



Sustainability Office

Accreditation and Quality Assurance center
Yarmouk University

**SUSTAINABILITY IS NOT AN OPTION:
IT IS THE WAY!**

<https://aqac.yu.edu.jo/Sustainability/index.php/en/>

2023

Prepared By: Rami Haddad || Dr.Razan mohidat

Total carbon emissions

- With regard to Scope 1, the amount of carbon dioxide emissions is 1276.338 tons in 2023, and the university has initiated many procedures that may contribute to reducing this amount, including, but not limited to: switching to the hybrid system, replacing gasoline and diesel cars, introducing electric car charging units, and increasing the internal and external green space.



User supplied data							GHG emissions (tonnes)			
Source ID	Sector	Fuel type (e.g., solid fossil)	Fuel	Amount of fuel	Units (e.g., kg or kWh)	Heating value basis	CO ₂	CH ₄	N ₂ O	All GHGs (tonnes CO ₂ e)
heat	Energy	Liquid fossil	Gas/Diesel oil	393724	litres (l)		1053.799	4.266E-02	8.533E-03	1057.255
transportat	Energy	Liquid fossil	Gas/Diesel oil	62000	litres (l)		165.943	6.718E-03	1.344E-03	166.487
transportat	Energy	Liquid fossil	Motor gasoline	23071	litres (l)		52.413	2.269E-03	4.538E-04	52.596
Total GHG emissions from fossil fuels (tonnes CO ₂ e)										1276.338
Total CO ₂ emissions from biomass (tonnes):										0.000

Actions adopted by Yarmouk University to reduce carbon emissions


Based on its social, scientific and ethical responsibilities, Yarmouk University has taken different scientific actions to address the most serious challenges facing the world today (climate change and global warming) and to reduce carbon emissions and reach zero carbon emissions.

Yarmouk University recognizes that investment in energy, infrastructure, and ICTs is essential for sustainable development. The application of sustainable consumption and production patterns helps to achieve comprehensive development plans, reduce economic, environmental and social costs in the future, and consolidate competitiveness. Moreover, reducing carbon dioxide emissions has become a priority necessity to Yarmouk University, which believes that it is necessary to shift towards modern systems in energy production. This would be the basis to achieve environmental goals and address challenges related to air, water, and soil pollution.

Yarmouk University has taken many actions and procedures that lead to climate conservation. Appendix (1) explains this in detail, in addition to the following procedures:

- Approving policies related to the seventeen pillars of sustainable development.
- Approving the procedures related to the implementation of the seventeen sustainable development policies.
- The student sustainable development team launched many projects that won local and international awards in the field of recycling and the use of solar energy in lighting buildings.
- The use of electricity generated by solar energy mainly to operate the air conditioning system, lighting and other equipment.
- Increasing the green areas on campus.
- Reducing the use of paper, by shifting towards electronic systems.
- Recycling in order to reduce waste and reduce gas emissions, is considered one of the best and most environmentally and climate-friendly processes and constitutes the first step in addressing many environmental issues related to climate change.
- Starting to replace the old fuel-powered cars used at the university campus with electric and hybrid ones.

-
- Encouraging the university community to replace fuel-powered cars with electric or hybrid ones, and so far more than 700 out of 1350 cars have been replaced for hybrid and electric cars.
 - Encouraging continuous awareness for students and employees through Yarmouk University Radio concerning climate change issues.
 - Beginning to proactively prepare for the voluntary launch of the first report on "Measuring Carbon Footprint" and greenhouse gas emissions, which is the most important step towards fulfilling its responsibility as a national and educational institution towards climate change in an effective manner and evaluating the performance of sustainability policies on campus-scale, by using simple equations that can be applied to all other institutions at both the national and regional levels. This trend comes after the University has completed the stages that ensure the reduction of the operating energy bill to zero to make 2022 the base year of transformation for sustainable solutions in preserving and developing the environment. Yarmouk University through its policies related to sustainable development is working to reach zero gas emissions in 2035.
 - Recognizing that the most important challenges facing Jordan, as part of the Arab region and the Middle East, are the high energy bill and the scarcity of water resources.
 - Taking the initiative, and creates mechanisms in finding solutions based on resources, especially humans, and the use of a creative thinking approach to it, and the application of those mechanisms to achieve sustainability, the university has taken the following steps:
 - Yarmouk University is committed to implementing the comprehensive national climate change policy, through practices that call for reducing greenhouse gas emissions.
 - Implementation of a plan for the gradual transition to the use of alternative energy, where the university reached at the beginning of the year 2023, to the extent that it produced its full energy from the sun, while exporting the surplus energy to the electricity company, and the following table shows the procedures and results:

t	Statement	Evidence
1	Renewable energy sources, where 28 sources were installed and operated until 2023, according to the following details:	https://engineering.yu.edu.jo/index.php/2018-07-24-10-02-46/415-2021-06-02-12-03-59 
1.1	Number of renewable energy sources	28 sources with a total capacity of 0.605 GW/year For each sources .
1.2	The amount of energy produced by solar energy	10.259.051 GW/Year
1.3	Total energy consumption on campus per year	8.496.338 GW/Year
1.4	Percentage of energy output divided by total use	116%
1.5	Amount of energy exported to NEPCO	16%
1.6	Establishing renewable energy sources in the projects on which Yarmouk University is based	https://www.yu.edu.jo/index.php/newarcat/1161-2021-11-22-08-54-51

- Increase the green areas on campus as follows:

t	Statement	Area before 2021	Area after 2021
1	Area covered with forest vegetation	45.000 m ²	50.000 m ²
2	Area covered with plants	60.000 m ²	80.000 m ²
3	Total campus area divided by total campus population	4 sqm	

Appendix (1) Measures adopted by the University to reduce greenhouse gas emissions, especially carbon dioxide

Range	Emission field	Applicable Procedures	Suggested actions for improvement	Evidence
First Domain	Direct fuel burning in buildings	<ul style="list-style-type: none"> - Central heating uses for limited hours; turned on an hour before the start of students' classes, and until noon. - Increase the areas covered by trees and plants by 15% 	<ul style="list-style-type: none"> - Installation of energy-saving AC modules, which can be used in summer and winter, especially since the university has started strongly in the solar energy project. - Strengthening the green cover inside and outside the buildings, and choosing plants with high oxygen production, such as: <i>Melia azedarach</i> 	<ul style="list-style-type: none"> - Green cover area 80.000 m²
	Burning automotive fuel	<ul style="list-style-type: none"> - Various modes of transportation use fuel, university cars are starting to 	Replacing gasoline and diesel cars with hybrid and electric cars.	

		<p>shift towards hybrid, and financial cost is one of the prominent challenges in this measure.</p> <ul style="list-style-type: none"> - Establishing an electric vehicle charging station at the university 		
Second Range	Electricity Purchase	<ul style="list-style-type: none"> - The use of energy-saving devices, where student projects are directed and supported, including the project of lighting in streets and buildings based on solar energy. - Establishing renewable energy sources in the projects on which Yarmouk University is based 	<p>Increasing the number of solar cells to include larger areas and using them as umbrellas that protect students and employees from sunlight.</p>	 <p>https://www.yu.edu.jo/index.php/newarcatt/1161-2021-11-22-08-54-51</p>
Third Domain	Paper consumption	<ul style="list-style-type: none"> - The university has computerized all 	<ul style="list-style-type: none"> - Complete transformation of electronic correspondence 	<ul style="list-style-type: none"> -

		<p>correspondence to become electronic by 80%. – Computerized exams have been activated instead of paper exams by 25%.</p> <ul style="list-style-type: none"> - The university has an agreement with a company specializing in recycling. 	<ul style="list-style-type: none"> - Increase the percentage of computerized courses. - Partnerships with CBOs to work waste and paper recycling. 	
	Water consumption	<ul style="list-style-type: none"> - Periodic maintenance and replacement of some water taps with environmentally friendly and economical ones. 	<ul style="list-style-type: none"> - Awareness of water conservation - Replacing sensor water taps with conventional water taps - Installing sensors for water tanks to reduce water waste. - Using water-saving systems - Enhancing vegetation cover with plants that have little need for water. 	-
	Student Transportation	<ul style="list-style-type: none"> - Dormitory for students surrounding and close to the university - The campus buildings are close together. - Providing mass buses for students 	<ul style="list-style-type: none"> - Establish activities that encourage and promote the culture of walking - Increase the number of umbrellas 	

		<ul style="list-style-type: none"> - Building umbrellas on the students' path line between colleges. 		
	Transfer of workers	<ul style="list-style-type: none"> - Providing university housing for employees who live in other governorates. - Concluding agreements with banks to finance the purchase of employees of modern hybrid and electric cars. 	<ul style="list-style-type: none"> - Establish activities that encourage and promote the culture of walking - Increase the number of umbrellas serving students and staff 	
	wastes	<ul style="list-style-type: none"> - Start using special containers to sort waste and spread this culture among students and employees. 	<ul style="list-style-type: none"> - Encourage staff and students to use standing cups. - Sorting waste using special containers throughout the university - Concluding permanent agreements with waste recycling companies in all its forms (paper cups, glass, plastic) 	

In order to educate students about the environment, spread the culture of environmental protection and carbon footprint, and activate the sense of citizenship, the following actions have been worked on:

Applicable procedure	Evidence
Allocating specialized teaching courses in the field of environment and its preservation in general	10 courses
Establishment of a Center for Sustainable Development Studies	It offers continuous courses in the field of sustainable development, environmental awareness.
Activities of the academic departments	Those implemented by the Department of Earth and Environmental Sciences at the .university https://science.yu.edu.jo/IMAGES/8.pdf https://science.yu.edu.jo/IMAGES/2.pdf

- **regarding scope 2, the university** exploit and invest solar energy, so it worked to establish 28 renewable energy units so far with a total capacity of **0.605 GW/Year for each unit** to reach the amount of energy produced in 2023 (**10.26 GW**) and the amount of energy consumed (**8.5 GW**). **Moreover, the university worked on using of the energy** ,saving electrical appliances to **make** the university's electrical bill value and carbon dioxide emissions zero.

Electricity consumption in 2023	8.5 - 9 GW
Electricity generated from solar energy in 2023	10,26 GW
that is, zero CO2 emissions from electricity consumption	

Audit and Evaluation Committee:

- Prof. Samer Samara - Vice President for Planning and Development Affairs, Scientific Research and Quality Affairs.
- Prof. Ayman Hammoudeh – Chemical Department .
- Dr. Iyad Sartawi – Director of the Accreditation and Quality Assurance Center.
- Dr.Rasha Daboor - Director of Quality Department.
- Dr. Rana Al-Smadi -Deputy Director of the Accreditation and Quality Assurance Center

Sustainability Team (Sustainability Office):

Dr.Iaad Sartawi

Head of Sustainability Team

Rami Y.S Haddad

Member- Responsible of Sustainability and Enhancement Officer

Dr.Razan Mohidat

Member - Environmental development officer