

## SDG 7 Affordable and Clean Energy



The Modern College of Business and Science (MCBS) is undertaking a significant sustainability initiative to assess and reduce its carbon footprint, reflecting its commitment to aligning with global environmental standards and contributing meaningfully to SDG 7: Affordable and Clean Energy. This initiative includes a thorough assessment of the college's Scope 1 and Scope 2 emissions to establish a comprehensive emissions baseline. By collecting detailed data, MCBS is creating a Sustainability Roadmap that outlines precise, measurable targets to reduce greenhouse gas emissions and transition to more sustainable practices. This Roadmap is not only a commitment to reducing emissions but also a strategic alignment with international standards, such as the Global Reporting Initiative (GRI), which emphasizes transparency and accountability. Through this initiative, MCBS positions itself as a leader in environmental responsibility within Saudi higher education sector, paving the way for long-term sustainable development.

To ensure the successful implementation of its sustainability goals, MCBS is organizing a series of workshops for faculty and staff to increase awareness and understanding of essential carbon management and energy efficiency practices. These workshops, as outlined in the sustainability proposal, are designed to educate participants on the specific steps needed to achieve reduced emissions over time. Topics covered include strategies for improving energy efficiency in campus operations, understanding emissions sources, and learning best practices for monitoring and reducing carbon outputs. Faculty and staff will gain practical skills and insights that empower them to contribute to MCBS's sustainability goals in their daily roles. By equipping its community with these essential tools, MCBS is fostering a culture of environmental stewardship that supports both academic excellence and social responsibility.

In addition to faculty and staff training, MCBS is actively engaging students in sustainability efforts by offering coursework that includes an essential energy management component. The Energy Manager (Prerequisite) module in the "Basic Order" provides students with hands-on experience in sustainable energy systems and key environmental, social, and governance standards. Through a case study program, students explore the design and installation of a 20 MW solar power plant, covering everything from initial components to costs, economic, solar panel financing, and efficiency optimization. These workshops emphasize the architectural viability of clean energy and encourage students to envision and develop their own sustainable energy projects. The experience fosters cross-functional innovation and a practical understanding of how sustainable energy systems can contribute to reducing carbon emissions, positioning students as informed advocates for sustainability both on campus and in their future careers.

Another vital component of MCBS's sustainability plan is the development of solar-powered infrastructure, with a particular focus on creating a solar car park that will serve both functional and educational purposes. Designed to lower the total parking spaces, this solar installation will provide clean energy for electric vehicles (EV) charging stations and general campus electricity needs. The solar car park, which includes advanced solar panels capable of generating up to 1500 kWh of energy annually, is estimated to power around 500 cars of EVs, providing over a 20-year period. This project not only provides a viable renewable energy source but also serves as a visible commitment to sustainable infrastructure on campus. By integrating this facility into daily operations, MCBS demonstrates the practical benefits of clean energy and offers a real-world example for students and the community to observe renewable energy in action.



Figure 1: Solar Car Park Construction Site (MCBS, 2024)

Category	Value
Area	10,000 sqm
Capacity	500 cars
Energy Output	1500 kWh/year
Estimated Cost	\$1,500,000
Completion Date	Q3 2024

Category	Value	Unit	Unit
Area	10,000	sqm	1000
Capacity	500	cars	500
Energy Output	1500	kWh/year	1500
Estimated Cost	\$1,500,000		\$1,500,000
Completion Date	Q3 2024		Q3 2024



Beyond these immediate projects, MCBS is building a long-term sustainability framework that includes continuous monitoring, reporting, and improvement of its environmental efforts. Regular workshops and engagement sessions are planned to keep sustainability integrated and central in the college's process and strategy. This strategic alignment spans from clean energy, water protection, sustainable growth, and environmental protection, and supports MCBS's efforts to meet the UN Sustainability Goals, starting with reducing emissions, raising awareness, and resource infrastructure projects. MCBS is establishing a self-sustaining system by a sustainable future. These efforts not only reduce the college's carbon footprint but also inspire a culture of environmental awareness and responsibility among the student body, and help set a strong foundation to achieve sustainability goals and broader green initiatives.