

# AL-KARKH UNIVERSITY OF SCIENCE

# SUSTAINABILITY REPORT



## 17 Sustainable Development Goals (SDGs)

### COMMITMENT TO SUSTAINABLE DEVELOPMENT



The university is committed to advancing the Sustainable Development Goals (SDGs) by embedding sustainability across its curricula and strengthening research focused on renewable energy, environmental protection, and resource efficiency. Through targeted funding, partnerships with industry and government, and campus operations that model low-carbon practices, it translates academic excellence into measurable social and environmental impact.

The university aspires to be a leading center of scientific and research excellence in Iraq and the region, by providing high-quality education, contributing to the development of knowledge and innovation, and preparing a generation of distinguished graduates capable of facing the challenges of the era.



### VISION

# Scopus analysis of the impact of Al-Kharkh University of Science's scientific output on the 17 SDGs















## Analysis of Scientific Research at Al-Karkh University of Science

- **Total output:** The university has **856** publications indexed in Scopus, reflecting its sustained effort to strengthen international research visibility and impact.
- **Sustainability focus:** Of these, **430** papers are in sustainability-related fields, accounting for approximately **50.23%** of the total output—a substantial share that underscores the university's commitment to sustainability (including SDG-aligned research).



# Scopus®

### SDG contributions

 Goal 2: Zero hunger	13 documents	 Goal 10: Reduced inequalities	1 document
 Goal 3: Good health and well-being	104 documents	 Goal 11: Sustainable cities and communities	23 documents
 Goal 4: Quality education	2 documents	 Goal 12: Responsible consumption and production	17 documents
 Goal 6: Clean water and sanitation	82 documents	 Goal 13: Climate action	19 documents
 Goal 7: Affordable and clean energy	108 documents	 Goal 14: Life below water	5 documents
 Goal 8: Decent work and economic growth	11 documents	 Goal 15: Life on land	12 documents
 Goal 9: Industry, innovation and infrastructure	28 documents	 Goal 17: Partnership for the goals	5 documents

# NO POVERTY (SDG 1)

1 NO POVERTY



Aligned with the directives of the Government of Iraq, Al-Karkh University of Science contributes to SDG 1: No Poverty through targeted initiatives that support students and the surrounding community.

Chief among these are need-based scholarships that remove financial barriers to higher education and direct financial assistance for students facing economic hardship, ensuring equitable access and continuity of study.

## Community Engagement and Volunteer Initiatives

The University encourages students to launch volunteer initiatives that support economically vulnerable groups. Projects span awareness campaigns on health, climate resilience, and environmental stewardship.

In partnership with local schools, NGOs, and municipal councils, student teams co-design solutions that meet real needs and foster social inclusion. The University provides mentoring, micro-grants, and recognition, and tracks outcomes—households reached, workshops delivered, learning gains—to ensure measurable, lasting impact. Together, these actions strengthen the University's civic role.



# NO POVERTY (SDG 1)

**Mision: Narrowing financial gaps among students**

## »» UNIVERSITY PLAN

Committed to equity, Al-Karkh University of Science strives to provide equal learning opportunities for all students and has launched an integrated strategy to address and reduce financial inequality on campus.

### Plan Objectives

#### 1) Scholarships

- Full or partial scholarships for low-income students
- Tuition waivers or reductions for eligible cases

#### 2) Educational Supplies

- Free or low-cost textbooks and learning materials

An e-library with free access to references

#### 3) Transportation & Housing

- Discounts or free transportation for students
- Support for students who need university housing



# ZERO HUNGER (SDG 2)

2 ZERO HUNGER



## University Plan for SDG 2: Zero Hunger

The University will advance food security through targeted teaching and action-oriented programs that help reduce hunger among students and the local community.



Iraq's ration card program supports SDG 2 by providing subsidized staple foods to citizens, funded by a multi-billion-dollar annual budget.



## University programs to Zero Hunger

- Iraq's Global Hunger Index standing is "moderate," with improvements linked to stronger oil revenues, steady salaries, the ration card system, student grants, and a wider safety net. Building on this progress, Al-Karkh University runs ongoing volunteer programs that provide food baskets to dormitory students and families below the poverty line, alongside support for student housing on campus.



# GOOD HEALTH AND WELLBEING (SDG 3)

3 GOOD HEALTH AND WELL-BEING



## University programs

Through targeted and specialized curricula, Al-Karkh University of Science enhances the competence of its graduates and their ability to serve public health. The University offers a comprehensive set of Academic Health Programs, including Environment, Environmental Health, Medical Physics, Life Sciences, and Forensic Evidence. These programs contribute to improving environmental health indicators and promoting evidence-based prevention and care. They also increase the number of qualified health professionals while upholding high standards of quality and professional ethics. In parallel, the University places great emphasis on sports, organizing championships and competitions that promote fitness and teamwork. This integration of academic and physical development fosters a holistic learning environment that nurtures students intellectually and socially. Through these combined efforts, the University directly supports Sustainable Development Goal 3 — Good Health and Well-Being.



# GOOD HEALTH AND WELLBEING (SDG 3)

3 GOOD HEALTH AND WELL-BEING



Al-Karkh University of Science hosts the second festival marking the World Day of Medical Physics.

Al-Karkh University of Science, under the patronage of the University President and the supervision of the Dean of the College of Science, held the second festival marking the 61st World Day of Medical Physics under the slogan “Medical Physics is an inspiration for future generations.” The program included Quran recitation, the Iraqi national anthem, Al-Fatiha for the martyrs, and cultural lectures. The Dean addressed participants, alongside researchers, lecturers, and students who presented talks highlighting medical physics as a bridge between medical and physical sciences. This initiative advances SDG 3 (Good Health and Well-Being)—by strengthening patient safety, radiological protection, and health-workforce capacity.



# QUALITY EDUCATION (SDG 4)

4 QUALITY EDUCATION



Al-Karkh University of Science advances SDG 4 through modern, labor-market-aligned programs; strong support for scientific research; inclusive policies; effective use of educational technology; and a firm commitment to non-discrimination. The University delivers high-quality learning across multiple levels and prepares graduates for careers in teaching—particularly at the primary stage.

## UNIVERSITY PROGRAMS TO SDG 4

This flagship program delivers study tracks that blend theory with hands-on practice to advance the Sustainable Development Goals—especially SDG 4: Quality Education. It prepares graduates with scientific and applied skills that meet labor-market needs and support sustainability.

### Program Objectives

- Strengthen practical and applied learning
- Advance sustainability
- Match labor-market needs

### Program Components

- Theoretical Studies
- Practical & Field Training
- Scientific Research





# GENDER EQUALITY (SDG 5)

5 GENDER EQUALITY



## Advancing SDG 5 at Al-Karkh University of Science

Al-Karkh University of Science advances SDG 5: Gender Equality through coordinated initiatives that foster an inclusive, equitable learning and working environment for women and men.

### Key Pillars

#### 1) Women's Empowerment in Education and Employment

- Ensuring equal participation of women in academic and training programs, with fair admission and progression across all colleges.
- Women constitute more than 50% of the student body, reflecting a strong commitment to equitable access and opportunity.

#### 2) Institutional Mechanisms and Governance

- A dedicated Women's Empowerment Unit (division level) promotes women's leadership, safeguards fair representation in senior administrative roles, and prevents marginalization and discrimination.



# CLEAN WATER AND SANITATION (SDG 6)

6 CLEAN WATER AND SANITATION



## Summary of Achieving Clean Water and Sanitation (SDG 6) at Al-Karkh University of Science

Al-Karkh University of Science conserves potable water by using non-drinking sources—from the Tigris River and artesian wells—for irrigating trees and gardens and for campus washing. Dedicated, color-coded pipelines and storage tanks keep non-potable flows fully separate from the drinking network, with backflow prevention in place. This approach eases pressure on municipal supplies, lowers costs, and strengthens resilience during shortages. In doing so, the University advances SDG 6 (Clean Water and Sanitation) and stands among Iraq’s leaders in campus water sustainability.



# CLEAN WATER AND SANITATION (SDG 6)

6 CLEAN WATER AND SANITATION



## Summary of Achieving Clean Water and Sanitation (SDG 6) at Al-Karkh University of Science

Al-Karkh University of Science runs a volunteer-led campaign to protect river water and conserve potable supplies. Activities include on-campus awareness drives, signage, and workshops on waste reduction, pollution prevention, and safe water use. Student and staff volunteers organize riverbank clean-ups and community outreach along the Tigris. The campaign encourages responsible consumption on campus. Progress is tracked via volunteers and events, waste collected, awareness materials distributed, and estimated water savings. The initiative advances SDG 6 and strengthens long-term water stewardship with local partners.



# AFFORDABLE AND CLEAN ENERGY (SDG 7)

7 AFFORDABLE AND CLEAN ENERGY



Aligned with SDG7, which ensures access to affordable, reliable, and sustainable energy, Al-Karkh University of Science accelerates progress via evidence-based research, future-ready curricula, and initiatives that scale renewable adoption and efficiency across campus and community.

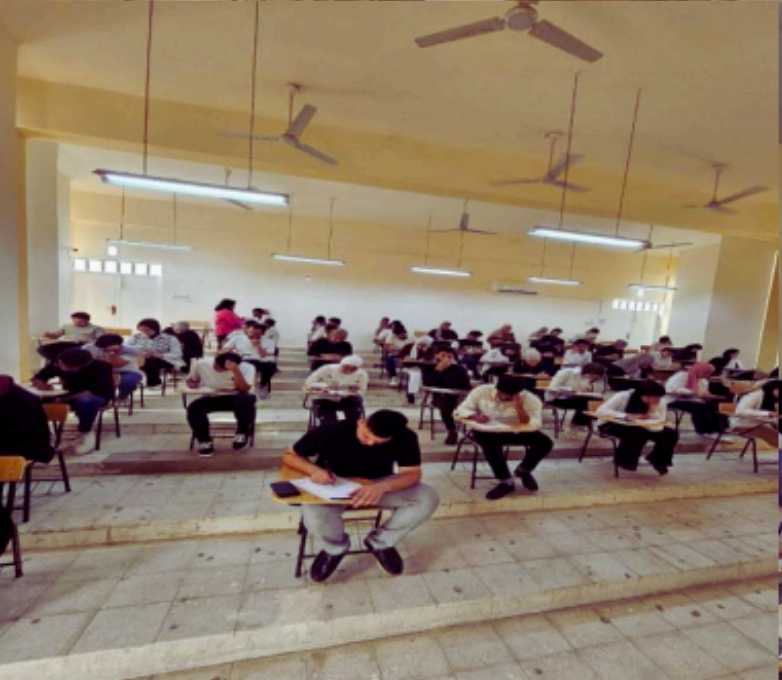
- As part of its commitment to environmental sustainability, the University is advancing the adoption of solar energy. Through the College of Energy and Environmental Sciences, it delivers specialized teaching and research programs in renewable energy—with emphasis on solar power—equipping students with up-to-date knowledge and technologies for clean energy generation, including photovoltaics, wind power, and biofuels.





## AFFORDABLE AND CLEAN ENERGY (SDG 7)

- Al-Karkh University of Science has implemented energy-efficient LED lighting across all campus buildings and facilities as part of its commitment to reducing electricity consumption and improving energy performance. This transition lowers electrical loads, cuts energy-related emissions, and enhances lighting quality and operational reliability—supporting the University’s sustainability agenda and SDG 7 (Affordable and Clean Energy).





# DECENT WORK AND ECONOMIC GROWTH (SDG 8)

Al-Karkh University of Science advances **SDG 8** by aligning curricula with labor-market needs and embedding practical skills across programs. Through its Career Development and Employment Unit, the University delivers internships, employer networking, and job-readiness training. Entrepreneurship initiatives, industry advisory councils, and innovation workshops help students launch viable ventures and strengthen local value chains. The University also promotes fair, inclusive work environments and tracks graduate outcomes to improve employability and productivity.



The Industrial Advisory Council connects Al-Karkh University of Science with public- and private-sector partners to align curricula and skills with labor-market needs. It coordinates internships, cooperative training, employer engagement, and curriculum updates to promote entrepreneurship and job readiness. These efforts advance SDG 8 by boosting employability, closing skills gaps, and strengthening local value chains.

# DECENT WORK AND ECONOMIC GROWTH (SDG 8)

8 DECENT WORK AND ECONOMIC GROWTH



## Our Future Starts Here: AKUS Career & Job Fair

Al-Karkh University of Science is hosting a Career & Job Fair to connect students and recent graduates with leading employers from the public and private sectors. The event features real vacancies, on-site screenings, CV reviews, and career-coaching sessions. Its goal is to align graduate skills with labor-market needs, expand internship and employment opportunities, and support SDG 8: Decent Work and Economic Growth. Bring your résumé, meet recruiters, and take your first step toward a competitive career.



# DECENT WORK AND ECONOMIC GROWTH (SDG 8)

8 DECENT WORK AND ECONOMIC GROWTH



## Future Skills & Entrepreneurship: Workshops Boosting Career Readiness

Al-Karkh University of Science hosted two complementary capacity-building events that strengthen career readiness and support SDG 8. The hands-on Entrepreneurial Feasibility Study workshop walked participants through market analysis, cost and revenue estimation, risk assessment, and key financial evaluation tools. Attendees practiced turning ideas into actionable, evidence-based plans suitable for investors and incubators. A companion seminar, AI and the Labor Market, mapped priority sectors, adoption challenges, and in-demand competencies for graduates. Together, these workshops enhance employability, foster entrepreneurship, and build innovation capacity across the University community.







# INDUSTRY, INNOVATION AND INFRASTRUCTURE (SDG 9)

Al-Karkh University of Science maintains modern academic and research infrastructure, including specialized laboratories, quality-compliant lecture halls, and high-reliability networks to support teaching and experimentation. A flexible power system—national grid plus generators, with energy-efficient LED lighting—ensures continuity while reducing operating costs. Service facilities include well-equipped libraries (aligned with accreditation needs), e-learning platforms, and conference venues, backed by technical support and maintenance. Environmental measures use non-potable water (from the Tigris and artesian wells) for irrigation and washing, alongside waste management and green spaces to reduce the footprint. By integrating laboratories, digital connectivity, and resource efficiency, the University underpins learning, research, and community service in alignment with SDG 9: Industry, Innovation and Infrastructure.





# INDUSTRY, INNOVATION AND INFRASTRUCTURE (SDG 9)

Al-Karkh University of Science inaugurated five new laboratories—Environmental Health, Cell, Chemistry, Optical Electronics, and Chromatographic Techniques—led by President Prof. Dr. Jumaa Salman Jiyad. The facilities strengthen the University’s scientific infrastructure and align academic programs with the latest advances in applied sciences. They enhance hands-on learning, expand research capacity, and enable advanced studies using state-of-the-art equipment. University leadership and college deans reviewed the new instruments and their role in supporting priority research projects. This development supports quality assurance and accreditation pathways, while improving the overall academic and research environment.





# REDUCED INEQUALITIES (SDG 10)

Reduced Inequalities (SDG 10) seeks to lessen disparities within and between countries by advancing equal opportunities and narrowing economic and social gaps. Al-Karkh University of Science contributes to this goal through policies and initiatives that foster inclusion and equity in education, ensuring broader access and opportunities for all students.

## In this regard,

- The university adheres to Iraqi laws and the principles enshrined in the Iraqi Constitution, which uphold the prevention of discrimination and ensure fair representation for all groups, regardless of gender, race, religion, or sect.
- The Quality Assurance and University Performance Department has developed effective policies to achieve Reduced Inequalities (SDG 10) and contribute to reducing discrimination and harassment. They will be discussed soon in the University Council and the Policy Committee for review, dissemination and implementation.

## Anti-discrimination policy



## Anti-harassment policy



# SUSTAINABLE CITIES AND COMMUNITIES (SDG 11)



SDG 11—Sustainable Cities and Communities was adopted by the UN General Assembly in 2015 to help make cities inclusive, safe, resilient, and sustainable. It recognizes the interdependence of development goals and seeks a balanced approach to social, economic, and environmental sustainability. Key priorities include investing in public transport, expanding green public spaces, and improving urban planning through participatory processes.

## In this regard,

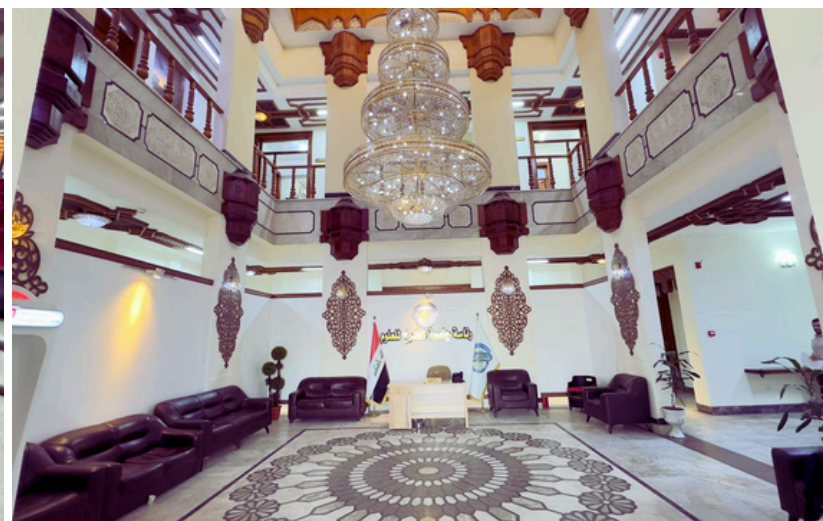
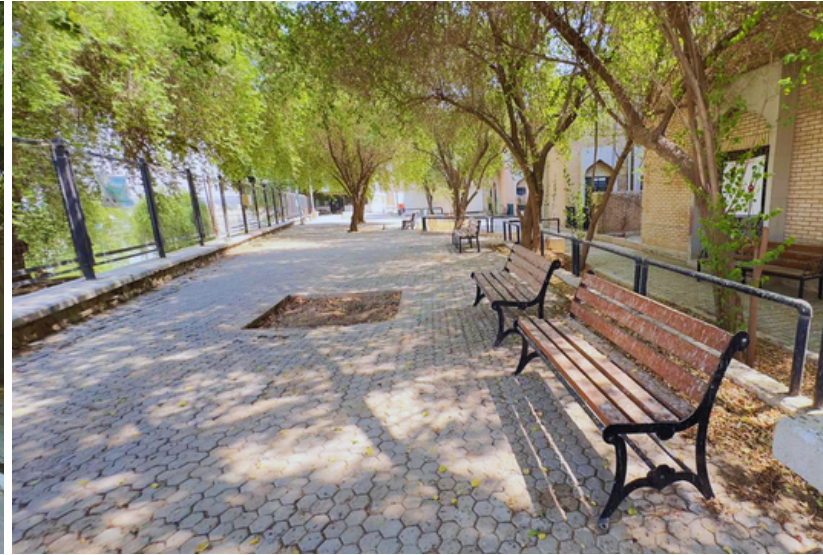
- the University provides sustainable and affordable transportation systems; protects cultural and natural heritage; reduces the negative impacts of natural disasters; and provides access to safe and inclusive public and green spaces.



# SUSTAINABLE CITIES AND COMMUNITIES 11 SUSTAINABLE CITIES AND COMMUNITIES

(SDG 11)

Enhancing Campus Sustainability and Accessibility within University of Al-Karkh for Science (SDG 11)

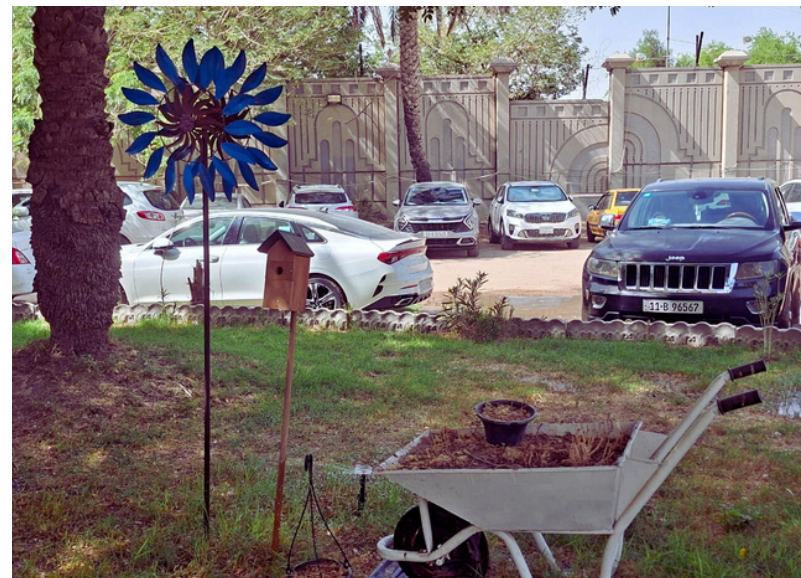


# RESPONSIBLE CONSUMPTION AND PRODUCTION (SDG 12)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



The university is dedicated to promoting responsible consumption and production throughout its campus operations and encourages circular resource use and reduces waste generation by recycling plastic, glass, wood, and paper on a regular basis. Energy efficiency, sustainable sourcing, and material reuse are all included into daily operations. These efforts raise environmental awareness among students and staff, linking institutional performance with sustainable development concepts.



# RESPONSIBLE CONSUMPTION AND PRODUCTION (SDG 12)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



# CLIMATE ACTION (SDG 13)

13



The University integrates climate action into its research, education, and campus operations. Through its Remote Sensing Department, the university monitors climatic variables such as temperature, drought, and land-cover change to support evidence-based decision-making. The Renewable Energy Department advances mitigation efforts via solar technologies and energy-efficiency projects. Academic curricula and student research promote awareness of climate change and sustainable adaptation. Tree-planting, waste reduction, and clean-energy use further reduce the campus carbon footprint.

- **Mr. Hussain Sami Shihab**, from the Financial and Administrative Affairs Department at the University of Al-Karkh for Science, participated in the National Youth Climate Training Camp organized by the Higher Council for Youth with the University of Kurdistan-Hewlêr. The camp aimed to develop youth leadership in climate action through workshops and discussions. Key outcomes included proposals for green cities, renewable energy expansion, waste recycling, and integrating climate change topics into national education curricula.





# CLIMATE ACTION (SDG 13)

13

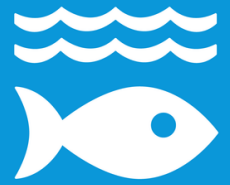


Karkh University of Science organized a workshop titled “Climate Change: A Real Fact” to raise awareness about the global climate crisis and its local impacts. The event, held by the Human Rights Division in cooperation with the Continuing Education Center, focused on the environmental and public health effects of climate change and reviewed scientific studies and international conferences promoting clean and renewable energy. Professor Ahmed Askar Najaf from the College of Remote Sensing and Geophysics presented a lecture on innovative technologies for capturing and storing carbon dioxide, including gas injection systems into depleted oil reservoirs to reduce greenhouse emissions in line with the Paris Agreement. He also discussed the Icelandic Carbfix project as a successful model for converting injected gases into stable underground minerals. The workshop concluded by emphasizing the importance of expanding research, education, and cooperation among universities, government institutions, and civil society to promote sustainable development and environmental protection.



# LIFE BELOW WATER (SDG 14)

14 LIFE  
BELOW WATER



Life Below Water (SDG 14) focuses on the conservation and sustainable use of oceans, seas, and freshwater resources. Al-Karkh University of Science contributes to this goal through a variety of educational, scientific, and community initiatives aimed at protecting water quality and aquatic ecosystems.

**To advance this objective, the University implements the following actions:**

- Conducting scientific field visits to environmental and water institutions, enabling students to gain practical skills in monitoring and managing water resources.
- Organizing voluntary campaigns to remove waste and pollutants along the Tigris River, thereby supporting biodiversity and improving riverine health.
- Expanding the number of scientific workshops and training courses related to water conservation, pollution control, and sustainable management of aquatic environments.



# Green Sustainability

Al- Karkh University of science



## Al-Karkh University of Science Sustainability Report 2024–2025

Version: 2.0

Issued: October 2025 – Baghdad, Iraq

Prepared by:

Muntadhar I. Rahmah, PhD  
Quality Assurance and University  
Performance Department

Contact Information

Email: [qcd@kus.edu.iq](mailto:qcd@kus.edu.iq)

Website: <https://kus.edu.iq>

