



University : Northern Technical University
Country : Iraq
Web Address : <https://www.ntu.edu.iq>

13.3.2 Does your university as a body have a university Climate Action plan, shared with local government and/or local community groups?

Climate change is recognized as one of the most significant challenges facing our planet today. It not only impacts the environment but also reduces productivity, posing a serious threat to the economy. Without decisive action, climate change could push an estimated 100 million people into poverty by 2030. In response to this urgent issue, Northern Technical University (NTU) is committed to implementing strategies and programs aimed at mitigating climate change and fostering sustainability.

Goals for the Upcoming Period

Curriculum Integration: Prepare to integrate programs focused on energy conversion and management into the educational curriculum within NTU and partner institutions. This will ensure that future professionals are well-equipped to address energy-related challenges.

Training and Capacity Building: Organize training sessions for academic staff and experts in energy-efficient building construction practices. This will enhance their knowledge and skills in utilizing sustainable energy solutions effectively.

Research Promotion: Encourage and support scientific research in the fields of energy efficiency and sustainable building practices. This includes fostering collaboration between academic departments and industry partners.

Sustainable Building Practices: Provide consultancy support for the design and construction of sustainable buildings, thereby promoting environmentally friendly architectural practices on campus and in the community.

Innovative Funding Solutions: Advocate for innovative funding mechanisms to support projects aimed at improving energy efficiency and transitioning to sustainable energy consumption. This can include collaborations with governmental and non-governmental organizations.

Efficient Technologies: Implement the use of energy-efficient technologies, processes, and devices throughout the university. Initiatives may include the installation of LED lighting, renewable energy sources, and solar-powered air conditioning systems.

NTU is also committed to organizing workshops to raise awareness about sustainable energy practices. For instance, the Renewable energy and HVAC engineering Departments have initiated workshops on utilizing alternative fuels to replace conventional fuels and help reduce pollution levels.



As a proactive educational institution, Northern Technical University aims to reduce greenhouse gas emissions and combat global warming. By focusing on reducing electricity demand and other carbon dioxide (CO₂) emissions sources, NTU is taking significant steps towards a sustainable future and a healthier planet.

Northern Technical University's Commitment to Renewable Energy and Sustainability

Northern Technical University (NTU) is taking significant steps to transition its energy sources from fossil fuels to renewable energy through a comprehensive three-step plan aimed at achieving 100% green energy and zero emissions.

Three-Step Energy Transition Plan

- ❖ **Initial Installation of Photovoltaic (PV) Systems:** NTU has begun the installation of photovoltaic panels on university buildings, specifically designed to meet the electrical demand of each building. This step marks the university's commitment to utilizing renewable energy resources effectively.
- ❖ **Expansion of PV Capacity:** By the academic year 2026-2027, NTU plans to install over 8 MW of photovoltaic capacity to fulfill the entire energy demand of the university, including electricity, cooling, and heating. This initiative positions NTU as a pioneering institution in Iraq, aiming to become the first university to achieve 100% renewable energy and zero emissions.
- ❖ **Integration with the National Grid:** By 2027-2028, NTU intends to connect its local electrical grid with the National Grid, allowing the export of surplus energy generated by the photovoltaic systems. This integration aims to reduce the overall emissions associated with electricity production, enhancing sustainability efforts on a larger scale.

Sustainable Solutions for Lighting and Climate Control

- One significant source of emissions comes from the street lighting system. As part of its sustainability efforts, NTU is leading the way by transitioning to solar-powered street lighting, which operates entirely on solar energy with zero emissions. This initiative is set to be completed by 2025.
- Given Iraq's extreme temperatures—hot summers and cold winters—efficient heating and cooling systems are crucial for NTU. Between 2024 and 2026, the university plans to implement the following actions to reduce energy consumption for heating and cooling:
- **Double-Glazing Windows:** Installation of double-glazed windows across all university buildings will reduce energy waste by approximately 70%.
- **High-Efficiency HVAC Systems:** NTU will utilize highly efficient Variable Refrigerant Flow (VRF) systems for heating and cooling, which consume less than 20% of the energy used by conventional systems while providing the same level of comfort.



- **LED Lighting:** The internal lighting will be upgraded to LED technology to minimize electrical losses and reduce the heat generated by traditional lighting sources, thereby lowering the cooling energy requirements.

Collaborative Efforts for Community Improvement

NTU is dedicated to collaborating with national and international organizations to reduce emissions and enhance community well-being. The university is actively supporting projects that leverage new technologies, such as:

- **Photovoltaics for Water Filtration and Desalination:** Implementing systems powered by solar energy to provide clean water solutions.
- **Innovative Heating and Cooling Technologies:** Developing systems that utilize solar radiation for efficient temperature control.
- Additionally, NTU aims to support scientists and researchers in innovating new technologies to mitigate greenhouse gas emissions through its Renewable Energy Research Center (RERC).

Research and Community Awareness Initiatives

NTU conducts numerous practical experiments in the Renewable Engineering Department's laboratories, supporting researchers in discovering viable solutions for societal challenges. The RERC focuses on advancing research in renewable energy technologies to foster sustainable community practices.

Furthermore, NTU is committed to raising awareness about the importance of environmental stewardship, conducting campaigns at both the university and community levels to promote the planting and care of trees—essential components in the fight against climate change.

In summary, Northern Technical University is steadfast in its pursuit of a sustainable future, implementing a range of innovative initiatives and collaborative efforts to lead by example in the transition to renewable energy.

- ❖ The President of the Northern Technical University participates in the second international scientific conference entitled Women and Climate Change... Challenges... and Solutions, which was sponsored by the [Secretariat of the Iraqi Council of Ministers](#) in Baghdad.





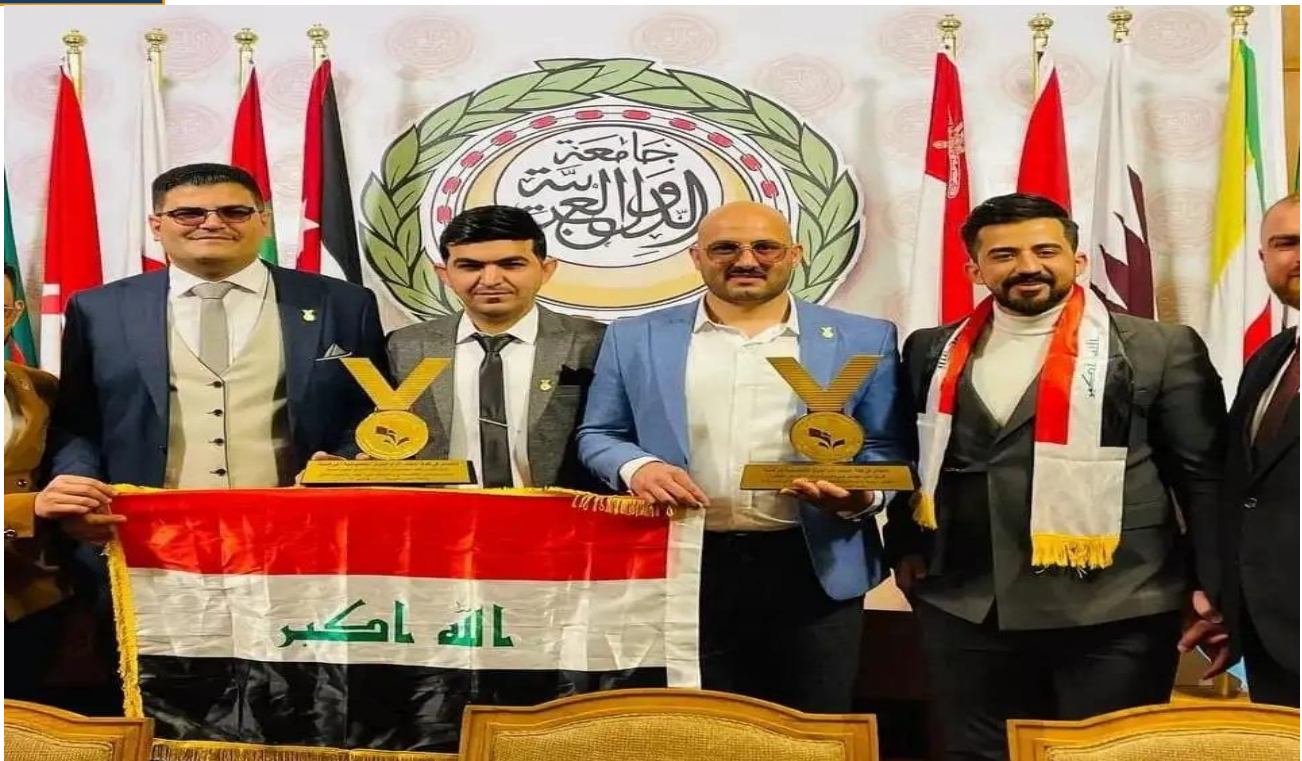
Under the patronage of the President of the Northern Technical University, Prof. Dr. Alia Abbas Al-Attar, and under the supervision of the Dean of the Mosul Technical Institute, Assistant Professor Shahla Abdul-Wahab Abdul-Qader, the Department of Water Resources Technologies organizes a course entitled (Reliability and Quality of Climate Data Used in the Field of Water Resources and Climate Change)

Course Objectives:

Clarifying the following paragraphs:-

- 1- Climate Change
- 2- Homogeneity Test
- 3- Methods Used in Homogeneity Test
- 4- Extreme Points and How to Deal with Them.

- ❖ Our Technical University receives, from the Egyptian capital Cairo, specifically from the Arab League building, the Prince Mohammed bin Fahd International Necklace Award for the best volunteer work, Where Mr. Anas Mohammed Azhar, the official of the Mosul Eye Foundation and Mr. Abdul Aziz Abdul Qader Saleh won the first prize in the field of environment, climate and clean energy for the #Green_Mosul initiative, which was implemented by the Mosul Eye Foundation in cooperation with the Northern Technical University



- Northern Technical University launches the largest afforestation campaign under the patronage and presence of the President of NTU, Professor Dr. Alia Abbas Ali Al-Attar, and under the supervision of the Vice President for Scientific Affairs, on the occasion of [National Afforestation Day](#)



- Northern Technical University and the Nineveh Environment Directorate organize an environmental clean-up campaign in the forests and waterfalls area

The Division of Psychological Counseling and Educational Guidance at the University Presidency, along with the volunteer student team, organized a campaign to clean tourist facilities in the city of Nineveh, which included the forest area and waterfalls... The campaign was limited to educating the families present there about the necessity of maintaining cleanliness. Collecting waste and placing it in the places designated for it, in addition to distributing waste bags, as well as distributing prepared brochures about the importance of feeling responsible towards our tourist areas, such as forests, as they are the natural outlet for the people of Mosul. Children had a distinguished presence in this campaign and they interacted greatly with the volunteer youth team from our university. They are a sign. Hope our city progresses for the better.

It is worth noting that the campaign was organized in cooperation with the Nineveh Environment Directorate and with the support of the Internal Sections Directorate, with the active participation of its members and vehicles.



- ❖ NTU President campaign to make our university a [green area](#) ...

The Agricultural Division in the Diwan Affairs Department receives the Turkish grant that amount 6,000 trees to continue the campaign of making our university green and creating a suitable environment for our dear students.



- ❖ Mosul Technical Institute conducts a campaign to plant several trees (Albizia) in the Institute's gardens



In continuation of the Shajar initiative launched by the President of the Northern Technical University, Prof. Dr. Alia Abbas Ali Al-Attar and under the supervision of Ms. Dean of the Mosul Technical Institute Assistant Professor Shahla Abdulwahab Abdul Qader

The Women's Empowerment Unit of the Mosul Technical Institute organized, in collaboration with the Services Division and the Information Division, campaigns to plant a range of Albanian trees in a number of gardens and spaces in the Institute with the wide participation of the Institute's members.

Mosul Technical Institute conducts a campaign to plant a number of trees ([Albizia](#)) in the Institute's gardens.

❖ A campaign to make our [university green](#)...

Following the campaign launched by the President of Northern Technical University, Professor Dr. Aliaa Abbas Ali Al-Attar, and under her patronage, and the supervision of the Assistant President of the University for Administrative Affairs, the heroes of the Diwan Affairs Department/ Agricultural Branch have transformed a waste dump into a green forest to create a suitable university environment for our dear students.



❖ Kirkuk Engineering Technical College organizes a [wide planting campaign](#)
In continuation of the campaign launched by the President of the Northern Technical University, Professor Dr. Alia Abbas Ali Al-Attar, and as a continuation of the One Million Trees Campaign within the requirements of sustainable development

The Engineering Technical College Kirkuk-Kirkuk organized the Million Tree Campaign launched by the Ministry of Higher Education and Scientific Research under the supervision of the Dean of the Technical Engineering College of Kirkuk, Assistant Professor Dr. Sami Reda Aslan, to make our university green and in coordination with the Student Affairs Division / Agriculture Unit

Various types of roses and trees were planted in the spring season, where the beautiful view gives an impression of the cleanliness of the university environment, achieving the goals of reducing environmental pollution, and making our Northern Technical University a title of excellence and sophistication.



Many researches have been published by Northern Technical University under the caption of "Northern Technical University, Iraq "& climate change "you can refer to the link below for more information:

https://scholar.google.com/scholar?start=10&q=%22Northern+Technical+University,+Iraq+%22%26+climate+change+%22&hl=ar&as_sdt=0.5&as_ylo=2022&as_yhi=2023