

Research Centers with a Specific Focus on Environmental Sustainability

Northern Technical University (NTU) prioritizes environmental sustainability and renewable energy by hosting a group of specialized research centers and units. These entities are managed by dedicated research teams committed to developing applied solutions and keeping pace with global advancements in these critical fields.

The following provides a comprehensive overview of the research centers and units at NTU:

I. The Center of Technical Research (CTR)

Established in mid-2022, the [CTR](#) serves as a cornerstone for supporting applied scientific research, with a strategic emphasis on health and environmental sectors. The center's ambitious vision focuses on providing an integrated research environment that supports scholars both locally and internationally, aiming to address contemporary environmental and health challenges through rigorous research frameworks. It houses specialized departments, such as the "Department of Natural Products Research" and the "Department of Communicable Diseases Research," reflecting its deep commitment to biological and environmental sustainability.

In addition to its research mandate, the CTR provides advanced technical services, including genetic material extraction and microbiological applications, and issues ethical approvals for scientific research in accordance with international standards. The center is also instrumental in capacity building, training scientific cadres to equip the community with experts capable of managing environmental and health crises. Furthermore, the CTR actively publishes scholarly work in high-impact international journals (Scopus) and organizes specialized workshops and seminars to foster scientific literacy and academic partnerships.





II. Renewable Energy Research Center (RERC)

The [RERC](#) is one of the university's most significant research structures, established in 2023 in response to the urgent global need for clean and alternative energy sources. Based in Kirkuk, the center focuses on addressing the challenges of conventional fuel depletion and carbon emission reduction. It comprises two primary departments: the "Renewable Energy Department" and the "Energy Storage and Nanotechnology Department," where the latter integrates advanced technology to enhance sustainable energy storage efficiency.

The center's mission is to achieve pioneering technological progress through the study and development of solar, wind, and other alternative energy systems. Beyond its research role, the RERC plays a vital educational and social role by organizing technical workshops (e.g., Solar Energy Technologies) and field visits to strengthen academic cooperation. The center aspires to be a national reference for renewable energy consultancy and contributes effectively to postgraduate programs through the supervision of research addressing real-world energy sector issues.



III. [Renewable Energy Research Unit](#) - Hawija Technical Polytechnic College

Founded in 2010, this unit represents the nucleus of research activity in sustainable energy within the university. It was established to meet the national demand for non-polluting, environmentally friendly energy sources. The unit aims to conduct applied research in the production, storage, and conversion of energy, with a vision for leadership in renewable energy science and engineering. It works diligently to raise scientific awareness regarding the importance of alternative energy and provides technical and academic consultations to state institutions. The unit maintains close ties with technological and agricultural departments, ensuring the integration of research with academic curricula to prepare students for future careers in the green energy sector.

IV. Innovation and Creativity Center

This center acts as [an incubator](#) for innovative student and faculty research projects, focusing on transforming ideas into applied models that serve the community. It places a particular emphasis on innovations that contribute to solving environmental problems and provides a platform for researchers to develop patents that support sustainable development. Through various activities, the center seeks to instill a culture of entrepreneurship and "green innovation," reinforcing Northern Technical University's position as a gateway to a sustainable future driven by inventive thinking and smart technical solutions.



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