

American International University-Bangladesh

Sustainable Development Goals Report



SDG 17: PARTNERSHIPS FOR THE GOALS



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AIUB Sustainability Report (2020–2025): Advancing SDG 7 – Affordable and Clean Energy

Introduction

American International University–Bangladesh (AIUB) has demonstrated a strong commitment to **Sustainable Development Goal 7 (Affordable and Clean Energy)** between 2020 and 2025. This report highlights AIUB’s initiatives in renewable energy adoption, energy-efficient infrastructure, academic programs and research in clean energy, student and faculty engagements, community outreach, and policy commitments. The evidence showcases how AIUB integrates affordable and clean energy principles into campus operations, curriculum, research, and partnerships, aligning with global sustainability frameworks.

Renewable Energy and Energy-Efficient Campus Operations

AIUB has actively worked to integrate renewable energy sources and efficiency measures in its campus infrastructure. Notably, the university installed **solar photovoltaic (PV) panels on campus rooftops**, contributing to on-site clean power generation. In September 2023, a workshop by Grameen Shakti highlighted and toured the “*solar panel installations at AIUB*,” where participants visited the **rooftop solar PV system** at AIUB aiub.edu. By early 2025, this grid-connected solar PV installation on the campus was being used as a live educational demonstrator for students aiub.edu. AIUB’s **Campus Planning & Development** emphasizes energy-smart infrastructure, with official policy mandating “*use [of] energy-efficient appliances, lighting, heating, and cooling systems*” and investment in green energy like solar panels aiub.edu. These steps reduce the university’s carbon footprint and operational costs while modeling sustainability.

Beyond solar electricity, AIUB has implemented innovative on-campus renewable energy projects. During a regional clean energy workshop in 2025, delegates explored AIUB’s **off-grid solar-powered cold storage system** (for preserving produce without grid power) and a **solar PV-based electric power tiller**, both developed at AIUB aiub.edu. Such installations demonstrate practical solutions for clean energy and rural development. Additionally, campus facilities are being modernized with smart, energy-saving technologies. AIUB’s climate action plan explicitly aims for “*lower usage of energy*” on campus operations and sets a goal to achieve net-zero carbon emissions over time aiub.edu aiub.edu. These efforts in campus operations illustrate AIUB’s leadership in creating a sustainable, energy-efficient campus environment.

Academic Programs and Research in Clean Energy

AIUB integrates affordable and clean energy topics into its **curriculum and research agenda**. The Faculty of Engineering offers dedicated coursework on renewable energy. For example, the undergraduate Electrical & Electronic Engineering program includes “*EEE 4231: Renewable Energy Technology*,” a 3-credit course (with lab) covering solar radiation, PV

systems (stand-alone and grid-tied), wind turbine design, biomass energy, geothermal, and energy storage [aiub.edu](#) [aiub.edu](#). Students learn to design solar and wind energy systems and study emerging topics like smart grids, vehicle-to-grid technology, and Bangladesh's renewable energy policy [aiub.edu](#) [aiub.edu](#). Beyond engineering, sustainability themes are woven into other programs (e.g. courses in **Environmental Economics and Sustainability** in business and economics curricula) to foster interdisciplinary understanding [aiub.edu](#) [aiub.edu](#).

On the research front, AIUB established the **Center for Sustainable Energy Research (CSER)** under the Dr. Anwarul Abedin Institute of Innovation. CSER's mission is to drive R&D in renewable energy technologies in line with SDG 7 [d2a2i.aiub.edu](#). The center focuses on solutions to reduce dependence on fossil fuels and improve grid stability through renewables, and it aims to “*train and teach new generations*” in sustainable power systems [d2a2i.aiub.edu](#). Active projects at CSER include developing novel hardware and models for solar PV, wind turbines, energy storage, and power converters [d2a2i.aiub.edu](#). One flagship project is a **Solar PV Operated E-Power Tiller** for agriculture – a fully solar-charged, noise-free farming vehicle that produces zero greenhouse emissions and cuts farming costs by replacing diesel [d2a2i.aiub.edu](#). This innovation earned the “Best Sustainable Development Goal (SDG) Posterity Award” at an international conference in 2023 [d2a2i.aiub.edu](#). Another example is research on smart solar power management: AIUB students designed an **IoT-enabled solar PV supervision system** that achieved ~90% operational efficiency and ~20% energy savings by optimizing solar utilization [aiub.edu](#) [aiub.edu](#). Such projects are published and presented internationally, underscoring AIUB's academic contributions to clean energy knowledge.

Prototype solar-powered electric vehicle developed by AIUB's students and faculty – an 8-9 seater campus car running solely on solar energy. AIUB's faculty-student innovation teams have also developed **solar-powered electric vehicles (EVs)** as part of research in sustainable transportation. **Three prototype solar EVs** have been designed in-house, each lightweight and entirely powered by roof-mounted PV panels and battery storage [aiub.edu](#). These shuttles can carry 8–9 people at speeds of ~40 km/h and have been successfully test-driven on campus and adjacent roads [aiub.edu](#) [aiub.edu](#). The vehicles use multiple solar panels (four panels for 48 V battery systems, five panels for 60 V) and include backup batteries for cloudy periods, ensuring continuous operation on solar energy [aiub.edu](#) [aiub.edu](#). By demonstrating a working solar EV (sometimes dubbed a “solar rickshaw” replacement), AIUB provides both a research testbed and a practical example of clean energy application in transport. This hands-on research and its integration into student learning reflect AIUB's commitment to advancing affordable, clean energy solutions through academia.

Student and Faculty Engagement for Clean Energy

Engaging students and faculty in sustainability initiatives has been a cornerstone of AIUB's approach. Multiple **student organizations and faculty advisors** have led events to raise awareness and build skills in clean energy. For instance, the **Engineering Students' Association of Bangladesh (ESAB) – AIUB Unit** hosted a webinar on “*Solar PV Energy Towards Carbon Neutrality by 2050*” in November 2022. The Dean of Engineering opened the session, emphasizing the importance of solar power in achieving climate goals, followed by a distinguished lecture on solar cell technologies, solar home system design, and the steps needed

to reach carbon neutrality aiub.edu aiub.edu. Faculty advisors (such as the Associate Dean of Engineering) joined to share insights on the significance of PV systems for a sustainable future, highlighting the educational role of such events aiub.edu. This online seminar engaged over 70 participants, exemplifying how AIUB's student clubs and faculty work together to promote clean energy literacy on campus.

Student branches of international organizations have also been active. The **IEEE AIUB Student Branch and its Women in Engineering (WIE) affinity group** conducted several programs linking students with industry experts in renewables. In September 2023, IEEE-AIUB WIE partnered with **Grameen Shakti** (a leading renewable energy NGO) for an on-campus workshop about climate change and clean energy. Grameen Shakti representatives explained the greenhouse effect, impacts of global warming, and then *“explored various forms of renewable energy, particularly focusing on solar energy and the diverse types of solar panels”*, illustrating the benefits of solar power aiub.edu aiub.edu. Uniquely, the workshop included a tour of AIUB's own solar installations, where students and speakers together examined the **solar rooftop panels at AIUB** and discussed their operation aiub.edu. Faculty members like Prof. Dr. Mohammad Abdul Mannan (Associate Dean, FE) and Dr. Md. Saniat Rahman Zishan (Director, Faculty of Engineering) attended as advisors, underlining faculty support for student-led sustainability activities aiub.edu. This hands-on engagement helped demystify renewable technologies for students and reinforced AIUB's educational philosophy of learning beyond the classroom.

In January 2025, AIUB's EEE Department, in collaboration with the World Bank-supported **WePower network**, organized a special event to encourage female student participation in the clean energy sector. The session *“Empowering Future Leaders: Exploring Renewable Energy Pathways for Female Students”* brought women professionals from Grameen Shakti and industry to campus aiub.edu. Speakers discussed Bangladesh's energy scenario and Grameen Shakti's mission to deliver affordable solar power while empowering women, showcasing technologies like solar home systems, solar irrigation pumps, and biogas plants aiub.edu aiub.edu. They also highlighted internship opportunities for young women in renewable energy. After the talks, participants were taken to visit the **grid-tied solar PV system on AIUB's rooftop**, where they learned how the system operates and how students can get involved in PV projects aiub.edu. Around 50 students joined this program, supported by IEEE WIE and faculty, reflecting AIUB's inclusive approach to student engagement in sustainable energy. Overall, such clubs, seminars, and workshops have cultivated a culture of sustainability leadership among AIUB students and staff, motivating them to champion clean energy both on campus and in their future careers.

Community Outreach and Partnerships in Energy Sustainability

AIUB has extended its impact beyond campus by partnering with government agencies, industry, and communities to promote renewable energy and energy efficiency. These collaborations include hosting public workshops, field visits, and forming strategic partnerships that align with national clean energy goals. In June 2023, AIUB partnered with the government's **Sustainable and Renewable Energy Development Authority (SREDA)** to host a national workshop on *“Net Metered Rooftop Solar in Bangladesh.”* The event, held at AIUB's auditorium with over 230 participants, educated students and stakeholders on the benefits and regulations of rooftop solar net-metering. SREDA officials presented how solar

energy can meet growing power demand and reduce reliance on fossil fuels, explaining business models and technical aspects of grid-connected PV systems [aiub.edu](#) [aiub.edu](#). AIUB's Dean of Engineering and Pro Vice-Chancellor were special guests who reinforced the university's support for renewable initiatives and urged wider adoption of solar energy nationwide [aiub.edu](#) [aiub.edu](#). By facilitating this knowledge-sharing program with a government body, AIUB helped bridge academia and policymakers, contributing to community awareness and capacity-building in clean energy.

AIUB has also engaged with NGOs and industry to advance sustainable energy solutions for communities. The university works with organizations like **Grameen Shakti** not only to enrich student learning (as described earlier) but also to extend renewable energy outreach. In March 2023, AIUB joined with development partners to raise awareness on climate change and renewables, as noted in a summary of NGO collaborations: “*AIUB, in collaboration with NGOs like Grameen Shakti, advances SDG-focused educational resources to raise awareness on climate change and renewable energy*” [aiub.edu](#). This indicates ongoing joint programs targeting broader communities. Furthermore, AIUB's researchers have developed affordable clean-tech solutions (such as the solar tiller and cold storage) with potential for **community deployment** to support farmers and rural entrepreneurs [aiub.edu](#). By inviting local and international stakeholders to witness these innovations (e.g. during the South Asia Regional Clean Energy Workshop in 2025), AIUB has fostered partnerships for scaling up such solutions. That workshop, co-hosted by AIUB, involved representatives from the **Asian Development Bank, University of Melbourne, and Grameen Shakti**, who visited AIUB on May 27, 2025 [aiub.edu](#) [aiub.edu](#). The delegation toured campus installations – solar PV systems, the Renewable Energy Lab, and prototypes like the solar power tiller and solar EV – and engaged in discussions on inclusive energy transition strategies [aiub.edu](#) [aiub.edu](#). This high-profile field visit positioned AIUB as a hub for knowledge exchange, allowing global experts to learn from AIUB's experiences and enabling AIUB to strengthen networks for community-centric energy projects.

Additionally, AIUB has **formal partnerships and memberships** that bolster its community engagement in sustainable energy. The university is a participant in **WePower (Women in Power Sector Network in South Asia)**, which focuses on empowering women in energy and sharing data on SDG 7 progress [aiub.edu](#). AIUB's alliance with WePower led to programs like the female-focused renewable energy seminar, and it contributes to regional efforts to improve gender balance in clean energy fields. AIUB has also signed memoranda of understanding with national research institutes – for example, a 2023 MoU with the government's Housing and Building Research Institute (HBRI) and a public university to collaborate on sustainable building and energy research [aiub.edu](#). Through such agreements, AIUB faculty and students work on joint projects that often encompass energy efficiency in building design and renewable integration, benefiting wider society. In summary, AIUB's community engagement is multifaceted: **hosting public educational events, demonstrating clean technologies, and partnering with government, NGOs, and industry** – all directed at expanding access to affordable, clean energy and know-how in Bangladesh.

Policy Alignment and Public Commitments

AIUB's initiatives are underpinned by clear policy commitments and alignment with global sustainability frameworks, underscoring the institution's dedication to SDG 7 and climate action at the leadership level. In April 2024, AIUB took a significant step by officially **joining the United Nations “Race to Zero” campaign**, pledging to work towards net-zero greenhouse

gas emissions. This global campaign rallies educational institutions to halve emissions by 2030 and achieve carbon neutrality by 2050. “*American International University-Bangladesh (AIUB) has taken a significant stride towards combating climate change by committing to the Race to Zero commitment,*” announced AIUB, highlighting its dedication to immediate and transparent action in line with the Paris Agreement aiub.edu. By becoming a signatory, AIUB positioned itself as a leader in sustainability within academia, recognizing its responsibility to reduce campus carbon emissions and promote renewable energy as part of a fair, net-zero future aiub.edu aiub.edu. This public pledge is documented on the UN Climate Champions portal and reflects AIUB’s strategic alignment with international climate goals.

At the institutional level, AIUB has formulated policies and plans to guide sustainable operations and education. The university’s **Climate Action Plan** (as part of its Institutional Policy) calls for comprehensive measures such as energy conservation, on-campus renewable energy, and greenhouse gas reduction. It outlines strategies for “*achiev[ing] net zero carbon gradually,*” including infrastructure upgrades and behavioral initiatives aiub.edu. Explicit directives on **Energy Efficiency** are incorporated, requiring the campus to prioritize LED lighting, efficient HVAC systems, and “*invest in green energy options like solar panels*” wherever feasible aiub.edu. To coordinate climate and energy efforts, AIUB has identified facilitators and set up feedback mechanisms to continually improve sustainability practices aiub.edu aiub.edu. These internal policies ensure that the commitment to SDG 7 is translated into actionable targets (e.g. reducing energy use, cutting GHG emissions) and that progress is monitored.

AIUB also aligns with **international higher-education sustainability networks** that reinforce its energy and climate commitments. The university is a **signatory of the SDG Accord**, pledging to report annually on its SDG progress and uphold sustainable development principles aiub.edu aiub.edu. It has joined the **Association for the Advancement of Sustainability in Higher Education (AASHE)**, gaining access to global best practices for campus sustainability data tracking aiub.edu. Importantly, AIUB’s involvement in the **IAU Global Cluster on HESD** and other forums focuses on specific SDGs – for instance, AIUB’s partnership with WePower under SDG 7, as noted, and its recognition by QS with a 5-star rating in **Environmental Impact (SDG 13)** aiub.edu aiub.edu. These external engagements validate AIUB’s efforts and hold the university accountable to international standards in areas like clean energy. Moreover, AIUB has embraced initiatives like the **UN Higher Education Sustainability Initiative (HESI)** and signed the **Magna Charta Universitatum 2020**, further embedding sustainability and social responsibility into its governance aiub.edu aiub.edu. Each of these commitments – from Race to Zero to SDG Accord – signals AIUB’s public resolve to champion affordable and clean energy, not only within its campus but as part of a global coalition of universities driving positive change.

Conclusion

Over the 2020–2025 period, AIUB has made substantial strides in advancing SDG 7 through an integrated approach of campus greening, academic excellence, community engagement, and strategic policy commitments. **In campus operations**, AIUB reduced its carbon footprint by adopting solar energy and efficiency measures, setting an example as a clean and smart campus. **In academia and research**, AIUB educated future leaders with specialized courses on renewable energy and produced innovative solutions like solar vehicles and agricultural tools, contributing to affordable clean technology. **Student and faculty initiatives** flourished, from webinars to workshops, embedding a culture of sustainability and empowering the AIUB

community to be ambassadors of clean energy. Through **partnerships with government, industry, and international networks**, AIUB extended its impact beyond campus – sharing knowledge, aiding communities, and aligning with national and global sustainability agendas. Finally, **AIUB's leadership commitments** – including the Race to Zero pledge and sustainability policies – ensure that these efforts are sustained and scaled in the coming years. In sum, AIUB's actions from 2020 to 2025 reflect a deep institutional commitment to affordable and clean energy, positioning the university as a proactive contributor to Bangladesh's sustainable energy future and the broader global pursuit of the UN Sustainable Development Goals.