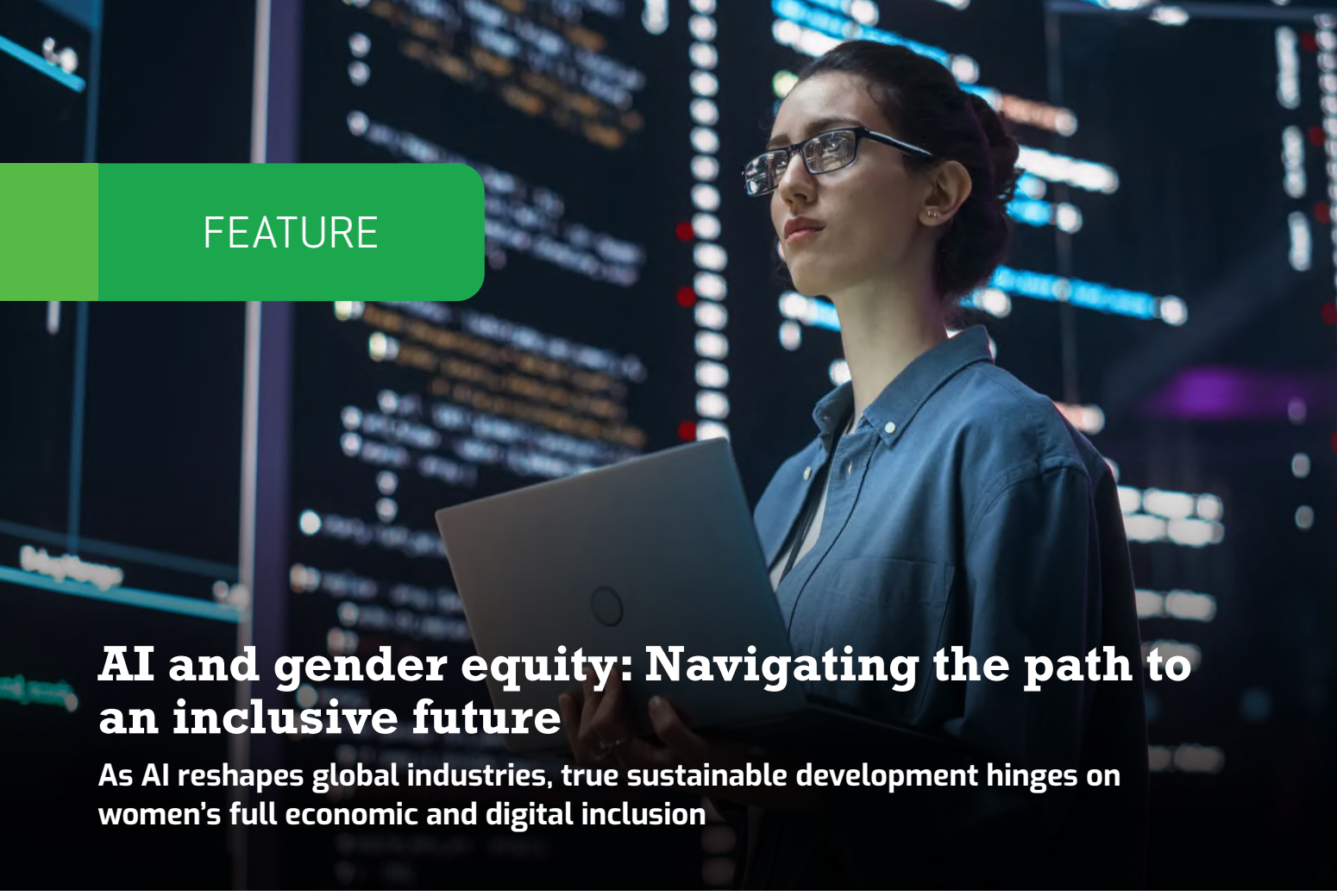
the two, noting that Red AI's short-term focus on profit often ignores ethical responsibility and environmental impact, leading to poor ESG alignment. Green AI, however, champions long-term sustainability, minimal carbon emissions, and strong ethical integration.

"The future of technology must be responsible and sustainable," Pachayil asserted. "As AI usage increases, high energy use and environmental damage cannot be ignored. Green AI helps reduce carbon emissions, saves energy, lowers costs, and makes AI accessible to all."

He concluded his insightful presentation with a powerful call to action, encapsulating the necessity of this shift. Although high-stakes sectors will still demand power and speed, unchecked Red AI is a risk multiplier as climate impact, energy dependency, data exploitation, and uncontrolled autonomy could outweigh its benefits. He, therefore, called on the audidence to "Build AI smart, and keep the future green." Pachayil stressed that adopting Green AI is not a compromise on innovation but an evolution towards a more sustainable, inclusive, and responsible technological world. "The real winners will be organizations and governments that balance Red AI's capability with Green AI's conscience,"

This critical distinction urges leaders, developers, and policymakers to reconsider their AI strategies, ensuring that the relentless pursuit of AI advancements does not come at the cost of our planet and equitable access to technology. The future of AI belongs to those who can harmonize both, and what we choose to build today will decide how humanity coexists with intelligence tomorrow, he summarised.

The 1st Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026) was hosted by the Zayed International Foundation for the Environment in strategic partnership with the Dubai Police Academy and Curtin University Dubai.



FEATURE

AI and gender equity: Navigating the path to an inclusive future

As AI reshapes global industries, true sustainable development hinges on women's full economic and digital inclusion

This year, International Women's Day (IWD 2026) was celebrated under the theme, "Rights. Justice. Action. For ALL Women and Girls", with an open call for action to dismantle the structural barriers to equal justice such as discriminatory laws, weak legal protections, and harmful practices and social norms that erode the rights of women and girls.

The UN's SDG5 calls for the world to "Achieve gender equality and empower all women and girls" by 2030. The UN's landmark Pact for the Future, adopted in 2024, states that gender equality is an "essential prerequisite for sustainable development", without which none of the goals can be achieved.

Women in the economy means growth. Women in the economy mean wealth. Women in the economy mean jobs. However, despite decades of progress, men remain far more likely than women to hold positions of political, social, and economic power. According to the World Economic Forum's (WEF) latest annual Global Gender Gap Report, it will take another 134 years to reach gender parity. The UN has also reported that reaching gender parity by 2030 requires an investment of USD360 billion annually, but failure to close the gap is costing trillions.

Despite progress, women remain underrepresented in critical digital sectors and decision-making roles. The hidden, gendered cost of disruptive technologies is evident from the fact that women make up just 26% of the world's technology workforce, according to the Women in Tech Network. In major tech companies, women are in the minority. This digital gender gap represents a significant loss of potential talent in one of the most crucial industries of our time. As

"At the Zayed International Foundation for the Environment, we recognize gender equality as the indispensable foundation for a peaceful, prosperous, and sustainable world. We believe that championing women's economic justice and making targeted investments in their empowerment are critical for achieving the Sustainable Development Goals. When women are empowered, communities thrive, and economies are more resilient. They also ignite innovation, particularly in tackling critical challenges like climate change and resource scarcity. Women's full, equitable participation thus unlocks the collective human potential vital for a truly healthy and sustainable society."

— Prof. Dr. Mohamed Bin Fahad, Chairman, Zayed International Foundation for the Environment

AI becomes increasingly central to innovation and economic growth, and women's representation in STEM (science, technology, engineering, and mathematics) fields remain significantly lower than that of men, the world is essentially operating at partial capacity, reflecting broader trends of underrepresentation in both education and the workforce.

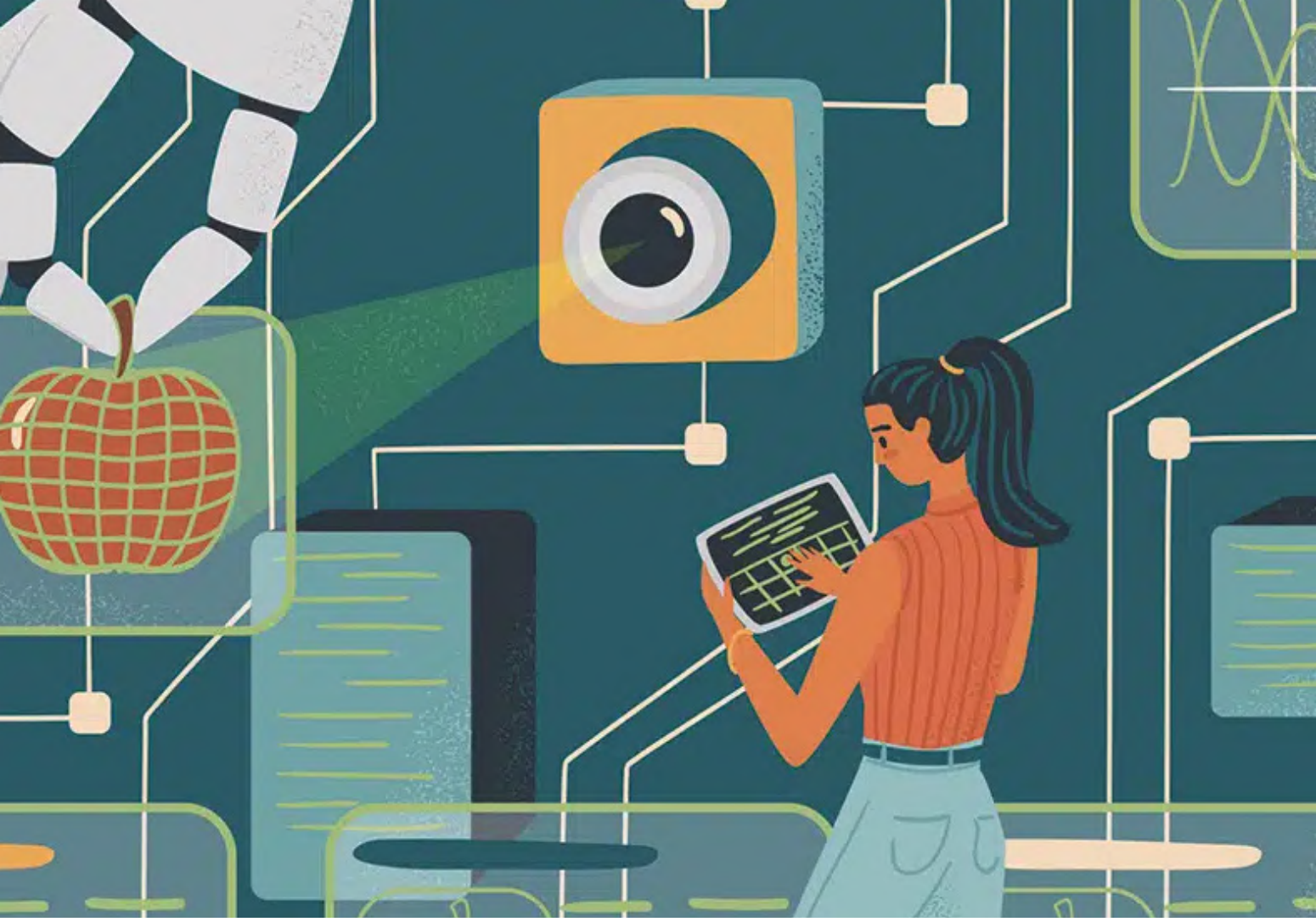
As AI reshapes global industries, true sustainable development hinges on women's full economic and digital inclusion

The International Labour Organization's (ILO) latest report also reveals that while one in four jobs are at risk of being transformed by GenAI, exposure among women continues to be significantly higher. At a time when AI is set to automate at least 50% of jobs globally, the report reveals that 9.6% of traditionally female jobs are at high risk, compared to just 3.5% of male-dominated roles. This is because women are disproportionately concentrated in roles and sectors vulnerable to automation, such as administration, customer service, manufacturing, and routine data processing.

Women remain critically underrepresented in tech, yet their equal involvement in digital development is crucial for inclusive progress

The ongoing AI transformation will see millions of women face job displacement or role devaluation, minimizing opportunities for employment and career mobility. The AI and digital revolution must therefore also be a revolution for gender equality. To ensure that technological advancements benefit society, there is an urgent need to build a future where women and girls lead, innovate, and drive the digital world forward. Women's equal involvement in digital developments is crucial to driving more inclusive, innovative, and impactful progress for everyone.

While the outlook for women's future in an AI-driven economy raises concerns, it also presents an unparalleled opportunity to intentionally redesign our systems for true gender equity, rather than allow existing inequalities to be amplified. The risks are clear, but so too is the



path forward, provided we act with purpose and urgency to steer our attention to nurturing a female workforce capable of driving future value amid AI transformation.

A McKinsey report states that demand for AI fluency—the ability to use and manage AI tools—has grown sevenfold in two years. Traditional and systemic barriers have kept these skills out of reach for many women, highlighting the urgent need to proactively invest in robust reskilling and upskilling programs tailored for women. An inclusive workplace demands deliberate and continued investments in women's skills, highlighting the need to build a female workforce capable of driving future value amid AI transformation.

While AI can improve productivity, job quality, and access to opportunities, we must also understand that algorithms can reflect existing power structures and reinforce gender inequalities. A truly equitable AI demands that women are not merely users, but architects of its future, bringing diverse perspectives to its design and application. AI systems can be designed to advance the rights of women and ensure that AI development aligns with gender justice frameworks and international human rights standards.

Ultimately, ensuring women's equitable participation in the AI economy is a shared responsibility, demanding concerted action from all stakeholders. Policy frameworks must be agile, inclusive, and designed to safeguard women's economic participation, aligning firmly with SDG 4 commitments. Businesses can fund upskilling initiatives and embrace skills-based hiring to build an AI future that truly works for everyone. This is the 'Action' required in 2026 and the years ahead to deliver 'Rights' and 'Justice' for all women and girls in the digital age.

AI and Digital Twins: Planning for Circular Smart Cities

At DICEGAI 2026, Joby Joy presented a transformative vision for "Circular Smart Cities", detailing how AI and Digital Twin technology can empower urban leaders to convert ambitious sustainability goals into measurable outcomes by making recycling efficient, transparent, and instantly rewarding for citizens.

In his address at the inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), Joby Joy, Director at Neurologic AI and Founder & CEO of Autobeanz, explored how Artificial Intelligence (AI) and Digital Twin technology can empower city leaders to reimagine effective ways of recycling for a healthier, more equitable, and resilient future.

Presenting his transformative vision for 'Circular Smart Cities' at the event held at Dubai Police Academy, he detailed how these advanced technologies can convert ambitious sustainability goals into measurable, city-wide outcomes, making recycling not just efficient but genuinely rewarding for citizens and the entire ecosystem.

Cities are uniquely positioned to serve as platforms for innovation and impact and with over 70% of global CO_2 emissions originating from urban areas, they hold the key to meaningful climate action. As cities grapple with escalating climate, resource, and demographic challenges, the convergence of smart technologies and circular economy principles will create an immediate, practical imperative for a healthier, more equitable and resilient urban future.

Joby Joy, a seasoned IT industry leader with over 25 years of experience driving digital transformation, highlighted the urgent need to move away from the traditional linear "take-make-dispose" economy. He pointed out the significant urban recycling challenge in the UAE, where a high per capita waste generation of 2.2 kg per person and low recycling rates mean that 75 to 80% of valuable materials still end up in landfills.

Addressing the significant urban waste challenge, Joby Joy outlined an innovative system at DICEGAI 2026 where AI-powered recycling kiosks provide instant incentives to citizens while feeding real-time data to city-level digital twins, optimizing waste management and fostering a data-driven circular economy

"Today, even well-intentioned citizens face confusion and a lack of transparency when trying to recycle, leading to disengagement," he said. "Our approach leverages AI and Digital Twins to close this loop, making recycling convenient, transparent, and instantly gratifying, transforming an abstract benefit into a tangible reward."

The power of digital twins lies in shifting recycling from reactive operations to proactive intelligence, and converting sustainability goals into measurable, city-wide outcomes, he added.

AI-powered recycling kiosks

Drawing on a successful pilot run with Kiehl Cosmetics in the US, Joy introduced the concept of AI-powered recycling kiosks for public spaces. These sleek, weatherproof, and accessible units, equipped with Edge AI (powered by NVIDIA Jetson), streamline the recycling process. When citizens deposit items, the kiosk's cameras and computer vision (or barcodes) automatically identify the product type and material, validate recyclability, and measure weight.

In return, users receive immediate incentives upon depositing their items, directly encouraging responsible behavior and participation. The integration of Edge AI ensures that processing happens locally within the kiosk, preventing disruptions from cloud or internet outages and enhancing reliability.

Every interaction also updates a city-level digital twin, allowing municipalities to track recycling

performance, reduce landfill dependency, optimize collection routes, and design smarter incentive policies. The result is a data-driven circular ecosystem— one that aligns citizen participation, operational efficiency, and sustainability targets, enabling cities to reduce waste, improve recyclability, and make informed decisions backed by real-time intelligence

Championing a proactive approach to urban sustainability, the speaker demonstrated how the UAE can leverage advanced AI and Digital Twin technology to empower citizen participation, reduce landfill dependency, and lead the charge towards a healthier, more resilient future

Digital Twin: Real-time Urban Intelligence

Every interaction with these kiosks updates a city-level Digital Twin or a dynamic virtual model of physical recycling facilities, which is fed by real-time data from IoT sensors, AI vision systems, and operational software. Digital twins are not just static blueprints; they learn, simulate, and predict, and provide city leaders and waste operators with unprecedented visibility into how resources flow, where waste is generated, and which interventions deliver the highest return—both economically and environmentally. This allows them to:

- **Optimize logistics:** Track recycling performance, predict bin fullness, and optimize collection routes for maximum efficiency and reduced

carbon footprint.

- **Strategic placement:** Analyze data to determine the most effective locations for kiosks, further boosting participation.
- **Data-driven policy:** Design smarter incentive programs and make informed decisions backed by real-time intelligence on resource flow and waste generation.

Joby Joy underscored the UAE's unique position to lead this transformation, given its Net Zero by 2050 commitment and advanced smart city infrastructure. "Leveraging AI and Digital Twins are not just about waste management; it's about unlocking new paths for economic growth," Joy emphasized. "The same technology can be exported across the region and beyond, generating new revenues and economic activities."

He proposed a scalable deployment of hundreds of kiosks across Dubai, Abu Dhabi, and Sharjah, with tangible outcomes towards the 2050 goals. The result is a dynamic circular benefit loop: citizens gain instant rewards, convenience, and transparency; brands foster loyalty and demonstrate sustainability; and cities achieve smarter infrastructure, higher participation, and data-driven decisions that reduce waste, improve recyclability, and boost the overall sustainability of urban environments.

Joy concluded, "Imagine a UAE where recycling becomes as simple and rewarding as using an ATM. By combining the power of AI and the Digital Twin, we can empower every citizen to actively participate in building a truly sustainable future."

FEATURE

Green AI offers a truly transformative opportunity for global water security. Water is our most vital resource, and with billions facing acute water insecurity globally, intelligent systems enable us to predict, optimize, and manage water resources with unprecedented precision, from smart irrigation to leak detection. The Zayed International Foundation for the Environment is deeply committed to driving awareness of these intelligent, green solutions to build resilient water systems. This is critical for planetary health and fundamental to our sustainable future.

- Dr. Hamdan Khalifa Al Shaer, Vice Chairman of the Zayed International Foundation for the Environment

AI's transformative potential in securing global water resources and enhancing sustainable management

Digitalisation of the water sector is reshaping managerial and policy practices, and creating more resilient and adaptable water systems, which are essential for sustainable development

Water is fundamental to sustainable development, human well-being, and planetary health. However, nearly three-quarters of the world's population live in countries classified as water-insecure or critically water-insecure, according to a 2026 report by the United Nations University Institute for Water, Environment, and Health (UNU-INWEH). The Global Water Bankruptcy report states that around 2.2 billion people still lack safely managed drinking water, 3.5 billion lack safely managed sanitation, and about 4 billion experience severe water scarcity for at least one month a year.

The report states that when water systems fail, the effects are swift and far-reaching: harvests decline, energy systems are disrupted, public health is endangered, cities become increasingly unlivable, livelihoods are lost, communities are displaced, tensions escalate, and the foundations of peace and stability are undermined. In the context of climate change, biodiversity loss, land degradation, and growing inequalities, water insecurity has emerged as a systemic risk that

increasingly constrains progress across the entire 2030 Agenda for Sustainable Development.

According to the Global Water Bankruptcy report, across regions and levels of development, water systems are under unprecedented pressure. Rivers, lakes and wetlands are degrading, groundwater resources are being depleted beyond sustainable limits, and glaciers are retreating at accelerating rates. These trends signal not only growing stress, but in many contexts a structural imbalance between water demand and available resources. The UNU-INWEH report refers to this condition as “Water Bankruptcy” and calls for effective action to protect water-related natural capital before damages become fully irreversible.

It is widely seen that traditional water management systems, often plagued by inefficiencies and biases, struggle to meet the demands of a growing population and changing climate. In this context, Artificial Intelligence (AI) presents a transformative opportunity to enhance water governance and sustainable service delivery. AI offers tools for enhanced data analysis, predictive modeling, and optimized decision-making in water resource management.

One of AI’s most immediate impacts lies in predictive analytics and demand forecasting. For instance, AI-powered sensors and monitoring systems collect real-time data on water quality, flow rates, and infrastructure conditions. This data fuels predictive models that can analyse trends, predict risks, and optimise planning. IoT sensors can also track water quantity and quality to support demand forecasting and infrastructure failures, enabling proactive interventions.

The foresight gained by analyzing vast datasets through advanced AI algorithms enables water utilities to optimize reservoir levels, allocate resources more efficiently, and anticipate shortages before they become critical, thereby preventing waste and ensuring equitable distribution. For instance, smart irrigation systems, powered by AI, analyze real-time data on soil moisture, weather patterns, and plant needs to deliver water precisely where and when it is needed. By delivering the exact water crops need,

Nearly three-quarters of the world's population live in countries classified as water-insecure or critically water-insecure

these technologies save resources, improve yields, and promote climate-smart farming for global food security.

Beyond prediction, AI is also revolutionizing water infrastructure management and leak detection and strengthening water resilience. Aging infrastructure is a silent culprit in water loss, with non-revenue water (NRW) – water lost before it reaches the customer – sometimes exceeding 50% in developing urban areas. According to a 2025 World Bank report, the total cost to water utilities caused by NRW worldwide can be conservatively estimated at USD141 billion per year, with a third of it occurring in the developing world. In developing countries, about 45 million cubic meters are lost daily through water leakage in the distribution networks—enough to serve nearly 200 million people.

A 2025 UNESCO report also highlights the role of machine learning algorithms in monitoring water quality by analyzing data from sensors that detect pollutants, chemicals, and other contaminants in water sources. This allows for the early detection of water quality issues, helping to prevent public health crises. The report adds that AI will also play a critical role in supporting Disaster Risk Reduction by enhancing data analysis, improving impact-based forecasting, thereby supporting better preparedness and response to water-related hazards.

Xylem Vue's 2025 whitepaper on Water Technology Trends identifies AI's role in optimizing energy consumption in pumping stations and treatment plants using predictive models that tailor operations to demand. These solutions, which have already reduced consumption by 25%,

will become even more efficient thanks to the integration of real-time climate and usage data, leading to greener management.

The report also highlights the importance of AI tools in enhancing wastewater treatment as predictive systems automatically adjust critical processes to meet stricter environmental regulations. Additionally, digital twins will simulate fluctuations in water quality, anticipating challenges and ensuring long-term sustainability.

With the growth of AI, climate-driven supply-chain disruptions, and tightening water constraints, water and technology are increasingly viewed as intertwined drivers of resilience and competitiveness.

However, the path to leveraging AI for water security has its own challenges. Data availability, standardization, and interoperability remain significant hurdles, particularly in regions with nascent digital infrastructure. The initial investment in AI technologies, sensors, and computing power can be substantial, creating a potential digital divide between well-resourced and underserved communities

AI's equitable implementation requires addressing critical issues related to data bias, algorithmic transparency, and access to technology.

Moving forward, a human-centered approach to AI development and deployment is essential, prioritizing ethical considerations, stakeholder engagement, and a commitment to ensuring that AI serves as a force for equity in water resource management.

DICEGAI 2026 unveils a unique blueprint to transform the desert into a green forest

In his session, "Micro Transfiguration of Desert to Green Forest", James Chacko presented a unique approach that leverages what others term "waste", such as wastewater and biowaste, into critical resources for in-situ sand-to-soil conversion, aligning with the UAE's Net Zero 2050 goals

At the inaugural Dubai International Conference and Exhibition on Green Artificial Intelligence for a Green Planet (DICEGAI 2026), James Chacko, a veteran of the petroleum refinery industry, presented a practical pathway to convert vast arid lands into resilient, living forest ecosystems. In his address titled "Micro Transfiguration of Desert to Green Forest", Chacko outlined that the transformation should be achieved not by importing soil, but by harnessing local resources such as abundant wastewater and biowaste for in-situ sand-to-soil conversion.

Chacko, who spent over 40 years in the oil and gas industry, expressed a growing concern about the environmental implications of rapid technological growth, including the escalating energy and water demands of the AI sector. Human activities are releasing vast amounts of CO2 into the environment and involve the consumption of large amounts of water, he said. Without an optimal solution for waste generated by such activities, the ecological balance is compromised, he asserted. Chacko's solution offers a direct counterbalance and aims to transform the desert land into resilient forest ecosystems, aligning with the UAE's Net Zero 2050 targets and desert greening initiatives.

"Some may say this is just hypothetical or impossible," Chacko acknowledged. "But Dubai was built by turning limitations into innovative leadership. My question is, can a forest exist here, one that is sustainable and which can be developed at scale? The answer is a resounding 'yes'."

The core of Chacko's "Micro Transfiguration" lies in reframing the problem: instead of asking if trees can be planted in sand, the focus shifts to building soil and life and water cycles in place. Desert sand, characterized by less than 0.5% organic matter, high salinity, and low microbial levels, cannot support complex ecosystems. Chacko's process targets this fundamental limitation by identifying:

- **Wastewater as a Resource:** Industrial, municipal, and even floodwater, traditionally viewed as waste, becomes a vital irrigation source after a meticulous, energy-efficient process that aims to remove heavy metals and through desalinization. This quenches the newly formed forest soil.

- **Biowaste as Life-Giving Component**: Urban biowaste, instead of ending up in landfills, is transformed into organic carbon, essential for soil life. It feeds microbial communities that bind the loose sand particles, creating a stable, fertile soil structure. This dramatically reduces landfill dependency and methane emissions.

The speaker outlined how transforming sand into nutrient-rich soil using abundant wastewater and biowaste can not only grow forests but also create valuable CO2 and flood sinks, turning urban challenges into ecological capital for the UAE

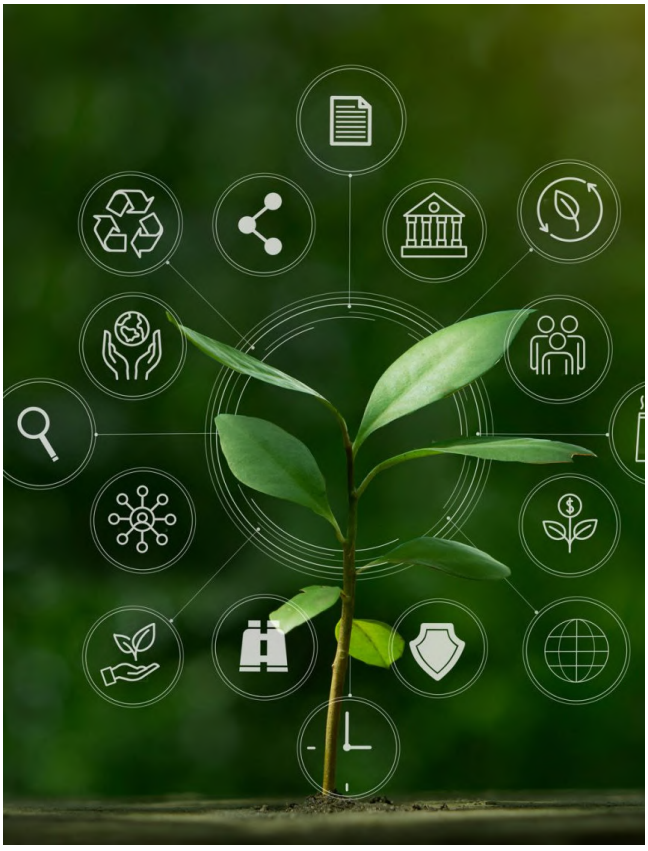
- **Sand-to-Soil Conversion:** This innovative process engineers the desert sand by integrating these treated "resources", fostering microbial life, and initiating a soil formation process that takes three to seven years to establish pioneer vegetation, moisture retention, and biodiversity entry points. A stable forest ecosystem, complete with carbon sequestration, can be achieved within seven to 15 years, he asserted.

The scalable and sustainable method for creating life in the desert is a model that emphasizes a three-to-15-year process of soil formation and biodiversity establishment, subsequently greening the desert environment

"No biology, no forest. No biology, no biowaste," Chacko emphasized, highlighting the critical role of organic matter and microbial activity. This visionary approach, already practiced on a pilot scale, integrates modular soil processing with renewable energy sources like solar power. Chacko stressed that this is not a one-off project but a replicable "national asset" with the potential to be adopted across arid regions globally.

The benefits extend beyond mere greening: the resulting forest ecosystems act as powerful carbon sinks, biodiversity havens, and flood sinks, generating immense ecological and economic value. Chacko envisions industrial wastewater sinks and soil stabilization as further innovations contributing to a holistic solution aligned with national goals.

He concluded with a call for collaboration with like-minded partners who share the same "vision with passion". The speakers invited partnerships with experts in environmental technologies, water and soil processes, industry, and NGOs to realize this profound transformation.



DICEGAI 2026: Spotlighting Green AI through an environmental lens

Dr. Eisa M. Abdelllatif
Chief Technical Advisor
Zayed International Foundation
for the Environment

The 1st Dubai International Conference & Exhibition on Green Artificial Intelligence (DICEGAI 2026) was the first international conference to address the critical intersection of AI and environmental sustainability on a global scale. The main theme, "Harnessing Technology to Achieve Environmental Sustainability", was the primary catalyst for the groundbreaking discussions, directly aligning with our environmental goals.

The conference was solution-oriented, focusing on leveraging AI technology to address contemporary environmental challenges such as desertification, climate shocks, and their impact on livelihoods, alongside the complexities of environmental management.

Specific environmental themes were addressed, with a broad focus on areas like environmental infrastructure protection, sustainable agriculture, and natural resources management, real-time climate modelling, and disaster risk prediction.

DICEGAI 2026 also tackled the environmental footprint of AI itself, through discussions that emphasized the need for continuous scrutiny, ensuring that AI solutions minimize environmental impact without creating new burdens on the ecosystem. With its diverse speakers and audiences, the conference sought to develop holistic, actionable environmental strategies and was a powerful platform for disseminating the latest research, sharing best practices, and raising awareness about the potential of AI in environmental stewardship.

By engaging educators and students, the conference ensured that the next generation has the knowledge and tools to continue developing and implementing Green AI solutions. The Poster competition for high school and college students fostered innovative thinking around Green AI and sustainable solutions for our planet. The students presented new, cutting-edge ideas and early-stage research in Green AI, highlighting novel algorithms and creative solutions to global challenges, often reflecting perspectives not yet published in scientific journals.

The posters showcased the deployment potential of Green AI, from localized community projects to broader technological frameworks. Presenting posters at an international conference is a crucial learning experience for students, enabling them to upgrade their research communication skills, critical thinking, and ability to articulate complex ideas to a diverse audience, preparing them for future roles in the field.

From an environmental perspective, DICEGAI 2026 is a highly commendable initiative. Its focus on leveraging AI for environmental sustainability, coupled with a multidisciplinary approach, establishes it as a turning point in the global integration of sustainable AI solutions for environmental preservation and planetary well-being. DICEGAI 2026 represents a vital and forward-thinking step in harnessing the immense power of technology for the enduring well-being of our shared planet.

The conference discussions offered rich insights, and we hope that the ideas, collaborations, and proposed solutions discussed and recommended at DICEGAI 2026 can be effectively translated into tangible actions and policies.

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