ANNUAL SUSTAINABILITY REPORT UANL 2023

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Spanish version

CONTENT

UANL

UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

IN THE IMPLEMENTATION OF

SUSTAINABLE DEVELOPMENT GOALS

PROLOGUE

Universidad Autonoma de Nuevo Leon (UANL) enduring commitment to sustainability has been a hallmark throughout its history, establishing it as a key element of our institutional development. Guided by this principle, we present the UANL 2023 Annual Sustainability Report.

This document reflects our achievements over the past year and our vision and responsibility for the future, as outlined in our Institutional Development Program UANL 2024-2040.

In our institution, we regard sustainable development not as an option but as an inherent responsibility. This aligns with our university's role as a generator of knowledge and as an educator of professionals who are committed to environmental care and respect.

Our Institutional Development Program 2024-2040 marks a new phase, aiming not only to strengthen UANL's academic and scientific capabilities but also to develop a comprehensive strategy that enables the institution to remain a benchmark in sustainability at both national and international levels.

Aligned with UANL Vision 2040, we aspire to be a leading institution in education and implementing practices that promote sustainable development. We envision our future with a comprehensive approach, focused on generating solutions to address the challenges facing contemporary society.

This report serves as a testament to the progress made on this journey, showcasing initiatives that promote development within environmental limits and support the creation of an equitable and just society.

The achievements of 2023 are a testament to the collective efforts of our entire university community.

Through the collaboration of students, faculty, researchers, and staff, we have implemented innovative practices in water management, energy efficiency, waste management, natural resource conservation, and sustainable mobility, among other areas. We have also promoted projects that tackle local issues with global impact, contributing to the development of leaders committed to the future of our planet.

I extend my gratitude to the members of the university community for their invaluable contributions and encourage them to continue building a university dedicated to the well-being of society and the planet. This commitment aligns with the Sustainable Development Goals set by the United Nations and our Institutional Development Program 2024-2040.

At UANL, we reaffirm our commitment to remain a catalyst for change, fostering the creation of a more just and sustainable future, guided by "excellence as a principle and education as an instrument".

Dr. med. Santos Guzmán López
Provost

WHO WE ARE

MISSION

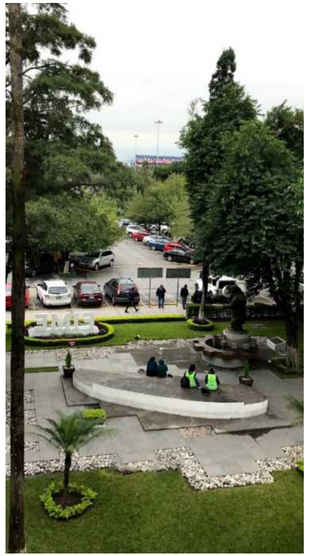
To train socially responsible, innovative, competitive and competent high school students, technicians and professionals, with full awareness of the regional, national and international environment, with principles and values, committed to the sustainable, scientific, technological and cultural development.

To generate timely, relevant and transcendent contributions to the advancement of science, technology, innovation and humanities, and to the improvement of the level of human development of the Nuevo León society and the country.

To spread and extend, as widely as possible, the benefits of culture, paying particular attention to its responsibility to maintain and increase ties with the general community.

VISION

"In the year 2040, the Universidad Autónoma de Nuevo León will consolidate itself as a public institution of academic excellence, inclusive, equitable, humanistic and international leader in education, innovation and cutting-edge research, which preserves its autonomy, promotes university social responsibility and culture for peace, adopts emerging technologies and good practices in sustainable development, to improve the quality of life and well-being of society".



VALORES

- Truth
- Responsibility
- Justice
- Equality
- Peace
- Freedom
- Tolerance
- Solidarity
- Respect
- Honesty

NUMBERS

The UANL provides educational services to students who mainly come from the **51** municipalities of the state of Nuevo León and from the northeast region of the Mexican Republic.

There are **36** municipalities in the state of Nuevo León with UANL academic infrastructure.

UANL COMMUNITY

217,362
students

6,369
administrative employers

7,013
scholars

EDUCATIONAL COVERAGE

55
schools

86
buildings

12
community centers

DISTRIBUTION OF ENROLLED STUDENTS BY GENDER

52 %
women

48 %
men

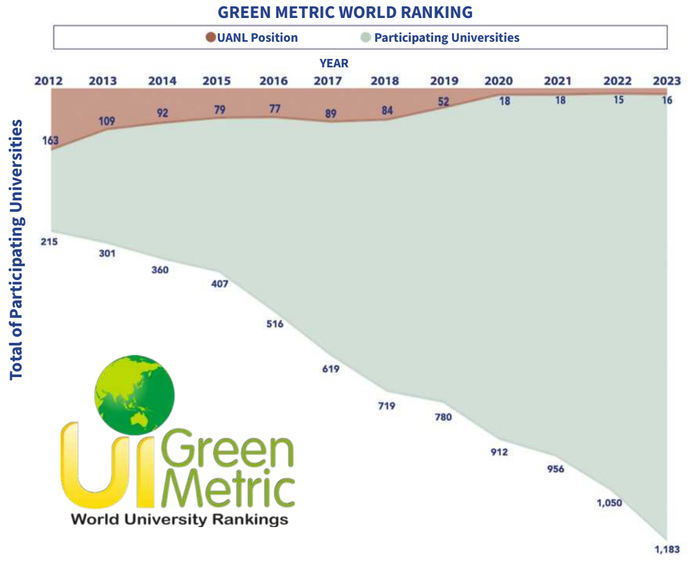
70 %
municipalities of the state of Nuevo León

GREEN METRIC UNIVERSITIES WORLD RANKING

1º
place at national level
for the 7th year in a row

2º
place in North America

16º
place at international level



UANL POSITION BY THE GREEN METRIC WORLD RANKING INDICATORS

waste **14**	urban campus **16**	environment and infrastructure **17**	
education **28**	transportation **39**	water **77**	energy and climate change **147**

EDUCATIONAL QUALITY

61 internationally accredited educational programs

63 national and international academic collaboration agreements

73 undergraduate educational programs accredited by national organizations

Source: Report on activities carried out at UANL for the year 2023.

ACADEMIC PROGRAMS ACCREDITED IN THE NATIONAL REGISTER OF QUALITY EDUCATIONAL PROGRAMS (PNPEC)

Level	*Total*	*Evaluable PE*	*Not evaluable PE*	*PE acreditados*
University Higher Technician	1	1	0	1
Bachelor	90	73	17	73
Totals	**91**	**74**	**17**	**74**

Source: Head Office of the Undergraduate Studies System, Academic Secretariat.

ACADEMIC BODIES (AB)

CA: Groups of teachers who share one or several lines of creation and application of knowledge in disciplinary or multidisciplinary topics.

113 consolidated ▸ **88** in consolidation process ▸ **67** currently being trained ▸ **268** total

95 % of the AB are linked to sustainability issues.

111 consolidated ▸ **78** in consolidation process ▸ **66** currently being trained ▸ **255** total

AB linked to sustainability issues

AWARDS OF PROFESSORS

7,013 professors at the UANL

1,381 professors are in the "Program for the Professional Development of Teachers" (PRODEP).

1,234 professors in the National System of Researchers (SNII)

QUALIFICATIONS OF THE ACADEMIC STAFF

Teachers	*Academic Degree*	*Middle Higher Level*		*Higher Level*		*Total*	
Full Time	Bachelor's Degree	18	30 %	42	70 %	60	2 %
	Master's Degree	640	59 %	935	41 %	1,575	49 %
	Specialization	7	4 %	186	96 %	193	6 %
	Doctor's Degree	75	5 %	1,303	95 %	1,378	43 %
	Subtotal	740	23 %	2,466	77 %	3,206	100 %
Part Time	Bachelor's Degree	4	14 %	24	86 %	28	12 %
	Master's Degree	84	45 %	103	55 %	187	81 %
	Specialization	0	0 %	1	100 %	1	1 %
	Doctor's Degree	3	21 %	11	79 %	14	6 %
	Subtotal	91	40 %	139	60 %	230	100 %
Subject	Bachelor's Degree	838	49 %	868	51 %	1,706	48 %
	Master's Degree	649	39 %	998	61 %	1,647	46 %
	Specialization	9	29 %	22	71 %	31	1 %
	Doctor's Degree	23	12 %	170	88 %	193	5 %
	Subtotal	1,519	42 %	2,058	58 %	3,577	100 %
Totals		**2,350**	**105 %**	**4,663**	**195 %**	**7,013**	**100 %**

Source: Report on activities carried out at UANL for the year 2023.

EDUCATIONAL PROGRAMS BY FIELD OF ACADEMIC TRAINING

Field Number	*Academic Training Field*	*Educational Programs*		
		Bachelor's Degree	University Higher Technician	Total
1	Education	1	0	1
2	Arts and humanities	14	0	14
3	Social sciences and law	14	0	14
4	Management and business	11	0	11
5	Natural sciences, mathematics and statistics	11	0	11
6	Information technologies and communication	7	0	7
7	Engineering, manufacturing and building	16	0	16
8	Agronomy and veterinary	4	0	4
9	Health sciences	7	0	7
10	Services	2	0	2
Totals		**87**	**0**	**87**

Source: Academic Secretariat.

EDUCATIONAL PROGRAMS ACCREDITED BY NATIONAL AGENCIES

Accreditation	*CIEES: Comités Interinstitucionales para la Evaluación de la Educación Superior (Inter-institutional Committees for Higher Education Evaluation)*	*COPAES: Consejo para la Acreditación de la Educación Superior A.C. (Higher Education Accreditation Council)*	*Both accreditations*
Bachelor's Degree	22	68	17
University Higher Technician	0	1	0
Totals	**22**	**69**	**17**

Source: Head Office of the Undergraduate Studies System, Academic Secretary's Office.

EDUCATIONAL PROGRAMS REGISTERED IN CONAHCYT'S NATIONAL POSTGRADUATE SYSTEM

	Degree			
	Doctor's	*Master´s*	*Specialty*	*Total*
Programs in the National Graduate System of the National Council of Humanities, Sciences and Technologies (CONAHCYT)	40	101	55	196

Source: Academic Secretary's Office.

Specialties

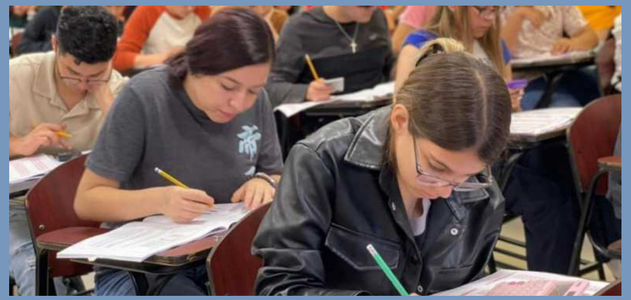
Master's Degrees

Doctorates

EDUCATIONAL OFFER IN ALTERNATIVE MODALITIES

Modality	*Level*			
	High School	*Bachelor's*	*Post-graduate*	*Totales*
Mixed and online	0	1	0	1
Online	0	5	0	5
Open	0	0	0	1
Mixed	0	28	0	28
Mixed in Community Centers (Aula.edu)	0	0	0	2
Totals	**0**	**34**	**0**	**34**

Source: Academic Secretary's Office.



EVALUABLE AND NON-EVALUABLE EDUCATIONAL PROGRAMS

Level	*Evaluable EP*	*Non-evaluable EP*	*Total*
Bachelor's Degree	72	14	86
University Higher Technician	1	0	1
Totals	**73**	**14**	**87**

Source: Academic Secretary's Office.

UNIVERSITY FOR THE ELDERLY PROGRAM

58
students

8
courses and workshopss

170
participants

Its goal is to offer an alternative option of training and education for people over 60 years of age so they can live a successful aging process.

Source: Office of Inclusive Education.

INCLUSION PROGRAM FOR STUDENTS WITH DISABILITIES

The purpose of this program is to sensitize the university population about attitude management towards people with disabilities, promote their integration and adaptation to university spaces and propose adjustments to the physical infrastructure to allow their free movement through the university buildings.

4,840

students enrolled in the inclusion program

Objectives of the program:

- To promote the inclusion of students with disabilities in the field of mid-higher education and higher education of the UANL.
- To design education, training and updating programs for the teaching, administrative and service staff, in terms of educational care for students with disabilities.
- To plan and coordinate the required programs, strategies and actions in the academic and human resources fields, to provide comprehensive support to applicants and/or current students with disabilities at UANL.

STUDENT POPULATION ENROLLED IN THE INCLUSION PROGRAM

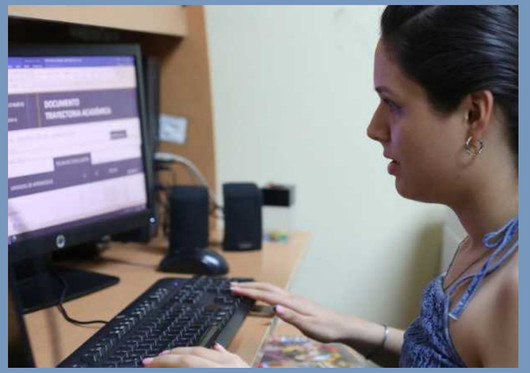
Educational Level	*Quantity*
Middle-Higher	2,427
Higher	2,413
Totals	**4,840**

Purposes:

- To provide guidance and support to applicants of the UANL in the process of assigning schools at the mid-higher level and the selection process at the higher level.
- To be a communication bridge between the schools and the students with specific educational needs and/or disabilities to support their school permanence.
- To provide training courses and workshops on educational inclusion for the teaching and administrative staff. To organize events are that promote inclusion and are aimed at the university community and the general public interested in the subject.

Source: Inclusive Education Office.

Types of disability	*Middle Higher Level*	*Higher Level*
Reduced Hearing (Hypoacusis)	29	16
Blindness	14	8
Hearing Impairment	59	81
Visual Impairment	1,469	1,658
Major Depression	16	29
Cognitive Development	9	10
Motor Development	24	70
Dyscalculia (Severe Difficulties in Mathematics)	7	2
Severe Intellectual Disability	1	1
Moderate Intellectual Disability	15	1
Mild Intellectual Disability	28	7
Motor Disability of the Lower Limbs	42	18
Motor Disability of the Upper Limbs	23	11
Multiple Motor Disabilities	14	8
Mental Disabilities	4	13
Neurological Disabilities	17	32
Dysgraphia (Difficulties in Learning to Write)	3	1
Dyslexia (Difficulties in Reading)	51	24
Moderate to Severe Visual Impairment	44	19
Epilepsy	58	35
Multiple Sclerosis	4	3
Schizophrenia	2	5
Post-Traumatic Stress Disorder (PTSD)	1	1
Nonverbal Learning Disabilities	3	0
Asperger Syndrome	130	58
Deafness	7	2
Stuttering	6	5
Eating Disorder	9	7
Bipolar Disorder	3	18
Anxiety Disorder	91	106
Communication Disorder (Expression and Comprehension)	2	0
Antisocial Personality Disorder	2	0
Unspecified Disruptive Behavior Disorder	1	0
Autism Spectrum Disorder	48	33
Intermittent Explosive Disorder	0	0
Oppositional Defiant Disorder	1	1
Attention Deficit Disorder (ADD)	171	95
Learning Disabilities	19	35
Totals	**2,427**	**2,413**



UNIVERSITY HEALTH CENTER SERVICES (CUS)

149,429 consultations and annual services provided in:

6 university clinics located in the municipalities of Guadalupe, Apodaca, and Ciénega de Flores.

2 dental and specialty modules located in the municipalities of Guadalupe and Apodaca.

1 comprehensive care clinic for adolescents and young adults in the municipality of Guadalupe.

Source: University Health Center.

Attention to more than 22 thousand attendees in 10 Health Fairs of different UANL Institutions and Schools.

13,404 attendees in 15 health-related Integrated Training Activities (AFI).

SOCIAL ASSISTANCE, COMMUNITY SERVICES AND VOLUNTEER PROGRAM

2,973

community services provided in 2023

57,063

citizens benefiting from social assistance programs

Community services provided	*Number*	*Benefited population*
Social	236	54,326
Legal	2,737	2,737
Total	**2,973**	**57,063**

Source: Report on activities carried out at UANL for the year 2023.

UANL CULTURE

1,141 artistic and cultural events in 2023

543,516 attendees in face-to-face and virtual modality

2023 Event	*Quantity*	*Attendees in face-to-face and virtual*
Concerts	180	55,599
Competitions and Awards	19	4,855
Courses, Workshops, and Seminars	138	17,611
Conferences, Lectures, Talks, and Speeches	128	5,679
Dance, Ballet, and Poetry Performances	119	104,170
Theater Performances	69	7,386
Exhibitions and Displays	45	309,815
Tributes and Recognitions	21	2,384
Cinema	80	2,952
Book Presentations	178	6,333
Editorial Presentations at the UANLeer University Book Fair	164	26,732
Totals	**1,141**	**543,516**

Source: Extension and Culture Department.

SPORTS

 # 1
in student sports in México

6,093
sports activities in 2023

43,176
student athletes

18°
championship at the Universiada Nacional (National Universiade)

16°
back-to-back titles

527
athletes participating in 28 disciplines

51 athletes participated in international specialty events

24 athletes participating in Central American and Pan American Games

1,309 students participated in national specialty events

53 students in 9 disciplines in adapted sports

Auténticos Tigres

Champions Youth and intermediate leagues

Subchampions Major League

Source: Office of Sports and Report of Activities Developed at the UANL corresponding to the year 2023.

CO_2 CARBON FOOTPRINT

In 2023, UANL's per capita carbon footprint was

0.36

metric tons*

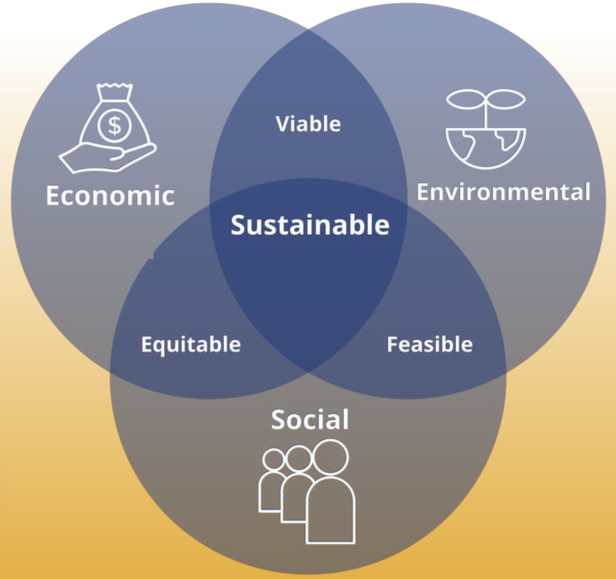
In 2023, UANL's Carbon Footprint was 83,894 metric tons*

*Calculated using the methodology proposed by Carbon Footprint TM (www.carbonfootprint.com)

EFFICIENT USE OF WATER AND ENERGY PROGRAM

6.45 m^3
per capita / annual water consumption

428 kWh
per capita/ annual energy consumption



UANL FUNDS AND BUDGET ALLOCATED TO SUSTAINABILITY

$553,175,704.00 (USD)
UANL annual budget

$66,981,210.00 (USD)
budget allocated to sustainability investments

$ 65,099,829.00 (USD)
research funds

$ 28,543,269.00 (USD)
funds destined for sustainability research

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABLE INFRASTRUCTURE

The Universidad Autónoma de Nuevo León (UANL) is recognized as the most important institution of higher education in northern Mexico and one of the largest in Latin America when considering its student population and infrastructure. Currently, the UANL encompasses 26 schools and 29 high schools located in seven university campuses and 80 facilities located in 36 of the 51 municipalities that comprise the state of Nuevo León.

Five campuses are located in the Monterrey and its Metropolitan Area: Ciudad Universitaria, Health Sciences, Mederos, Agricultural Sciences and Cadereyta, and there are two more in the municipalities of Sabinas Hidalgo and Linares.

Due to the geographic location of the state of Nuevo León, most of the university campuses and facilities of the UANL are located in climatic regions considered arid and semi-arid, with an average annual rainfall of 650 mm and an average temperature of 25°C, with maximum temperatures that exceed 40°C and minimum temperatures of 0°C or even lower.

37,994,120 m²
total area occupied by the seven campuses that make up UANL

37,452,407 m²
total water absorption area

36,372,000 m²
area occupied by forest vegetation

98.5%
ration of open space

1,083,426 m²
constructed area

1,080,407 m²
area occupied by planted vegetation

541,713 m²
total area on first floor

164 m²
of open space per capita

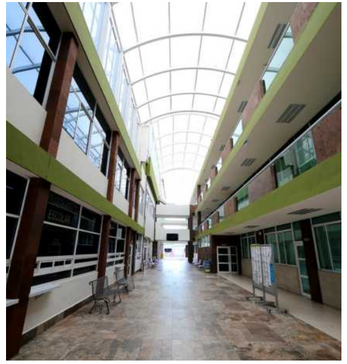
For several years, the UANL has promoted an institutional policy on sustainable infrastructure aimed at designing, constructing and operating buildings, facilities and spaces under principles of environmental, economic and social sustainability, seeking to reduce environmental impact, optimize the use of natural resources and promote an environment that favors the welfare of the university community.

These types of buildings guarantee compliance with strict energy efficiency standards and sustainability, since they not only reduce energy and water consumption, but also promote a healthier environment for members of the university community.

In this manner, the UANL continues to move towards a sustainable infrastructure model that not only responds to current needs, but also anticipates future challenges. With these efforts, we reaffirm our commitment to be leaders in sustainability, in addition to providing an environment that inspires future generations.

Among the actions carried out to achieve greater energy efficiency on campuses and university facilities, the following are noteworthy:

- Installation of energy-efficient lighting equipment.
- Replacement of conventional air conditioning equipment with energy-efficient ones.
- Promote self-generation of energy using renewable sources.
- Installation of motion detectors in classrooms and offices.
- Improve the thermal insulation of the infrastructure.
- Take advantage of ventilation and natural light to reduce energy consumption.
- Installation of low energy consumption LED screens.
- Installation of water-saving equipment in service areas in administrative and educational buildings.
- Design and installation of green roofs.
- Installation of waste management and recycling systems.
- Increase the rainwater retentive surface.
- Use solar thermal plant to heat water.
- Development of green areas and sustainable gardens, which also contribute to increasing local biodiversity and community well-being, among others.



100 %

of UANL buildings have one or more energy-efficient equipment

The implementation of all this infrastructure and equipment has demanded a great technical and economic institutional effort, but it has allowed us to achieve that currently 100% of the UANL buildings use high efficiency air conditioning and lighting equipment, water saving equipment and adequate waste management systems, which generates significant economic and energy savings, reducing the emission of greenhouse gases (GHG) derived from the academic activities that are carried out daily on the UANL campuses and facilities.

MAIN CAMPUS

LOCATION:
San Nicolás de los Garza, Nuevo León, México

University buildings and Schools

President's office Building
School of Architecture
School of Biological Sciences
School of Physical and Mathematical Sciences
School of Chemical Sciences
School of Public Accounting and Management
School of Law and Criminology
School of Civil Engineering
School of Mechanical and Electrical Engineering
School of Philosophy and Arts
School of Sports Organization
School of Social Work and Human Development

Area

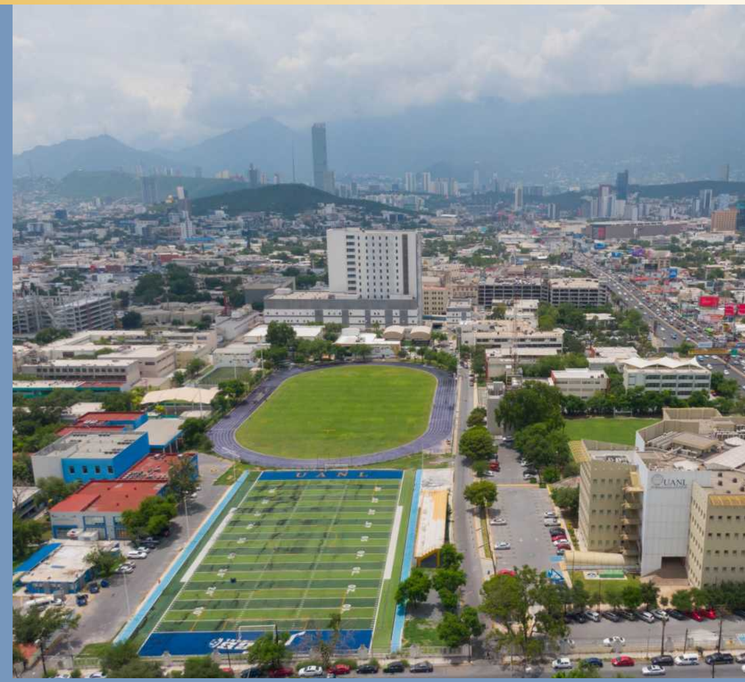
95 hectares

HEALTH SCIENCES CAMPUS

Area

29 hectares

LOCATION:
Monterrey, Nuevo León, México



University buildings and Schools

School of Nursing
School of Medicine
School of Dentistry
School of Psychology
School of Public Health and Nutrition
University Hospital

MEDEROS CAMPUS

Area

194 hectares

LOCATION:
Monterrey, Nuevo León, México

University buildings and Schools

School of Performing Arts
School of Visual Arts
School of Communication Sciences
School of Political Science and International Relations
School of Economics
School of Music
Institute of Social Research
Center for Foreign Language Studies and Certification
Center for Research, Innovation and Development of the Arts
University Theater
University Radio and Television Facilities

LINARES CAMPUS

Area

2,042

hectares

LOCATION:
Linares, Nuevo León, México

University buildings and Schools

School of Forestry Sciences
School of Earth Sciences
Academic addition of the School of Public Accounting and Management
Academic addition of the School of Law and Criminology
Academic addition of the School of Philosophy and Arts
Academic addition of the School of Mechanical and Electrical Engineering
Academic addition of the School of Sport Organization
Academic addition of the School of Nursing
Center for Research in Agricultural Production
Forest reserve area - Forest — School
Academic addition of the School of Physical and Mathematical Sciences

SABINAS HIDALGO CAMPUS

Area

7 hectares

LOCATION:
Sabinas Hidalgo, Nuevo León, México

University buildings and Schools

School of Accounting and Public Administration
School of Law and Criminology
School of Nursing
School of Psychology

AGRICULTURAL SCIENCES CAMPUS

Area

1,417
hectares

LOCATION:
General Escobedo, Nuevo León, México

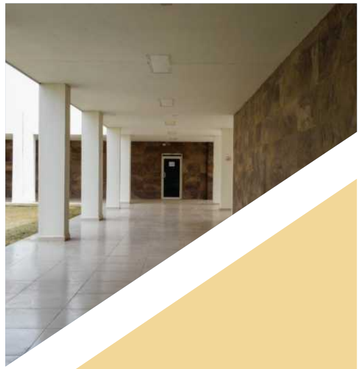
University buildings and Schools

School of Agronomy (with annex in Marín)
School Of Veterinary Medicine And Zootechnology (with annex in General Bravo, N.L.)
Agricultural Research Annex (General Bravo, N.L.)

CADEREYTA CAMPUS

Area
15
hectares

LOCATION:
Cadereyta, Nuevo León, México



University buildings and Schools

Academic addition of the School of Public Accounting and Management
Academic addition of the School of Law and Criminology
Academic addition of the Faculty of Nursing

GREEN INFRASTRUCTURE ON CAMPUS

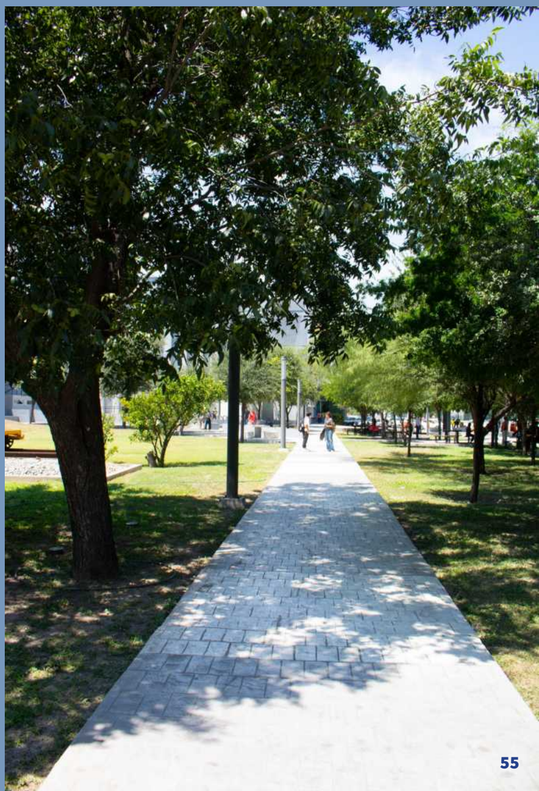
The Green Infrastructure of the Universidad Autónoma de Nuevo León (UANL) is an essential constituent of the campuses. These types of areas not only provide a space for recreation, but also play a crucial role due to the important environmental services they provide, such as improving air quality, producing oxygen to the atmosphere, absorbing carbon dioxide, and water harvesting, among others; in addition, these areas allow stress reduction and generate recreation, which improves the wellbeing of the members of the university community.

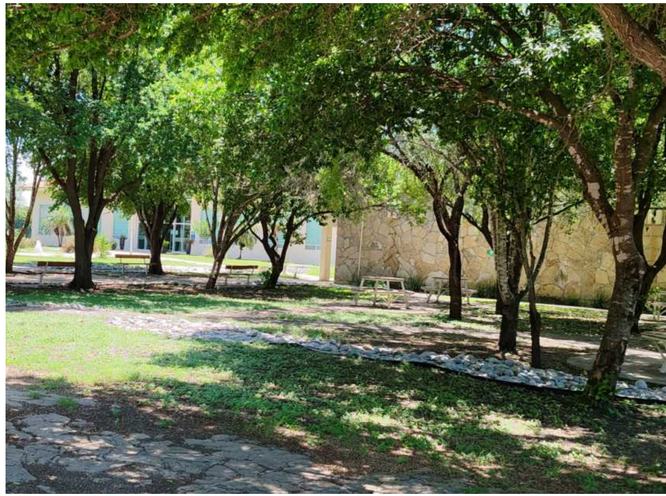
The gardens, parks and natural areas that are under the custody of the UANL serve as habitats for diverse species of native flora and fauna, promoting the conservation of biodiversity. Besides, these areas are used as educational and research environments, where students can learn about the composition and functioning of ecosystems, the sustainable management of natural resources, and the design and operation of environmental conservation programs.

MEDEROS

Type of vegetation: Submontane scrub
Surface area (ha): 194
Area with natural vegetation (ha): 161
Factor (C ha-1): 41
Carbon stored (ton): 6,653
CO_2 equivalent (ton): 24,418

The UANL is committed to the creation and maintenance of these spaces, ensuring that they integrate harmoniously with the campus infrastructure and promote a culture of respect and care for the environment and sustainability.





LINARES

Type of vegetation: Thornscrub
Surface area (ha): 773
Area with natural vegetation (ha): 680
Factor (C ha-1): 35
Carbon stored (ton): 23,460
CO_2 equivalent (ton): 86,098

ITURBIDE

Type of vegetation: Oak-Pine
Surface area (ha): 989
Area with natural vegetation (ha): 989
Factor (C ha-1): 35
Carbon stored (ton): 34,121
CO_2, equivalent (ton): 125,222

BRAVO

Type of vegetation: Thornscrub
Surface area (ha): 630
Area with natural vegetation (ha): 600
Factor (C ha-1): 52
Carbon stored (ton): 31,080
CO_2, equivalent (ton): 114,064

MARÍN

Type of vegetation: Thornscrub
Surface area (ha): 1,052
Area with natural vegetation: 1,051
Factor (C ha-1): 52
Carbon stored (ton): 54,442
CO_2, equivalent (ton): 199,801

SUSTAINABLE BUILDINGS

As part of an unwavering commitment to sustainability and innovation, the Universidad Autónoma de Nuevo León (UANL) has developed a comprehensive vision for the design and operation of intelligent and sustainable buildings. This initiative seeks not only to reduce the environmental impact of our facilities, but also to improve the well-being of the members of the university community, as well as to optimize the use of available resources.

The design, construction and operation of sustainable buildings at the UANL is based on the use of advanced technologies and automated systems that allow efficient management of energy, water and other essential resources. This approach not only contributes to the reduction of operating costs, but also helps to reduce the university's carbon footprint, in line with the Sustainable Development Goals promoted by the United Nations.

The sustainability indicators used to evaluate the performance of this type of buildings go beyond factors related to energy efficiency. Thus, other aspects are integrated using the design and construction of these buildings, such as the use of recycled and low environmental impact materials, as well as the promotion of biodiversity through green spaces and roofs. In addition, the wellbeing of users is promoted by optimizing natural lighting, adequate ventilation and the creation of healthy environments that support learning and personal development.

The construction and operation of sustainable buildings at the UANL also aims to educate and raise awareness among the university community, especially students. Through training programs and awareness-raising activities, it seeks to instill a culture of sustainability that will last after their time in the university facilities. In this way, we seek to form leaders committed to the protection of the environment and prepared to face the challenges presented by the development of sustainable environments.

The following is a brief description of the group of sustainable buildings that the UANL currently has, as well as some relevant data that illustrate the positive impact they generate.

Center for Research and Development in Health Sciences (CIDICS)

15,592 m²
total surface area
$ 4,821,382
of investment (USD)

Municipality: Monterrey, Nuevo León

Objetive: to generate a space for scientific and technological research to generate knowledge applied to the solution of priority health problems at the local, national and international levels.

Center for Arts Research, Innovation and Development (CEIIDA)

8,335 m²
total surface area
$10,067,068
of investment(USD)

Municipality: Monterrey, Nuevo León

Objetive: to promote research, innovation and the development of knowledge in the arts disciplines, as well as to promote the documentation and generation of archives that enrich the regional and national art heritage.

Internationalization Center

7,773 m²
total surface area
$ 11,105,377
of investment (USD)

Municipality: Monterrey, Nuevo León

Objective: to promote the internationalization policy of the institution in the fields of teaching, research and extension, with the purpose of learning and, if necessary, adopting and/or adapting the best practices in these areas, as they have been implemented worldwide.

Center for Innovation, Research and Development in Engineering and Technology (CIIDIT)

7.380 m²
total surface area
investment over
$9,473,684
million dollars (USD)

Municipality: Apodaca, Nuevo León

Objective: a multidisciplinary and integrating center of the Universidad Autónoma de Nuevo León under the administration of the School of Mechanical and Electrical Engineering (FIME), consisting mainly of laboratories with state-of-the-art equipment for research in areas of knowledge related to engineering.

Center of Research for Sustainable Development (CIDS)

5,913 m²
total surface area
$ 6,842,105
of investment (USD)

Municipality: San Nicolás de los Garza, Nuevo León

Objective: University building dedicated to research on the environment and sustainability that functions as a regional reference center for environmental information and communication and sustainable development aimed at finding better alternatives for the solution of environmental problems in northeastern Mexico.

Center for Digital Education and Entrepreneurship

5,352 m²
total surface area
$ 5,030,572
of investment (USD)

Municipality: Monterrey, Nuevo León

Objective: To support the expansion and strengthening of the offering of educational programs in different modalities at all educational levels, through transformative teaching practices, the use of technologies for learning and the knowledge of teachers and students.

Center for Research and Biotechnology and Nanotoxicology (CIBYN)

6,119 m²
total surface area
$6,726,744
of investment (USD)

Municipality: Apodaca, Nuevo León

Objective: to advance and disseminate science and technology through interdisciplinary collaboration in three areas of global significance: health, energy and environment, and to be a catalyst for innovation, research, economic development and social prosperity in Mexico and the world.

Center for Research and Innovation in Aeronautical Engineering (CIIIA)

3,600 m²
total surface area
$13,354,117
of investment (USD)

Municipality: Apodaca, Nuevo León

Objective: to be the technological arm of the aeronautical and aerospace industry in northern Mexico, promoting high value projects in the production chain, developing high engineering, research and technological innovation in the various branches of the sector with activities oriented to the development of new technologies, products, materials and processes.

Center for Innovation and Design (CID)

2,687 m²
total surface area
$ 3,210,526
of investment (USD)

Municipality: San Nicolas de los Garza, Nuevo León

Objetive: to position design as a tool for change to face the challenges of today's society, promoting the development of innovative projects through the areas of research, project development and professional services, contact, as well as social development and FabLab.

Medical Services Clinic, Ciudad Universitaria Campus

1,445 m²
total surface area
$ 2,210,526
of investment (USD)

Municipality: San Nicolas de los Garza, Nuevo León

Objective: to provide quality medical care to university workers, active or retired, and their beneficiaries.

Characteristics:

- Thermal insulation using multipanel walls and Foamular systems of 2” slabs
- High efficiency air-conditioning units
- PVC exterior doors and windows
- Polyurea foundation to prevent capillarity to avoid leaks
- With glass curtains and PTR sunshades which reduce thermal load
- It has emergency stairs covered with PTR structure located to minimize thermal load.
- Elevator, cistern, fire alarm, fan and coil central air conditioning and service stairs
- The ground floor has a waterproof exterior wall, benefiting the temperature and maintenance of the building
- Ventilated louver facade
- North facade covered with DuoVent that reduces the building’s thermal load.
- Ventilated facade
- Low energy consumption LED lighting
- Waterproofing PVC sikaplan Sarnafil that contributes thermally for cool roofs and manufactured with recycled materials
- Dry urinals
- Reduced water usage due to installation of ecological tanks
- Non-air-conditioned central ventilation system
- Energy-efficient air conditioning systems with Inverter technology (VRF)
- It has a fire alarm and a cistern
- Hydraulic tubing based on plus pipe
- Pex-al-pex-flexpad hydraulic tubing with low maintenance cost
- Use of solar lighting
- Duovent-based window frames that reduces the building’s thermal load installed on the main facade

64,196 m²
total built area

6 CLEAN WATER AND SANITATION

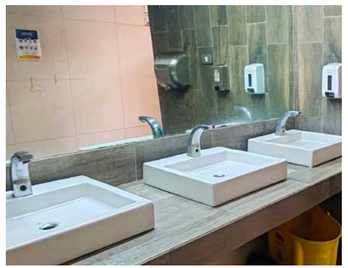
SUSTAINABLE DEVELOPMENT GOALS

EFFICIENT USE OF WATER PROGRAM

In a global context where water scarcity has become a growing concern, the Universidad Autónoma de Nuevo León (UANL) assumes a proactive and responsible role, aware of the importance of managing water efficiently and sustainably.

The Efficient Use of Water Program of the UANL is a comprehensive initiative dedicated to promoting the sustainable use of hydric resources, not only by reducing water consumption in university facilities, but also by educating and raising awareness among members of the university community about responsible practices in the use of this vital liquid.

The implementation of the program promotes a series of innovative strategies, the use of sustainable technologies, regulatory actions and outreach activities aimed at fostering a water culture that lasts and extends beyond the limits of university campuses.



The efficient water use program reduces water consumption, generates significant economic savings, but also encourages a culture of care and sustainable water use among university students

The main actions carried out in the program include the implementation of water-saving technologies such as intelligent irrigation systems supplied by treated wastewater, low-flow faucets and high-efficiency water use equipment; in addition to promoting responsible consumption habits among students and academic and administrative staff, which includes carrying out educational and awareness campaigns to ensure that members of the university community understand the high importance of this resource and the important role that each one plays to achieve its preservation.

In 2023, the UANL recorded a total water consumption of 1,488,350 m3, due to the increase in student enrollment and the normalization of the operations of all university departments due to the conclusion of the mobility restrictions imposed by the COVID-19 pandemic; however, the volume of water consumed in 2023 was lower than the 1,698,320 m3 that was the consumption recorded in 2019, the year prior to the pandemic in which the UANL operated without restrictions.

The annual per capita water consumption in 2023 was 6.45 m3, but like the situation that occurred in total water consumption, this amount was less than the amount recorded in 2019, which was 7.68 m3.

A factor that has allowed us to achieve significant savings in water consumption is having 100% of the real estate used in the provision of water for human consumption (smart and dry toilets, cisterns, automatic faucets, etc.) with characteristics that allow efficient water use.

100%

of the real estate used for the provision of water for human consumption has technical characteristics that allow it to make efficient use of water

The operation of the program offers several benefits, among which are: the reduction of water consumption, which also generates significant economic savings for the institution; reducing the pressure on local and regional supply sources, which helps preserve aquatic ecosystems and maintain a balance in the hydrological cycle; contributing to the fulfillment of the Sustainable Development Goals. With the operation of this important program, the UANL reinforces its commitment to the care of the environment and the well-being of the community, ensuring a more sustainable future.

USE OF ALTERNATIVE WATER SOURCES

In 2023, more than

150,000

liters were collected from alternative water sources

The use of alternative water sources at the Universidad Autónoma de Nuevo León aims to use innovative technologies to obtain and use water efficiently by condensing water in air conditioning units and capturing rainwater. This program seeks to reduce dependence on traditional sources. The initiative not only contributes to water savings and cost reduction, but also promotes sustainability and environmental awareness. This comprehensive approach reinforces UANL's commitment to water conservation and responsible natural resource management.

In 2023, some pilot experiences of rainwater harvesting were recorded in High Schools 7, 8 and 20, capturing 162.5 liters per square meter, which allowed us to obtain a volume of approximately 150,000 liters per year.

WATER SYSTEM MAINTENANCE PROGRAM

The use of intelligent irrigation systems supplied by treated wastewater has been implemented

The water system maintenance program (potable and treated) of the Universidad Autónoma de Nuevo León ensures the efficiency and quality of the water supply on its campuses. This program includes the regular inspection, repair and updating of pipes and facilities, guaranteeing the continuity of service and minimizing losses. It also focuses on optimizing the use of treated water to reduce the demand for potable water. With these actions, the UANL reaffirms its commitment to sustainability, resource conservation and infrastructure improvement, promoting a healthy and efficient environment for the university community.

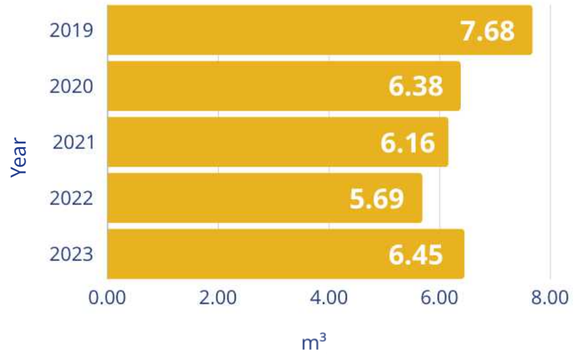
In 2023, 66 services were performed to the hydraulic network (water potable and treated wastewater) in UANL facilities

In 2023, a per capita water consumption of

6.45 m³

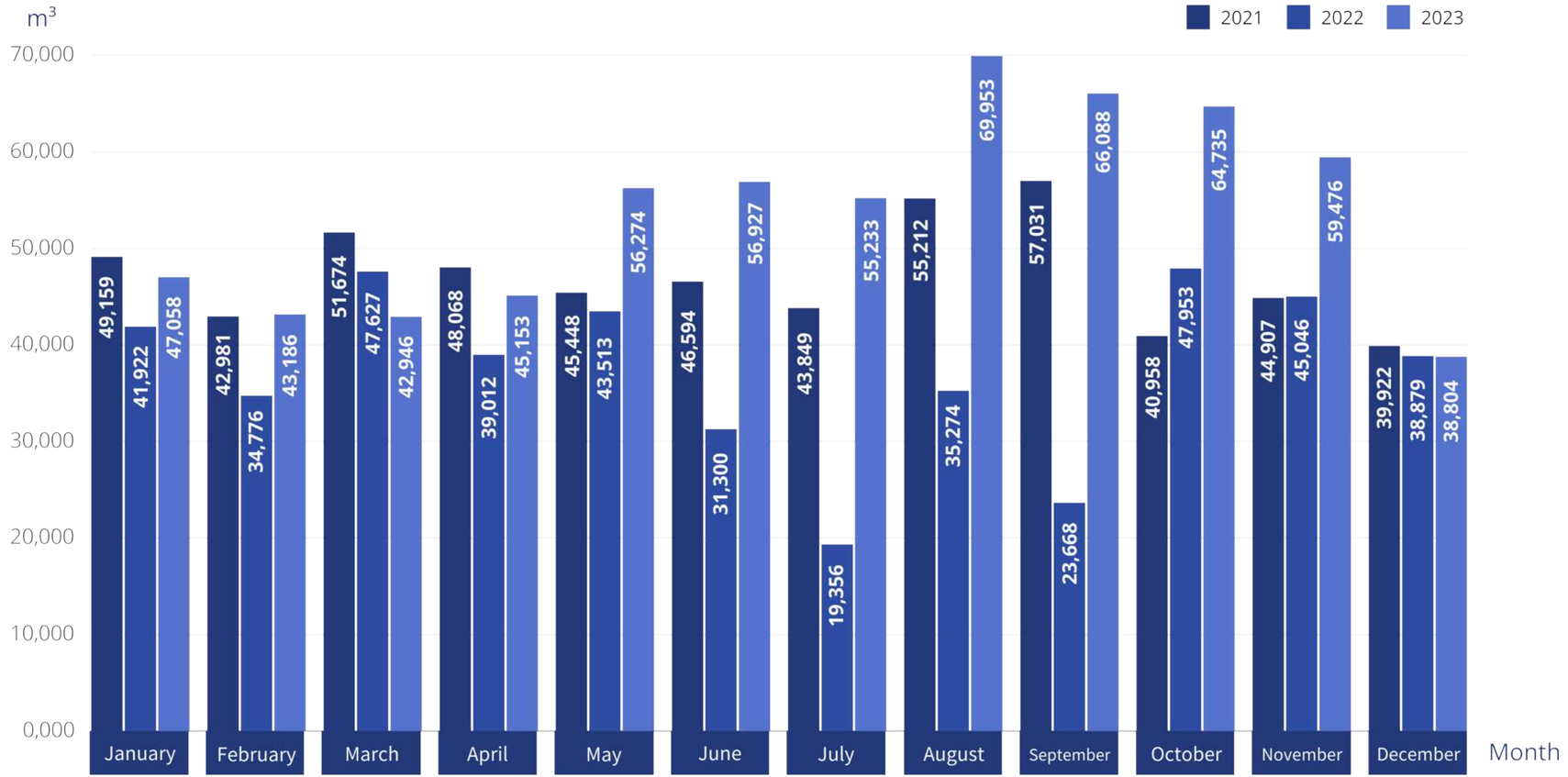
was recorded

CUBIC METERS PER CAPITA PER YEAR



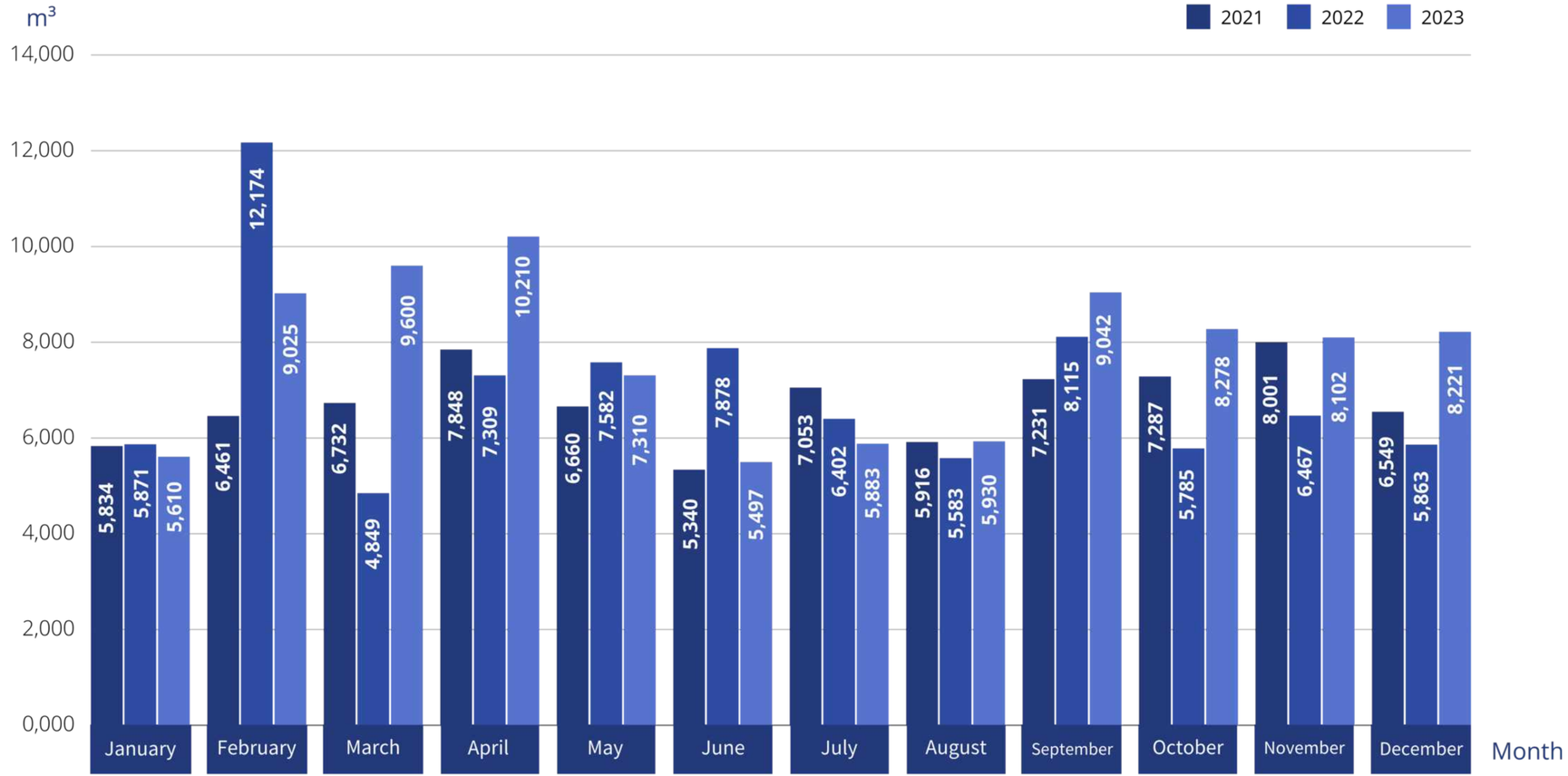
Monthly water consumption m³

Main Campus



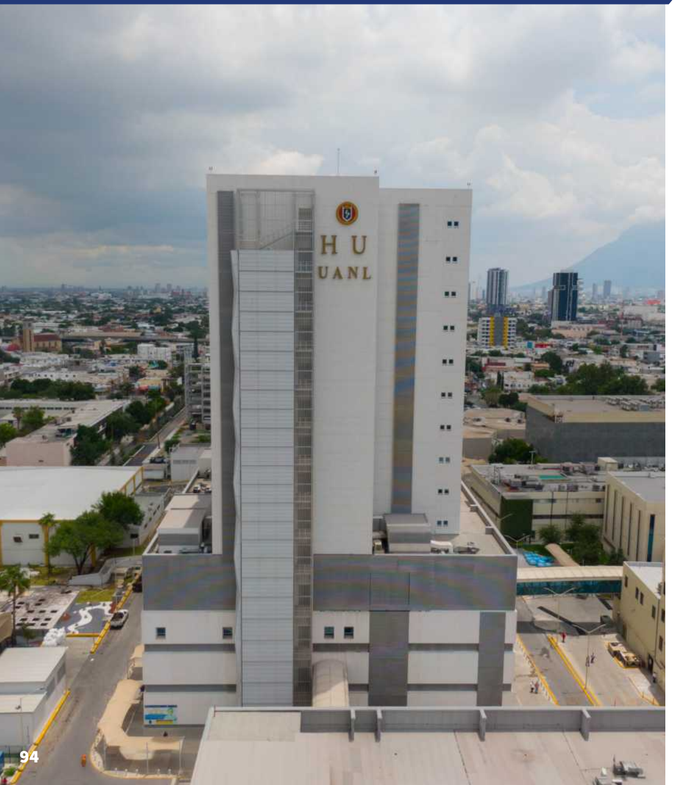
Monthly water consumption m³

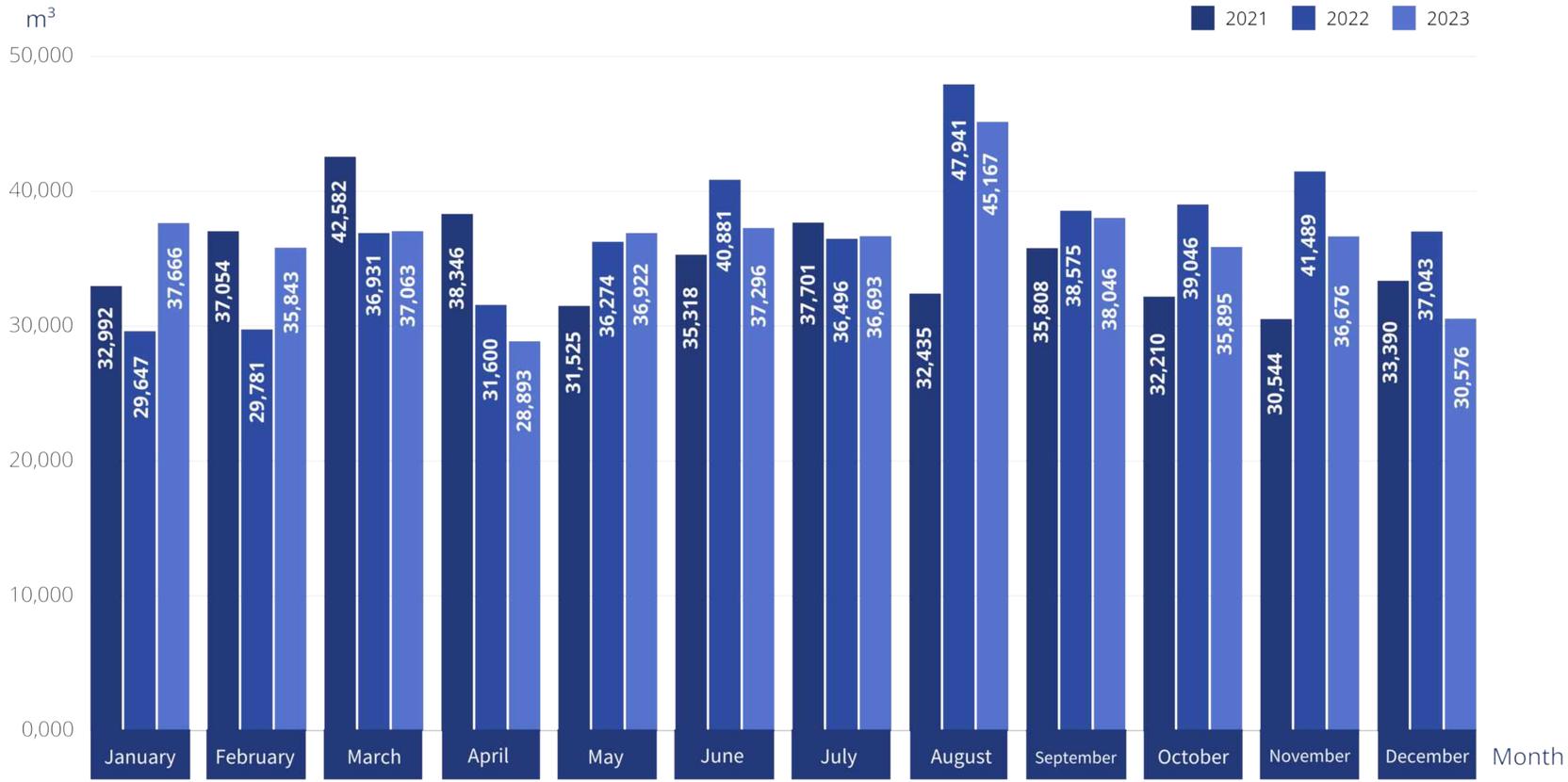
Mederos Campus



Monthly water consumption m³

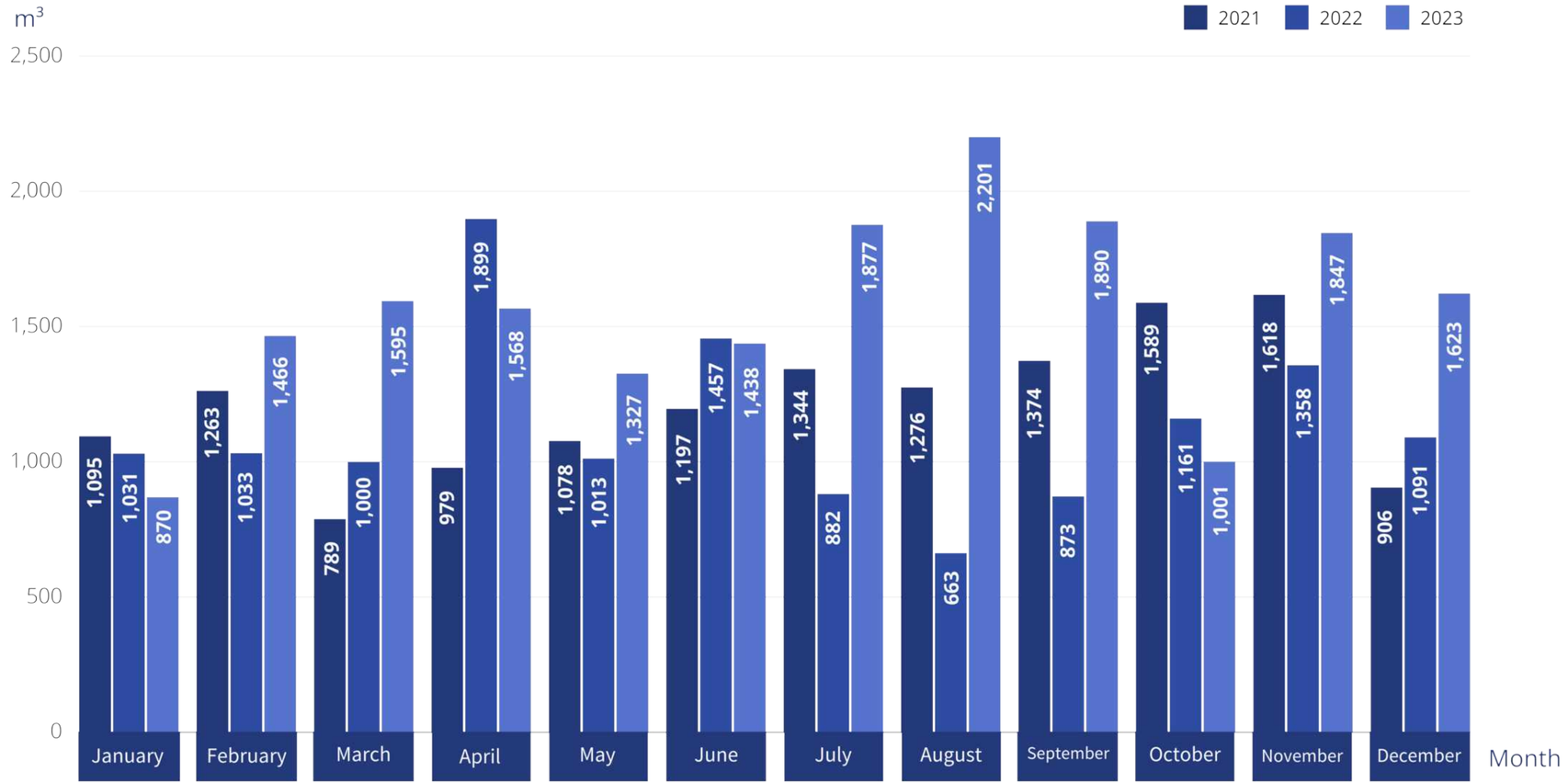
Health Sciences Campus





Monthly water consumption m³

Agricultural Sciences Campus



13 CLIMATE ACTION

SUSTAINABLE DEVELOPMENT GOALS

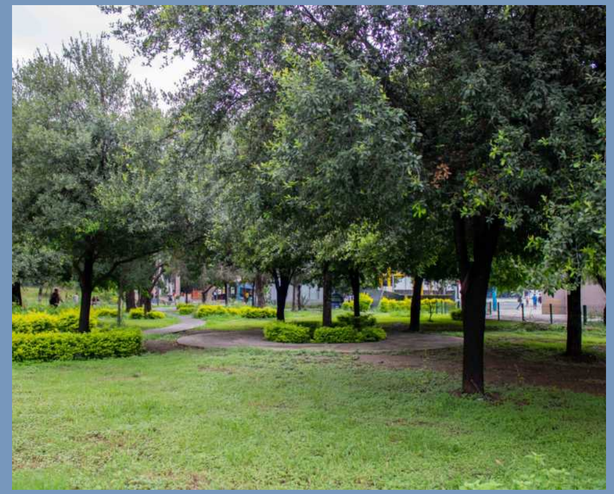
CLIMATE ACTION PROGRAM

The Universidad Autónoma de Nuevo León (UANL) faces considerable vulnerability to the effects of climate change due to its geographic location. This region is prone to the occurrence of extreme weather events such as prolonged droughts, heat waves and intense storms.

High temperatures and water scarcity have the potential to negatively impact both the university infrastructure and the health and well-being of its community. In addition, torrential rains can cause flooding, affecting the operation of campuses and putting the safety of students and academic and administrative staff at risk.

98.5 %

of the UANL territory is covered by well-preserved natural vegetation.



The Climate Action Program helps reduce the vulnerability of university facilities to the effects caused by climate change

Due to this situation, the need arose to implement adaptation and mitigation measures through the UANL Climate Action Program (PAC-UANL), which aims to reduce the expression of risks caused by climate change through the implementation of adaptation and mitigation measures within the UANL to protect its facilities and ensure the continuity of its educational and research activities in the face of climate challenges.

Furthermore, the PAC-UANL focuses on reducing the institutional carbon footprint, promoting research and education on issues related to climate change, and collaborating with the community to promote sustainable practices, such as the installation of solar panels in several campus buildings. These panels not only generate clean energy, but also serve as an educational tool for students, who can learn first-hand about renewable energy technologies.

Another important line of action of the PAC-UANL is aimed at promoting reforestation and conservation actions in natural areas, thus contributing to the protection of local ecosystems.

These projects not only help mitigate the effects of climate change, but also promote the conservation of biodiversity and maintain the state of well-being on campuses and university facilities produced by natural environments in a good state of conservation.

A large proportion of the territory under the UANL's protection is covered by green areas, so that of the 3,799 hectares that occupy the campuses and university facilities, 98% is covered by natural vegetation in a good state of conservation, allowing the absorption of approximately 500,000 tons of CO_2 per year.

Starting in 2023, PAC-UANL has promoted the efficient use of water through the implementation of rainwater harvesting systems and the use of condensed water by air conditioning systems. These systems help preserve water resources and reduce drinking water consumption.

The UANL has a carbon sink of approximately

550 thousand tons of CO_2 equivalent

Reduction of greenhouse gas emissions GHG program - Mexico

Campus	*Vegetation type*	*Surface area (ha)*	*Vegetation (ha)*	*Factor (C ha-1)*	*Carbon stored (ton)*	*CO_2 Equivalent (ton)*
Mederos	Submontane scrub	194	161	41	6,653	24,418
Linares	Thorny thicket	773	680	35	23,460	86,098
Iturbide	Pine-Oak	989	989	35	34,121	125,222
Marin	Thorny thicket	1,052	1,051	52	54,442	199,801
Bravo	Thorny thicket	630	3,481	52	31,080	114,064
Totals		**3,638**	**3,481**	**215**	**149,756**	**549,603**

Source: Project Development Office of the Sustainability Department, UANL.

In 2023, UANL achieved a favorable carbon balance, amounting to approximately

486 thousand tons of CO_2 equivalent

Carbon balance

	Kg CO_2 (equivalent)	*Balance*
Electricity consumed	82,924,682	82,924,682
University buses (TigreBus)	164,050	83,088,732
Motor vehicles	793,603	83,882,335
Motorcycles	12,028	83,894,363
CO_2 storage in vegetation	-549,602,000	-465,707,637
Waste recycling	-1,914,920	-467,622,557
Digital education	-18,348,270	-485,970,827

Source: Project Development Office of the Sustainability Department, UANL.

The scope of the PAC-UANL goes beyond the limits of the university campus, extending to the social environment that surrounds them. One of the ways the university has achieved this is through outreach programs and collaboration with local governments, non-governmental organizations and businesses. These collaborations have allowed the implementation of community projects focused on promoting sustainability and adaptation to climate change.

The Climate Action Program of the Universidad Autónoma de Nuevo León seeks to become a model replicable by other educational, public and private institutions that can contribute to promoting the fulfillment of Goal 13 (Climate Action) of the Sustainable Development Goals promoted by the Organization of the United Nations.

NATURAL ENVIRONMENT RECOVERY CAMPAIGNS IN URBAN AREAS

One of the main effects caused by the rapid and chaotic growth of urban areas is the loss of natural habitats, which in turn causes a serious decrease in biological growth.

Another serious effect caused by the uncontrolled growth of cities is the fragmentation of ecosystems. The remaining natural areas become isolated patches, surrounded by urbanized areas, which hinders the mobility of species and gene flow between populations. This fragmentation reduces the ability of ecosystems to remain healthy and resilient, making them more vulnerable to diseases, pests, and extreme weather events.

In this context, the Universidad Autónoma de Nuevo León, through the Project Development Office of the Sustainability Department, has promoted since 2016 the "Natural Environment Recovery Campaigns in Urban Areas", which purpose is to recover public spaces with ecological importance to improve the environmental quality of urban areas, in addition to being used as areas of social coexistence and recreation.

During the 2016 – 2023 term, 27 campaigns were held in 8 natural environments located in urban areas of five municipalities in the Metropolitan Area of Monterrey, with the participation of more than 6,000 volunteers.

The campaigns are held with the collaboration of students and teaching staff from different university departments, as well as volunteers from public and private institutions, social organizations and society in general, and have become an important reference in the field of recovery and protection of natural environments located in urban areas at the local and regional level.

5 municipalities

27 campaigns

8 natural areas

During the Campaigns, different ecological remediation actions are carried out, such as those mentioned below:

a) Removal of solid waste improperly deposited in natural areas

b) Actions to control exotic and invasive species in areas of high environmental value.

c) Reforestation with native species

d) Workshops addressing topics such as the identification and management of native species, urban reforestation techniques, creation of pollinator gardens, and waste management, among others.

Natural environment recovery campaigns in urban areas
2016 to 2023

Municipality	*Site*	*Campaigns held*
Ciudad Escobedo	Wetland located en Jardines del Canadá	5
Monterrey	Protected Natural Area “Río la Silla”.	8
	Protected Natural Area “Parque Lago”	4
	Forest reserve area of the UANL Mederos Campus, School of Communication Sciences.	1
Santa Catarina	Ecological Park “La Huasteca”	5
San Pedro Garza García	“Santa Catarina” River	1
	“El Capitán” Creek	1
Linares	”Efraim Hernández Xolocotzi” Botanical Garden	2
Total		**27**

More than

6,000

participants

One notable aspect of the Campaigns is that they are interdisciplinary activities that encourage collective work, as well as the exchange of ideas about the importance of natural areas in urban environments. In this way, not only are members of the university community and the population sensitized about the benefits that recovered green spaces provide, but it is also possible to create a sense of belonging and care for other natural environments that are located in surrounding urban areas of the state of Nuevo León.

Through the Campaigns, the Universidad Autónoma de Nuevo León reaffirms its commitment to sustainability and social responsibility. The institution recognizes the importance of natural environments in cities, not only for their ecological benefits, but also for their impact on people’s health and well-being. By encouraging the participation of the university community and society, the UANL contributes significantly to the creation of more sustainable and resilient cities, demonstrating the positive impact that an educational institution can have on the surrounding environment.

SUSTAINABLE AGRICULTURAL PRODUCTION

CENTER FOR RESEARCH IN AGRICULTURAL PRODUCTION

The Center for Research in Agricultural Production (CIPA) at the Universidad Autónoma de Nuevo León (UANL) is a prominent institution dedicated to the advancement of knowledge in the field of agricultural production. Founded in 1983 with the objective of promoting applied research and technological development, CIPA has become a reference in the agricultural field in Mexico and Latin America.

The CIPA has an area of 977 hectares, most of them covered with natural vegetation; which, since the beginning of the Center, has been protected, conserved and used sustainably.

Sustainable agricultural development offers broad economic and social benefits. Promotes equity by strengthening local economies, allowing communities to rely less on imported food and have access to jobs in the agricultural sector. Furthermore, it encourages the adoption of modern technologies and scientific knowledge, improving production efficiency and quality.

Furthermore, the sustainable approach with which CIPA works promotes the protection of natural resources essential for agriculture, such as soil, water and biodiversity. By avoiding overexploitation and degradation, the soil's ability to produce is preserved, aquatic ecosystems are conserved, and a balance in nutrient cycling is maintained.

Located in the municipality of Linares in the south of the state of Nuevo León, CIPA has modern facilities and cutting-edge equipment that allow high-impact research to be carried out. Its areas of study range from the genetic improvement of crops and animals, to the optimization of sustainable production systems, additionally to the integrated management of pests and diseases, the conservation of natural resources, and the development of innovative technologies in the agricultural field.

The work team of the UANL Agricultural Research Center is made up of a series of multidisciplinary specialists with great experience and recognition in their respective areas, who work in close collaboration with producers, companies and public institutions to ensure that the results of their research are translated into tangible benefits for the agricultural sector.

Among the achievements of CIPA, important advances in productive diversification, synergistic and sustainable livestock farming and the implementation of agricultural practices that contribute to environmental sustainability stand out; in addition, the Center plays a fundamental role in the training of human resources, because a significant number of undergraduate and graduate students carry out professional internships or scientific research at its facilities.

In a global context of climate change and population growth, sustainable agricultural development becomes even more crucial, since it allows us to address the environmental, social and economic challenges that arise in the design and implementation of sustainable production models, while that provides products that help satisfy the needs of current society and future generations.

Below are the different actions in sustainable agricultural production that were carried out at CIPA during 2023:

ECOLOGICAL CONSERVATION TILLAGE

It is a grain and forage production system with an area of 487.65 ha, which uses conservation practices such as avoiding disturbing the soil, not removing residue from the previous harvest to serve as organic fertilizer, in addition to avoiding the application of agrochemicals, actions that reduce the loss of soil and water and gradually increase the percentage of organic matter in the soil.

PRODUCTIVE DIVERSIFICATION (VINEYARDS)

In 2011, the cultivation of grapevines (Vitis vinifera L.) was established as an alternative crop for semi-arid regions due to their low water requirements, using different varietals of wine grapes (Cabernet Sauvignon, Merlot, Malbec, Shyraz, Chardonnay and Chenin Blanc) in order to establish a highly productive and profitable crop that rural producers in this region can adopt, to diversify or replace the current crops they practice such as citrus fruits that require high water consumption.

In 2019, the Tempranillo and Chenin Blanc variety were introduced on 0.5 ha, and in 2023 the cultivation area was expanded by 1.5 ha, which allowed the addition of two more varieties of Shyraz and Merlot grapes. In 2024, the surface area will be expanded by 2 hectares, with the Grenache, Tempranillo and Sauvignon Blanc varieties.

At the end of 2023, the total cultivation area was 4 hectares, in which in addition to carrying out cultivation tasks, cultivation promotion workshops and advice are also provided to producers who intend to establish vineyards in the region.

ALERE WINERY

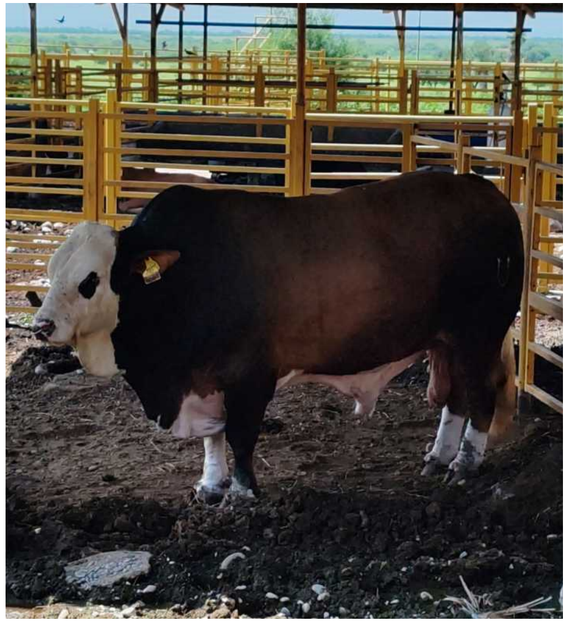
In June 2023, the inauguration of the Alere Winery took place, which was created to promote the development of viticulture in the region, offering technical advisory services and maquila services in wine production. There is also the Oenology Research Unit, a space equipped with the highest technology, where researchers and students can carry out research, producing quality wines.

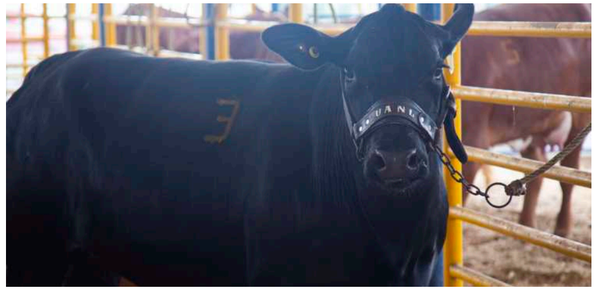
Since the facilities where the wine is produced use high energy consumption equipment, photovoltaic cells were installed in order to generate energy using renewable sources, generating significant savings in energy consumption.

ENVIRONMENTAL MANAGEMENT UNIT

In 2008, CIPA established the Environmental Management Unit “Center for Genetic Improvement of White-tailed Deer” under registration code (PVSNL-UMA-EX0296-NL) and recognition by environmental authorities, and which has an area of 80 ha., of which 5 ha are equipped with corrals for intensive management.

The development of this project supports the production of Texas white-tailed deer of high genetic quality, through the selection and controlled crossing of parents for research and teaching purposes, and the objective of supporting the conservation and improvement of the Texas white-tailed deer populations in the northeast of the country. In 2023, there were 9 females and 4 males.





RESEARCH TO REDUCE GREENHOUSE GAS EMISSIONS PRODUCED BY LIVESTOCK FARMING

In the field of food efficiency, CIPA has developed livestock production methods such as the Food Efficiency Evaluation program, which has made it possible to reduce food consumption, reducing the production of organic waste and methane emissions into the atmosphere as a result of bovine digestion, through the selection of replacement sires, by determining the RFI, which has proven to be a useful tool to select specimens that present production characteristics superior to those of common cattle.

FOREST SCHOOL

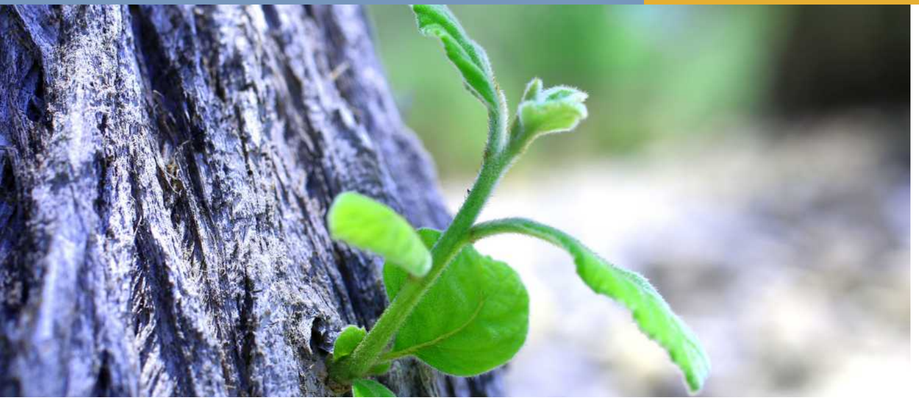
The Forest-School (BE) of the Universidad Autónoma de Nuevo León (UANL) under the management of the Center for Research in Agricultural Production (CIPA) is an innovative educational and ecological space aimed at the comprehensive training of students and environmental conservation. Located in a vast natural area, this project seeks to combine practical teaching with the conservation of the environment and biodiversity, in addition to playing a crucial role as an action to adapt to climate change in the region and offering a unique space to learn and connect with nature.

The BE is located in the municipality of Iturbide, Nuevo León

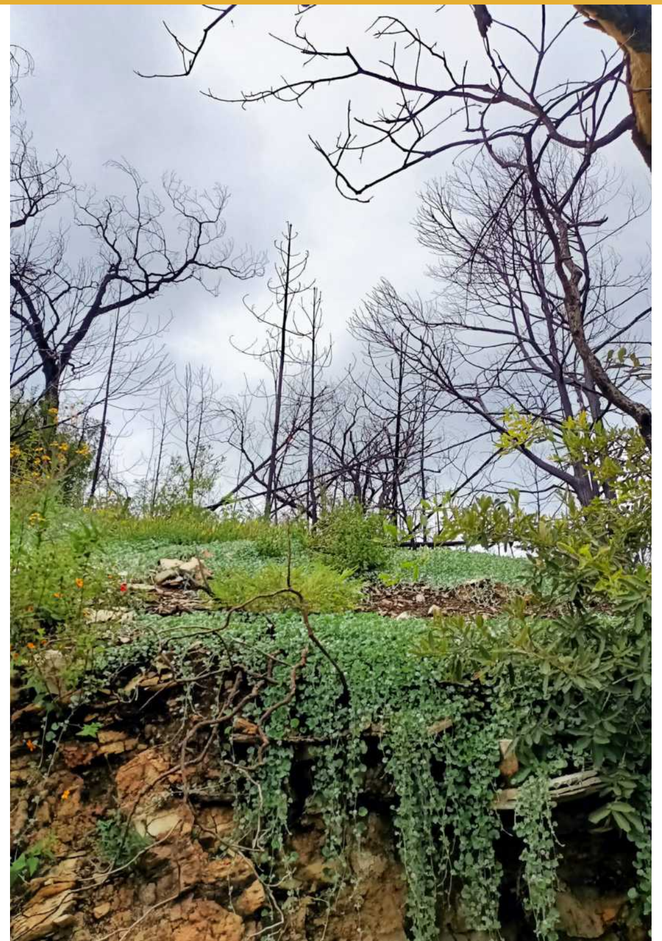
with geographic coordinates at 24°42’24.64” N and 99°51’40.86” W. With an altitude in the lowest part of 1,280 meters above sea level and the highest part of 1,890 meters above sea level, and it has been part of the university heritage since 1985.

The Forest covers a territorial area of 1,077 hectares

and is characterized by having varied vegetation that includes Oak, Oak-Ash-Cedar, Pine, Pine-Oak, Cedar and Shrub-Chaparral Forests, providing a natural outdoor laboratory for research and learning



In a world affected by rising temperatures and extreme weather events, forests play an essential role in mitigating these impacts. The BE helps maintain an important part of the region's native forests, which contributes to the regulation of the local climate by absorbing carbon dioxide and releasing oxygen.



On the other hand, a substantive goal of BE is to promote environmental education from an interdisciplinary perspective. The academic activities carried out are designed to raise students' awareness about the importance of sustainability and the conservation of natural resources. Through workshops, seminars and practical activities, participants acquire essential knowledge and skills to face contemporary environmental challenges.

Furthermore, the BE not only benefits the university community, but is also open to the general public. This strengthens the link between the university and society, promoting a culture of respect and care for the environment.

FIRE PREVENTION CAMPAIGN

Within the framework of the celebration of World Environment Day 2023, there was an event, in collaboration with Civil Protection of the State of Nuevo León, aimed at highlighting the actions that are carried out jointly to reduce the risks and effects caused by forest fires.

COOPERATION PROGRAMS IN THE FIELD OF RESTORATION AND CONSERVATION OF NATURAL ENVIRONMENTS

In September 2023, there was a tour of the facilities in the areas affected by the 2021 fire together with personnel from the Ternium México Company, in order to jointly promote the implementation of an ecological restoration program, which included the installation of a perimeter fence along 13 km, the construction of soil conservation works to prevent erosion, rehabilitation of the forest nursery for plant production, reforestation of the areas affected by the fire and establishment of firebreaks.

REFORESTATION ACTIONS

In the month of October 2023, a Reforestation Day was held on a 2-hectare property of the Forest School using plants of the Pinus pseudostrobus species, with the participation of students from high schools and higher schools of the UANL, as part of the work being carried out to recover areas damaged by the April 2021 forest fire.

During 2023, 3,000 plants of the Pinus pseudostrobus species were produced which were used in reforestation actions in the areas affected by the fire, as well as to support shareholders of common land or owners who need plants to carry out reforestation on their properties.

ACTIONS AND RESULTS OF THE SEED PRODUCTION FOR REFORESTATION

With the purpose of obtaining seeds to reforest areas of difficult access (steep slopes) affected by forest fires, in 2023, the production of seed of Blue grama grass (Bouteloua gracilis) and Sideoats grama grass (Bouteloua curtipendula) began, carrying out the preparation of a 10-hectare plot of land, through subsoil and tracking; subsequently, irrigation was carried out using cannons, evaluating seed germination and carrying out weed control.

SPECIALIZED ACADEMIC EVENTS

In April 2023, the “1st Symposium on Sustainable Production of Beef Cattle, Mexico, South Africa and Sweden in an era of Climate Change” specialists meeting took place, with the participation of more than 100 specialists from twelve national and international higher education institutions, with a total of 14 conferences presented by 8 international and 6 national specialists.

The objective of the Symposium was to share experiences and challenges in the sustainable production of beef cattle as an opportunity to confront climate change from an integrative perspective offered by agricultural and forest ecosystems for the conservation and use of biodiversity, soil and water resources through the use of different biotechnological technologies.

CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY AND NATURAL RESOURCES

The Efraim Hernández Xolocotzi Botanical Garden (JB-EHX) of the Faculty of Forestry Sciences is located in the Linares Campus of the UANL in the municipality of Linares, it covers an area of 10 hectares and currently has a collection of more than 153 thousand plants of more than 60 species, mainly of cacti and succulent plants, of which 20 species are at risk of extinction (NOM-059-SEMARNAT-2010).

The Botanical Garden has more than

153 thousand

plants of more than 60 species,

mainly cacti and succulent plants, of which 20 species are at risk of extinction (NOM-059-SEMARNAT-2010)

It is registered as a Wildlife Conservation Management Unit (PVSNL-UMA-IN-1270-NL) thus it is officially accredited to reproduce and exchange plants with other botanical gardens, as well as receive plants from confiscations and rescues.

EFRAÍM HERNÁNDEZ XOLOCOTZI BOTANICAL GARDEN

The JB-EHX carries out studies on the biology and ecology of plant species in the region, addressing issues of phenology, pollinators, predators and nursing. These investigations are carried out mainly by undergraduate and graduate thesis students from the School of Forestry Science and other Higher Education Institutions in the country. Regarding teaching, the JB-EHX is a support space for courses in Botany, Ecology, Conservation, and those related to the management of natural resources; Likewise, the JB-EHX serves to analyze the practical implications of the establishment and management as UMA (Management Units for the Conservation of Wildlife) of a botanical garden.

WILDLIFE MONITORING

One of the tools used to record the presence of wildlife in the Botanical Garden are camera traps. The use of these tools allows us to know the variety of wildlife and their behavior patterns, as well as the estimation of their populations and habitat quality conditions.

In total, during the operation stage of the project, more than 20 species of the four main faunal groups were recorded, such as: *Canis latrans, Dasypus novemcinctus, Lynx rufus, Mephitis mephitis, Odocoileus virginianus, Pecari tajacu, Procyon lotor, Urocyon cinereoargenteus, Cardinalis cardinalis, Cyanocorax yncas, Geococcyx californianus,* etc. This is to mention some of the most representative species of the xeric scrub. Some of these species are nocturnal or very secretive, so the photographic record is at night, when the cameras are left on from one day to the next.

A record of

29 species

from four representative faunal groups of the xeric scrub was carried out

ENVIRONMENTAL EDUCATION

During 2033, work continued with the environmental education program in two ways. The first consisted of serving schools and the general public who visited the botanical garden, for this, various didactic strategies were used such as photographic exhibitions, conferences on nature conservation topics related to environmental anniversaries, presented in the main auditorium of the School of Forestry Science-UANL prior to a guided tour of the garden in which species of cacti are shown in the NOM-059-SEMARNAT-2010 and the main causes that have them at risk of extinction are explained, as well as the environmental services provided. And the second consisted of going to the rural and urban schools of the municipalities of Linares and Galeana N.L. where the following workshops were presented to more than 1,500 students at the preschool, primary, secondary, high school and undergraduate levels:

Germination: with the objective of showing techniques that allow students to reforest urban or rural areas for ecosystem recovery purposes, or to produce their own plants and/or food.

Waste management: the objective was to classify the most common waste that we generate daily, so that later the children could dispose of it properly according to its type.

Identification of wildlife footprints: with the aim of showing how tracking footprints is one of the main tools to recognize fauna species without causing them any harm.

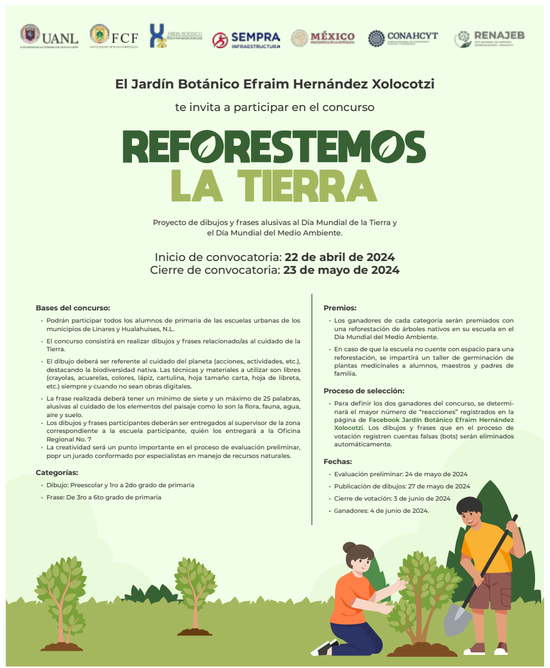
In 2023 more than

1,500 students

from different levels of education participated in the JB-EHX environmental education program

CALLS FOR CONTESTS

In order to commemorate the environmental anniversaries of World Wildlife Day and World Earth Day there were calls for contests with the objective of raising awareness among children about the importance of wildlife conservation, as well as inspire them to protect and restore our planet.



INSTALLATION OF SOLAR PANELS

Solar panels were installed, which were donated to the botanical garden by the Sempra Infraestructura Foundation through the UANL A.C. Foundation. These panels are being used to supply electricity to the Visitor Service Center facilities in support of the environmental education program, allowing visitors a more comfortable stay.

8 solar panels
were installed with a generation capacity of 5,807 kWh per year

PLANT REPRODUCTION

As part of the botanical garden's strategy to achieve long-term sustainability, two spaces were implemented for plant reproduction; the first one within the School of Forestry Science-UANL facilities, which is called: Seed Germination Laboratory, while the second space is a 150 m2 greenhouse, equipped with a sprinkler irrigation system and germination racks and seed trays. In this space, the germination of species with the greatest number of seeds in the botanical garden's germplasm bank was carried out. To date, more than 10,000 plants of 10 species of cacti have been reproduced. The Efraím Hernández Xolocotzi Botanical Garden is a space of great social relevance as a source of knowledge that contributes to the rational use of biodiversity and to training citizens committed to caring for nature.

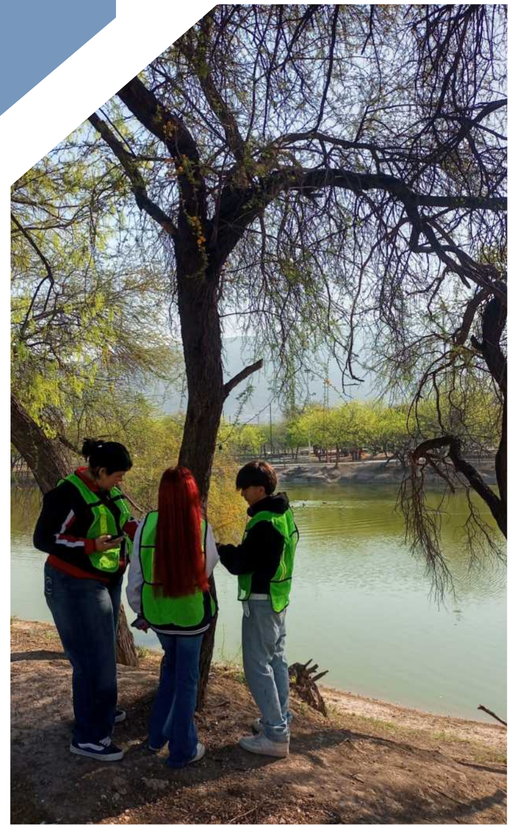
More than

10,000 plants

of 10 species of cacti have been reproduced

UANL'S NATURAL CAPITAL MONITORING AND SUSTAINABLE MANAGEMENT PROGRAM

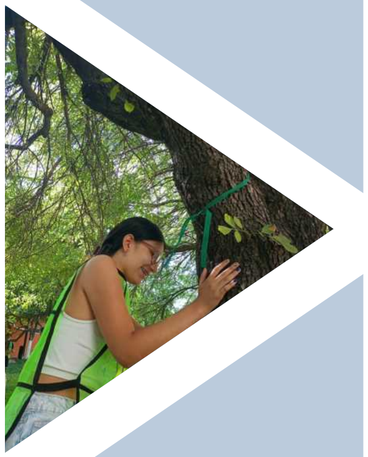
The Monitoring and Sustainable Management of Natural Capital Program of the Universidad Autónoma de Nuevo León (UANL) is a comprehensive initiative that seeks to preserve, and if applicable, restore, the ecosystems that are under the protection of the UANL through scientific and participative strategies. The program focuses on the conservation of biodiversity and the sustainable management of natural resources on university campuses and their areas of influence.



Among the actions included in the program are the carrying out of ecological studies to monitor the health of ecosystems, the identification and protection of endangered species, and the rehabilitation of degraded habitats. The UANL collaborates with public institutions, non-governmental organizations and local communities to develop conservation projects that integrate traditional and scientific knowledge.

The UANL carries out the monitoring and sustainable management of the Natural Capital under its protection and in its areas of influence

A fundamental aspect of the program is that it promotes environmental education and the active participation of the university community, especially the students and society. Research and innovation are fundamental pillars of the program, promoting the development of new technologies and sustainable practices that can be replicated.



The UANL's commitment to the sustainable management of the natural environments that are under its protection not only contributes to the protection of its ecological heritage, but also strengthens the university's role as a leader in sustainability at a local, national and international level.

FOREST CAPITAL ASSESSMENT

The Natural Capital that the Universidad Autónoma de Nuevo León (UANL) has under its protection constitutes an important asset that reduces risks and increases resilience against the effects produced by climate change and environmental degradation.

In this context, the forest heritage is a component of high environmental value that most university facilities have, due to the series of environmental services it provides such as the production of oxygen, the capture of pollutants and suspended particles, the rainwater harvesting, reducing the effects caused by urban heat islands, serving as a habitat for various species of wild flora and fauna, in addition to providing recreation areas for members of the university community and society.

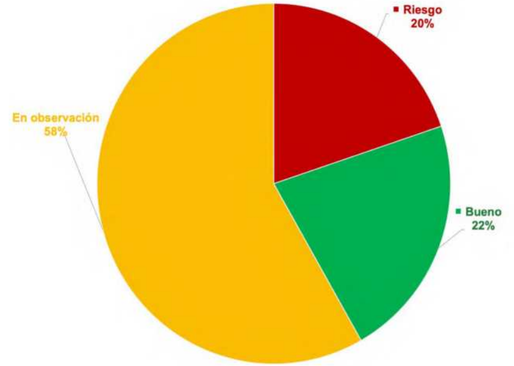
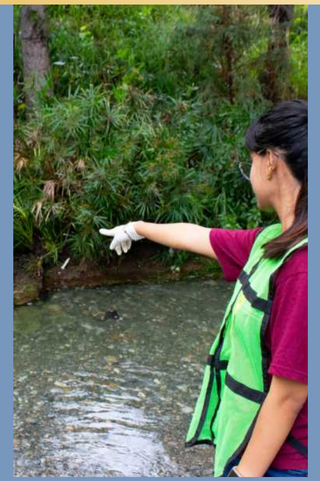


Figura 5. Estado de salud actual del arbolado censado en la FIME.

Tabla 1. Taxonomía y origen de los árboles censados en la FACPyA.

	Nombre científico	Familia	Nombre común	Origen
1	*Bauhinia variegata*	Fabaceae	Árbol orquídea	No nativa
2	*Ceiba pentandra*	Malvaceae	Ceiba	Nativa
3	*Celtis laevigata*	Cannabaceae	Palo blanco	No nativa
4	*Citrus sp.*	Rutaceae	Limonero	No nativa
5	*Cocos nucifera*	Arecaceae	Cocotero	No nativa
6	*Cordia boissieri*	*Boraginaceae*	Anacahuita	Nativa
7	*Cordyline australis*	*Asparagaceae*	Drácena	No nativa
8	*Cupressus lusitanica*	*Cupressaceae*	Cedro blanco	Nativa
9	*Cupressus macrocarpa*	*Cupressaceae*	Ciprés de Monterrey	Nativa
10	*Cyca revoluta*	*Cycadaceae*	Cica	No nativa
11	*Ehretia anacua*	*Boraginaceae*	*Anacua*	Nativa
12	*Elaeagnus angustifolia*	*Elaeagnaceae*	Árbol del paraíso	No nativa
13	*Euonymus japonicus*	*Celastraceae*	*Bonetero*	No nativa
14	*Ficus microcarpa*	*Moraceae*	Laurel de indias	No nativa
15	*Fraxinus sp.*	*Oleaceae*	Fresno	Nativa
16	*Juglans regia*	*Juglandaceae*	Nogal	No nativa
17	*Koelreuteria Paniculata*	*Sapindaceae*	Jabonero de la china	No nativa
18	*Lagerstroemia indica*	Lythraceae	Árbol de júpiter	No nativa
19	*Leucaena leucocephala*	*Fabaceae*	Guaje	Nativa
20	*Ligustrum lucidum*	Oleaceae	Trueno chino	No nativa
21	*Magnolia grandiflora*	*Magnoliaceae*	Magnolio	No nativa
22	*Morus alba*	Moraceae	Morera	No nativa
23	*Nerium oleander*	Apocynaceae	Adelfa	No nativa
24	*Persea americana*	Lauracaea	Aguacate	Nativa
25	*Phoenix roebelenii*	Arecaceae	Palmera enana	No nativa
26	*Pistacia chinensis*	Anacardiaceae	Pistacho chino	No nativa
27	*Plantanus occidentalis*	Platanaceae	Plátano occidental	No nativa
28	*Platycladus orientalis*	Cupressaceae	Tuya oriental	No nativa
29	*Populus nigra*	Salicaceae	Álamo negro	No nativa
30	*Prunus persica*	Rosaceae	Durazno	No nativa
31	*Quercus sp.*	Fagaceae	Encino	Nativa
32	*Sabal palmetto*	Arecaceae	Palma de abanico	Nativa
33	*Syagrus romanzoffiana*	Arecaceae	Coco plumoso	No nativa
34	*Ulmis Siberia*	Ulmaceae	Olmo de Siberia	No nativa
35	*Washingtonia sp.*	Arecaceae	Palmera	No nativa



Until December 2023, a total of

7 forest inventories

were carried out in the same number of academic units, with the collaboration of

132 volunteers

especially regular and social service students

The total number of trees that were surveyed and diagnosed until the end of 2023 was

1,433 trees

located in a total area of

22.73 hectares

in 7 university buildings

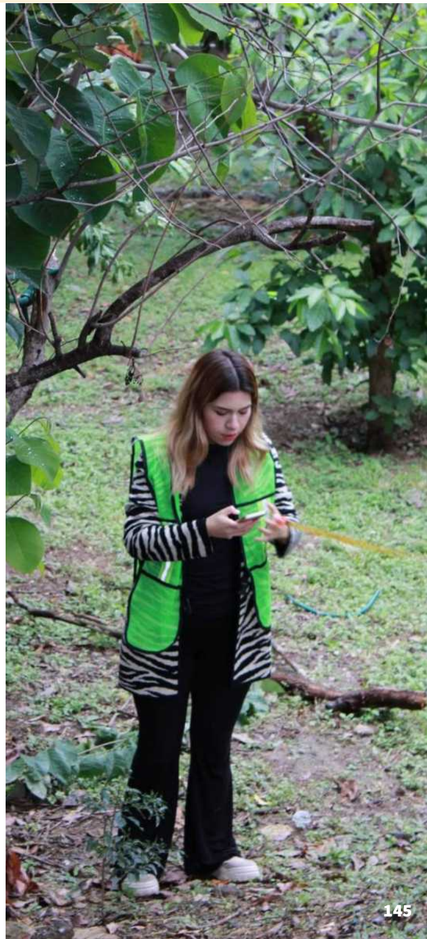
Due to the above, the UANL carries out various actions to protect and preserve the forest heritage it has, in addition to providing the student community with environmental education, which allows them to recognize the multiple benefits that urban trees provide. Among the actions carried out to preserve the university Forest Capital, there are forest inventories, a technical procedure through which the qualitative and quantitative characteristics of the trees that exist in the territorial areas occupied by the university schools can be known reliably.

Starting in 2022, the Project Development Office (DDP) of the Sustainability Department (SS) of the UANL began the operation of the project: "Diagnosis of the current state and proposal for sustainable management of the forest capital of the university departments" with the objective of promoting the sustainable use of the Forest Capital that is under the protection of the university facilities, maintaining the environmental services they provide, as well as promoting their conservation.

Until December 2023, a total of 7 Forest Inventories were carried out in the same number of academic facilities, with the collaboration of 132 volunteers, especially regular and social service students.

The analysis of the results obtained through the Forest Inventories made it possible to prepare 7 Proposals for Sustainable Management of Forest Capital that were delivered to an equal number of university departments.

The total number of trees that were censused and diagnosed until the end of 2023 were 1,433 located in a total area of 22.75 hectares located in 7 university facilities.



MONITORING OF AQUATIC ENVIRONMENTS

Wetlands are places where the soil is saturated with water and according to the Convention on Wetlands of International Importance (Ramsar Convention), there are various types such as: lakes, rivers, swamps, wet grasslands, underground aquifers, oases, among others. Great ecological importance is attributed to this type of ecosystems, due to its rich biodiversity and the ecosystem services they provide, such as water storage and supply, removal of contaminants, disaster mitigation and climate regulation.

Wetlands are globally considered to be the most productive ecosystems on earth, possessing great biodiversity and providing a wide variety of ecosystem services such as water storage and supply, pollutant removal, disaster mitigation, climate regulation, food production and recreation, in addition to providing a landscape function, contributing to water regulation and acting as sinks for carbon dioxide and other greenhouse gases and Mexico is the second country in the world with the most wetlands registered under the Ramsar Convention and the fifth with the largest extension of this type of ecosystems located in the tropics and subtropics of the American continent.

The UANL carries out the Environmental Quality Programme for Aquatic Environments located in areas surrounding university campuses

The aquatic ecosystems located in the Monterrey Metropolitan Area present serious alterations in the structure and composition of the flora and fauna that inhabit its riparian zone and a decrease in water quality, caused by the pollution produced by the population and the industrial production systems located in the urban area and its surroundings (Alanís 2005; De la Garza, 1998; González de la Rosa, 2000). This situation is serious, because the degradation and/or loss of ecosystems located in the urban area, especially wetlands, contribute to accentuate the water supply crisis that the inhabitants of the Monterrey Metropolitan Area are currently suffering.

For all of the above, it is urgent to determine the environmental quality of the wetlands that still exist in the Monterrey Metropolitan Area, due to the incalculable value that they represent for the environment and society, identifying the possible alterations that they could be presenting and the causes of them, in order to carry out the remediation actions that are required to improve the environmental condition in which they are.

In this context, the Universidad Autónoma de Nuevo León, through the Project Development Office of the Sustainability Department, began the Environmental Quality of Aquatic Environments Program located in the Monterrey Metropolitan Area in 2022, with the objective to evaluate the environmental quality of this type of environment through the periodic determination of in situ water quality, the identification of contaminants in sediment, the microbiological analysis of the water and the use of plankton, which inhabits these ecosystems, as a bioindicator.

By the end of 2023, they conducted

8 monitoring sessions in different ecosystems with the participation of

70 volunteers

At the end of 2023, 8 monitoring sessions had been carried out in different aquatic ecosystems located in the Monterrey Metropolitan Area, in areas surrounding the campuses and university facilities, with the participation of 70 students, volunteers and social service students, from the School of Veterinary Medicine and Zootechnics and the School of Biological Sciences.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

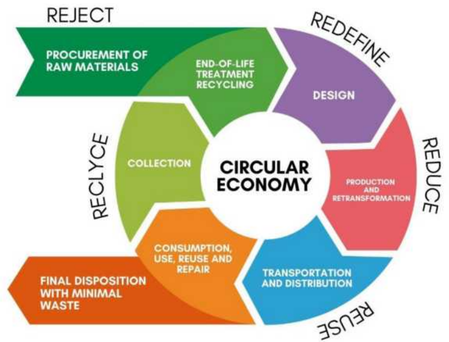
SUSTAINABLE DEVELOPMENT GOALS

WASTE GENERATION

INSTITUTIONAL PROGRAM FOR THE HANDLING AND INTEGRAL MANAGEMENT OF WASTE

Within the activities carried out in the UANL facilties, different waste streams are generated, which are collected and delivered to collection service providers authorized by state (RSU and RME) and federal (RP) entities. Subsequently, said waste, depending on its nature and characteristics, is incorporated into new processes or sent for final disposal or destruction by incineration.

Currently, the UANL is migrating from the linear model to the **circular economy** model for the handling of its waste:



The following diagram shows a mapping that illustrates the routes that said waste follows from its generation and how it is incorporated into different production chains at the end of its useful life to later be used in the manufacture of new products if its characteristics allow it, complying with what is established within the principles of the circular economy, the particularities of each of them are explained later.

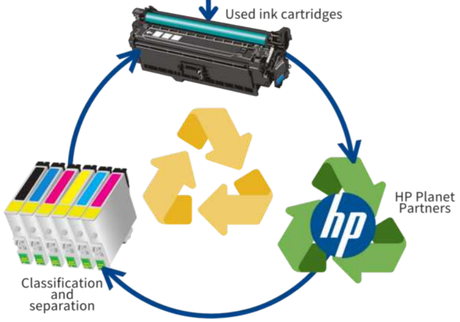
Waste generated in the UANL

Hazardous waste

Chemical

Biologic

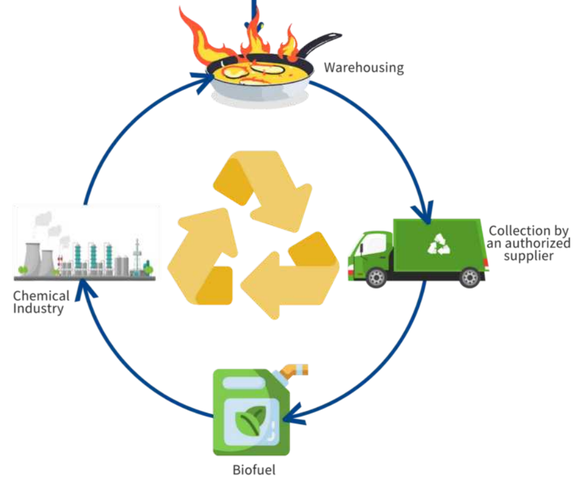
Used ink cartridges



Special Handling Waste

Electrical and Electronic Waste

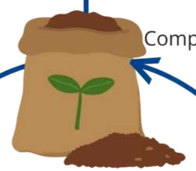
Burned edible oil



Municipal solid waste

Organic waste

Vermicompost



Compost

Leachate

Fertilizer

Collection by an authorized supplier

Coordinated by:

Integral System for Ecological Management and Waste Processing

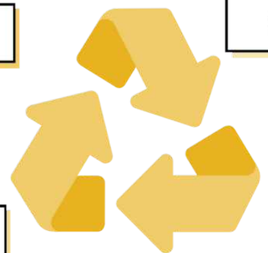
Collection by an authorized supplier

Biogas generation

Electric power

Inorganic waste

Collection by an authorized supplier



New products

Treatment

Classification and separation

Recycling container

HAZARDOUS WASTE (HW)

In the management of HW it is important, first of all, to obtain registration as a generator before the Secretariat of Environment and Natural Resources (SEMARNAT), based on the average estimate generated in a year, locating the category in which they are (micro, small or large generator) in order to perform the management correctly. During the January-December 2023 term, **4 university departments completed the procedures** before this federal agency and obtained their Environmental Registration Number (NRA), in addition, 8 university departments made a modification to the registration previously obtained with the support and advice of the DGASO.

During 2023, a total of 317.72 tons of hazardous waste was generated, and

100 % **of this hazardous waste was managed according to the current legal framework**

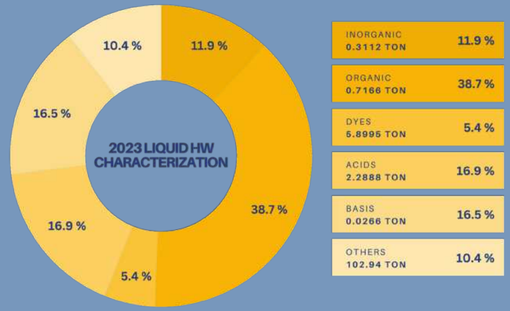
UANL has procedures to standardize the handling and disposal of hazardous waste in all of its facilities. During 2023, a total of **317.72 tons of hazardous waste** was generated, of which 70% corresponds to Biological Infectious Hazardous Waste (BIHW) and the remaining 30% to chemical HW, which were managed in accordance with the current legal framework.

During the same period,

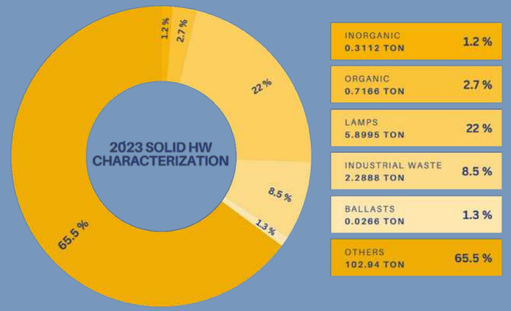
96.61 tons **of hazardous chemical waste were generated, of which**

26.81 t **corresponded to solid waste and**

69.80 t **to liquid waste**



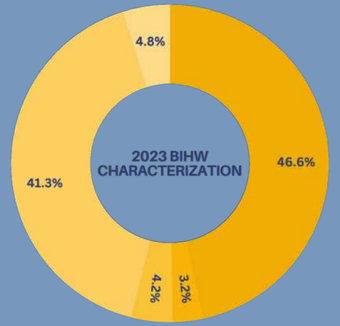
INORGANIC 0.3112 TON	11.9 %
ORGANIC 0.7166 TON	38.7 %
DYES 5.8995 TON	5.4 %
ACIDS 2.2888 TON	16.9 %
BASIS 0.0266 TON	16.5 %
OTHERS 102.94 TON	10.4 %



INORGANIC 0.3112 TON	1.2 %
ORGANIC 0.7166 TON	2.7 %
LAMPS 5.8995 TON	22 %
INDUSTRIAL WASTE 2.2888 TON	8.5 %
BALLASTS 0.0266 TON	1.3 %
OTHERS 102.94 TON	65.5 %

BIOLOGICAL INFECTIOUS HAZARDOUS WASTE (BIHW)

These are those materials generated during health care services that contain biological-infectious agents according to the definition of NOM-087-SEMARNAT-SSA1-2002. During 2023, a total of 221.11 tons of this type of waste was generated. The characterization is shown in the following graph:



BLOOD 102.94 TON	46.6%
CULTURES AND STRAINS OF INFECTIOUS AGENTS 6.98 TON	3.2%
PATHOLOGICAL 9.30 TON	4.2%
NON-ANATOMICAL WASTE 91.25 TON	41.3%
SHARP OBJECTS 10.65 TON	4.8%

During 2023

553.50

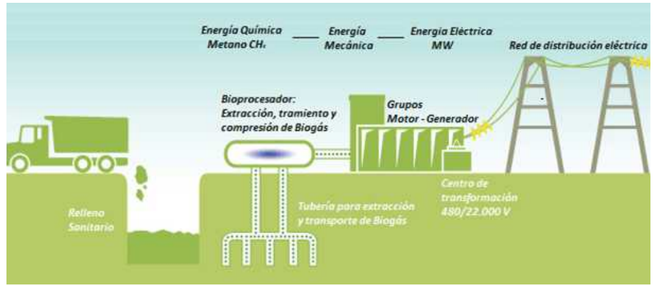
kg of expired medicines were collected at the UANL collection centres

On the other hand, among the solid chemical origin hazardous waste are expired medicines. The UANL has 5 containers located in the University Pharmacy "Q.F.B. Emilia Vásquez Farías" of the School of Chemical Sciences, Technical Medical High School, UANL Medical Services, School of Nursing and School of Veterinary Medicine and Zootechnics; the waste is deposited in these containers by the university community and the general public. During 2023, 553.50 kg of expired medicines were collected in the aforementioned collection centers.

Once collected by a company authorized by the corresponding authorities, HW is subject to treatment or confinement in accordance with current environmental regulations.

MUNICIPAL SOLID WASTE (MSW)

In accordance with the General Law for the Prevention and Integral Management of Waste, Municipal Solid Waste generated at UANL is collected and transported by authorized companies to the landfill of the Integral System for the Ecological Management and Processing of Waste (SIMEPRODE) (https://nl.gob.mx/simeprode) in the municipality of Salinas Victoria, Nuevo Leon. This landfill is under the administration of the Government of the State of Nuevo León. At this facility, collection trucks deposit the waste, which is then directed to a sorting plant responsible for separating recyclable materials such as cardboard, paper, aluminum, plastic, and steel. The remaining non-recyclable waste is transferred to landfill cells where it undergoes compaction to reduce its volume. Layers of clay and soil are applied to cover the waste. Furthermore, there is infrastructure designed to capture methane (biogas) generated during the anaerobic decomposition of organic waste. Wells are strategically placed to monitor leachate. The collected biogas is transported through a specialized system to the bioenergy plant operated by the Sustainable Services of Nuevo León Association (SSNL) (https://www.ssdenl.com/) which is connected to the landfill. At this plant, the biogas is converted into electricity, which serves as a power source for the public lighting systems in seven municipalities within the Monterrey metropolitan area. It also provides power to five state government agencies, Fundidora Park, and the Metrorrey Public Transportation System (urban electric train). This initiative contributes significantly to the country's efforts to mitigate greenhouse gas emissions.

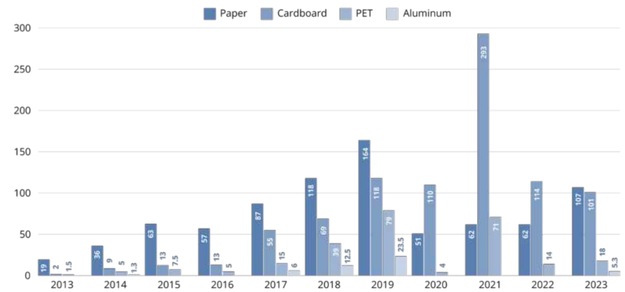


WASTE SEPARATION AND RECYCLING PROGRAM (PROSER)

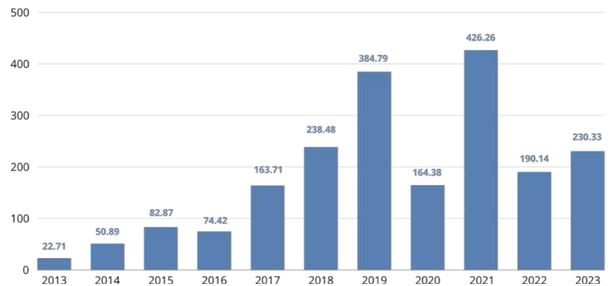
In February 2013, UANL initiated the Waste Separation and Recycling Program (PROSER). Currently, this program operates systematically in 65 institutions (42 academic schools and 23 central departments) and consists in segregating recyclable materials (cardboard, paper, aluminum, and PET) at the source of generation by providing dedicated containers for this purpose. Once the recyclable waste is collected from UANL facilities by local companies, it is integrated as raw material into their own processes or those of third-party entities. Then, this material is utilized in the production of new products such as recycled cardboard, paper, aluminum cans, and PET bottles. That being said, MSW with recyclable characteristics generated at UANL follows a circular economy model as established by the General Law of Circular Economy.

From February 2013 to December 2023, a substantial total of 2,028.98 tons of recyclable material was successfully collected. This accomplishment yielded significant environmental benefits, such as conserving 8,236,341 kWh of energy, saving 55,742,938 liters of water from consumption, preserving 25,728 trees from being felled, preventing the emission of 6,239 tons of CO_2, avoiding the utilization of 367,215 liters of oil, sparing 5,304 cubic meters of landfill space, and avoiding the need for 200 tons of bauxite.

TOTAL ANNUAL GENERATION OF PAPER, CARDBOARD, ALUMINUM AND PET



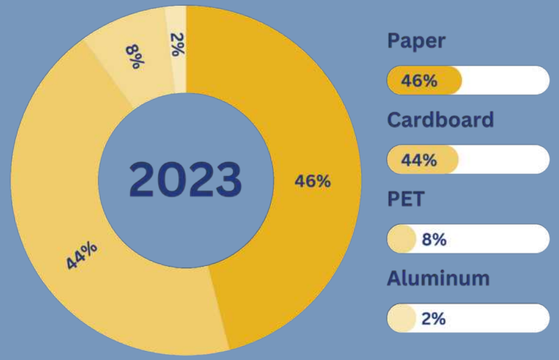
TOTAL ANNUAL GENERATION OF PAPER, CARDBOARD, ALUMINUM AND PET



TOTAL ENVIRONMENTAL BENEFITS GENERATION 2013-2023

1,720.94	258.06	49.98	29,256	61,345,735	9,087,136	6,928	367,215	5,802	199.91
TONS PAPER AND CARDBOARD	TONS PET	TONS ALUMINUM	Trees NOT FELLED	Liters of Water NOT COSUMED	KWH UNUSED ELECTRICITY	Tons of CO_2 NOT EMITTED	Liters of Petroleum UNUSED	Sanitary Landfill M NOT USED	Bauxite UNUSED TONS

RECYCLABLE MATERIAL CHARACTERIZATION



- Paper 46%
- Cardboard 44%
- PET 8%
- Aluminum 2%

TOTAL ENVIRONMENTAL BENEFITS GENERATION 2023

3,528	6,786,080	1,016,445	801	24,945	622	21.14
Trees NOT FELLED	Liters of Water NOT CONSUMED	KWH UNUSED ELECTRICITY	Tons of CO_2 NOT EMITTED	Liters of Petroleum UNUSED	Sanitary Landfill M NOT USED	Bauxite UNUSED TONS

ORGANIC WASTE

The treatment of organic waste is becoming increasingly important given the dimension of the problem it represents, not only because of the increase in the volumes generated, but also because of the use of chemical fertilizers which, in addition to polluting the environment and having a higher cost, represent a health risk for the people who handle them and for the consumers of the products.

The School of Agronomy of the UANL is carrying out a project for the use and utilization of livestock waste (manure) and pruning waste (garden waste) from the Marin campus, which consists of treating such waste using earthworms to obtain humus or compost (vermicompost) and a leachate rich in essential nutrients (fulvic acids) which are used to fertilize the nursery, experimental crops and gardens of the campus. On the other hand, the company responsible for MSW collection at UANL also treats garden waste (branches and pruning) from the university campus to obtain compost.

During the year 2023, approximately

208.75 t of organic waste were treated, obtaining a total of 97 tons of humus or compost

SPECIAL WASTE MANAGEMENT (SWM)

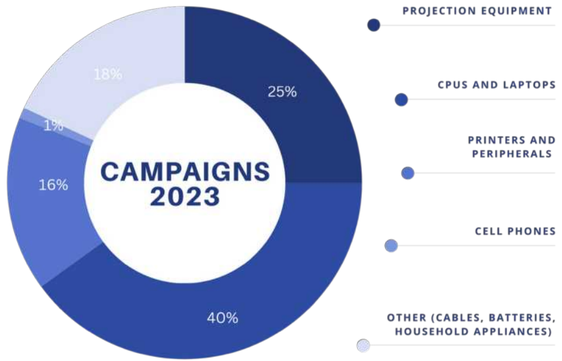
Given the current digital era, there has been an increase in the amount of waste electrical and electronic equipment generated, which can be harmful to the environment and human health if not disposed of properly. In order to avoid this problem, the UANL through the SS conducted an electronic recycling campaign in October 2023 in which 21.06 tons of Waste Electrical and Electronic Equipment (WEEE) were collected.

In 2023,

21.06 t

of Waste from Electrical and Electronic Equipment (WEEE) was collected

WEEE CHARACTERIZATION



21.06 tons of WEEE

492,522
KWH
UNUSED POWER

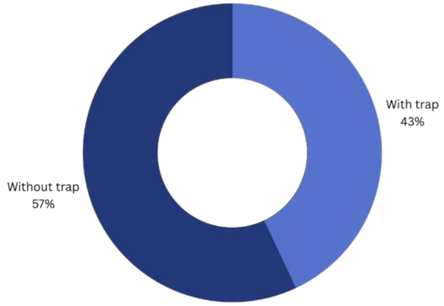
77
Tons of CO_2
NOT EMITTED

Once collected by a service provider authorized by the state government, the waste is taken to collection centers where it is sorted into groups and separated into its different components. For example, plastic is taken to local recyclers to be incorporated as raw material for making new products such as toys and pallets; copper and aluminum are sent to a national foundry for making electrical cable, copper tubing, aluminum rolls, etc.; and finally, electronic cards and power supplies are sent to foreign companies where precious metals and other materials are recovered and incorporated into other production cycles for making cell phones, car seats, fans, pens, etc.

WASTE FATS AND OILS FROM CAFETERIAS

One of the main causes of contamination of surface and groundwater is the uncontrolled dumping of waste generated in the preparation of food, such as vegetable and/or animal oils and fats. UANL promotes a program for the collection and disposal of vegetable oil generated in the cafeterias that operate on campus with a specialized company that has the corresponding authorizations. In 2023, 20.80 tons of vegetable oil were collected to be recycled and subsequently used in the manufacture of environmentally friendly chemical products and biofuels.

GREASE TRAPS IN UANL CAFETERIAS



In 2023

20.80 t

tons of vegetable oil were collected from cafeterias operating in different university facilities

Currently, there is a 43% progress in the installation of grease and oil traps in the UANL cafeterias to comply with Official Mexican Standards NOM-002-ECOL-1996 “Maximum permissible limits of contaminants in wastewater discharges to urban or municipal sewage systems” and NOM-251-SSA1-2009 “Hygiene practices for the processing of food, beverages or food supplements”.

TECHNICAL GUIDELINES FOR WASTE HANDLING AND MANAGEMENT

The Sustainability Department of the UANL, through the Environmental Management and Operational Safety Department, formulated technical guidelines for:

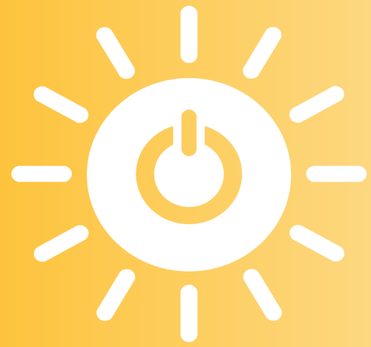
Handling and management of municipal solid waste with recyclable and special handling characteristics

Handling and management of hazardous waste

Sustainability guide for workshops and laboratories

These contain information for university departments on the correct management of waste generated within the different university campuses.

7 AFFORDABLE AND CLEAN ENERGY



SUSTAINABLE DEVELOPMENT GOALS

EFFICIENT ENERGY USE

The Efficient Energy Use Program of the Universidad Autónoma de Nuevo León (UANL) seeks to optimize energy consumption on campuses and university premises through the implementation of sustainable practices and the use of advanced technologies. The program focuses on reducing energy consumption, generating economic savings and reducing the environmental impact. Among the initiatives that are part of the program are the promotion of responsible consumption habits among members of the university community, the modernization of lighting systems, and the installation of solar panels. As well as the installation of solar panels.

The total energy consumption of the Universidad Autónoma de Nuevo León in 2023 was 98,719,860 kWh, energy that was mainly used to cover the following needs: air conditioning of classrooms and offices, campus and building lighting, and the operation of computer equipment and laboratories.

98,719,860 KWh annual energy consumption of UANL in 2023

Due to the high levels of energy consumption registered at UANL, due to the size of its facilities and population, for more than two decades we have been promoting actions for the efficient use of energy, including the modernization of lighting systems with LED technology and the replacement of air conditioning systems with high-tech equipment, the installation of photovoltaic panels, but above all by implementing awareness campaigns to promote responsible practices among members of the university community, in addition to periodically conducting audits to identify areas for improvement and promote the use of low-consumption equipment.

Currently, the UANL has an energy-self generation capacity calculated in 36,155,638 kWh per year, which are produced with photovoltaic panels placed on the roofs of buildings and some wind generation systems, which decrease reliance on non-renewable sources, in addition to reducing the institutional carbon footprint.

The energy efficiency program offers numerous benefits at both the institutional and environmental levels. First, optimizing energy consumption significantly reduces operating costs, allowing for a more efficient allocation of financial resources. The implementation of sustainable technologies, such as photovoltaic panels and high-efficiency lighting systems, reduces dependence on non-renewable energy sources, contributing to the reduction of energy consumption.

Another of the program's primary objectives is to foster a culture of sustainability, promoting responsible consumption habits and environmental awareness. In addition, by adopting an energy conservation mindset, UANL contributes to the stability of the electricity supply in the northeastern region of the country and promotes energy resilience.

All these actions not only improve institutional energy efficiency, but also help to position the UANL as a reference in sustainable practices and environmental responsibility at the local, national and international levels.

TYPES OF ENERGY USED

According to a report provided by the UANL energy supplier, of the total energy consumed in 2023, the 35 % was generated using renewable sources.

Additionally, 1.5% of the energy consumed by UANL in 2023 was self-generated with the use of photovoltaic panels located in different university facilities.

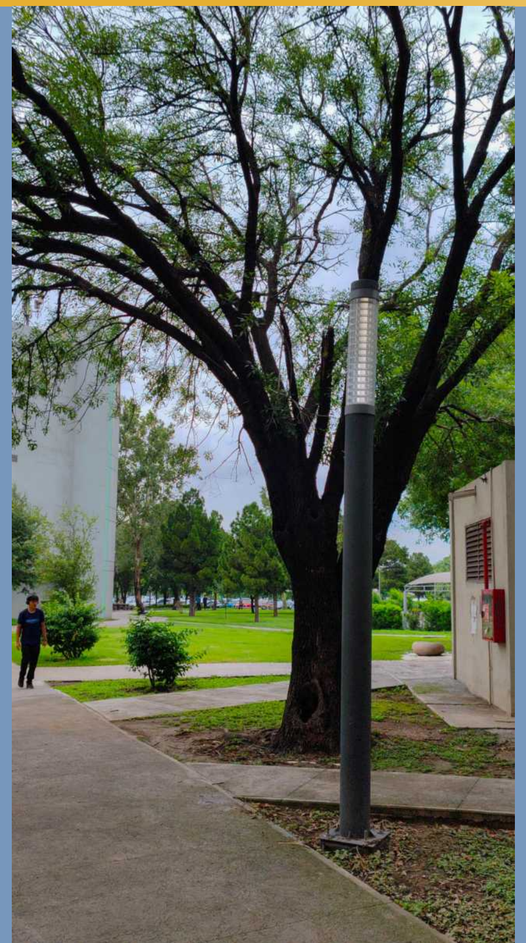
In 2023, 36.5% of the energy consumed by UANL was generated by renewable energy sources

AUTOMATED ENERGY USE REGISTRATION SYSTEM

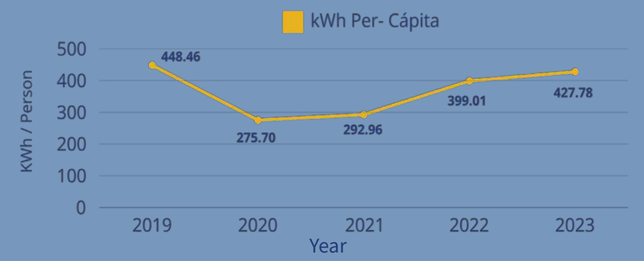
Since 2015, the UANL has been recording its energy consumption through the “Control Panel”, an automated system that allows accounting of energy consumption that university departments have throughout the year. The system is fed by 217 electricity consumption meters and 48 gas meters, generating a database that allows the analysis of energy consumption in real time, allowing energy management with sustainability criteria.

The “Control Panel” annual report of the year 2023, reported a total energy consumption of UANL of 98,719,860 kWh, which translated into a per capita consumption of 428 kWh.

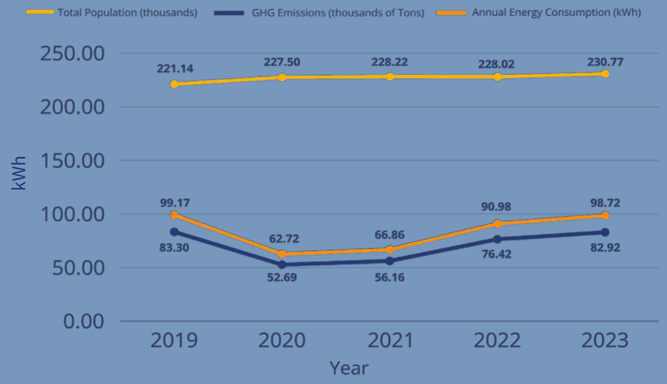
428 kWh
energy consumption in 2023



ANNUAL PER CAPITA ELECTRICITY CONSUMPTION

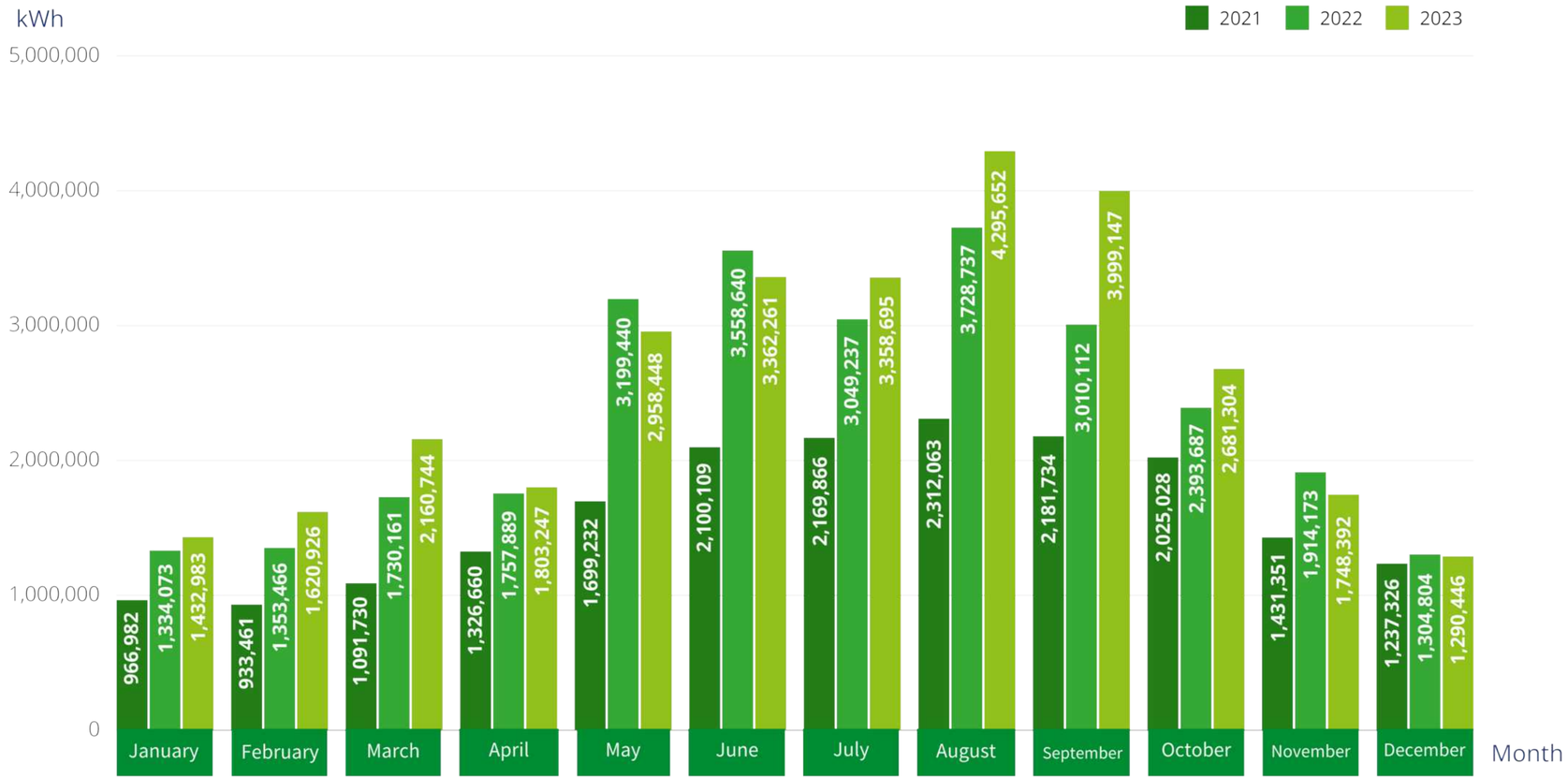


ELECTRICITY CONSUMPTION 2019-2023



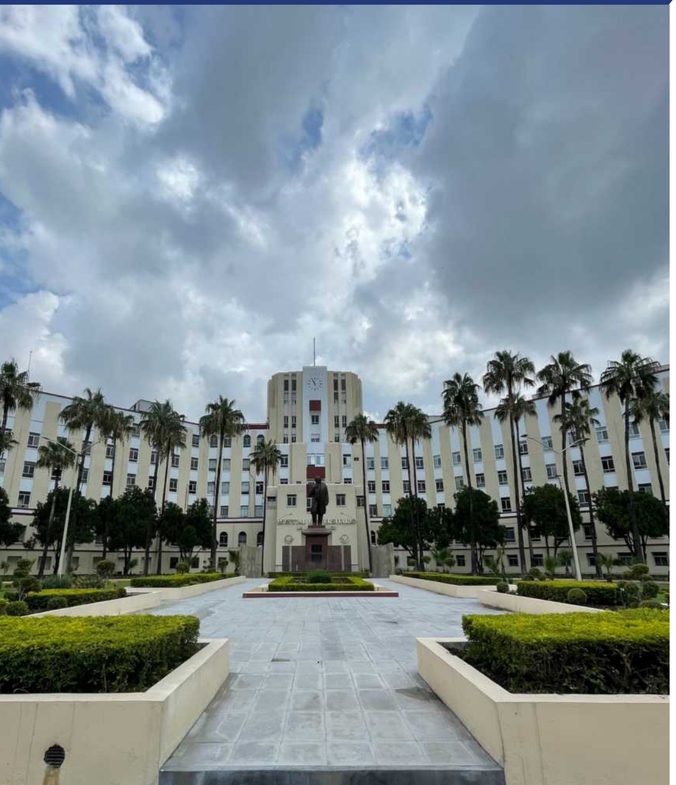
Monthly energy consumption kWh

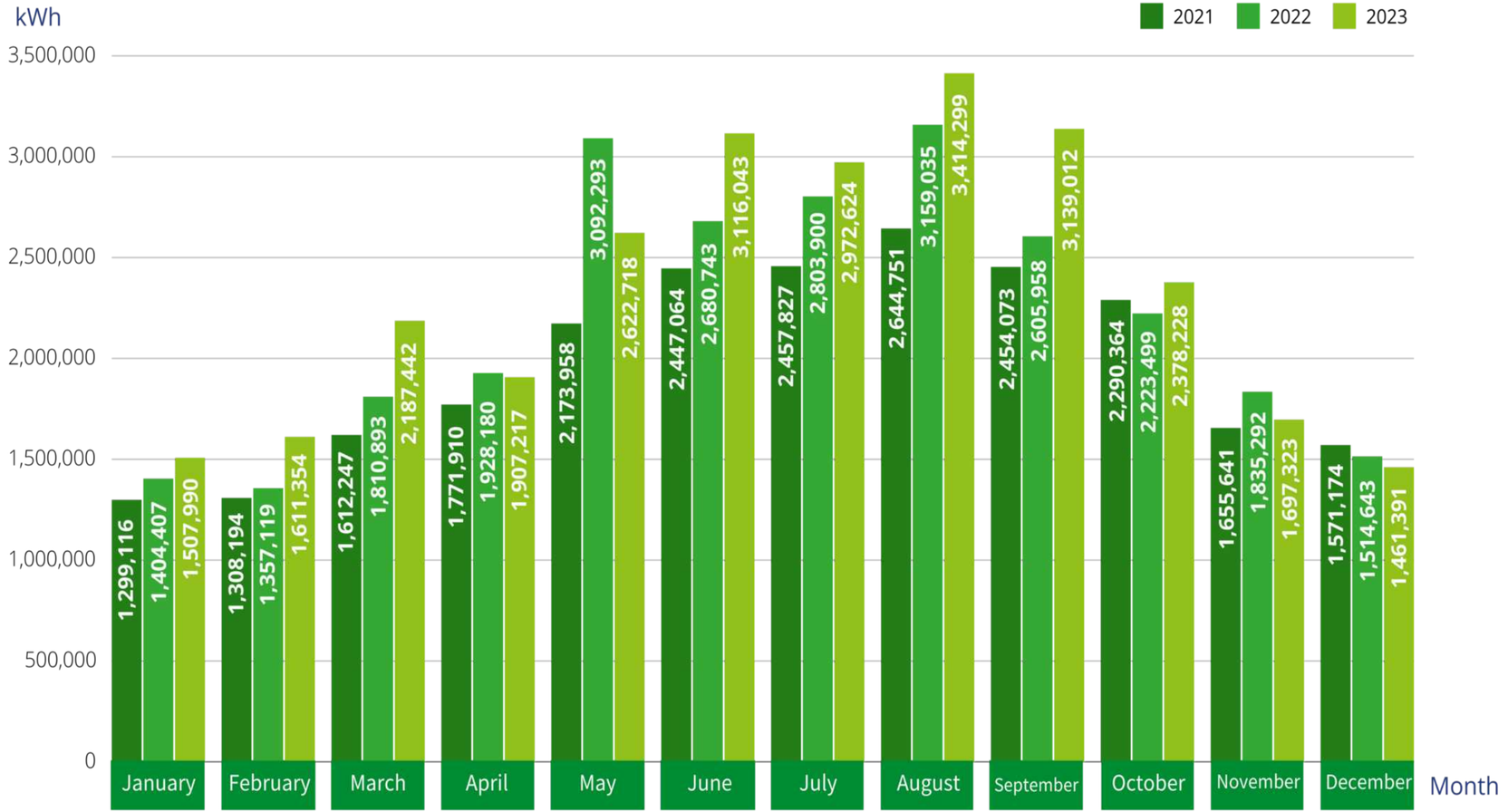
Main Campus



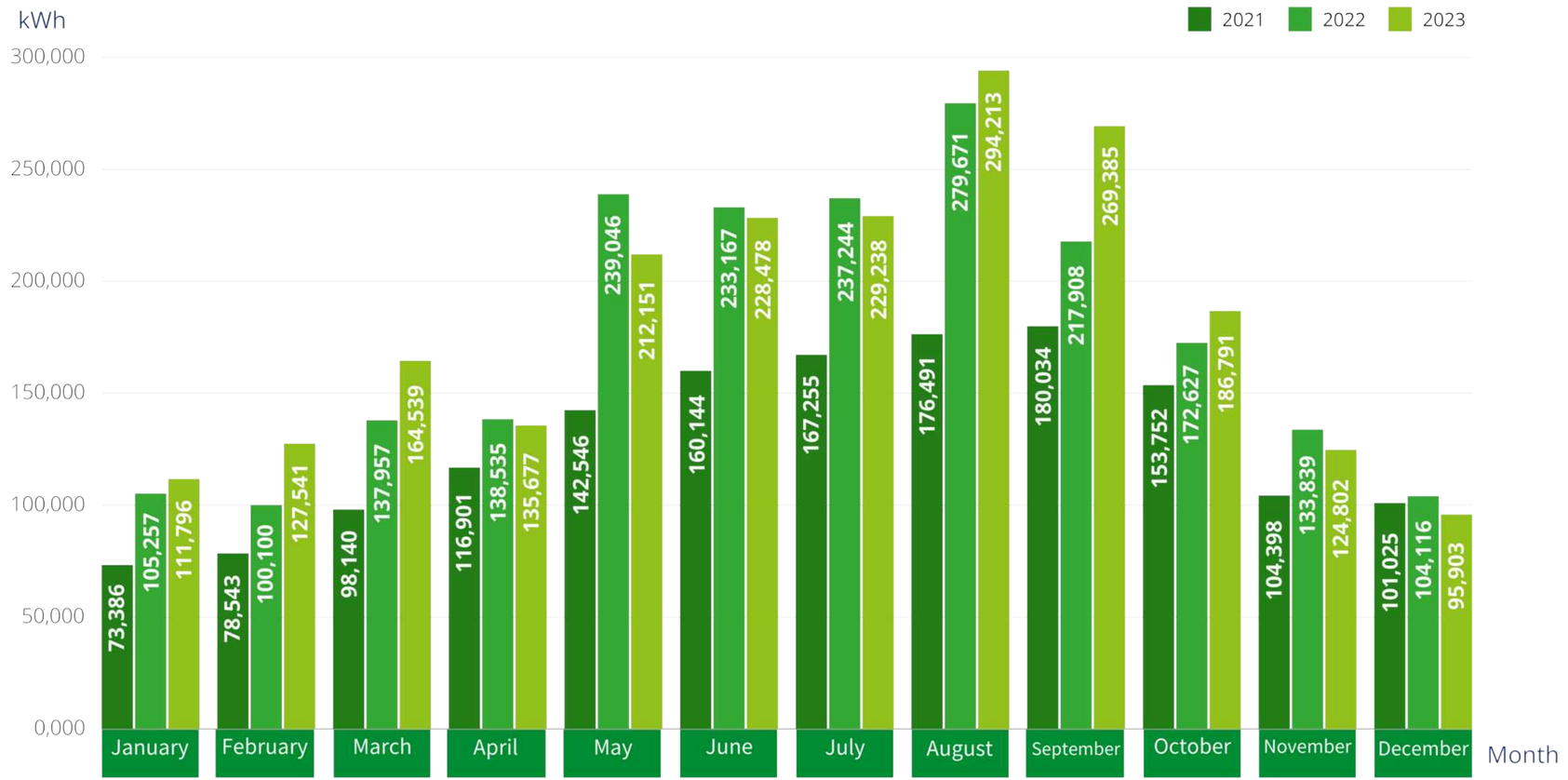
Monthly energy consumption kWh

Health Sciences Campus



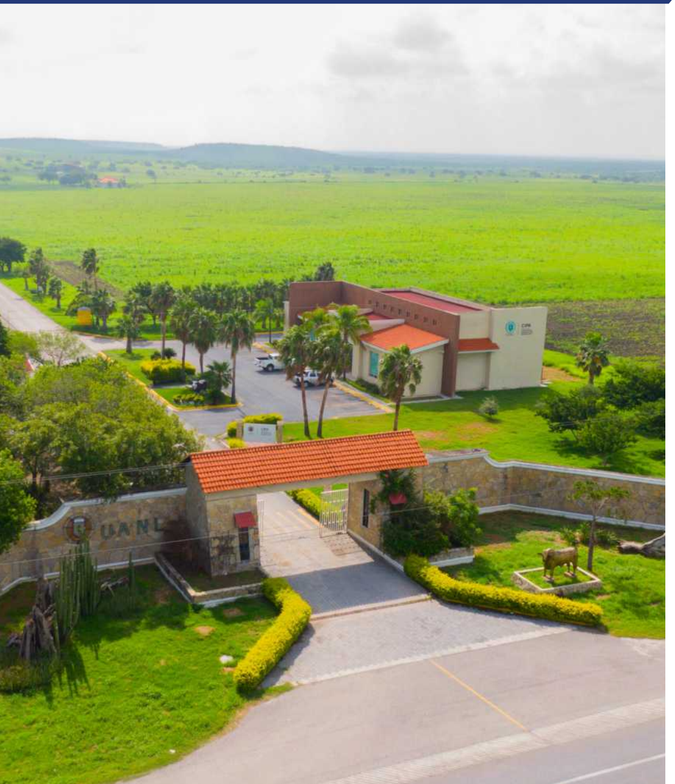


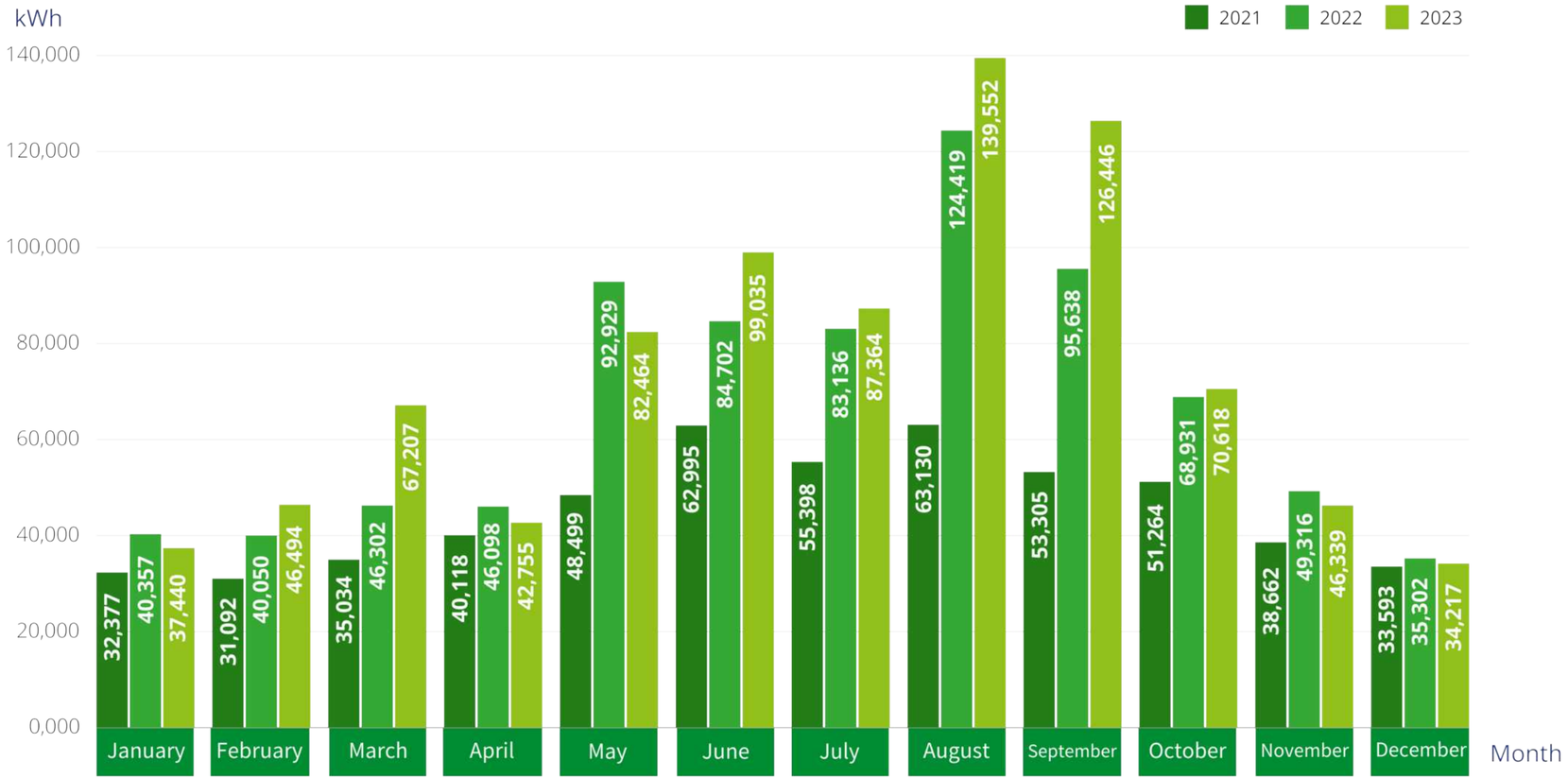
Monthly energy consumption kWh
Agricultural Sciences Campus



Monthly energy consumption kWh

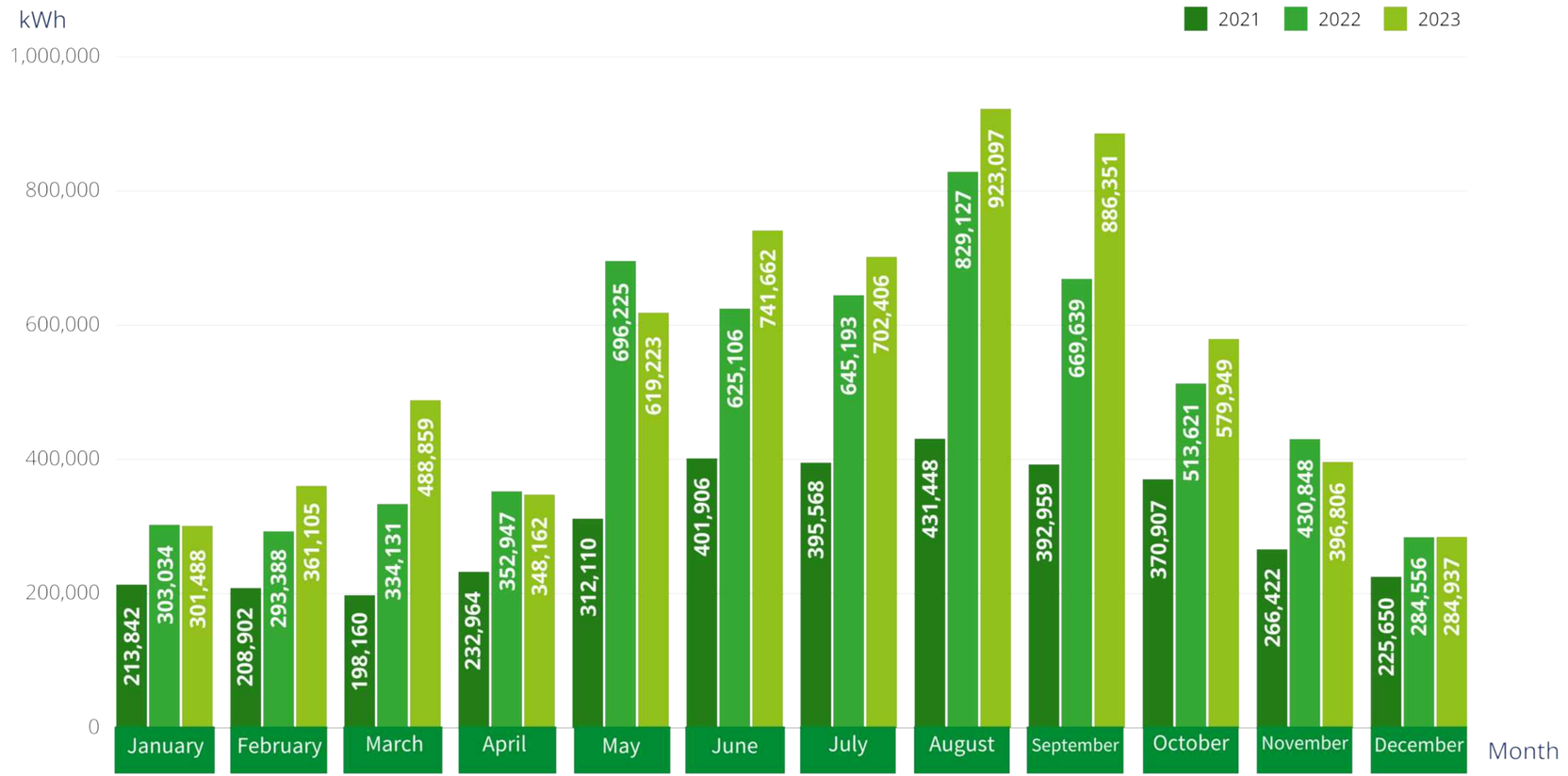
Linares Campus





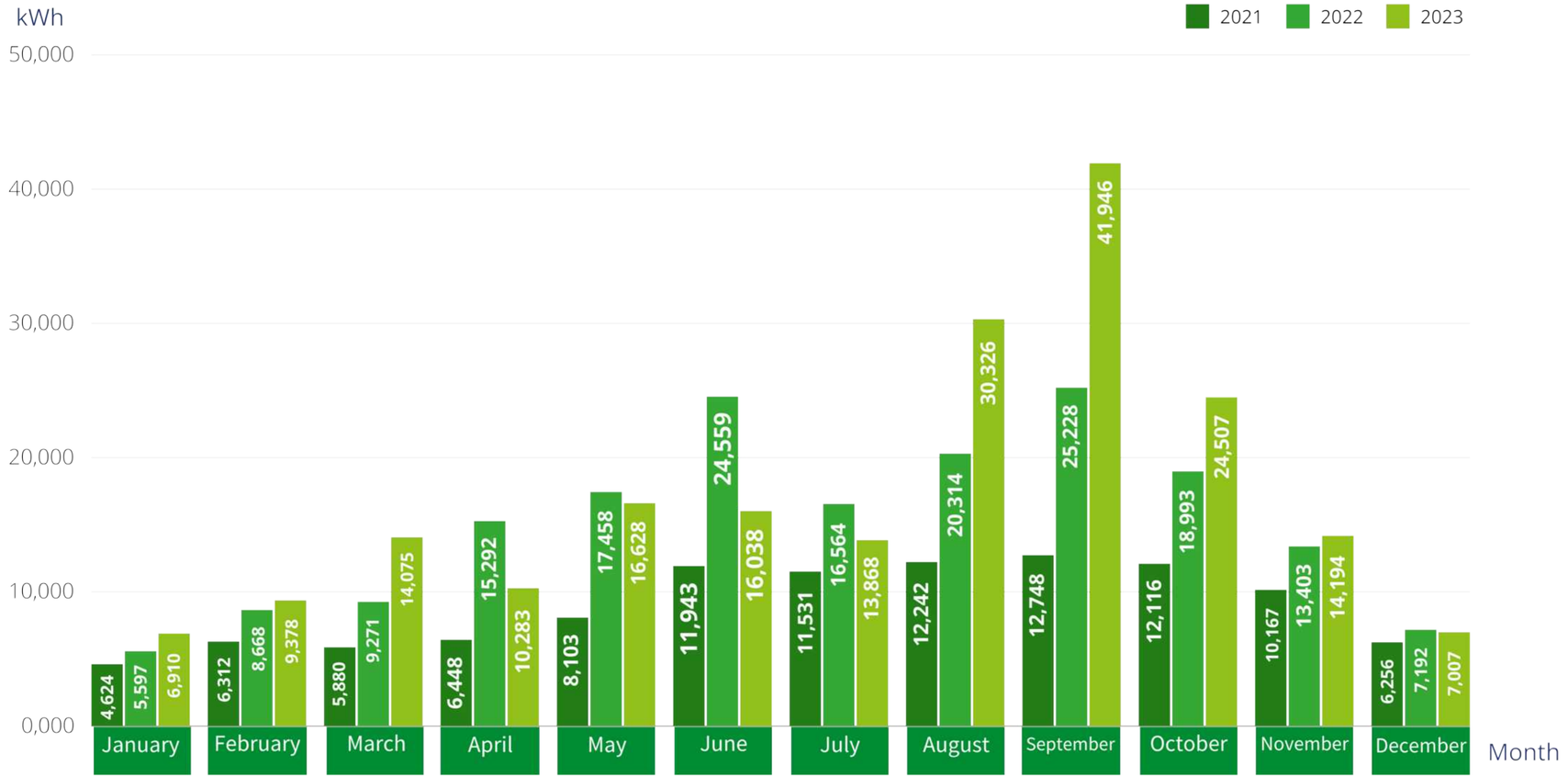
Monthly energy consumption kWh

Mederos Campus



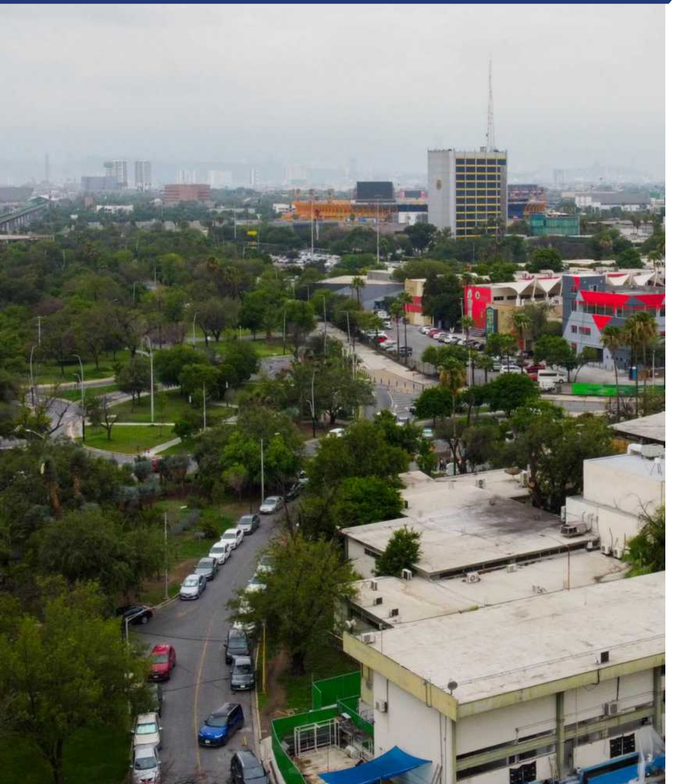
Monthly energy consumption kWh

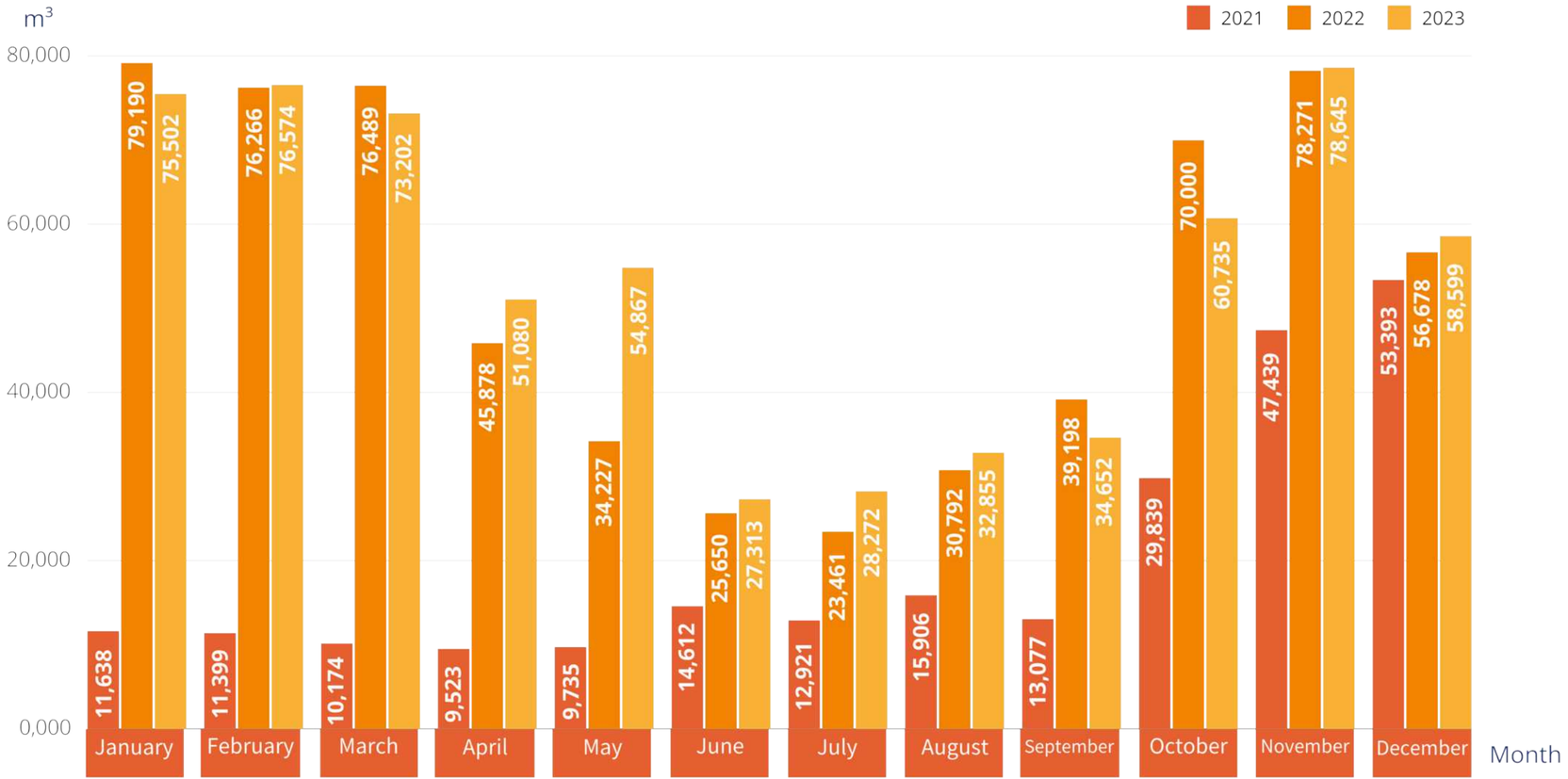
Sabinas Hidalgo Campus



Monthly gas consumption m^3

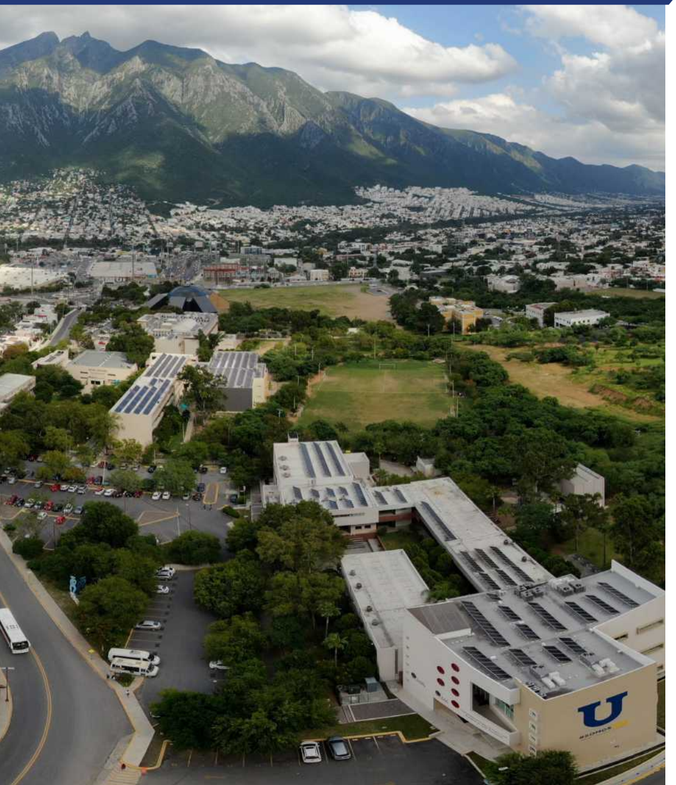
Main Campus

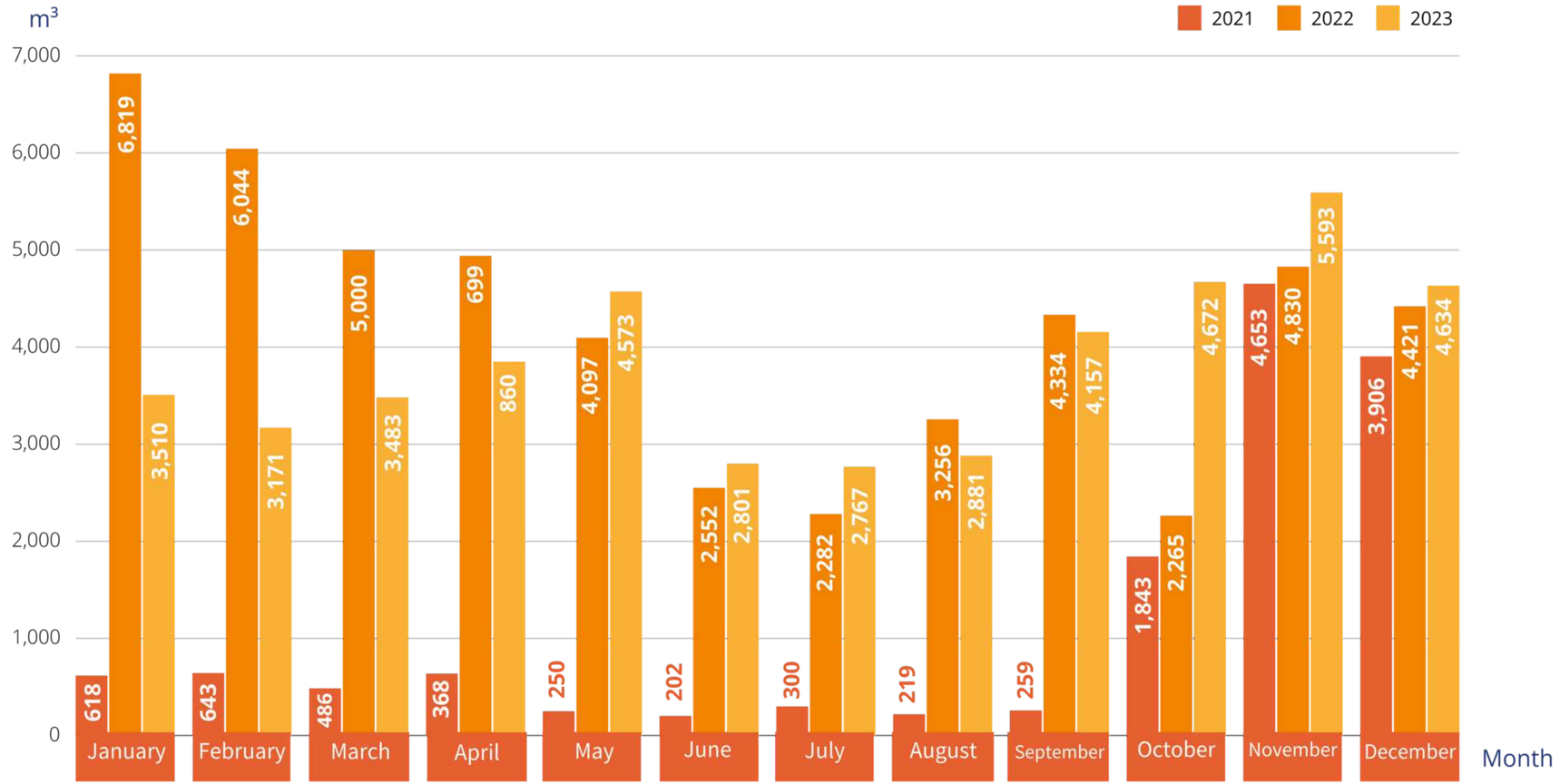




Monthly gas consumption m³

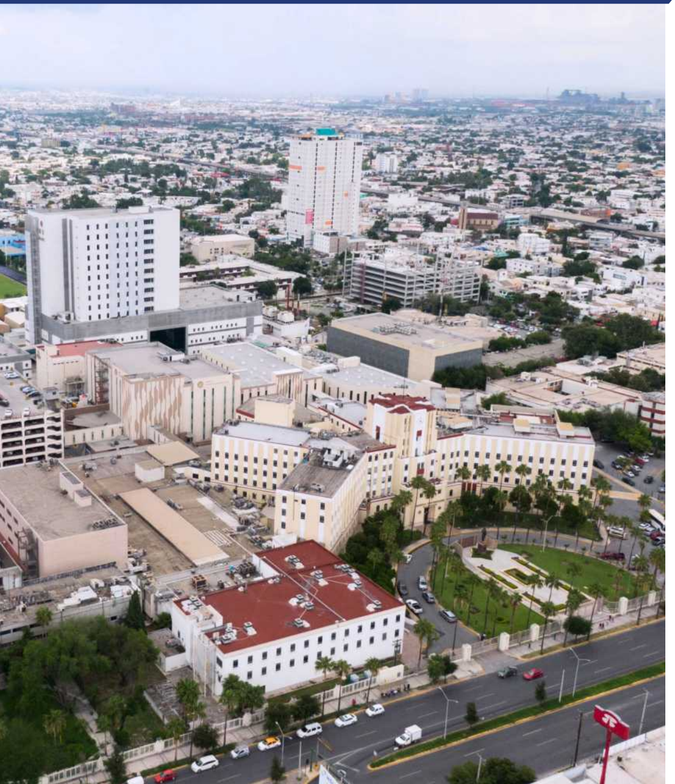
Mederos Campus

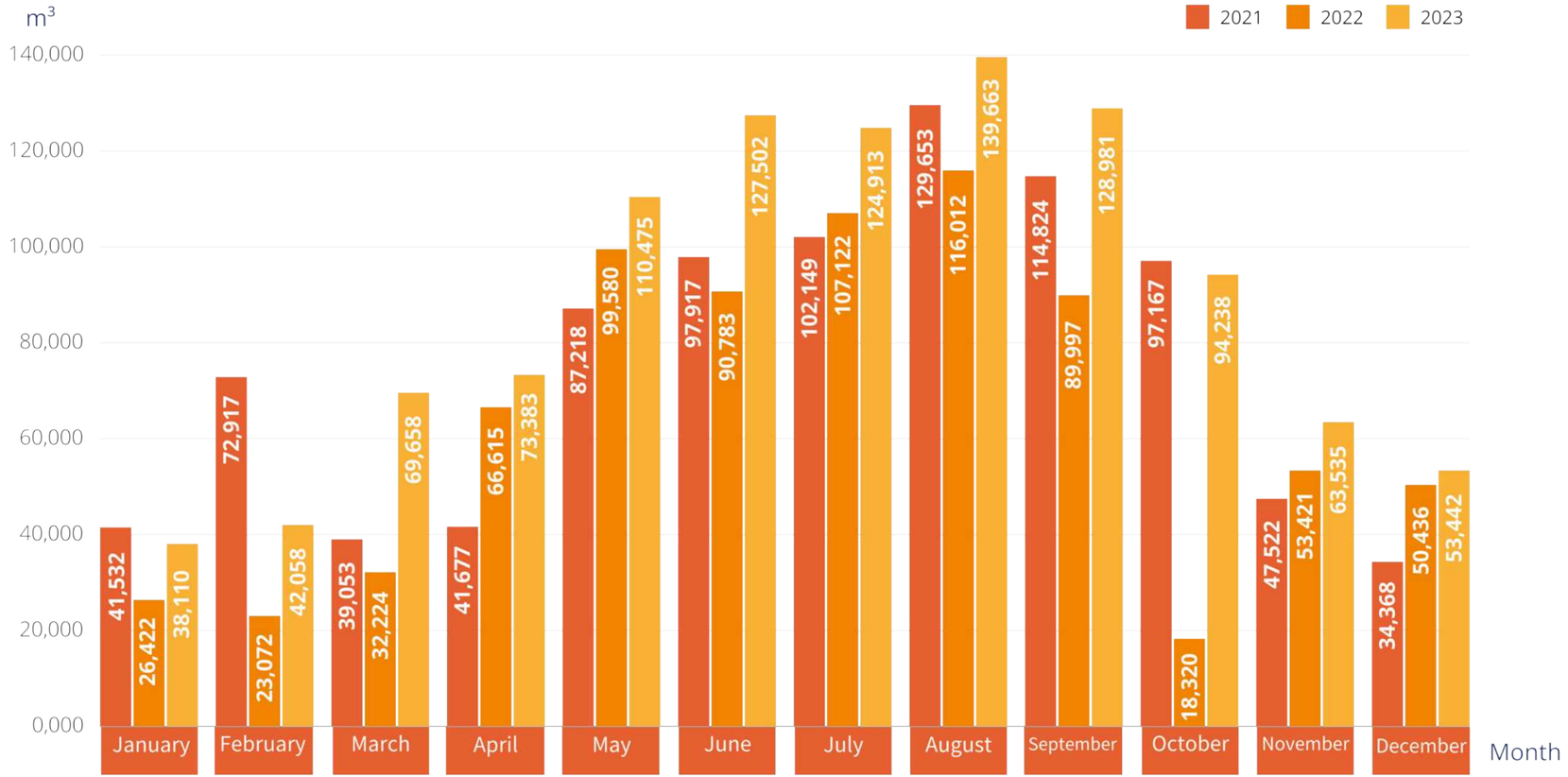




Monthly gas consumption m³

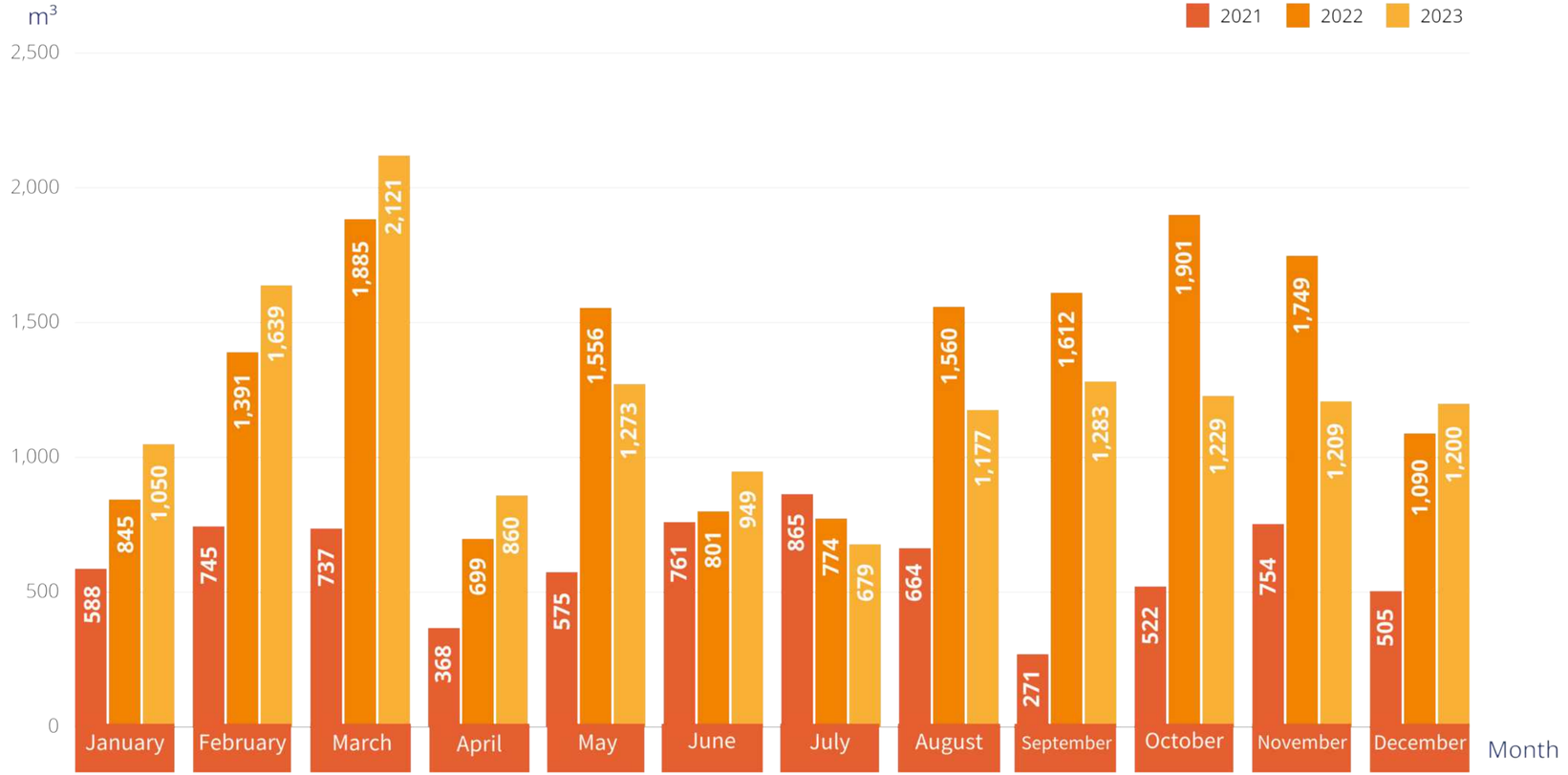
Health Sciences Campus





Monthly gas consumption m³

Agricultural Sciences Campus



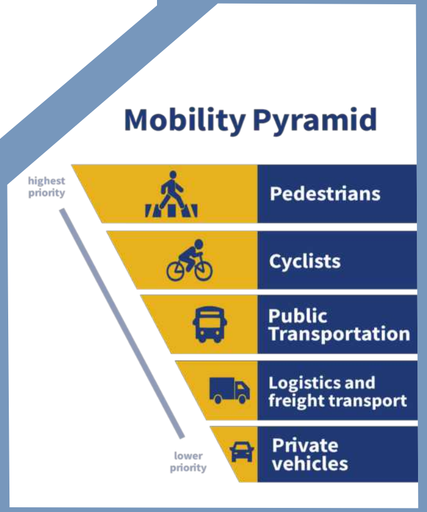
11 SUSTAINABLE CITIES AND COMMUNITIES

SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABLE MOBILITY

The Universidad Autónoma de Nuevo León (UANL) has consolidated its commitment to sustainable development, recognizing that mobility is a fundamental pillar for the well-being of its community and the environment. In a global context where environmental challenges are increasingly pressing, the UANL has adopted a proactive vision towards sustainable mobility, understanding that this not only implies the reduction of polluting emissions but also the creation of a safer, more accessible, ecological, efficient and socially responsible environment.

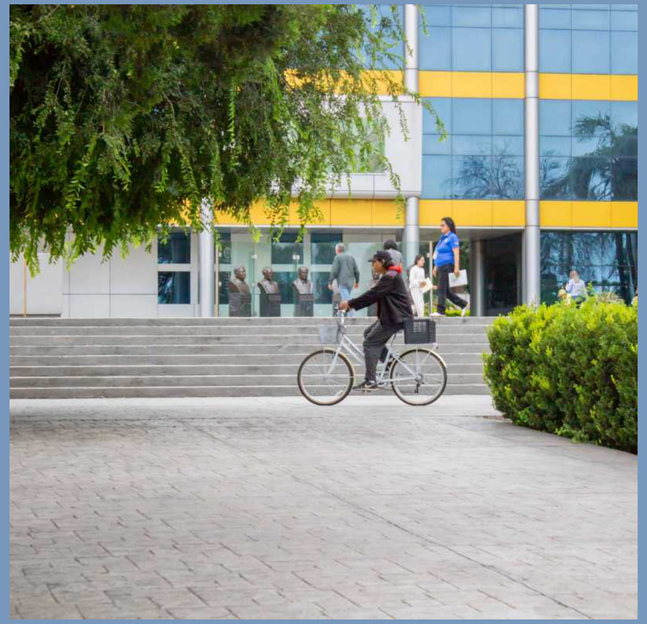
Sustainable mobility is not only a global trend but an imperative need to mitigate the effects of climate change and contribute to the development of more livable cities. In a university environment where thousands of students, faculty and administrative staff converge daily, the planning and implementation of sustainable mobility policies is crucial to reduce the carbon footprint and promote more responsible transportation habits.



70 %

of the Ciudad Universitaria population commutes in public transportation and non-motorized vehicles

One of the main axes of this program is to promote the use of alternative means of transport other than the private vehicles, which are one of the greatest generators of polluting emissions in the city. Thus, UANL has implemented different initiatives, including to support non-motorized transport since its main goal is the safe mobility of pedestrians and cyclists, scooter and non-motorized vehicles users, aligning with the principles of the inverted pyramid of mobility and in accordance with global, national, state, and local guidelines for sustainable mobility.



Our university has continuously promoted the use of the university public transportation as a priority option for students, optimizing TigreBus routes to ensure greater frequency and coverage. In addition, the UANL has implemented educational campaigns aimed at promoting the use of shared means of transport, reducing the use of private vehicles, thus contributing to the reduction of greenhouse gases emissions.

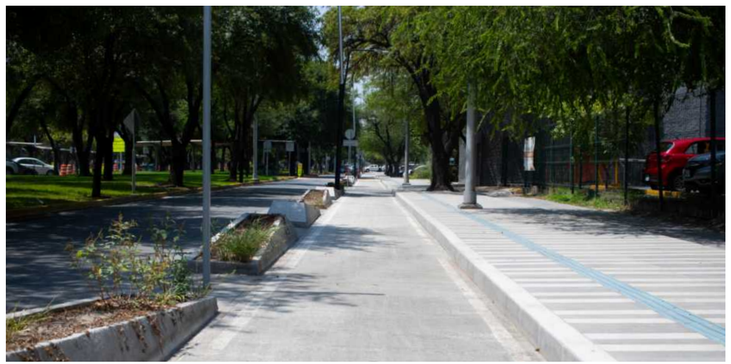
The sustainable mobility program also includes a strong educational component. The UANL organizes workshops, conferences and courses aimed at the entire university community, which address topics related to sustainable mobility, energy efficiency, and the importance of reducing dependence on fossil fuels. These activities seek to train students and employees with a critical vision and commitment to sustainable development, capable of implementing innovative solutions in their respective fields of action.

UANL understands that sustainable mobility is an ongoing process and that efforts must be maintained and adapted to the technological and social changes that constantly redefine our transportation needs. With these actions, the Universidad Autónoma de Nuevo León reaffirms its leadership as an institution committed to sustainability and the integral development of the university community, promoting a mobility model that is environmentally friendly and socially equitable.

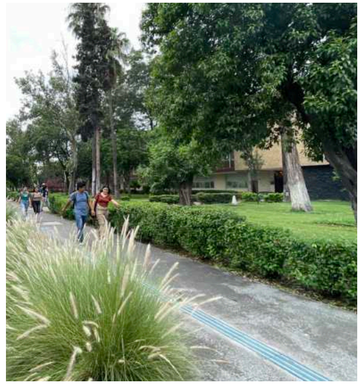
HUMAN SCALE MOBILITY PROGRAM (CIUDAD UNIVERSITARIA)

In order to understand the objectives of mobility with human scale, it is necessary to visualize it from two key concepts: urban connectivity and accessibility. Urban connectivity is essential for functional mobility among the university community. According to the principles of the Institute for Transportation and Development Policy (ITDP), there is a descriptive instrument called Inverted Mobility Pyramid, which prioritizes the distribution of road space, in order to create norms and regulations that support it. This model prioritizes pedestrians, leaving mobility in private vehicles in the least relevant place. The right to free transit, especially for pedestrians, should be universal, so it is necessary to give priority in the access and road system for their movement.

In terms of accessibility, the operation of urban and landscape spaces must be determined. According to the UN-HABITAT 2016 Agenda, as well as federal, state, and metropolitan authorities, and finally the Institutional Development Plan 2019-2030 of UANL, cities should create the necessary conditions for their communities to benefit from new forms of social inclusion. This includes promoting greater equality, access to services, opportunities, participation, and mobilization that reflect the diversity of cities, countries, and the world itself.



At Ciudad Universitaria campus, a high percentage of the population commutes to and from the campus. Therefore, it is of utmost importance to prioritize non-motorized mobility within this campus. This mobility model offers multiple benefits, both for the environment and for users, as it strengthens the social fabric and contributes to the development of public space infrastructure. Through urban design, it promotes the creation of more inclusive and sustainable cities.



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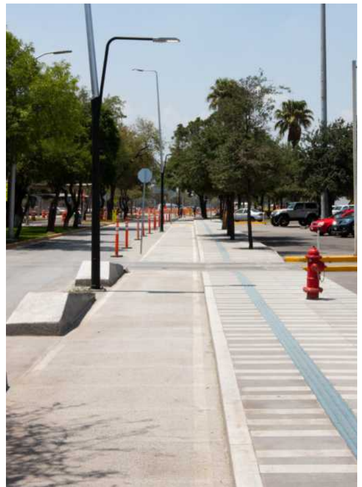
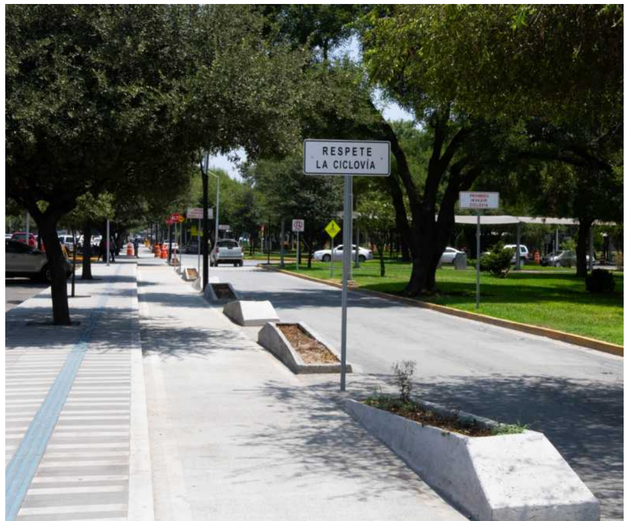
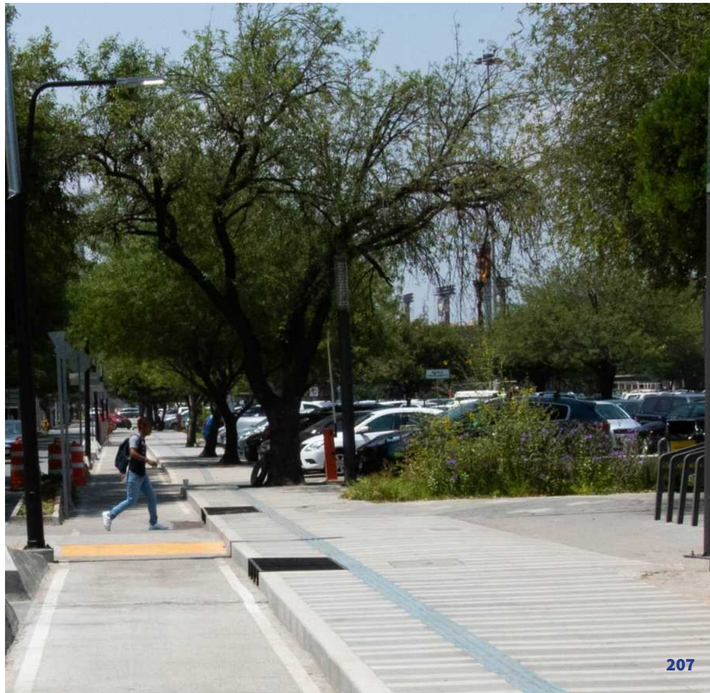




At Ciudad Universitaria campus, a high percentage of the population commutes to and from the campus. Therefore, it is of utmost importance to prioritize non-motorized mobility. This mobility model offers multiple benefits, both for the environment and for users, as it strengthens the social fabric and contributes to the development of public space infrastructure. Therefore, it promotes the creation of more inclusive and sustainable cities.



Specific objectives

- Connect the interior of the campus with the immediate context of Ciudad Universitaria, prioritizing safe pedestrian mobility.
- Encourage the use of non-motorized transportation on campus to improve mobility.
- Discourage the use of automobiles by reorganizing parking spaces.
- Generate collaboration agreements to efficiently link with key stakeholders, among them: Municipalities and State Agencies.

Policies

- Priority will be given to programs and projects that favor the use of non-motorized means of mobility and the safety and integrity of pedestrians.
- Non-motorized mobility within Ciudad Universitaria will be encouraged.
- Connections between agencies will be implemented, as well as alternatives to promote the use and movement of non-motorized mobility.
- The efficiency and safety of internal public transportation systems will be promoted.
- Projects for the reorganization and improvement of vehicular traffic routes will be promoted.
- Accessibility between campus spaces and buildings, as well as with the immediate external context, will be promoted.

Ordering

- Planning and implementation of a support system for non-motorized mobility around the campus.
- Coordinate actions between departments and schools related to the planning, elimination and improvement of physical barriers that impede free movement between spaces and buildings.
- Coordinate with external urban transportation for the planning, scheduling and safety of their routes that run through Ciudad Universitaria.
- Develop urban improvement actions at Ciudad Universitaria campus accesses to regulate the entry and exit of motorized means of mobility.

Planning

- Promote the improvement of roads, walkways and crosswalks to facilitate non-motorized travel at Ciudad Universitaria.
- Promote non-motorized and zero-carbon mobility.
- Promote the reorganization of spaces destined to service motorized vehicles.
- Manage the removal of obstacles, elements and/or barriers that jeopardize non-motorized mobility in a safe manner, as well as universal accessibility.

Goals

- Connect 70% of the areas inside the campus through walkways and crosswalks during the 2021 – 2024 term.
- Incentivize 50% of private car users to use non-motorized means of transport during the 2021 – 2024 term.
- Reorganize 40% of parking lots during the 2021 – 2024 term.
- Generate an updated collaboration agreement with the municipality of San Nicolas de los Garza for the 2021 – 2024 terms.

PROJECTS

In 2023, field, architectural design and technical specifications development studies were carried out for the projects that will begin their construction and development process during 2024:

1.- Conecta

Mobility project for the connection and closure of the pedestrian walkway and bicycle lane circuit in the Ciudad Universitaria campus, including the construction of a pocket park and a pick-up and drop-off bay for public transportation.

Area: 3,128.20 m²

Beneficiaries: 80,000 people

Components:

a) One-way bicycle lane
b) Trees: 35
c) Bollards: 30 pieces
d) Urban lighting: 10 pieces.

2. Conecta Stage 3. South area stage 1

Rehabilitation of the southern area of the Pedro de Alba Avenue that considers the reconstruction of the pedestrian sidewalk with universal accessibility components, in order to ensure universal accessibility, safe and comfortable spaces.

Area: 1,201.17 m^2

Beneficiaries: 80,000 people

Components:

a) TigreBus structure
b) Bollards: 26 pieces
c) Waste containers: 15 pieces
d) Water troughs: 2 pieces
e) Road lights: 11 pieces
f) Pedestrian lights: 6 pieces

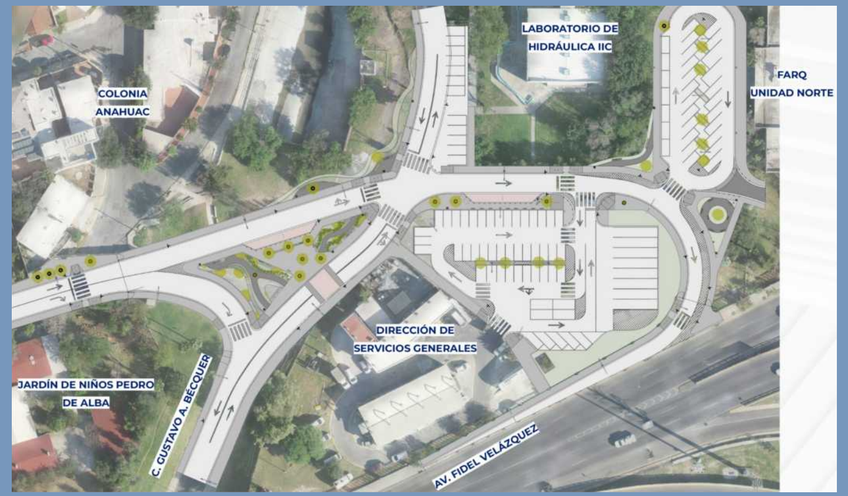
3. Conecta Stage 3. South area stage 2.

Rehabilitation of the south area of Pedro de Alba Avenue that considers the reconstruction of the pedestrian sidewalk with components of universal accessibility, in order to ensure universal accessibility, safe and comfortable spaces.

Area: 1,201.17 m^2

Beneficiaries: 80,000 people

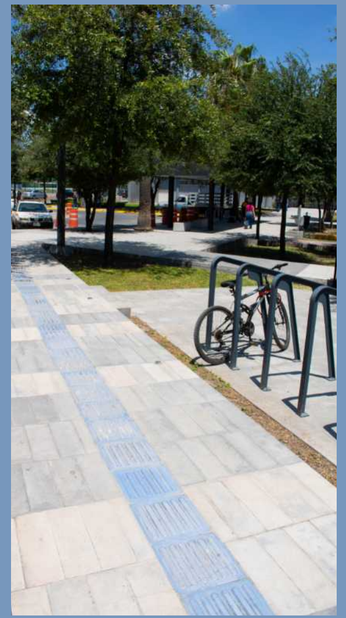
Componentes:
a) Bollards: 16 pieces
b) Trash Modules: 5 pieces
e) Road Lights: 4 pieces
f) Pedestrian Lights: 6 pieces



4. Conecta. North Gasa.

The plan is to move the bridge and have an elevator, landing and stairs. Add trees, urban furniture and floor finishes.

Height: 5.20 meters
Development: 91 ML
Pending: 6%



5. Green corridor. School of Communication Sciences, Green Corridor, Acueducto Avenue

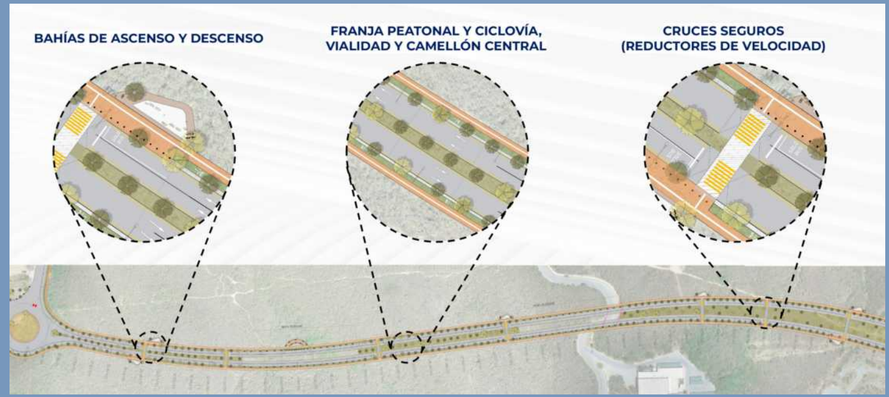
Integral mobility project from the access in the area of the School of Communication Sciences to Acueducto Avenue with the intervention of the green corridor. Complying with the premises of reorganization of public space, parking, walkways and accesses, in addition to urban mobility elements and equipment.

Area: 1,174.00 m_2

Beneficiaries: 80,000 people

Components:

a) Bike lane: 3,438.00 m2
b) Sidewalk: 5,089.00 m2
c) Trees: 287 pieces
d) Safe Crossings - Speed Reducers: 7
e) Ascent and descent bay: 4.
f) Waiting Area: 2
g) Viewpoints - Resting Area: 5



6. Green Corridor. Gonzalitos Medical District.

Integral mobility project prioritizing non-motorized transportation, urban design of sidewalk widening, reorganization of vehicular flow, street-level commerce and collector parking. Universal accessibility infrastructure, improvement of bus stations with big data for circuit control and rescue of public space.

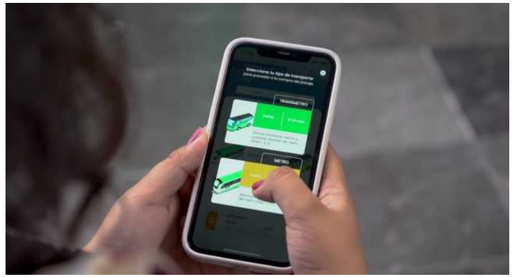
Area: 1,174.00 m2

Beneficiaries: more than 22,575 people

Components:

a) bicycle lane
b) sidewalk
c) safe crossings
d) trees
e) 30 km/h speed zone
f) street furniture
g) lighting

PUBLIC TRANSPORTATION



Our university has also promoted the use of public transportation as a priority option for students, faculty and administrative staff. The mass public transportation which has a connection with the university campuses includes the subway and radial, peripheral, and local bus routes, urban and long-distance buses and the public transportation for hire, such as taxis and vehicles from digital platforms (Uber, DiDi, Cabify, Beat, and others).

In collaboration with local transportation authorities, the bus routes with connection to the different campuses have been optimized, ensuring greater frequency and coverage of the 40 routes that ride along the Ciudad Universitaria campus.

The electric public transportation system known as Metro mobilizes more than

3.5 millon

members of the university community who study or work at the Ciudad Universitaria campus each year

The urban bus routes mobilize more than

7.8 millon

members of the university community who study or work at the Ciudad Universitaria campus each year

The urban bus routes that currently circulate through Pedro de Alba, Universidad, Nogalar - Fidel Velázquez, Manuel L. Barragán and Guerrero Avenues are the following:

1. R-Álamo Santiago - Directo UANL
2. R-Auto Transportes Azules y Amarillos General Terán - Monterrey - UANL
3. R-Interenlace Directo Cadereyta - UANL
4. R-1 Sector 1 San Nicolás - Tecnológico - Central - Las Puentes
5. R-1 Sector 1 San Nicolás - Tecnológico - Directo - Pabellón
6. R-1 Sector 4 Pilares - Central de Autobuses
7. R-16/316 La Unidad - UANL
8. R-17 Auditorio San Pedro - UANL
9. R-17 Pio X - UANL
10. R-17 Santuario - UANL
11. R-88 Cosmópolis - Jardines
12. R-88 Cosmópolis - Moisés Sáenz
13. R-101 Ébanos
14. R-101 Manantial
15. R-134 Fresnos - Puentes - 15 de Mayo
16. R-134 Telmex - Metroplex - 15 de Mayo
17. R-207 Penitenciaria
18. R-209 Escobedo - Punta de Loma - Bosques
19. R-209 Escobedo - Punta de Loma - Renacimiento - Olivos
20. R-209 Exprés Escobedo - Hidalgo
21. R-213 Cosmópolis - UANL
22. R-213 Directa - UANL
23. R-213 Quintas - UANL
24. R-219 Sector 1 Tréboles - UANL - B. Reyes
25. R-220 Pedregal
26. R-220 Provileon
27. R-226 Sector 1 - Buena Vista - Balcones – Alameda
28. R-226 Sector 3 - Buena Vista - Joyas - Alameda
29. R-227 Clouthier - 16 de Septiembre
30. R-227 Clouthier - Constitución
31. R-227 Emiliano - 16 de Septiembre
32. R-227 Emiliano - Constitución
33. R-229 Ébanos - Metroplex - Mercado. Juárez
34. R-229 Robles - Metroplex - Mercado Juárez
35. R-232 La Unidad
36. R-232 La Unidad - San Marcos
37. R-316 Libramiento - Paraje San José
38. R-320 Fresnos - Puentes - Colón
39. R-685 Sector 1 Salinas Directo
40. R-685 Sector 2 Bosques de los Nogales

INSTITUTIONAL VEHICLE FLEET

The vehicle fleet of the Universidad Autónoma de Nuevo León offers an essential transportation service, facilitating safe and efficient mobility within and between university campuses.

With a diversified fleet that includes buses and specialized vehicles, the service covers internal transportation, intercampus and accessibility needs for people with reduced mobility. In addition, it reinforces the commitment to sustainability through the use of ecological vehicles and rigorous maintenance.

Institutional vehicle fleet breakdown

Vehicle Type	Central units	Schools	Total units
Automobile	87	88	175
Truck	146	319	465
Cargo Truck	13	21	34
Bus	11	37	48
Motorcycle	5	4	9
Electric Vehicle	4	1	5
Total			736

TIGREBUS

In 2023, UANL intensified its efforts to promote transportation alternatives that reduce the use of individual motor vehicles, which are largely responsible for air pollution and road congestion. Among the most outstanding initiatives are the expansion of cycling infrastructure in and around the campus and the strengthening of the university public transportation routes (TigreBus) that connect the different campuses and university departments.

The TigreBus system of the Universidad Autónoma de Nuevo León (UANL) is an innovative initiative that has revolutionized public transportation due to its contribution in reducing traffic and vehicular congestion in a city in constant growth such as the Metropolitan Area of Monterrey.

During 2023, TigreBus provided

114,720

services to more than

6 million students

TigreBus generated savings of more than

2 million dollars for users

The “TigreBus” offers students a quality public transportation service at no cost to users, which helps to alleviate the economic burden for students, in addition to reducing the use of private vehicles and contributing to traffic congestion and the reduction of polluting emissions. The environmental benefits of this sustainable mobility program are significant since TigreBus helps to reduce the carbon footprint of the university community, aligning UANL with its objectives of sustainability and social commitment.

Tigrebus operates at the university campues of the Metropolitan Area of Monterrey with the purpose of facilitating fast and safe access to schools.

Environmental and economic benefits derived from the operation of university public transportation.

Tigrebus y Tigrevan

Año	Number of daily trips	Total services per year	Total beneficiaries	Savings to users through the program
2021	14	3,878	155,120	$ 60,333.00 (USD)
2022	478	107,072	5,353,600	$ 2,082,269.00 (USD)
2023	478	114,720	6,463,200	$2,513,845.00 (USD)

* Considering a rate of $0.39 (USD) that applies to students

Source: Project Development Office of the Sustainability Department, UANL.

Inter-campus interconnection service				
Departure Campus	**Arrival Campus**	**Days of service**	**Hours of operation**	**Total daily services**
Ciudad Universitaria	Mederos	Monday to Friday	6:15 a.m. 11:00 a.m. 4:00 p.m.	10
Mederos	Ciudad Universitaria	Monday to Friday	1:00 p.m. 6:00 p.m. 9:15 p.m.	7
Ciudad Universitaria	Health Sciences	Monday to Friday	6:15 a.m.	1
Health Sciences	Ciudad Universitaria	Monday to Friday	2:00 p.m.	1
Health Sciences	Ciudad Universitaria	Monday to Friday	9:15 p.m.	2
Health Sciences	Agricultural Sciences	Monday to Friday	6:15 a.m.	1
Agricultural Sciences	Ciudad Universitaria	Monday to Friday	8:30 p.m.	2
Ciudad Universitaria	Center for Research and Innovation in Aeronautical Engineering (CIIIA)	Monday to Friday	8:30 a.m. 1:40 p.m. 4:00 p.m.	3
Center for Research and Innovation in Aeronautical Engineering (CIIIA)	Ciudad Universitaria	Monday to Friday	12:00 p.m. 7:20 p.m. 9:30 p.m.	3

RUTA DEL TIGREBUS
Campus Ciencias Agropecuarias

RUTA DEL TIGREVAN
Campus Ciudad Universitaria

RUTA DEL TIGREVAN
Campus Ciencias de la Salud

RUTA DE TIGREBUS
Campus Ciencias de la Salud
(Técnica Médica)

Circuito Ida
Circuito vuelta

Paradas:

1. Estación del metro Hospital
2. Preparatoria No. 15 (Madero)
3. Facultad de Medicina
4. Preparatoria Técnica Médica
5. Facultad de Enfermería
6. Facultad de Psicología
7. Plaza (calles Hermosillo y Chihuahua)
8. Banregio (calle Hermosillo y Ave. Simón Bolívar)

Horarios:

Del metro Hospital a Técnica Médica 6:45 a.m., 12:45 p.m. y 1:45 p.m.

De Técnica Médica a metro Hospital 1:00 p.m. 2:00 p.m. y de 7:00 p.m. a 9:00 p.m.

Tigrebus				
Departure campus	**Hours of operation**	**Total units**	**Number of trips per unit**	**Daily Trips per campus**
Mederos	6:15 a.m. a 9:15 p.m.	5	44	220
Health Sciences	6:15 a.m. a 9:15 p.m.	2	72	144
Agricultural Sciences	6:15 a.m. a 8:30 p.m.	2	32	64
Ciudad Universitaria	6:45 a.m. a 9:15 p.m.	1	44	44
Center for Research and Innovation in Aeronautical Engineering (CIIIA)	8:30 a.m. a 9:30 p.m.	1	6	6
Totals		11	198	478

RUTA DEL TIGREBUS
Campus Unidad Mederos UANL

4 QUALITY EDUCATION

SUSTAINABLE DEVELOPMENT GOALS

EDUCATION AND RESEARCH FOR SUSTAINABILITY

Education and scientific research are considered fundamental pillars in the transition to sustainability, as they provide the knowledge and the necessary tools to face the environmental, social and economic challenges of the 21st century. Sustainability, understood as the ability to meet current needs without compromising the capacity of future generations, requires a multidisciplinary approach and innovative solutions that can only emerge through quality education and scientific research.

On the one hand, education for sustainability fosters greater awareness and understanding of environmental issues among students and society in general. By integrating sustainable development concepts into academic curricula, students are prepared to be responsible citizens and competent professionals capable of making informed and sustainable decisions throughout their professional lives.

Education for sustainability promotes values such as equity, social justice and respect for the environment, which is vital for the cultivation of a more just, equitable and sustainable society.

On the other hand, scientific research plays a crucial role in the development of new technologies and practices that promote sustainability. Through research, environmental problems can be identified and analyzed, innovative solutions can be developed and the effectiveness of various strategies for mitigating and adapting to the effects caused by climate change can be evaluated.

Interdisciplinary research fosters interaction between professionals from different areas of knowledge, as well as collective work, both activities are especially important to address and understand the complexity of the challenges facing the process of transition to sustainability.

In this context, the Universidad Autónoma de Nuevo León (UANL) stands out as an institution committed to education and research for sustainability. The UANL has implemented several actions and programs to promote sustainable development inside and outside the university campuses.

Courses, conferences, seminars and workshops related to sustainability

50 events

15,000 participants

Collaboration with other national and international higher education institutions is another key component of UANL's sustainability efforts. The university participates in networks and consortiums that facilitate the exchange of knowledge and best practices in sustainability, and works on joint projects that address local and global environmental problems.

The Universidad Autónoma de Nuevo León, through its diverse initiatives in education and research for sustainability, strengthens its commitment to advancing sustainability by training highly skilled and well-rounded human resources. These individuals are prepared to tackle the challenges of transforming current development models into truly sustainable ones, both locally and globally.

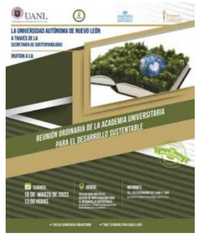
UNIVERSITY ACADEMY FOR SUSTAINABLE DEVELOPMENT (AUDS)

The University Academy for Sustainable Development of the Universidad Autónoma de Nuevo León (UANL) is an initiative that aims to promote education, research and practice of sustainability in university environments. This Academy seeks to integrate the principles of sustainable development in all areas of academic life, thus forming professionals and citizens committed to environmental protection and social welfare.

One of the most relevant characteristics that distinguishes the AUDS is its multidisciplinary approach, since its members are recognized specialists in various areas of knowledge, such as environmental sciences, economics, sociology, engineering, among others, which allows them to address the challenges facing the promotion of sustainability from multiple perspectives, generating comprehensive solutions adapted to the complexity of current problems.

Since its creation, its members have collaborated in the incorporation of the values, tasks and knowledge of sustainability in the UANL academic programs. This has been achieved through the addition of specialized courses on topics such as climate change, natural resource management, renewable energies and sustainable development, among others. These courses are not only available to students in environment-related programs but are also offered as options for students from various disciplines, promoting a comprehensive and multidisciplinary education.

59 AUDS academic events
broadcast through various digital platforms and in face-to-face mode with more than
6,500 participants



66 Experts, of which
55 are national and
11 are international

130 AUDS members

In addition, the University Academy for Sustainable Development plays a crucial role in promoting scientific research oriented to sustainability, since it encourages research projects that address local and global environmental issues. Researchers and students have the opportunity to work on topics such as biodiversity conservation, climate change mitigation, sustainable water resource management and energy efficiency. These projects not only contribute to the progression of scientific knowledge but also generate practical and applicable solutions that can be implemented.

Another key area of the Academy is that it works as an engine of change promoting the incorporation of sustainability criteria in the institutional planning and operation of the UANL, which is reflected in the implementation of programs for proper waste management, promotion of sustainable mobility and awareness of the student community on the importance of sustainability in the design and operation of production models.

Each year the University Academy for Sustainable Development organizes a series of events, conferences and workshops that aim to raise awareness and educate the university community and the general public about the importance of sustainability. These events provide a platform for dialogue, learning and action, inspiring participants to take concrete steps to contribute to a more sustainable future.

EDUCATIONAL PROGRAMS RELATED TO SUSTAINABILITY ISSUES

In 2023, the UANL offered 28 undergraduate and 116 graduate degrees related to sustainability issues.

Bachelor's degree

1. Energy and Sustainable Development Management
2. Biology
3. Genomic Biotechnology
4. Food Science
5. Political Science and Government
6. Economy
7. Social Responsibility Management
8. Agribusiness Engineering
9. Agronomy Engineering
10. Biotechnology Engineering
11. Food Industries Engineering
12. Natural Resource Management Engineering
13. Forestry Engineering
14. Chemical Engineering
15. Environmental Engineer
16. Biomedical Engineer
17. Civil Engineer
18. Materials Engineer
19. Geophysics Engineer
20. Geology Engineer
21. Geologist Mineralogy Engineer
22. Petroleum Engineer
23. Veterinary Medicine and Zootechnics
24. Nutrition
25. Bacteriological and Parasitological Chemist
26. Clinical Chemist Biologist
27. Pharmaceutical Chemist Biologist
28. Social Work and Human Development

In 2023, the UANL offered 28 undergraduate and 116 graduate degrees related to sustainability issues

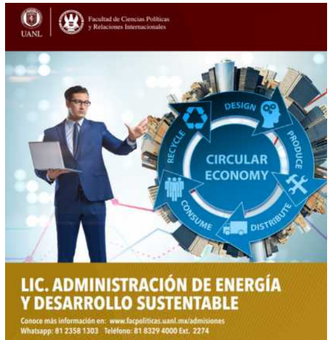
Master

1. 1. Physical Activity and Sport with specialty in:
   1.1. Health Promotion
2. Project Management in Building
3. Medical Infrastructure Architecture
4. Animal Science
5. Master of Science with specialty in:
   5.1. Food
   5.2. Urban Affairs
   5.3. Molecular Biology and Genetic Engineering
   5.4. Architectural Design and Management
   5.5. Medical Entomology
   5.6. Food Industries
   5.7. Environmental Engineering
   5.8. Biosystems Engineering
   5.9. Immunobiology
   5.10. Medical Immunology
   5.11. Wildlife Management and Sustainable Development
   5.12. Plant Resource Management and Administration
   5.13. Construction Materials
   5.14. Microbiology
   5.15. Applied Microbiology
   5.16. Medical Microbiology
   5.17. Nutrition and Food Technology for Water Organisms
   5.18. Sustainable Processes
   5.19. Biomedical Chemistry
   5.20. Chemistry of Materials
   5.21. Chemistry of Natural Products
   5.22. Environmental Technology
   5.23. Social Work
6. Engineering Sciences specialty in:
   6.1. Thermal and Renewable Energies
   6.2. Materials

6.3. Nanotechnology
6.4. Energy Technology
7. Nutrition Sciences
8. Agricultural Production Sciences
9. Public Health Sciences
10. Forestry Sciences
11. Geological Sciences
12. Political Sciences and Government
13. Social Sciences specialty in Sustainable Development
14. Conservation, Wildlife and Sustainability
15. Criminology specialty in:
15.1. Security and Prevention
16. Law specialty in:
16.1. Constitutional Law and Governability
16.2. Electoral Law and Systems
17. Constitutional Law specialty in:
17.1. Constitutional Procedural Law
17.2. Human Rights
18. Energy Law and Sustainability
19. Human Rights
20. Human Development
21. Interior Design and Architectural Environments
22. Medical and Veterinary Entomology
23. Government and Public Administration
24. Hydrogeology
25. Aeronautical Engineering Specialty in:
25.1. Materials
26. Information Security Engineering
27. Environmental Engineering and Management
28. Research in Humanities, Culture and Society
29. Management and Integral Use of Biotic Resources
30. Alternative Dispute Resolution Mechanisms
31. Alternative Dispute Resolution Methods
32. Sustainable Mobility
33. Valuation
34. Psychology Specialty in:
34.1. Gender Violence
35. Regulation specialty in:
35.1. Energy
35.2. Regulatory Improvement
35.3. Regulated Sectors
36. International Relations
37. Ecological Restoration
38. Physical Therapy and Sports Rehabilitation
39. Social Work specialty in Social Projects
40. Gender in Public Policies

Doctor´s Degree
1. Animal Science
2. Agricultural Sciences
3. Sciences with specialty in:
3.1. Food
3.2. Molecular Biology and Genetic Engineering
3.3. Biotechnology
3.4. Medical Entomology
3.5. Pharmacology and Toxicology
3.6. Immunobiology
3.7. Natural Resource Management
3.8. Wildlife Management and Sustainable Development
3.9. Plant Resource Management and Administration
3.10. Microbiology
3.11. Applied Microbiology
3.12. Medical Microbiology
3.13. Nutrition and Food Technology for Water Organisms
3.14. Sustainable Processes
3.15. Chemistry
3.16. Biomedical Chemistry
3.17. Materials Chemistry
3.18. Chemistry of Natural Products
3.19. Environmental Technology
4. Physical Activity and Sport Sciences
5. Earth Sciences
6. Economic Sciences
7. Political Science
8. Social Sciences specialty in Sustainable Development
9. Conservation, Wildlife and Sustainability
10. Law specialty in:
10.1. Constitutional Law and Governability
11. Medical and Veterinary Entomology
12. Gender in Public Policies
13. Philosophy with specialty in:
13.1. Architecture and Urban Affairs
14. Engineering specialty in:
14.1. Environmental Engineering
14.2. Construction Materials
15. Materials Engineering
16. Management and Integral Use of Biotic Resources
17. Medicine
18. Alternative Dispute Resolution Methods
19. International Business with specialty in:
19.1. Agribusiness
19.2. Biotechnology
19.3. Business in Healthcare
20. Social Work and Social Policies

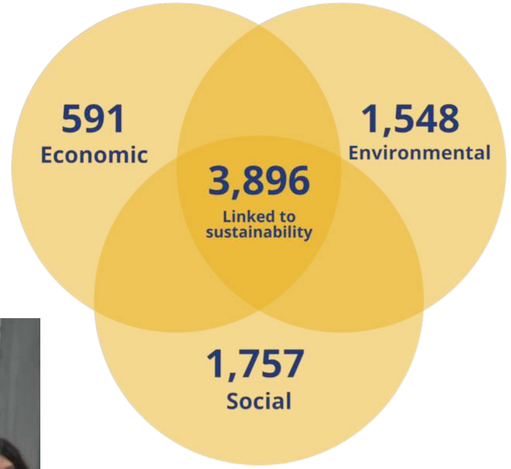
Specialities
1. Conservation, Wildlife and Sustainability
2. Community and Family Health Nursing
3. Medical and Veterinary Entomology
4. Epidemiology
5. Infectology
6. Management and Integral Use of Biotic Resources



DIAGNOSIS ON THE INCORPORATION OF SUSTAINABILITY IN THE UANL UNIVERSITY CURRICULUM

In 2023, the 26 Schools that are part of the Universidad Autónoma de Nuevo León offered an educational offer consisting of 87 bachelor's degrees in which 8,441 Learning Units (LU) were taught.

Of which 3,896 are related to sustainability issues.

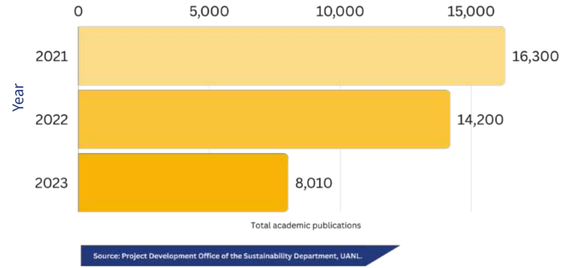


46%

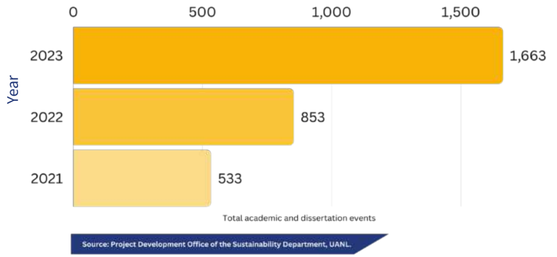
of the learning units are related to sustainability issues

RESEARCH AND SCIENTIFIC DISSEMINATION IN SUSTAINABILITY

DISSEMINATION ACADEMIC PUBLICATIONS RELATED TO SUSTAINABILITY



ACADEMIC AND OUTREACH EVENTS RELATED TO SUSTAINABILITY



EL DÍA CERO EN EL ÁREA METROPOLITANA DE MONTERREY

17/04/2023

Pedro César Cantú-Martínez* CIENCIA UANL / AÑO 26, No.119, mayo-junio 2023 Descargar PDF El cambio climático – de origen antropogénico– es el fenómeno que más daño ha ocasionado en el contexto internacional, su incidencia afecta las condiciones del clima, por lo que todos los territorios del planeta son susceptibles de estar expuestos a una posible ocurrencia de sus efectos. Sus estragos, [...]

LEER MÁS

RECOGNITION OF THE ACADEMIC STAFF

7,013
professors at the UANL

1,381
professors with Desirable Profile of the Program for the Professional Development of Teachers (PRODEP)

1,234
professors attached to the National System of Researchers (SNII)

DIGITAL EDUCATION PROGRAM

The Digital Education Program of the Universidad Autónoma de Nuevo León (UANL) is a state-of-the-art initiative that seeks to transform the educational experience through the use of advanced digital technologies. This program offers a wide range of online courses and academic programs, designed to provide a flexible and accessible education for all.

Through interactive digital platforms, the UANL facilitates distance learning, allowing students to access educational resources, participate in virtual classes and collaborate on projects effectively. In addition, the program incorporates online assessment tools and ongoing technical support, ensuring a comprehensive and high-quality educational experience.

The UANL Digital Education Program not only promotes inclusion and accessibility, but also prepares students to face the challenges of the contemporary digital world.

In 2023, the UANL provided educational services through the Digital Education Program to 53,945 students, thus avoiding the emission of 19,910,640 kg of CO_2 Equivalent, due to the energy and water savings that would have been generated by carrying out the same academic activities, but in a face-to-face modality.

In 2023, the UANL through the Digital Education Program provided services to

53,945
students

VIRTUANL
Online learning system that allows students to choose between different modalities during their university studies, combining in the same semester face-to-face, mixed or online learning units, according to their needs and preferences.

TERRITORIUM
It is a collaborative platform for education, designed by educators and developers that allows students to progress in various skills, it can be considered a private social network for learning, as it is quite easy to use.

CÓDICE
Electronic catalog of libraries consisting of 69 dependencies of the UANL.

MOODLE
It is a platform that allows the creation and management of online learning and teaching spaces adapted to the needs of teachers, students and administrators.

NEXUS
Institutional virtual platform that facilitates collaboration between students and teachers in the teaching and learning process in school, distance and mixed system. 215,035 active students.

SIASE
Supports and optimizes department management processes in educational institutions such as School, Human Resources, Finance, among others; to obtain timely and reliable information for decision-making.

MICROSOFT TEAMS
Collaboration and communication tool that allows creating learning teaching spaces in a digital environment that is included in the services available in university e-mail, adapting to UANL teachers and students.

INNOVATION AND ENTREPRENEURSHIP PROGRAM

TIGER TANK

The Tiger Tank innovation program at the Universidad Autonoma de Nuevo Leon (UANL) is an exciting initiative that encourages creativity and entrepreneurship among its students. Inspired by the famous television series “Shark Tank” this event brings together brilliant minds from the university community who compete to present their innovative ideas to a panel of expert judges. Tiger Tank fosters a culture of innovation, giving participants the opportunity to receive valuable feedback and resources to take their projects to the next level. It also promotes collaboration and entrepreneurship, contributing to the economic and social growth of the region.

Project: Maestro Virtual A.C.
School: School of Public Accounting and Management
Description: Educational innovation cluster whose purpose is to transform communities by empowering people with technology through the ecosystem and promoting the Sustainable Development Goals.

Project: Eloplastik
School: High School 16
Description: Through a composite with recycled polyethylene as a polymer matrix and corn husk fibers as reinforcement, obtaining a material with excellent properties that is 100% originated from waste, giving it diverse uses: resistant and reusable packaging, containers, jars, cup holders, etc.

Project: Green Life
School: High School 7
Description: The industrialization process of the tortilla has caused the nutritional quality to decrease by adding preservatives and additives that promote slow digestion in consumers. The solution is to create a “new tortilla”, without losing the original nutrients and improving quality in the production process.

Tiger Tank 2023

- **50** registered projects
- **200** entrepreneurs
- **60** researchers
- **50** professors
- **90** participant students of the three educational levels
- **24** semifinal projecst with commercial potential
- **8** finalist projects
- **2** awarded projects

Project: Artxonomy
School: School of Chemical Sciences and School of Biological Sciences
Description: Alternative to animal leather, where, through a microbiological biomanufacturing process, it is possible to achieve a reduction in water consumption by up to 70% and drastically optimize production time.

Project: Evix
School: School of Medicine
Description: To develop a cervicovaginal self-collection device to create a safe and comfortable environment from home. Implementing artificial intelligence for the detection of macroscopic lesions.

Project: Hui Hua
School: School of Public Health and Nutrition
Description: Gel food supplement based on fruit and vegetable concentrate for children, its ingredients are low in consumption on the market and its mixture gives a sensation of acidity which makes it easy to combine it with other pieces of fruits and vegetables simulating a sweet and sour dressing.

Project: Maltoast
School: School of Mechanical and Electrical Engineering
School of Chemical Sciences
Description: production of toasts with higher protein content. We propose to extract and use the maltose and other components from waste generated by the brewing industry to improve the protein content of toast.

Project: Extruplastic
School: High School 25
Description: plywood sheets or flat surface products for everyday use from the recycling of polypropylene obtained from individuals or from those who hire our large-scale extrusion service or through our machines that provide plastic wood of different sizes and thicknesses, cutting boards, dishes, etc.

STUDENT PARTICIPATION

Student participation in sustainability programs, projects, and actions carried out at the Universidad Autónoma de Nuevo León (UANL) has gained significant relevance in recent years.

UANL, aware of its social and environmental responsibility, has developed a wide range of initiatives that actively involve its students in the promotion of sustainable practices and the search for innovative solutions to contemporary environmental challenges.

One of the pillars of student participation in the UANL is the integration of sustainability into the academic curriculum. Various academic programs of high schools and schools have incorporated specific courses and modules on environmental issues, renewable energies, waste management and conservation of natural resources, among others. This not only gives students the necessary theoretical knowledge, but also motivates them to get involved in practical projects that have a real impact on their environment.

At the UANL there are registered 228 student organizations that work with issues related to the three aspects of sustainable development: social, economic and environmental, of which 45 correspond to independent organizations, 39 to university federations and 141 to student societies representatives of each School, both the university federations and the student societies maintain an organizational scheme headed by a president, and a general secretary, supported by groups of young leaders, who support the realization of projects inscribed in an annual work program, putting them into practice, in order to benefit the university community and the social environment that surrounds it.

228

student associations linked to sustainability issues

UANL students participate in a variety of activities to promote sustainability through recycling, reforestation, recovery of natural environments and other campaigns. These activities not only have a positive impact on the environment, but also promote teamwork and leadership among students.

Activities to promote sustainability with student participation 2023

Activity	Date	Student participation
"Fast Fashion" student engagement dynamic	January 25 to February 3, 2023	24
Student Participation Dynamics "Protection of Wildlife"	February 3, 2023 to February 14, 2023	30
"The Girls Challenge in STEM (Science, Engineering, Technology and Mathematics" Lecture	February 9, 2023	217
Lecture "SEAA Mobile App as a Tool to Support Women Victims of Violence"	February 23, 2023	225
"A Successful Social Reinsertion" Lecture	March 1, 2023	143
Training course for leaders promoting sustainability (Session 1)	March 15, 2023	521
Lecture "Female Student Activity: Girl Up Policies"	March 16, 2023	214
Training course for leaders promoting sustainability (Session 2)	March 22 to March 31, 2023	548
Student participation dynamic "Recovering the planet"	March 22, 2023	29
Training course for leaders promoting sustainability (Session 3)	March 29, 2023	404
Lecture "The management of groundwater in urban development"	March 30, 2023	206
Dynamic of student participation "Sustainability Mobility"	April 17, 2023 to April 27, 2023	17
Training course for leaders promoting sustainability (Session 4)	April 19, 2023	359
Training course for leaders promoting sustainability (Session 5)	April 26, 2023	448

Activities to promote sustainability with student participation 2023

Activity	Date	Student participation
Lecture “The Circular Economy as a sustainable business model”	April 27, 2023	165
Training course for leaders promoting sustainability (Session 6)	May 3, 2023	372
Lecture “Sustainable Entrepreneurships Are Possible”	May 4, 2023 to May 18, 2023	131
Student participation dynamic “Protecting pollinators”	May 4, 2023	17
Lecture “Migration and Health: social attention and incidence”	May 25, 2023	191
Conference “Accreditation 2030, Sustainable Development Goals”.	June 6, 2023	148
Workshop: “ Availability of statistical and geospatial information”	June 6, 2023	124
Lecture “Sustainability as a catalyst in the design and evolution of cities”	June 6, 2023	134
Master Lecture: “Circular Economy from the European perspective”	June 7, 2023	120
Lecture “ISO 14001:2015 implementation on engineering institutions”Lecture	June 8, 2023	138
Workshop “Challenges in the management and conservation of bats in Mexico	June 8, 2023	284
Lecture “Enviromental disclosure on social media “	June 8, 2023	87
Lecture “The Impact of Youth on Social Problems”	August 10, 2023	183
Dynamic of student participation “How can I impact the SDGs?”	August 17, 2023 to August 30, 2023	43

Activities to promote sustainability with student participation 2023

Activity	Date	Student participation
Dynamic of student participation “What actions can I take to care for and conserve the city’s rivers?”	August 21, 2023 to August 28, 2023	44
Lecture “Everyday mobility in Monterrey, a study from the passerby experience”	August 31, 2023	209
Lecture “Fisheries acoustics, a technological tool for the exploration of the Mexican seas”	September 4, 2023	169
Dynamic of student participation “Sustainability Quiz”	September 6, 2023	59
Dynamic of student participation “How do you move around in Nuevo León?”	September 11, 2023 to September 22, 2023	18
Training course for leaders promoting sustainability (Session 1)	September 13, 2023	295
Lecture “Student Participation: challenges on training leaders”	September 14, 2023	123
Training course for leaders promoting sustainability (Session 2)	September 20, 2023	534
Training course for leaders promoting sustainability (Session 3)	September 27, 2023	510
Lecture “iNaturalist as an action strategy for conservation, the case of High School No. 16”	September 28, 2023	122
Training course for leaders promoting sustainability (Session 4)	October 4, 2023	284
Dynamic of student participation “Natural environment recovery journey”	October 6, 2023 to October 18, 2023	25
Training course for leaders promoting sustainability (Session 5)	October 11, 2023	154
Lecture “Social responsibility, from discourse to practice”	October 12, 2023	140

Activities to promote sustainability with student participation 2023

Activity	Date	Student participation
Training course for leaders promoting sustainability (Session 6)	October 18, 2023	165
Lecture “Quality and Sustainable Food: Zero Hunger Nuevo León”	October 26, 2023	187
Dynamic of student participation “Do you know and practice Circular Economy?”	November 3, 2023 to November 21, 2023	19
Lecture “Footwear: a footprint not just on the ground”	November 9, 2023	116
Lecture “The use of cisterns in Nuevo León: the case of Hacienda San Pedro”	November 30, 2023	80
Total		**8,775**

In 2023 the UANL carried out

344 activities

to promote sustainability with student participation

UANL has also a strong Volunteer Program run by the Office of Social Service and Internship, in which students can participate in off-campus community projects. These initiatives include collaborating with local communities to promote sustainable practices, restoring degraded ecosystems, and environmental education in schools and community centers. Through these experiences, students not only contribute to the well-being of their community, but also develop greater social and environmental awareness.

More than

29,125

participants in activities to promote sustainability issues

Student participation in sustainability programs, actions, and projects at the Universidad Autónoma de Nuevo León is an essential component, through which a new generation of leaders committed to sustainable development is being trained.

CULTURE OF SUSTAINABILITY IN THE UANL

La Universidad Autónoma de Nuevo León (UANL) has distinguished itself for its commitment to the development of a culture of sustainability, where academic training goes together with social and environmental responsibility.

At UANL, sustainability has evolved from an institutional policy to a culture deeply integrated into the daily lives of high schools and schools. This change has been driven by a collective and ongoing commitment, where students, faculty and administrative staff have taken responsibility for implementing sustainable practices in all their daily activities.

The transformation towards a sustainability culture is reflected in actions that have become commonplace in the daily activities of the university community. In classrooms, educational programs have incorporated sustainability-related content, raising awareness among students about the importance of environmental care and responsible resource management. These lessons are translated into concrete practices, such as the efficient use of water and energy, proper waste management and participation in recycling programs, among others.

Schools and highschools have taken actions to optimize the use of natural resources, implementing technologies for the energetic saving and systems for water reuse. In addition, initiatives have been promoted ranging from sustainable mobility to the creation of green spaces that not only serve as a recreational area, but above all contribute to increasing biological wealth.

This comprehensive approach has enabled sustainability to not only be an abstract concept, but a reality shared daily throughout the university community. Thus, the UANL is positioned as a reference in the promotion of a culture that prioritizes the well-being of the planet, fostering in its students and collaborators a sense of responsibility and action towards a more sustainable future

The following describes the programs and actions carried out in 2023, by different academic university buildings, within the framework of the sustainability culture that has prevailed for several years in the UANL and that increasingly involves a greater number of activities and people.

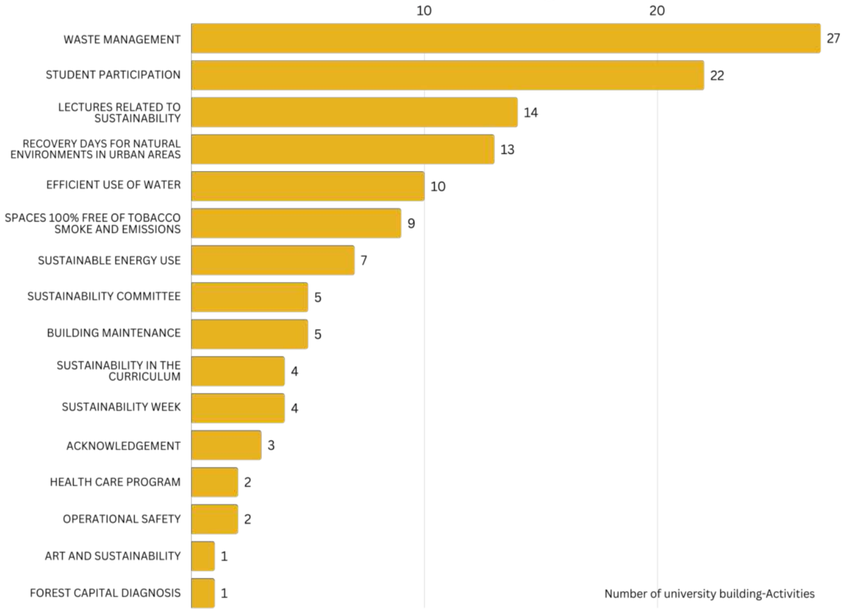
At the UANL, we not only promote academic excellence, but also the principles, values and tasks of sustainability, as central elements in the training of human resources of the highest technical and human quality necessary in the construction of a progressive, safe, fair and sustainable Mexico.

The actions related to sustainability carried out in 28 high schools and faculties of the UANL were grouped into 16 categories with a total of 129 activities, which are shown in the following chart

During 2023, different actions were carried out in 28 university buildings to promote sustainability in university environments, some of the most relevant results with the following:

a) 33 days of recovery from natural environments
b) Promotion of 224 sustainability activities with student community participation.
c) Delivering 35 sustainability-related lectures

Activities carried out to promote sustainability in university buildings



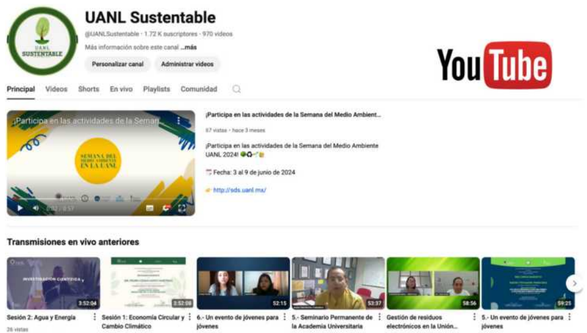
17 PARTNERSHIPS FOR THE GOALS

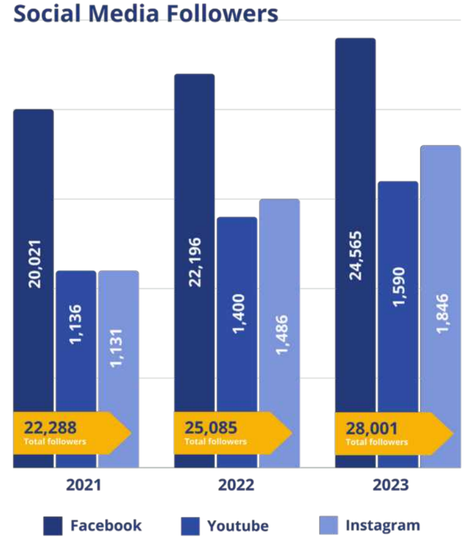
SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABILITY COMMUNICATION AND OUTREACH PROGRAM

The sustainability communication and outreach program of the Universidad Autónoma de Nuevo León, operated by the Directorate of Project Development (DDP) of the Sustainability Department (SS), recognizes the importance of education and awareness in building sustainable societies and aims to inspire students, academic and administrative staff to become change agents in their environments, promoting sustainable practices that contribute to environmental conservation and social well-being.

The UANL Sustainable Communication and Dissemination Program uses Information and Communication Technologies (ICT), such as social networks and digital platforms, to disseminate knowledge and promote the adoption of sustainable habits. This approach allows for a broad and diverse audience, both on and off campus, promoting a culture of sustainability that transcends institutional boundaries.





By constantly disseminating educational and motivating content, the program strives to create a network of individuals committed to sustainability, who in turn positively influence their communities and contribute to the creation of a more sustainable future.

In 2023, publications managed by the DDP's sustainability communication and dissemination program reached more than 1.25 million people through social media and its website, reflecting a growing interest in sustainability issues at local, national and international levels. During that same year, more than 2,300 social media posts were disseminated through the UANL Sustentable site, impacting more than 820,000 people in countries such as Mexico, Venezuela, Colombia, Ecuador, Peru, Argentina, Chile, Bolivia, the United States and Guatemala.

The YouTube channel of UANL Sustentable also had an outstanding activity in 2023, producing and publishing more than 170 videos, including 40 online lectures and 52 weekly educational days in virtual mode.

The Sustainability website (sds.uanl.mx) registered more than 430,000 user visits from 148 countries.

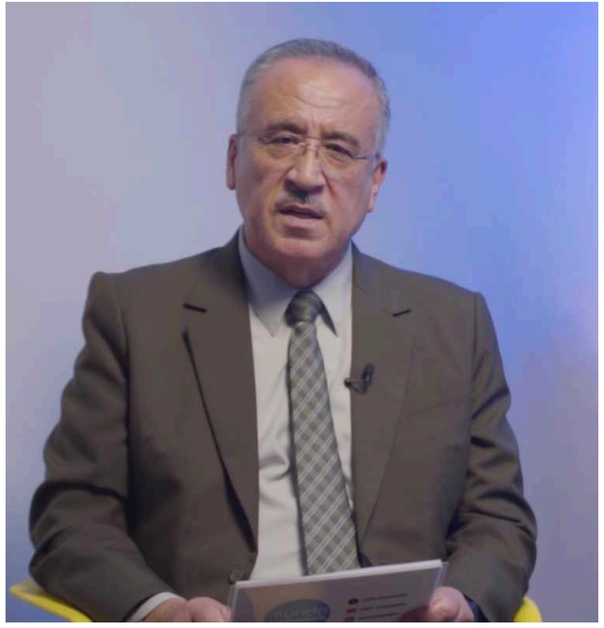
In 2023, the publications managed by the communication and dissemination programme for sustainability reached

1 million 250 thousand people

through social networks and its website

SUSTAINABLE WORLD

The educational television program Mundo Sustentable, a production of the Ministry of Sustainability and the Directorate of University Radio and Television, began broadcasting in 2015, with the aim of disseminating the actions in favor of sustainability carried out by members of the university community and society.



Video library of

229 programmes

from the 13 seasons of Mundo Sustentable, available on the UANL Sustainability website (sds.uanl.mx)

In 2023, 8 programs were produced for the 13th season of Mundo Sustentable and 52 programs were broadcast, through the open signal of Channel 53, which had the participation of specialists in environmental, social and economic issues

In December 2023, there was a video library of 229 programs from the 13 seasons of Mundo Sustentable, which are available on the UANL Sustainability website (sds.uanl.mx).

CULTURAL EXPRESSIONS LINKED TO THE PROMOTION OF SUSTAINABILITY

With the aim of involving the student community in activities that favor the transition of the Universidad Autónoma de Nuevo León (UANL) towards sustainable development, the Ministry of Sustainability, through the Directorate of Project Development, has promoted for nine consecutive years the holding of the photography contest “In the Sight of Sustainability”.

In 2023, the ninth edition of the contest had as its theme “Actions to improve air quality”, seeking to raise awareness among students about the importance of participating in the identification of sources of pollution, and possible actions to improve air quality in the Metropolitan Area of Monterrey. In its ninth edition, the contest featured 586 students from 7 university institutions, and the winning works were incorporated into the “At the Look of Sustainability” photo exhibit.

The “At the Look of Sustainability” photographic exhibit of the Universidad Autónoma de Nuevo León was first exhibited in the year 2018, and was created to reveal the winners and honorary mentions of the different editions of the photo contest bearing the same name.

Viewers of the photographic exhibition can see the artistic quality and technical mastery that the authors have achieved, as well as scenes of reality that the students captured in their works, which invite us to reflect on the world around us from the perspective of sustainability

In 2023, the exhibition consisted of 76 works by the same number of authors, and was exhibited at 7 university campuses, registering an audience of more than 5,600 spectators.

In 2023, the sample was was made up of 76 works by the same number of number of authors, and was exhibited at 4 university university campuses, registering an audience of more than 5,600 spectators

GUIDELINES

In order to induce changes in attitude and functioning in activities made by members of the university community in the field of environmental management, energy efficiency, water and responsible consumption, the Universidad Autónoma of Nuevo León, through the Ministry of Sustainability has developed and published the following guidelines applicable to all university institutions:

- Technical guideline for the adequate thermal insulation of real estate.
- Technical guideline for green construction.
- Technical guideline for the efficient use of water for irrigation.
- Technical guidance for sustainable mobility.
- Technical guideline for the efficient use of water.
- Regulations for the acquisition of air conditioning equipment.
- Technical guideline for the use of drinking water and wastewater treated.
- Sustainability guide for workshops and laboratories.
- Technical guidance for lighting equipment in classrooms.
- Technical guidance for the acquisition of products intended to improve the efficiency of air-conditioned equipment.
- Technical Guidance for Procurement of Goods and Services, Purchasing green area.
- Operational safety technical guidance.
- Technical guidance for responsible consumption.
- Technical guidance for the management and management of urban waste with recyclable and special handling features.

- Technical guidelines for the handling and management of hazardous waste.
- Institutional policy for the incorporation of good practices of sustainability in the UANL.

ACKNOWLEDGEMENT


SEMARNAT
SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

LA SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

OTORGA EL

PREMIO AL MÉRITO ECOLÓGICO 2018

EN LA CATEGORÍA EDUCACIÓN AMBIENTAL FORMAL

A LA UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

POR SU DESTACADA TRAYECTORIA DE 20 AÑOS EN MATERIA DE CUIDADO DEL MEDIO AMBIENTE, LA CUAL SE HA TRADUCIDO EN UNA PROLÍFICA PRODUCCIÓN DE INVESTIGACIONES CIENTÍFICAS EN ESOS TEMAS, LA GESTIÓN DE UN CAMPUS SUSTENTABLE, LA INCORPORACIÓN TRANSVERSAL DE LA DIMENSIÓN AMBIENTAL EN SUS PLANES Y PROGRAMAS DE ESTUDIO CON UNA VISIÓN HOLÍSTICA, LA VINCULACIÓN CON SU COMUNIDAD, SU POLÍTICA PARA REDUCIR GASES DE EFECTO INVERNADERO Y LA PROMOCIÓN DE UNA MOVILIDAD SUSTENTABLE.

CIUDAD DE MÉXICO, 16 DE JULIO DE 2018.

ING. RAFAEL PACCHIANO ALAMÁN
SECRETARIO DE MEDIO AMBIENTE Y RECURSOS NATURALES


LA PROCURADURÍA FEDERAL DE PROTECCIÓN AL AMBIENTE OTORGA EL PRESENTE

CERTIFICADO DE

CALIDAD AMBIENTAL

A: UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN FACULTAD DE CIENCIAS QUÍMICAS Y DIVISIÓN DE ESTUDIOS SUPERIORES

PROFEPA


CERTIFICAT ♦ CERTIFICADO ♦ CERTIFICAT ♦ СЕРТИФИКАТ ♦ CERTIFICATE ♦ ZERTIFIKAT

TÜV SÜD México

CERTIFICADO

El Organismo de Certificación
TÜV SÜD América de México, S.A. de C.V.
con operaciones en
San Pedro Garza García, Nuevo León; México

certifica que la Organización

FIME UANL

Universidad Autónoma de Nuevo León
Facultad de Ingeniería Mecánica y Eléctrica
Ave. Universidad S/N, Ciudad Universitaria
San Nicolás de los Garza, Nuevo León;
México C.P. 66451

ha implementado y aplica un Sistema de Gestión Ambiental con el siguiente alcance:

Procesos de provisión de servicios educativos, alineados al modelo educativo UANL, para la formación integral de ingenieros centrada en el aprendizaje basado en competencias en sus programas educativos de Licenciatura, Maestría, Doctorado y Educación Continua.

Mediante la auditoría realizada con no. de informe **MX 950 30 1531** se verificó el cumplimiento de los requerimientos establecidos en la normativa internacional

ISO 14001:2015[1]

No. de registro del certificado: 20 950 031
Fecha de emisión del certificado: 2022-02-11
Este certificado es válido hasta[2]: 2025-02-10
Fecha de revisión del certificado: 2022-02-11
Due Date: Nov-19

Leonardo J. Cárdenas Costas
Director General México, Centro América y el Caribe

IAF
ema ORGANISMO DE CERTIFICACIÓN
ACREDITADO 40/11


Espacio cien por ciento Libre de Humo de Tabaco y emisiones
DISTINTIVO Salud
Otorgado a:
ESCUELA INDUSTRIAL Y PREPARATORIA TÉCNICA "ÁLVARO OBREGÓN" UNIDAD MONTERREY I, U.A.N.L.
Ubicado en:
Avenida Churubusco #935 Colonia Venustiano Carranza, CP. 64560, Monterrey, Nuevo León
"Este establecimiento está comprometido en la protección a la salud de la población, mediante el cumplimiento de la Ley General para el Control del Tabaco y su reglamento"
Mtro. Reynaldo Cantú Shay
Subsecretario de Regulación y Fomento Sanitario
Mtra. Elisa Martínez Támez
Directora de Control, Manejo de Riesgos y Prevención Sanitaria.
M.C. Hiriz Chaparro Reyes
Jefa del Departamento de Salud Ambiental y Ocupacional
FOLIO:
132/ELHTE/NL/2023
Fecha de vencimiento:
21 de agosto del 2024
Verificado por:
Subsecretaría de Regulación y Fomento Sanitario
Secretaría de Salud del Estado de Nuevo León
"A su vencimiento el establecimiento se compromete a retirar el Distintivo de la vista del cliente"
NUEVO NUEVO LEÓN


Espacio cien por ciento Libre de Humo de Tabaco y emisiones
DISTINTIVO Salud
FACULTAD DE SALUD PÚBLICA Y NUTRICIÓN, U.A.N.L.
FOLIO
NUEVO


CERTIFICAT
CERTIFICADO
СЕРТИФИКАТ
認證證書
CERTIFICADO
No. de informe.: MX 950 17 742 / No. de registro del certificado.: 20 950 039
El Organismo de Certificación
TÜV SÜD América de México, S.A. de C.V.
Certifica que la Organización
Universidad Autónoma de Nuevo León
(Preparatoria No. 25 "Dr. Eduardo Aguirre Pequeño")
Francisco Villa y Morelos S/N. Colonia Ex Hacienda El Canada
Escobedo, Nuevo León; México C.P. 66050
para el alcance
Servicio de Enseñanza-Aprendizaje y la gestión de instalaciones y recursos que busca la minimización del impacto ambiental asociado para garantizar que se contribuya activamente a la preservación del medio ambiente, fomentando una cultura de responsabilidad ambiental en toda la dependencia universitaria.
ha implementado y aplica un Sistema de Gestión de Ambiental
Mediante la auditoría realizada se verificó el cumplimiento de los requerimientos establecidos en la normativa internacional
ISO 14001:2015
Fecha de emisión del certificado: NA
Due Date: Diciembre - 16
Leonardo J. Cárdenas Cortés
Director General México, Centro América y el Caribe
VISIÓN UANL 2020
La excelencia


HP Inc.
MÉXICO
Reconoce a:
UNIVERSIDAD AUTONOMA DE NUEVO LEÓN
Por su participación en HP Planet Partners, programa de devolución y reciclaje de Cartuchos de Tinta Originales HP y Cartuchos de Tóner Originales HP.
MX268428809Q
2056 Cartuchos de Tóner HP
403 Cartuchos de Tinta HP
88 Toner Samsung


GOBIERNO DE MONTERREY
EL GOBIERNO MUNICIPAL DE LA CIUDAD DE MONTERREY
OTORGA EL PRESENTE
RECONOCIMIENTO
a la
Academia Universitaria para el Desarrollo Sustentable de la Universidad Autónoma de Nuevo León
Por su destacada trayectoria y logros que representan un modelo a seguir, siendo merecedora de la Medalla al Mérito Ecológico, edición 2019
Adrián Emilio de la Garza Santos
PRESIDENTE MUNICIPAL
Monterrey, Nuevo León, a octubre de 2019


UI GreenMetric
CERTIFICATE
Proudly presented to:
Universidad Autónoma de Nuevo León
for actively participating in the "UI GreenMetric E-waste Campaign" and showcasing exemplary efforts in e-waste management.
Depok, Indonesia | 1 December 2023
Prof. Dr. Ir. Riri Fitri Sari, M.M., M.Sc
Chairperson of UI GreenMetric


UNIVERSITAS INDONESIA
UI GreenMetric
Certificate
This certificate is awarded to
Universidad Autónoma de Nuevo León
as The 16th World's Most Sustainable University in 2023 UI GreenMetric World University Rankings
Jakarta, 5 December 2023
Prof. Dr. Ir. Riri Fitri Sari, M.M., M.Sc.
Chairperson of UI GreenMetric


CONAECQ
El Consejo Nacional para la Evaluación de Programas de Ciencias Químicas, A.C.
Copaes
acredita
al programa de Licenciatura en Ciencia de Alimentos
de la Facultad de Ciencias Biológicas de la Universidad Autónoma de Nuevo León
del día 24 de junio de 2021 al 23 de junio de 2026 en virtud de cumplir con los requisitos de calidad educativa establecidos por el CONAECQ, A.C.
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de la Facultad de Ciencias Biológicas de la Universidad Autónoma de Nuevo León
del día 24 de junio de 2021 al 23 de junio de 2026 en virtud de cumplir con los requisitos de calidad educativa establecidos por el CONAECQ, A.C.


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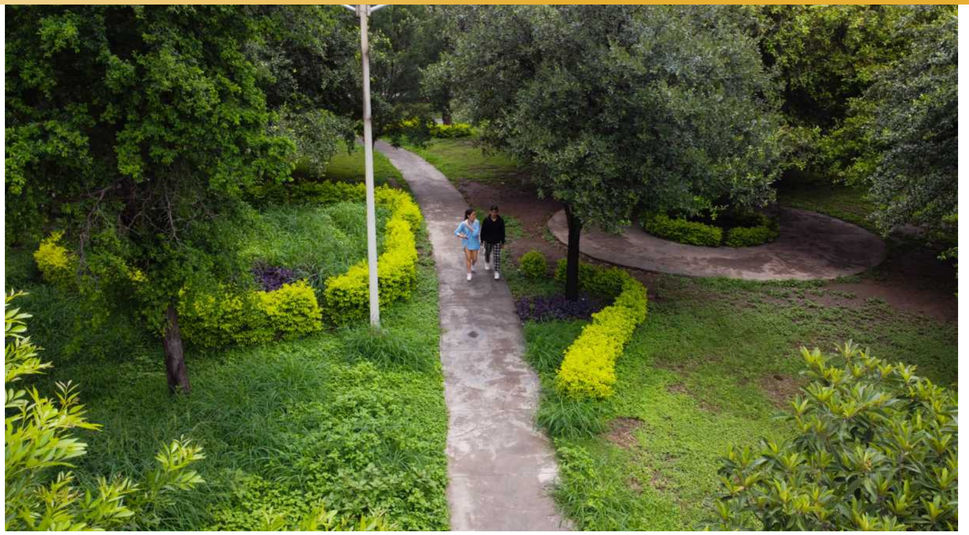
Mediante el presente diploma, Agencia Qualitas de Chile certifica que la
Licenciatura en Educación de la Universidad Autónoma de Nuevo León
Se acredita con una vigencia de 5 años, desde el 25 de noviembre de 2019 hasta el 25 de noviembre de 2024
Judith Scharager
Directora Ejecutiva
Qualitas



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