



AL-FURAT AL-AWSAT TECHNICAL UNIVERSITY (ATU)

In alignment with Al-Furat Al-Awsat Technical University's (ATU) strategy to advance applied scientific research addressing regional and global climate challenges, ATU formally documents the structure, scope, and public evidence for its specialized research entity: the **ATU Centre for Renewable Energy and Environmental Sustainability Research** (operating under the ATU Sustainable Development Unit & Research Centers Network).

This specialized center serves as the university's primary hub for conducting multi-disciplinary applied research, developing eco-technological solutions, testing clean energy prototypes, and consulting on climate adaptation policies across Iraq and the Middle Euphrates region.

Verified Public Links & Institutional Portals

To support QS audit verification, primary research frameworks, center activities, and published evidence are accessible on ATU's official web domains:

- ATU Sustainability Master Portal (Research Hub): <https://sustainability.atu.edu.iq/>
Central repository hosting research outputs, environmental metrics, and green technology projects.
- ATU Sustainable Development & Research Division Strategy: https://idi.atu.edu.iq/?page_id=44811&lang=en
Official strategy governing sustainability research priorities, funding, and UN SDG alignment (2022-2027).
- Center Research Infrastructure & Technical Vision: <https://ikr.atu.edu.iq/en/vision-mission-goals/>
Institutional mandate supporting specialized environmental research labs, clean tech innovation, and environmental monitoring.
- Applied Technical Research Reports: https://inj.atu.edu.iq/?page_id=37296&lang=en
Verifiable catalog of environmental engineering, water purification, and renewable energy research projects.



Al-Furat Al-Awsat Technical University

Kufa, Najaf, Iraq 60109360

4,290

Documents

1,898

Authors

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Documents Structure Collaborators Sustainable Development Goals

4,290 Documents

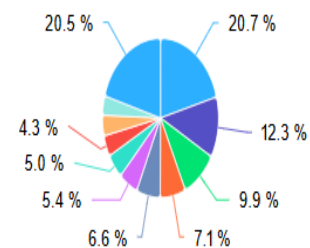
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Subject area	Documents
Engineering	1,652
Physics and Astronomy	981
Computer Science	791
Materials Science	563
Environmental Science	529
Agricultural and Biological Sciences	429
Medicine	400
Energy	339
Mathematics	333

Subject trends



- Engineering
- Physics and Astronomy
- Computer Science
- Materials Science
- Environmental Science
- Agricultural and Biological Sciences
- Medicine
- Energy
- Mathematics
- Chemical Engineering
- Other



Core Research Focus Areas & Specializations

The research center focuses specifically on key environmental sustainability priorities aligned with Iraq's national ecological requirements and the United Nations SDGs:

<https://www.scopus.com/pages/organization/60109360#tab=sdgs>

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New: See at one glance Sustainable Development Goals mapped to this organisation
Sustainable Development Goals (SDGs) are specific research areas that are helping to solve real-world problems. Elsevier data science teams have built extensive keyword queries, supplemented with machine learning, to map documents to SDGs with very high precision. Times Higher Education (THE) is using Elsevier SDG data mapping as part of its Impact Rankings. [More about SDGs](#)

SDG contributions

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Goal 1: No poverty	12 documents	Goal 10: Reduced inequalities	22 documents
Goal 2: Zero hunger	81 documents	Goal 11: Sustainable cities and communities	128 documents
Goal 3: Good health and well-being	497 documents	Goal 12: Responsible consumption and production	113 documents
Goal 4: Quality education	37 documents	Goal 13: Climate action	123 documents
Goal 5: Gender equality	11 documents	Goal 14: Life below water	26 documents
Goal 6: Clean water and sanitation	192 documents	Goal 15: Life on land	28 documents
Goal 7: Affordable and clean energy	630 documents	Goal 16: Peace, justice and strong institutions	15 documents
Goal 8: Decent work and economic growth	72 documents	Goal 17: Partnership for the goals	41 documents
Goal 9: Industry, innovation and infrastructure	253 documents		

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Research Division / Lab	Specialized Focus & Applied Research Scope	Target UN SDGs
Renewable Energy & Smart Grids Division	Investigates solar photovoltaic efficiency under arid climate conditions, wind energy integration, biomass energy, and energy-efficient building designs.	SDG 7: Affordable & Clean Energy SDG 13: Climate Action
Water Treatment & Resource Management Division	Focuses on advanced industrial wastewater treatment, membrane technology, smart irrigation systems, and desalinization solutions for southern Iraq.	SDG 6: Clean Water & Sanitation SDG 14: Life Below Water
Soil Conservation & Anti-Desertification Unit	Develops technological solutions for soil salinity reduction, drought-resistant crop cultivation, and land rehabilitation in arid environments.	SDG 15: Life on Land SDG 2: Zero Hunger
Waste Management & Circular Economy Lab	Researches hazardous waste neutralization, plastic recycling technologies, agricultural waste bio-gasification, and industrial e-waste processing.	SDG 12: Responsible Consumption SDG 9: Industry & Innovation



Key Center Functions & Collaborative Impact

The center operates beyond theoretical academic publishing to deliver tangible environmental solutions through:

- **Applied Industry Prototyping:** Designing low-cost solar-powered water filtration units and agricultural monitoring systems tailored to local community needs.
- **Government & Environmental Policy Advisory:** Providing scientific data and environmental impact assessments to local government authorities in the Middle Euphrates governorates.
- **Interdisciplinary Faculty & Student Research Grants:** Funding specialized graduation capstones and postgraduate studies focused on environmental problem-solving.
- **International Research Partnerships:** Collaborating with regional and global research institutions on joint climate action studies and sustainability conferences.

Institutional Support & Resource Allocation

Al-Furat Al-Awsat Technical University ensures the center's operational sustainability by providing:

- Dedicated research laboratory space and specialized analytical equipment across technical campuses.
- Annual internal research grants designated specifically for green technologies and climate resilience studies.
- Open-access publishing incentives for high-impact Scopus/Clarivate indexed research in environmental science.

No .	Authors	Research Title	Journal Name	Pu bli ca tio n Ye ar	Journal Type	Research Type	SDGs Related	Economic/Soci al Impact
1	Nawal A. Omran, Hayder H. Luaibi	Innovative Water Conservation Techniques in Agriculture Machinery	(Book Chapter / Proceedings)	2025	International	Review Article	SDG 2, SDG 6, SDG 12, SDG 13	Yes
2	Nawal A. Omran, Hayder H. Luaibi,	Study on the Effectiveness of Spraying Operation in Greenhouses by Varying Nozzle Type under	Dijlah Journal of Agricultural Sciences	2025	National Journal	Experimental Research	SDG 2, SDG 6, SDG 12,	Yes



	Firas Salim Al-Aani	Different Pressures and Speeds					SDG 13	
3	Mohammed R. Ajeel et al.	The Impact of Biofertilizers, Organic Fertilizers, and Foliar Application of Boron on Yield Characteristics of Maize (Zea mays L.)	Basrah Journal of Agricultural Sciences	2025	Scopus (Q3)	Research Article	SDG 2, SDG 15	No
4	Mushtaq Talib Mohsin et al.	Effect of Different Back Surface Field Layers on Performance of CuO Solar Cell Using SCAPS-1D: Numerical Investigation	International Journal on Advanced Science, Engineering & Information Technology	2025	Scopus (Q3)	Numerical Research	SDG 7, SDG 13	No
5	يعقوب صبيح، ليث علي زغير	دور التنمية المستدامة في تحقيق الأهداف الاقتصادية باستخدام الذكاء الاصطناعي	American Journal of Economics and Business Management	2024	International	Research Article	SDG 8, SDG 9	Yes
6	أحمد حسين دهيس وأخرون	Increasing photovoltaic system power output with white paint albedo – a scenario in Al-Musaib City using PVSyst software	International Journal of Power Electronics and Drive Systems	2023	Scopus (Q2)	Experimental/Numerical	SDG 7, SDG 13	No
7	محمد طرخان أبو الميخ	Effect of Adding Poultry Waste and Foliar Fertilization on Apricot Seedlings	Pakistan Journal of Agricultural Research	2025	Clarivate (Q3)	Experimental Research	SDG 2, SDG 15	No
8	محمد مالك حامد، محمد طرخان أبو الميخ	Biological Reclamation of Agricultural Soils Contaminated with Heavy Metals	Ecological Engineering & Environmental Technology	2024	Scopus	Experimental Research	SDG 6, SDG 15	Yes
9	محمد صلاح صادق، أحمد حسين دهيس	Solar PV Monitoring Techniques: State of Art Review	AIP Conference Proceedings	2024	Scopus	Review Article	SDG 7, SDG 13	No
10	زينة حسين علي وأخرون	Sustainable Municipal Solid Wastes Management in Babylon Province, Iraq	International Journal of Environmental Impacts	2025	Scopus (Q2)	Research Article	SDG 11, SDG 12, SDG 13	Yes



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Kufa, Najaf, Iraq 📞 60109360

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Organization name	Documents
University of Babylon	413
University of Kufa	396
Al-Mustaqbal University	209
University of Technology- Iraq	202
University of Kerbala	193
University of Baghdad	176
University of Al-Qadisiyah	168
Middle Technical University	168
Al-Qasim Green University	137
Universiti Kebangsaan Malaysia	132
The Islamic University, Najaf	130
Mustansiriyah University	110
Universiti Teknologi Malaysia	97
University of Warith Al-Anbiyaa	89
Imam Ja'afar Al-Sadiq University	87
Al-Muthanna University	82