



Annual Sustainability Report **Northern Technical University**

Northern Technical University

Office of the President

I am delighted to welcome you to the 2023 Sustainability Report, a reflection of our unwavering commitment to sustainability and responsible stewardship. At Northern Technical University (NTU), sustainability isn't just a buzzword; it's a fundamental part of our identity, guiding our actions, values, and vision for the future.

As the President of this esteemed university, I am proud to reaffirm our dedication to creating a better, more sustainable world. Sustainability is no longer a choice; it's an imperative, and Northern Technical University is stepping up to the challenge.

Our commitment to sustainability is not merely a checkbox on a list of university priorities; it's a call to action, embedded in every aspect of our university's life. We believe that universities should lead by example, and in this report, you will find evidence of our efforts to do just that. Sustainability at Northern Technical University is multifaceted. We're taking bold steps to reduce our environmental footprint. From cutting-edge research in renewable energy to campus-wide initiatives to minimize waste, we are committed to environmental conservation. Our social responsibility initiatives are deeply rooted in our community. We recognize the importance of supporting the well-being and diversity of our students and staff. Our outreach programs and community engagement projects demonstrate our commitment to making a positive impact.

Economically, we are dedicated to ensuring the financial sustainability of our university, all while investing in the future of our students through scholarships, financial aid, and responsible financial practices. Through our academic programs and research, we are shaping the next generation of leaders and thinkers who will address the world's most pressing challenges. We are proud to be a hub of innovation and knowledge that drives solutions to global issues.

In this report, you will discover the progress we've made, the obstacles we've faced, and the strategies we're implementing to advance sustainability at [University Name]. We acknowledge that there is much work to be done, and we eagerly anticipate the opportunity to collaborate with all stakeholders to continue this journey toward a more sustainable future.

Thank you to our faculty, students, staff, and community partners for their dedication and hard work in pursuit of our sustainability goals. Together, we are making a difference.



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I invite you to explore this report, engage with its content, and hold us accountable for our commitments. Sustainability is a collective endeavor, and together, we can build a brighter and more sustainable future.

Sincerely,

Prof. Dr. Alyaa Abbas Al-Attar

Northern Technical University

1. Introduction:

In an ever-changing world, our commitment to sustainability is unwavering. At Northern Technical University, we recognize that sustainability is not just a choice but a responsibility, a way of life that shapes our actions, and a vision for a better, more responsible future. Our Sustainability Journey at Northern Technical University is not a recent endeavor; it's deeply ingrained in our DNA. For years, we've been on a journey to incorporate sustainability into every facet of our institution, from our daily operations to our academic and research endeavors.

We have set the bar high, and our endeavors are guided by a vision of creating a sustainable campus that serves as a beacon of inspiration and change for our students, faculty, staff, and the community. This journey is an ongoing one, marked by both challenges and remarkable accomplishments

2. The Purpose of Report:

The purpose of this report is twofold:

- ❖ **To Reflect on Our Achievements:** We celebrate our successes, sharing the progress we've made in various dimensions of sustainability. These successes are a testament to our commitment to making a positive impact on the environment, society, and the economy. In this report, we'll showcase our accomplishments in areas such as environmental stewardship, social responsibility, and economic sustainability.
- ❖ **To Embrace Accountability and Continuous Improvement:** We are unafraid to shine a light on areas where improvement is needed. This report is



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a reflection of our commitment to transparency and accountability. We acknowledge that there's always room to do better, and this report provides a platform to share our challenges, setbacks, and the strategies we're employing to overcome them.

3. Intended Audience:

This report is designed for a diverse audience, including but not limited to:

- ❖ **Students:** Our most important stakeholders. Your engagement and passion for sustainability inspire us to do more.
- ❖ **Faculty and Staff:** Your dedication and innovation drive our sustainability initiatives forward.
- ❖ **Alumni:** You are our living proof of what's possible when you leave our institution. Your continued support is invaluable.
- ❖ **Local and Global Communities:** Our commitment extends beyond campus borders. We strive to be a force for positive change in our local and global communities.
- ❖ **Government and Regulatory Bodies:** We uphold the highest standards and welcome accountability.
- ❖ **Partners and Donors:** Your collaboration and support are instrumental in achieving our sustainability goals.
- ❖ **Prospective Students and Parents:** We invite you to join a university committed to creating a better world.
- ❖ **Anyone Passionate About Sustainability:** Our journey is a shared one, and we welcome those who share our commitment.

As we progress on our sustainability journey, we understand that we are not alone. We invite all stakeholders to join us in making a difference and together, we can create a more sustainable and responsible future. This report is a testament to our



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dedication, accountability, and our vision of a sustainable future. Thank you for being part of this incredible journey.

4. Initiatives and Progress

The initiatives and progress made by Northern Technical University (NTU) in promoting sustainability across its campus and operations. Sustainability is a core value at NTU, and the university is committed to integrating environmental, social, and economic considerations into all aspects of its activities.

4.1 Energy and Greenhouse Gas Emissions

NTU has implemented several measures to reduce energy consumption and greenhouse gas emissions, including:

- ❖ Energy-efficient lighting systems and equipment across campus.
- ❖ Installation of solar panels on rooftops to generate clean energy.
- ❖ Optimization of heating, ventilation, and air conditioning (HVAC) systems to improve energy efficiency.
- ❖ Promoting awareness among students and staff about energy conservation practices





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4.2 Waste Management:

NTU is focused on waste reduction, recycling, and responsible waste management:

- ❖ Implementing a comprehensive recycling program across campus, including separate bins for paper, plastic, glass, and metal.
- ❖ providing water refill stations.
- ❖ Proving online system to reduce the use of paper.
- ❖ Promoting awareness campaigns to educate the community about the importance of waste reduction and recycling





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 <p>إستمارة تسجيل الصباحي متابعة وتسجيل الطلبة للدراسة الصباحية</p>	 <p>نظام التسجيل المسائي تسجيل ومتابعة قبول الطلبة للدراسة المسائية</p>	 <p>إستمارة التسجيل المهني متابعة وتسجيل الطلبة للدراسة المسائية</p>
 <p>مسؤول نظام التسجيل المسائي (شؤون الطلبة) متابعة وتسجيل الطلبة للدراسة المسائي</p>	 <p>مسؤول نظام التسجيل المسائي (اقسام) متابعة وتسجيل الطلبة للدراسة المسائي</p>	 <p>مدير النظام التسجيل المسائي (رئاسة) متابعة وتسجيل الطلبة للدراسة المسائي</p>
 <p>برنامج إستمارة الهويات الجامعة يحتوي على جميع إستمارة الهويات الخاصة الرخصة والتسجيلات</p>	 <p>برنامج إستمارة باج السيارة يحتوي على إستمارة باج سيارات للموظف وثق لاشتركه</p>	 <p>برنامج إستمارة طلب الشراء يحتوي البرامج على جميع إستمارة طلبات الشراء الرسمية</p>



The diagram illustrates the process of recycling Waste Electrical and Electronic Equipment (WEEE). It features a central green bin overflowing with various electronic devices such as laptops, printers, and mobile phones. Two green arrows point downwards from the bin to two circular logos, each containing the text "WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT WEEE". Below the diagram, a photograph shows three men standing in a room with two large, industrial-looking recycling machines, likely used for processing electronic waste.



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4.3 Water Conservation:

NTU recognizes the importance of water conservation and has taken steps to minimize water usage:

- ❖ Installing water-efficient fixtures and appliances across campus, such as low-flow faucets and toilets.
- ❖ Implementing irrigation systems with smart controllers that adjust watering schedules based on weather conditions.
- ❖ Conducting regular maintenance and leak detection programs to reduce water waste.
- ❖ Offering educational programs to raise awareness about water conservation among students, staff, and the community.



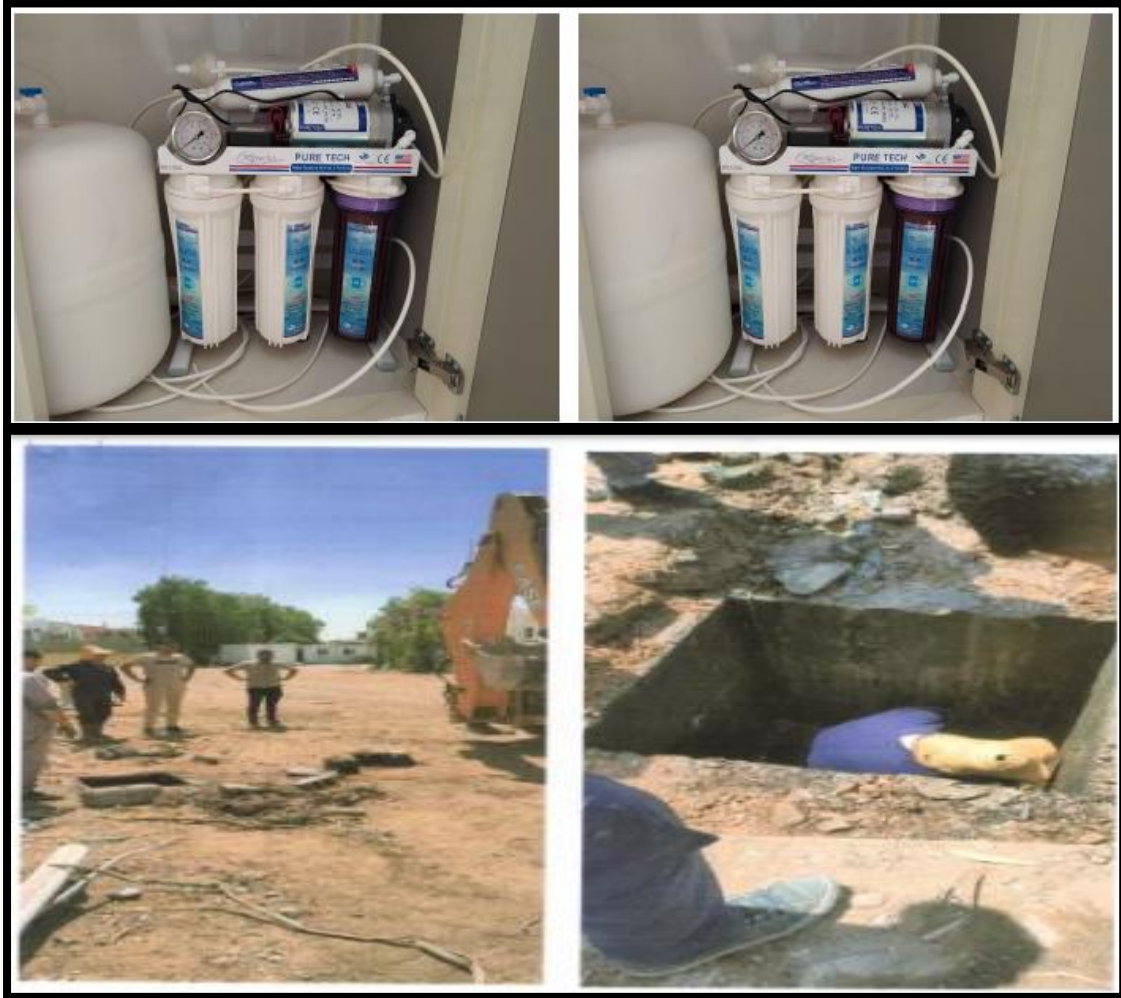


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4.4 Sustainable Transportation:

NTU encourages sustainable transportation options to reduce carbon emissions on campus:

- ❖ Providing bicycle racks and promoting cycling as a mode of transportation.
- ❖ NTU provides shuttle services to help students and staff with transportation around campus and to nearby locations.



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4.5 Curriculum Integration and Research:

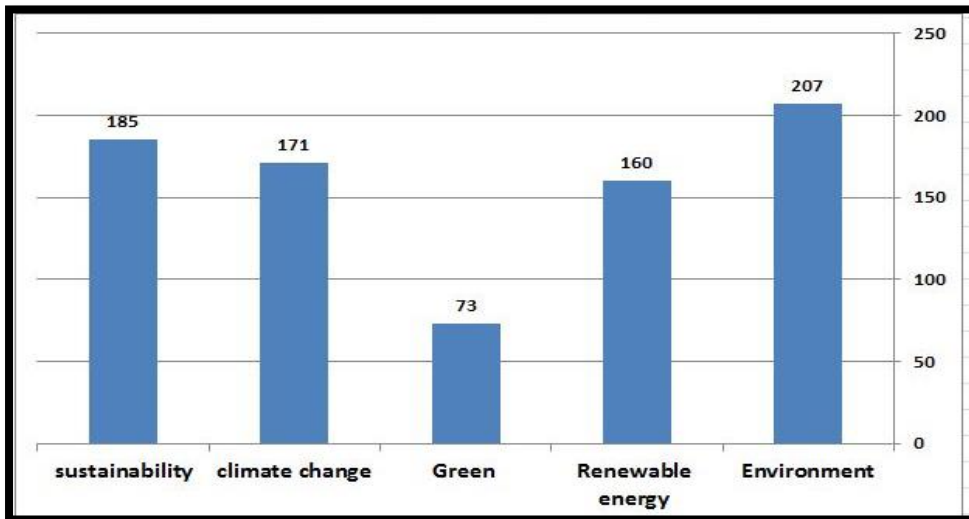
NTU incorporates sustainability into its academic programs and research activities:

- Offering courses and programs focused on sustainability, renewable energy, and environmental studies.
- Supporting research projects that address sustainability challenges and solutions.
- Collaborating with industry partners and government agencies on sustainability-related initiatives.

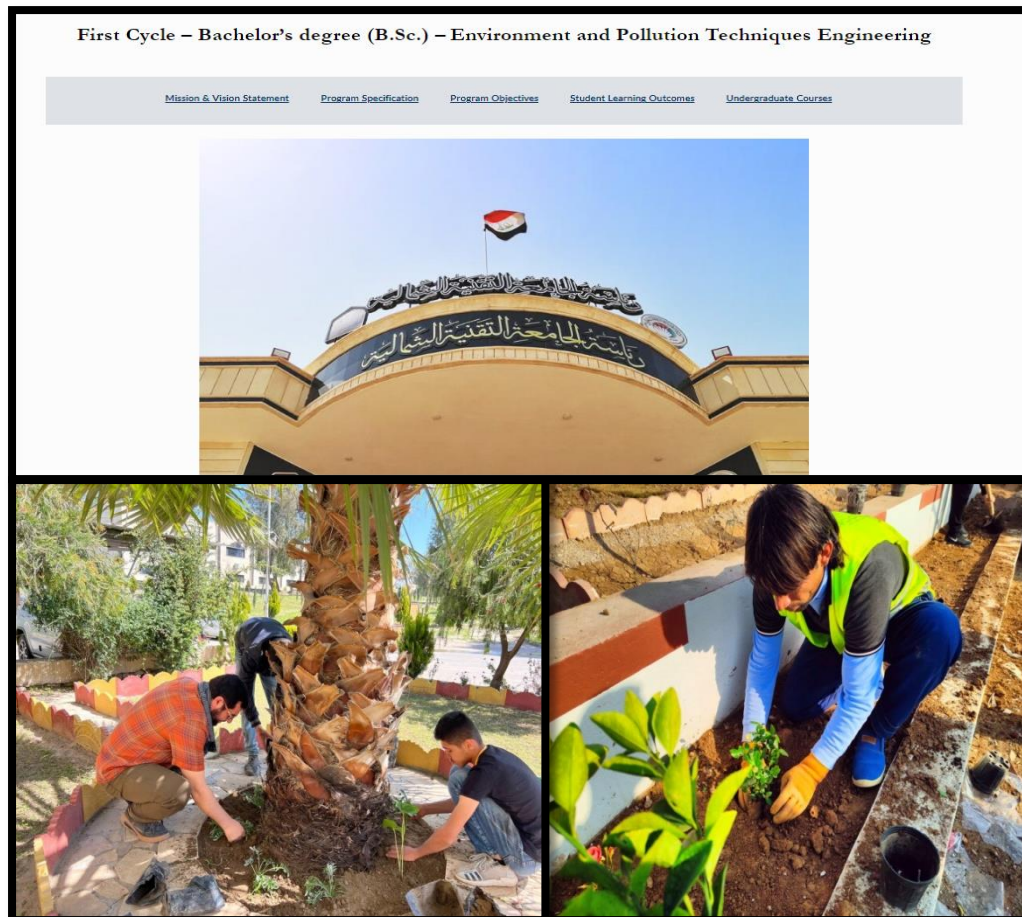


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- Encouraging student participation in sustainability-related clubs, organizations, and community service projects



Number of Research Publication related to Sustainability





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NTU Workshops Related to Sustainability	
No	Title
1.	Impacts of Green Spaces on Environment
2.	The sustainability: its concepts and implementation mechanisms in the Technical Engineering College of Mosul as a model
3.	Environmentally friendly refrigerant gases and their relationship with sustainability principles implementation in Mosul city
4.	Bio- Plastic its production, properties and uses
5.	Green Artificial Intelligence: Towards Sustainable and Equitable Technology for Smart Cities
6.	The use of the solar power station in the design of modern buildings
7.	A case study of suitable areas in Iraq for wind energy implementation
8.	Environmentally friendly alternatives - towards a carbon-neutral world
9.	Renewable of waste construction materials in building construction
10.	Environmental and health concerns regarding the mobile towers
11.	Sustainable green energy
12.	Air pollution control
13.	Electronic pollutants and their effect on the environment
14.	Chemicals and their effect on Environment and human health
15.	Reducing thermal emissions
16.	Increasing the efficiency of solar cells Using nanofluidics
17.	Sustainable development and its applications in artificial intelligence
18.	Use of recycled rubber and plastic In asphalt works
19.	Solar systems for power generation electrical
20.	Challenges of transitioning to energy Renewable
21.	Climate changes and their relevance With sustainable development
22.	Reducing and eliminating pollution Waste



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23.	Energy and environment indicators for development goals Sustainable
24.	Rain harvesting applications in buildings And public facilities
25.	Sustainable development overview
26.	Employing signature and formation The building is energy efficient Expenses
27.	Environmental assessment systems
28.	The student's role in sustainability Environmental
29.	Treating water scarcity Human use in Remote and rural areas Using solar energy
30.	Using LPWANs to monitor quality of rivers water and build smart farms
31.	Hydrogen gas production And its role in sustainability
32.	The importance of using systems Geographic informatics in sustainable development
33.	Sustainable environment in Iraqi legislation
34.	Zero energy buildings
35.	Benefiting from direct solar radiation to heat water for domestic use
36.	Renewable energies as an input To achieve sustainable development
37.	Sustainable development goals According to Iraq's vision
38.	Reducing waste for the sustainability and well-being of cities
39.	Underwater life
40.	A future vision for sustainable development in Iraq
41.	Sustainable cities and communities
42.	Global Zero Hunger System
43.	Methods of eliminating poverty in the world
44.	Space debris entering the airspace and its impact on the environment
45.	Environmental pollution with the development of technology
46.	Diseases common among animals And the human being
47.	Agricultural extension mechanisms and concept Specialization and gradation implied Work levels therein



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48.	Use pictures and plants in Conduct studies and research on Forest
49.	Methods of administering the drug in the animals
50.	Agricultural policies and their impact On food security
51.	Pumping station in an irrigation project North Island
52.	Occupational safety while working in Laboratories
53.	Nanotechnology is the future Smart agriculture
54.	Production of fodder crops by Hydroponics during periods of drought
55.	Afforestation sites in the west Nineveh Governorate to combat Desertification
56.	Ways to increase moisture content For the surface layer of soil
57.	Appropriate nutrition for the individual
58.	Preparation and photography method Microscopic histological sections
59.	Source arrangement program for researchers Mendeley
60.	Integrated management of the harvester
61.	Feed ingredients estimation process
62.	Use the program grammaly and qullbot in search
63.	Pollution and clean water
64.	Manufacturing is environmentally friendly
65.	Agricultural sustainability
66.	Afforestation and the environment
67.	Clean water
68.	Solar energy systems using MIGRI Resonance
69.	The importance of green plants in sustainability
70.	Use of renewable energy in areas Building air conditioning.
71.	Organic agriculture and its role in achieving sustainable development
72.	clean energy
73.	Green economy
74.	Sustainable marketing
75.	How to achieve sustainability
76.	Applying sustainable development concepts In engineering projects
77.	Sustainable development goals
78.	The role of corporate governance in supporting sustainable development goals
79.	The role of tourism in the sustainability of natural resources



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80.	The role of legal legislation and its impact on achieving sustainable development
81.	The role of financial financing in achieving sustainable development
82.	The reality of sustainable development in Iraq: obstacles, challenges, and development strategies
83.	Missing axes in sustainable development concepts
84.	The role of investment in information and communication technologies in achieving sustainable development
85.	Education for rationalization of consumption and a sustainable green environment
86.	University accounting education and its role in achieving sustainable development
87.	The importance of accounting creativity in achieving a sustainable competitive advantage

5. Conclusion:

Northern Technical University remains committed to its sustainability goals, striving to create a campus community that is environmentally responsible, socially conscious, and economically sustainable. Through ongoing efforts, NTU aims to inspire and educate the next generation of leaders who will contribute to a more sustainable future.