UANL
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

Annual Sustainability Report

Universidad Autonoma de Nuevo Leon

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Prologue

In 2020, the global pandemic initiated by COVID-19, caused a quick transformation in different fields of human activity such as health, social mobility, communication systems, the way of teaching and working, among many others.
In this context, the Universidad Autonoma de Nuevo Leon (UANL) carried out an arduous process of adaptation to the new reality, which involved transforming the processes of generation and transfer of knowledge that are usually carried out in person to online modality in a very short time.

On the other hand, the periods of low social mobility generated by the pandemic made the negative impacts on the environment generated by human activities even more evident. The university campuses were not the exception to this situation, because the absence of on-site activities in the university facilities caused a lower demand in the use of energy, water and fossil fuels, as well as in the generation of waste, which was reflected in the decrease of its Carbon Footprint value.

In the case of the UANL, there was a pronounced decrease in the value of its Carbon Footprint in 2020 due to the disruptive changes caused by the pandemic. However, as documented in this 2020 Annual Sustainability Report, for several years we have seen a constant decrease in energy and water consumption and waste generation, allowing the improvement of the performance of its sustainability indicators. This has been recognized with various recognitions at the local, national and international level, among which stand out the following: the 2018 Ecological Merit Award, the highest decoration awarded by the Government of the Republic in environmental matters; the Medal of Ecological Merit awarded by the municipality of Monterrey on five occasions; the Merit Award for Flora and Wildlife of Nuevo Leon; the National Electric Energy Savings Award, among others, in addition to the fact that from 2017 to date, the UANL is considered the Most Sustainable University in Mexico, according to the GreenMetric World Ranking of Universities, in which it currently ranks second in Latin America and 18th worldwide.

The commitment and leadership of the UANL in promoting sustainability in university environments and the support it provides to fulfill the Goals of the United Nations Sustainable Development (SDGs) was endorsed with the construction of the Research Center for Sustainable Development, a research institution that seeks to be a leader in generating solutions to environmental problems in the northeast of the country.

Although there is still a long way to go in the UANL transition process towards sustainability, the actions undertaken in recent years and the results that have been obtained are very encouraging. Therefore, it is necessary to continue working with determination in the construction of a sustainable world that we must pass on to future generations.

MTRO. ROGELIO G. GARZA RIVERA
Provost

Who we are

Mission

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

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 Leon society and the country.

Vision

The Universidad Autonoma de Nuevo Leon is recognized worldwide in 2030 for offering an inclusive, equitable and comprehensive education; that is innovative in the generation and application of knowledge that transcends because of its social responsibility and contributions to the transformation of society.

Values

- Responsibility
- Justice
- Freedom
- Equality
- Truth
- Ethical Behavior
- Honesty
- Tolerance
- Solidarity
- Respect

Numbers

214,342 students

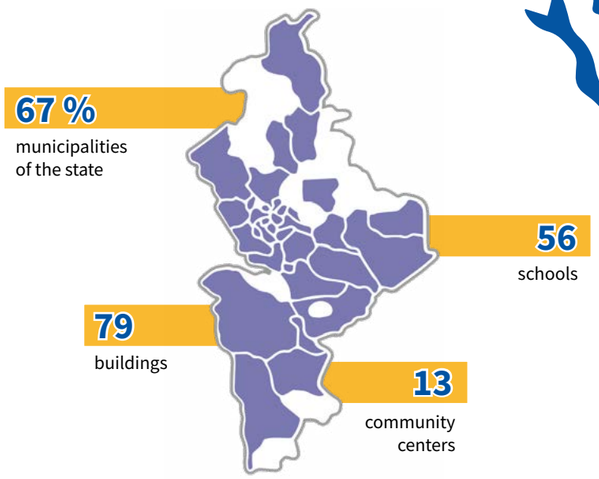
6,911 scholars

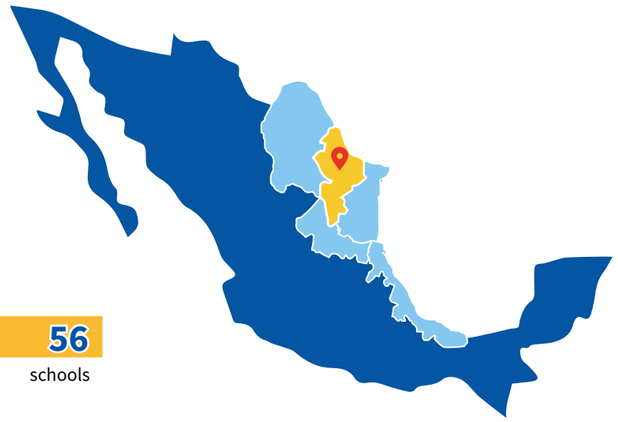
6,242 administrative employers

UANL Community

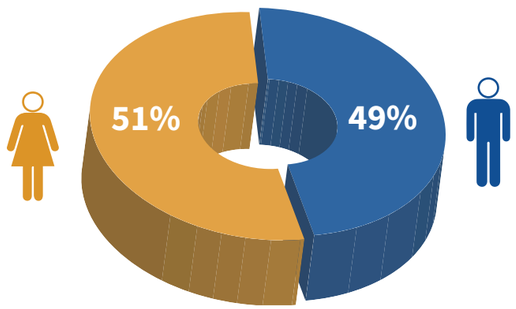
UANL provides educational services to students who mainly come from the 51 municipalities of the state of Nuevo Leon and from the northeast region of the Mexican Republic.

Cobertura educativa





There are **34** municipalities in the State of Nuevo Leon with UANL academic infrastructure.



Distribution of enrolled students by gender

Specialized higher education institution

Acknowledgements

National award to Ecological Merit 2018

Winner of the "Monterrey Medal of Ecological Merit" 2019 edition

World University Ranking

Universities participating in the 2012 – 2020 GreenMetric Ranking

1 national

18 worldwide

912 participating universities

Position of the UANL by World Ranking Indicators

Transportation	Education	Residues	Energy and climate change	Environment and infrastructure	Water	Urban campus
101	**46**	**52**	**96**	**59**	**52**	**9**

Educational Quality

100 % of the programs at the undergraduate and university higher technician levels are accredited in the National Register of Quality Educational Programs (PNPEC).

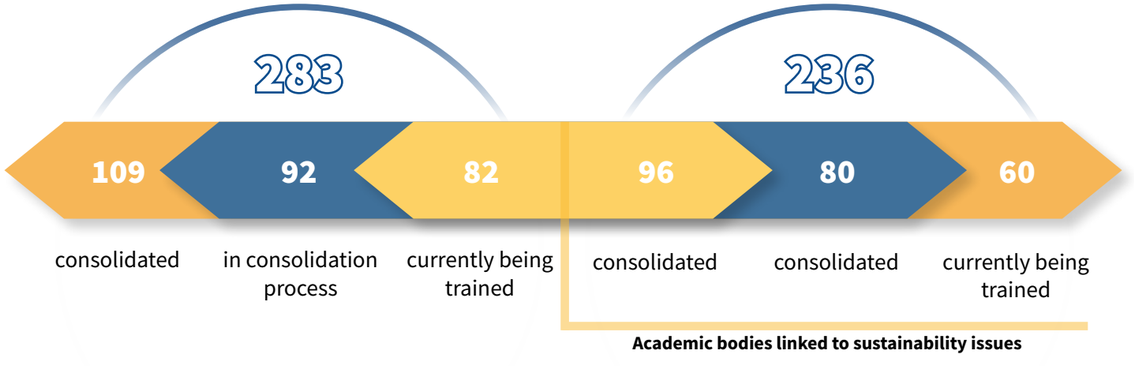
51 international academic bodies with which we have collaboration agreements.

36 internationally accredited educational programs.

Source: Academic Department and Report of activities carried out at the UANL corresponding to the year 2020.

Academic Bodies (AB)

They are groups of teachers who share one or several lines of generation and application of knowledge in disciplinary or multidisciplinary topics.



Acknowledgment to professors

1,604 are in the “Program for the Professional Development of Teachers” Profile for the Higher Type (PRODEP).

944 in the National System of Researchers (SNI).

3 in the National System of Creators (SNC).

Qualification of the academic staff

Professors	Academic Grade	Mid-Higher Level		Higher Level		Total
Full Time	Bachelor	28	32 %	59	68 %	87	3 %
	Master	642	38 %	1,035	62 %	1,678	52 %
	Speciality	10	5 %	176	95 %	187	6 %
	Doctorate	43	3 %	1,263	97 %	1,306	40 %
	Subtotal	723	22 %	2,534	78 %	3,257	100 %
Half Time	Bachelor	11	22 %	40	78 %	51	24 %
	Master	66	44 %	84	56 %	150	71 %
	Speciality	0	0 %	1	100 %	1	0 %
	Doctorate	3	30 %	7	70 %	10	5 %
	Subtotal	80	38 %	132	62 %	212	100 %
Subjet	Bachelor	997	51 %	952	49 %	1,949	55 %
	Master	563	39 %	883	61 %	1,446	41 %
	Speciality	10	20 %	32	80 %	40	1 %
	Doctorate	15	13 %	97	87 %	112	3 %
	Subtotal	1,583	45 %	1,964	55 %	3,547	100 %
	Total	2,386	34 %	4,630	66 %	7,016	100 %

Source: Report of activities carried out at the UANL corresponding to the year 2020.

Educational Programs of Bachelor's Degree and Higher University Technician by broad field of academic training

Field number	Broad field of academic training	Number of Educational Programs		
		Bachelor	Univ. Tech.	Total
1	Education	1	0	1
2	Arts and Humanities	14	1	15
3	Social Sciences and Law	13	0	13
4	Management and Business	8	0	8
5	Natural Sciences, Mathematics and Statistics	10	0	10
6	Information and Communication Technologies	6	0	6
7	Engineering, Manufacture and Construction	16	0	16
8	Agronomy and Veterinary	5	0	5
9	Health Sciences	6	0	6
10	Services	2	0	2
	Total	81	1	82

Source: Academic Department.

Number of bachelor programs accredited by national organizations

Level	CIEES: Interinstitutional Committees for the Evaluation of Higher Education	COPAES: Accreditors that belong to the Council for the Accreditation of Higher Education
Total	29	67

Source: System of Bachelor´s Studies head Office (DSEL).

Master

Doctorate

Specialty

Postgraduate level Educational Programs

	Grade			
	Doctorate	Master	Specialty	Total
Programs by level	42	101	59	203
Programs in PNPC*	33	45	38	116
International competence	2	3	11	16
Consolidated	13	15	13	40
In development	13	7	1	11
Recently created	16	20	13	49

*PNPC: National Quality Graduate Program.

Source: Academic Department.

Program “University for the Elderly” Program

Its goal is to offer an alternative option of training and education to people over 55 years of age to live a successful aging process.

	Amount	Participants
Diploma course of the Program University for the Elderly	1	51
Courses and Workshops	6	66
Totales	7	117

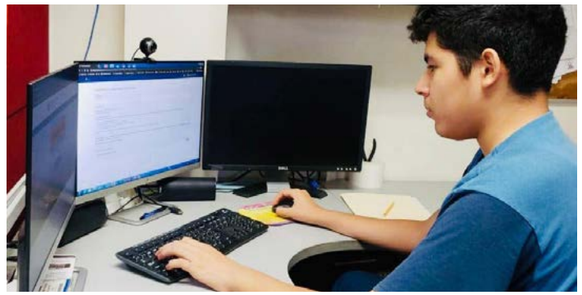
Source: Coordination of Educational Inclusion for people with Disabilities and the Elderly.

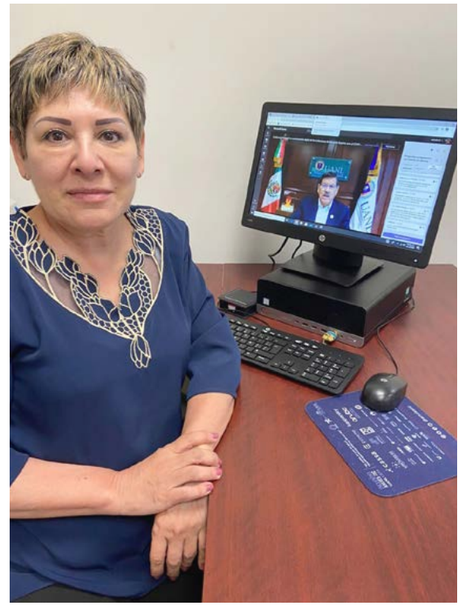
208 students graduated in 2020 from the Program University for the Elderly

Educational offer in alternative modalities

Modality	Studies level				
	Bachillerato general	Bachillerato técnico	Bachelor	Postgraduate	Totales
Face to face (schooled)	1	40	0	186	227
Distance learning (out of school)	1	0	2	2	5
Open system	1	0	0	0	1
Mixed	1	0	2	14	17
Totales	4	40	4	202	250

Source: Academic Department.





Educational Programs of Bachelor’s Degree and Higher University Technician

Level	Total	Valuable Educational Programs	Non-valuable Educational Programs
Bachelor’s	81	71	10
Higher University Technician	1	1	0
Totales	82	72	10

Source: Academic Department.

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 university facilities.

5,316 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 academic and human resources fields, to provide comprehensive support to applicants and / or current students with disabilities at UANL.

Functions:

- 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.

Total number of student population with disabilities at UANL

Education level	Quantity
Mid-higher level	2,093
Higer level	3,223
Total	5,316

Types of disability by educational level

Disbability type	Mid-higher level	Higher level
Vision	1,581	2,635
Deficiencia visual de moderada a grave	1	1
Hearining	124	203
Motor	72	79
Desarrollo motor	49	92
Mental	25	1
Neurological	77	2
Epilepsia	4	34
Síndrome de Asperger	5	71
Trastorno de ansiedad	1	4
Negatividad desafiante	1	2
Trastorno del espectro autista	1	6
Trastorno por déficit de atención	4	3
Trastorno explosivo intermitente	1	1
Learning disorder	120	61
Desarrollo cognitivo	25	25
Depresión mayor	2	3
Total	2,093	3,223

Source: Coordination of Educational Inclusion for people with Disabilities and the Elderly.

Network of youth orchestras for the equality

El objetivo de este programa es participar activamente como orquestas embajadoras de las acciones de prevención de la violencia hacia mujeres y niñas del Instituto Estatal de las Mujeres, a través de la difusión de mensajes de igualdad de género y no discriminación mediante la educación musical y conciertos en escuelas y espacios públicos de la entidad a fin de fomentar la cultura de la denuncia, la no discriminación, así como el ejercicio de los derechos de las mujeres por una transformación de patrones culturales para erradicar la violencia de género en Nuevo León.

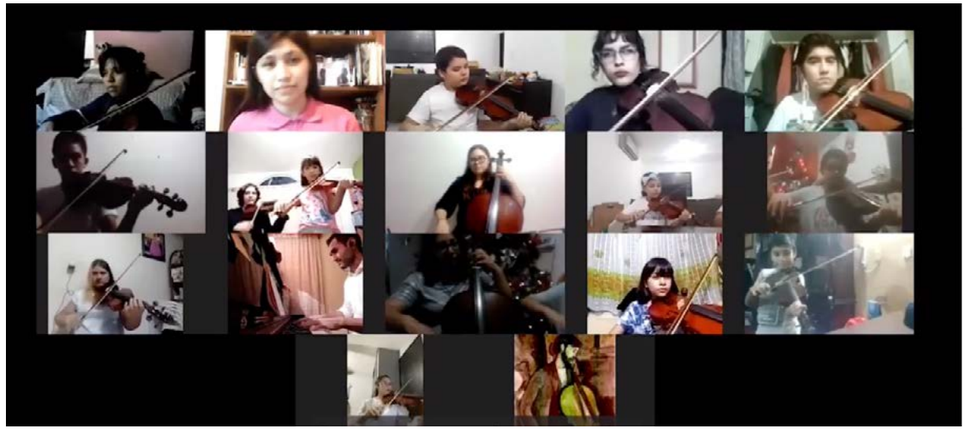
A partir de marzo 2020, se aplazaron las visitas a instituciones educativas, municipios y espacios públicos de Nuevo León debido a la situación sanitaria (COVID-19). Debido a esta situación, se llevó a cabo el Plan de Acciones 2020 fundamentado en una estrategia digital y a distancia.

202,493
in person and remotely with an audience of 102,679 people in on-site activities

and 10,484 followers on the Facebook page: Network of Youth Orchestras for Equality.

464
participants
aged 5 to 75 years

17
orchestras



Responsible: School of Music.

Health Services

160,245
annual check-ups and services

6
University clinics located in the cities of Monterrey and the metropolitan area.

2
dentistry and specialties modules located in the municipalities of Guadalupe and Apodaca.

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

Source: University Health Center.

2,473,065
services provided

6,041,030
population benefited

Social assistance, community services and volunteer programs

Services provided	Number	Benefited population
Social	269,764	2,578,599
Legal	24,038	23,997
Health	2,179,263	3,438,434
Totales	2,473,065	6,041,030

Source: Report of Activities developed in 2020 by the UANL.

UANL health prevention and work safety protocol

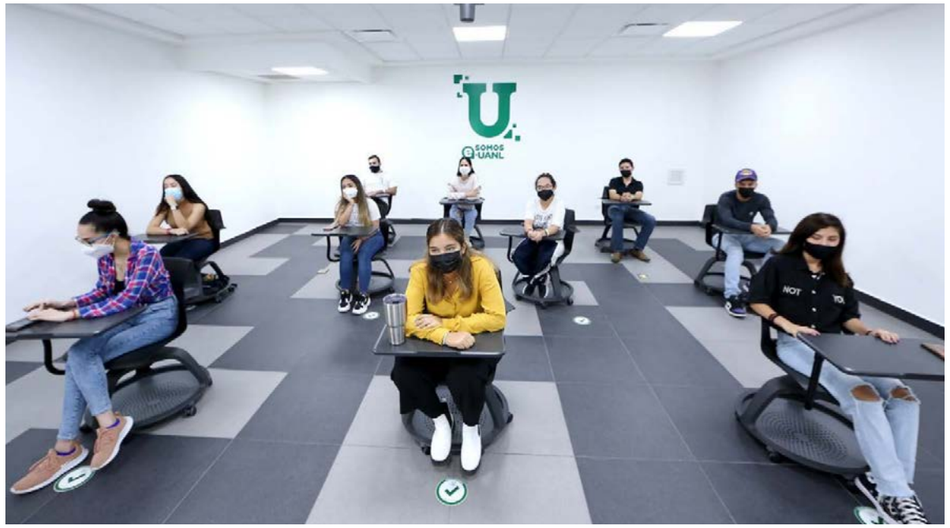
Within the framework of its social responsibility, the Universidad Autonoma de Nuevo Leon developed the UANL Health Prevention and Work Safety Protocol, an instrument developed by the Special Commission for the Prevention and Attention of COVID-19 of the University Council, with the advice of experts in public health and infectious disease doctors specializing in the matter, to provide guidance on the measures that were implemented to ensure that the process of reactivation of UANL activities will be carried out gradually and in an organized manner with the central purpose of preserving the college health.

In this way, students, professors, researchers and administrative staff who required access to the facilities of the university units to carry out on-site activities in the mixed modality, had to observe the recommendations and guidelines established in the UANL health prevention and work safety protocol, to reduce the chances of contagion with strict adherence to hygiene recommendations and safe distance.

The application of the measures contained in the Protocol were voluntary, so they were applied in accordance with the conscience, responsibility and solidarity that characterize and make university students proud.

An instrument developed to ensure that the reactivation process of UANL activities will be carried out gradually and in an organized manner with the purpose of preserving the health of university students.

Adaptation measures to the “New Normal”



With the entry into force of the UANL Health Prevention and Work Safety Protocol, by the end of June 2020, various changes were carried out in the operation and equipment of the university facilities, since in all cases sanitary filters were placed and they would deny people who show symptoms of infection of the SARS-CoV-2 virus to access to academic or administrative facilities, the provision of sufficient antibacterial gel dispensers in all areas to ensure permanent cleaning of hands, periodic cleaning of furniture and equipment using disinfectant substances, as well as the arrangement of spaces and equipment in classrooms and offices, allowing a safe distance (2 meters) to be maintained between the people present at each site.

Actions for the reconversion of hospital infrastructure for COVID-19 patients care

In support of the work carried out by public health institutions for COVID-19 patients care, Universidad Autonoma de Nuevo Leon carried out the process of hospital reconversion of the High **Specialty and Advanced Medicine** building of the University Hospital *“Dr. José E. González”* making available to users:

- 23,120 m2 in 7 floors ready to be used, were a total of 87 beds for COVID patients were installed
- Operation of the Acute Respiratory Diseases Diagnosis and Treatment Unit
- More than 14,300 patients were assisted in 2020.
- More than 30,000 PCR test for PCR para SARS-CoV-2.
- More than 5,200 medical consultations attended through the AEMA call center.

In 2020, the UANL Per Capita Carbon Footprint was 0.24 metric tons *

CO_2

Efficent use of water and energy program

6.4 m³
per capita / annual
water consumption

276 kWh
per capita / annual
energy consumption

UANL funds and budget for sustainability

$ 438,591,819 (DLS)	UANL annual Budget
$ 10,599,937 (DLS)	research funds
$ 13,081,690 (DLS)	budget allocated o sustainability investment
$ 2,476,755 (DLS)	funds for sustainability research

23 %
of the UANL budget is annually allocated to issues concerning **sustainability**

In 2020, the Carbon Footprint of the UANL was 55,736 metric tons *

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

Sports

The UANL “Autenticos Tigres” won the championship of the national league of the ONEFA in the youth category.

24,126 students participated in intra-university tournaments.

1,125 students practiced sports at UANL during the months of February and March.

90 students with participation in 9 sports disciplines adapted with special requirements.

Source: Department of Sports and Report of activities developed in the UANL corresponding to the year 2020.

SUSTAINABLE DEVELOPMENT GOALS

Sustainable Infrastructure

The Universidad Autonoma de Nuevo Leon is a Higher Education Institution with 87 years of history, considered the third largest public university in Mexico, the third nationwide and one of the largest universities in Latin America, which has the largest educational offer in the northeast of the country.

The UANL has six university campuses: Ciudad Universitaria, Health Sciences, Mederos, Agricultural Sciences, Sabinas Hidalgo and Linares, where the 26 schools and 29 high schools that make up its educational system are located. Currently, an additional campus is in the final phase of construction in the municipality of Cadereyta Jimenez.

Due to the geographic location of the state of Nuevo Leon, most of the UANL infrastructure is located in climatic regions considered semi-arid.

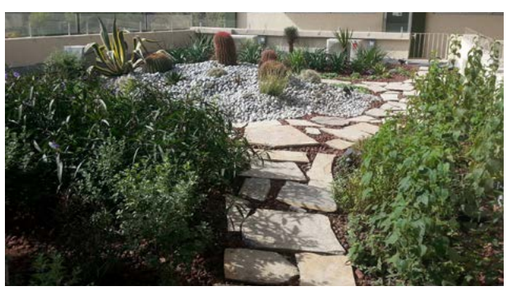
Additionally, the UANL has 43 research centers and institutes, where new knowledge is generated and transferred and a Comprehensive Library System made up of 84 libraries that have an institutional collection of more than 2 million volumes and more than 90 databases available to the academic and student community.

Sustainable Infrastructure	
37,449,120 m²	Total area occupied by the six campuses of the UANL.
35,570,249 m²	Water retentive area.
1,079,294 m²	Built area.
760,294 m²	Area occupied by planted vegetation.
35,852,846 m²	Area occupied by forest vegetation.
534,565 m²	Total area on the first floor.
36,914,555 m²	Proportion of open space to the total área.
35,852,845 m²	Campus area for water absorption plus forest and planted vegetation.
165 m²	Open space area per capita.

The institutional policy of the UANL in terms of infrastructure is to provide the university community (students, academics and administrators) with spaces and equipment with world-class quality standards, so that they have the best conditions to carry out their activities, despite the great physical and financial efforts that this entails.

Within this framework of action, for several years the UANL has been incorporating environmental standards and best practices in the design, construction, equipment and operation of new real estate, extensions and real estate modifications, which has allowed the University, through the Sustainability Department, to issue a series of technical guidelines that consider the application of different technical recommendations such as the following:

- Promote self-generation of energy using renewable sources.
- Air conditioning of study and work spaces using equipment with high energy efficiency technology.
- Thermal insulation of the infrastructure.
- Use of ventilation and natural light to reduce energy consumption.
- Replacement of traditional luminaires with high-efficiency LEDs.
- Installation of low energy consumption LED screens.
- Installation of motion detectors in classrooms and offices.
- Water-saving equipment in administrative and teaching buildings.
- Increase in the areas for parks and gardens on all campuses.
- Design and installation of green roofs.
- Increase the retentive surface of rainwater.
- Use solar thermal plants to heat water, among others.



The application of this type of guidelines by the university units has allowed currently 95% of the buildings of the UANL use air conditioning equipment and high-efficiency lighting, generating significant economic and energy savings.

Ciudad Universitaria Campus

Departments and Schools

Provost's Office
Schools of Architecture
Schools of Biological Sciences
Schools of Physical and Mathematical Sciences
Schools of Chemical Sciences
Schools of Public Accounting and Management
Schools of Law and Criminology
Schools of Civil Engineering
Schools of Mechanical and Electrical Engineering
Schools of Philosophy and Arts
Schools of Sports Organization
Schools of Social Work and Human Development

Municipality

San Nicolas de los Garza, Nuevo Leon, México

Size

95 hectareas

Health Sciences Campus

Departments and Schools

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

Municipality

Monterrey, Nuevo Leon, Mexico

Size

29 hectareas

Mederos Campus

Departments and Schools

Schools of Performing Arts
Schools of Visual Arts
Schools of Communication Sciences
Schools of Political Sciences and International Affairs
Schools of Economics
Schools of Music
Institute for Social Research
Center for Studies and Certification of Foreign Languages
Research, Innovation and Development of Arts
University Theater
University Radio and Television facilities

Municipality

Monterrey, Nuevo Leon, Mexico

Size

194 hectareas

Campus Sabinas Hidalgo

Departments and Schools

Schools of Public Accounting and Management

Schools of Law and Criminology

Schools of Nursing

Schools of Psycholog

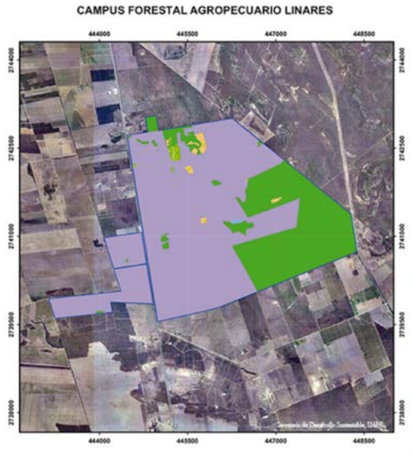
Municipality

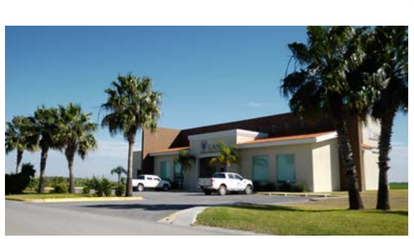
Sabinas Hidalgo, Nuevo Leon, Mexico

Size

7 hectareas

Linares Campus





Departments and Schools

Schools of Forest Sciences

Schools of Earth Sciences

Extensions of the Schools of Public Accounting

Extensions of the Schools of Law and Criminology

Extensions of the Schools of Philosophy and Arts

Extensions of the Schools of Mechanical and Electrical Engineering

Extensions of the Schools of Sports Organization

Extensions of the Schools of Nursing

Agricultural Production Research Center

Forest reserve forest-school

Municipality

Linares, Nuevo Leon, Mexico

Size

2,042 hectareas

Agricultural Sciences Campus

Departments and Schools

School of Agronomy (with an annex in Marin)

School of Veterinary Medicine and Zootechnics (with an annex in General Bravo

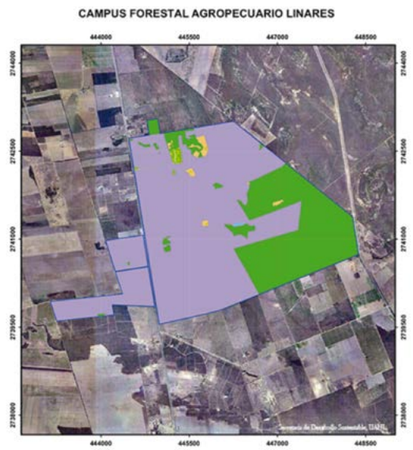
Agricultural research annex (General Bravo, Nuevo Leon)

Municipality

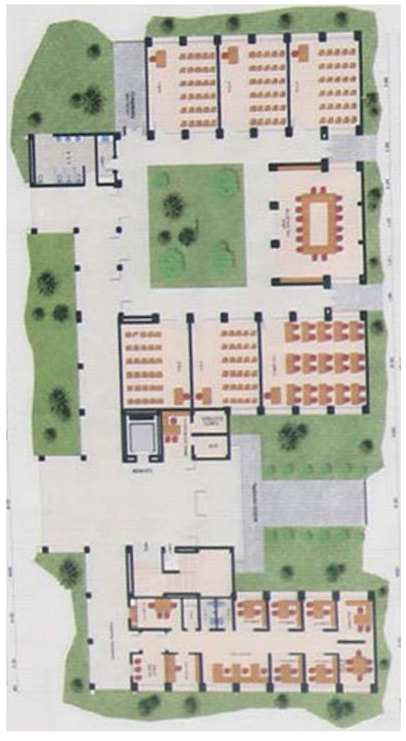
General Escobedo, Nuevo Leon, Mexico

Size

1,417 hectareas



Cadereyta Campus (under construction)



Departments and Schools

Extensions of the Schools of Public Accounting

Extensions of the Schools of Law and Criminology

Extensions of the Schools of Nursing

Municipality

Cadereyta, Nuevo Leon, Mexico

Size

15 hectareas

Total extension of university campuses 3,744 hectares

Sustainable Agricultural Production Model

Agricultural Production Research Center

The Center for Agricultural Production was founded in 1983, and in 2013 its name was changed to Center for Research in Agricultural Production (CIPA). It has an area of 977 hectares, most of them covered with natural vegetation, where teaching, research, production and innovation activities are carried out in the agricultural area, with the collaboration of related educational institutions and linking specialized service in agricultural matters with the regional and national community.

One of the greatest strengths in environmental matters of the CIPA is the Forest-School, which has been part of the UANL heritage since 1985, and whose main objective is to serve as a "living laboratory" for members of the academic community. There, students carry out research and teaching activities in natural environments, in addition to developing important aspects such as their innate sense of belonging and respect for nature.

It is located in the municipality of Iturbide, Nuevo Leon (24 ° 42'24.64 "N and 99 ° 51'40.86") and presents an altitude gradient that ranges from 1,280 to almost 1,900 meters above sea level. It has an area of almost 1,100 hectares where there are different types of vegetation such as Encino Forests, Encino Fresno-Cedro, Pino, Pino-Encino, Cedro and Matorral-Chaparral.

On the other hand, in the experimental fields of the CIPA, the eco-friendly agricultural production method known as "Conservation Tillage" is practiced, which allows to increase water infiltration, reduce soil erosion, in addition to helping to enrich the physical properties and chemicals of this valuable element.

Through this production method, the characteristics of production, adaptation, stability, resistance to diseases and pests of different varieties of plants such as grain and forage sorghum, corn, beans and wheat are analyzed. With the results obtained, we make recommendations for productive improvement that contribute to improving the development of regional agricultural production.

Since 2011, a productive diversification project was undertaken for semi-arid regions using different varietals of wine grapes (Cabernet Sauvignon, Merlot, Malbec, Shyraz, Chardonnay and Chenin Blanc) that allow reducing the consumption of water

for agricultural use and whose fruits have allowed to bring the emergence of local wine production, opening new business opportunities for agricultural producers in the region.

The Livestock area contributes to the fulfillment of the mission of this Center, through its work on real problems and social impact on livestock through its products such as brood foot, embryos and semen, in addition to the provision of services in the areas Reproduction and Evaluation of Food Efficiency.

In the field of Food Efficiency, the CIPA has developed livestock production methods, such as the Food Efficiency Evaluation

program, which has allowed to reduce production costs, as well as the expression of environmental risks associated with livestock. This is due to the fact that improved feed efficiency reduces feed consumption, which in turn reduces the production of organic waste and emissions of methane into the atmosphere.

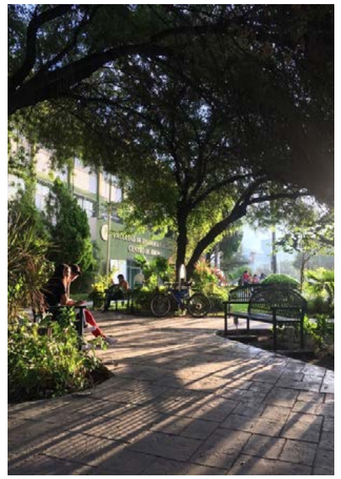
In 2008, the CIPA established the Environmental Management Unit "Center for the Genetic Improvement of White-tailed Deer" which has been registered (PVSNL-UMA-EX0296-NL) and is recognized by environmental authorities.

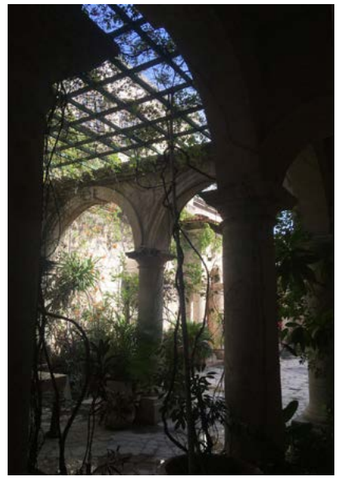
The development of this project supports the production of the Texan white-tailed deer of high genetic quality, through the selection and controlled crossing of the parents for research and teaching purposes, with the objective of supporting the conservation and improvement of the populations of the Texan white-tailed deer in the northeast of the country.

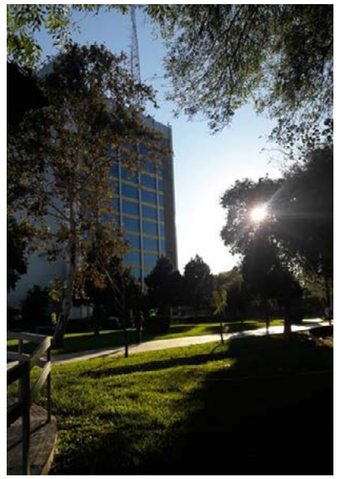
In the field of goat farming, the CIPA has been working since 2019 on the development of production models, which use French Alpine and Boer goats. The CIPA has allowed the improvement of herds in the region, achieving good productive results through the implementation of processes environmentally friendly controlled feeding, such as stable feeding and controlled grazing.

Sustainable Buildings

Surface of sustainable buildings	
15,592 m²	Center for Research and Development in Health Sciences (CIDICS)
8,335 m²	Center for Research, Innovation and Development of the Arts (CEIIDA)
7,773 m²	Internationalization Center
7,380 m²	Center for Innovation, Research and Development in Engineering and Technology (CIIDIT)
5,913 m²	Research Center for Sustainable Development (CIAS)
5,352 m²	Center for Digital Education and Entrepreneurship
6,119 m²	Center for Biotechnology and Nanotoxicology Research (CIBYN)
3,600 m²	Center for Research and Innovation in Aeronautical Engineering (CIIIA)
60,064 m²	**Total**



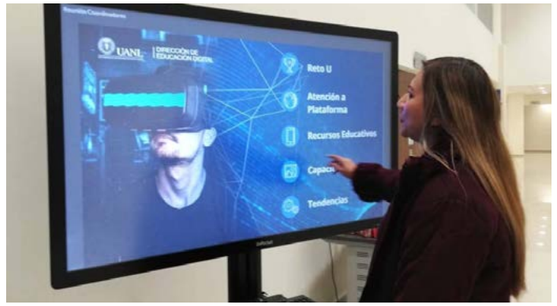




Sustainable buildings are constructions with ecological criteria, which help reduce the harmful effects on the environment, carrying out project planning that take into account essential elements such as the climatic factors of each region and the accessible materials in each area.

The Universidad Autonoma de Nuevo Leon has a policy for the construction and renovation of sustainable infrastructure, where the main objective is the creation of healthy, economically viable spaces that are sensitive to the social needs of the university community and society. The application of this policy has allowed to increase to more than 60 thousand square meters the surface occupied by the buildings that have been built with sustainable standards, causing various benefits, among which is minimizing the effects on the environment during the construction process. and operation of new buildings or maintenance of existing infrastructure.

Center for Digital Education and Entrepreneurship



The Center for Digital Education and Entrepreneurship (CEDE) is located in the Ciudad Universitaria campus and has a total area of 5,352 m2. Its construction and equipment costed $ 4,779,044 (DLS), and its main objective is to promote the broadening and strengthening of the training programs offer in different modalities at all educational levels, through transformative didactic practices, the use of technologies for learning and knowledge and permanent training of the actors involved in educational processes, incorporating the principles of curricular flexibility, academic innovation and inclusion with social responsibility.

The CEDE facilities include different areas for research, training, television studio, production booth, radio studio, coordination of educational projects and audiovisual production, a virtual meeting room, an audiovisual production and digital animation laboratory, a technology laboratory for learning, 8 multipurpose rooms, administrative areas, co-working areas, creative cafe, entrepreneurship, planning, mentoring, management and connection nodes, among others.

In the design and operation of this building, the following characteristics linked to the sustainable building criteria stand out: ventilated façade, air conditioning system with Inverter technology (VRF), low energy consumption Led lighting, hydraulic piping based on Tuboplus, windows based on Duovent that reduce the thermal load of the building installed on the main facade, in addition to Sikaplan waterproofing that thermally helps with cool roofs and manufactured with recycled materials.

Biotechnology and Nanotechnology Research Center (CIBYN)

The Universidad Autonoma de Nuevo Leon created the Biotechnology and Nanotechnology Research Center. Its goal is to develop and broadcast science and technology advances through interdisciplinary collaboration, in three areas of international importance: health, energy and the environment. It is also a catalyst for innovation, research, economic development and social prosperity in Mexico and the world.

Located in the Technological Research and Innovation Park (PIIT), in the municipality of Apodaca, it has a total area of 6,119 square meters and among some of its characteristics linked to sustainable building criteria we find the following: ventilated façade, air conditioning system with Inverter technology (VRF), PVC exterior gates, Sikaplan Sarnafil PVC waterproofing that thermally helps with cool roofs and manufactured with recycled materials, low maintenance pex-al-pex-flexpad hydraulic pipe, as well as polyuria foundation to prevent capillarity and avoid leaks.

With an investment of $ 6,390,407, the building has four levels, with 20 laboratories and 9 specialized laboratories, among which are Microbiological Processes, Biotechnological Innovation and Development, Nanomaterials for Renewable Energies, Nanosciences and Nanotechnology, Nanomaterials Opto-Electronics, Bioprocess Development and Scaling, Environmental Biotechnology and Applied Bioenergy, Synthetic and Systems Biology and Characterization of Materials and Biomolecules. In addition, it houses 7 cubicles for researchers, 23 cubicles for students and an auditorium.

Sustainable Development Research Center

The Sustainable Development Research Center (CIDS) is a university institution dedicated to research on the environment and sustainability. Its goal is to be a regional reference for environmental information and communication and sustainable development aimed at searching better alternatives for the solution of environmental problems in northeast Mexico, generating proposals for solutions to the problem of efficient use of the water, energy, gas and soil through the scientific method and technological development.

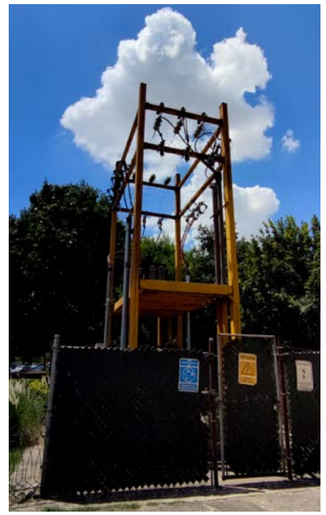
The CIDS is currently being equipped and its development has been an investment of more than $ 6,100,100 (DLS). It will host laboratories for Environmental Geomatics, Climatology, Toxicology and Environmental Risk, Calibration and Maintenance of Measurement Instruments, as well as an Air, Soil and Water Quality Research laboratory, in addition to administrative areas, library, meeting room, maintenance, parking and green areas, as well as rooms for researchers, research assistants and social service providers.

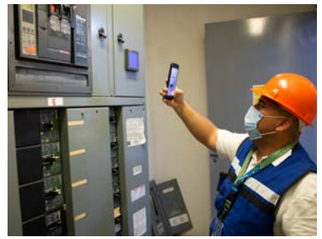
The total construction area of 5,913 meters was designed and built following international standards applicable to sustainable buildings, such as the following: being a thermally isolated building using multiplanel walls, as well as 2” foam slab systems; take advantage of sunlight in the areas intended for administrative work, and have a central ventilation system, which is not heated, having its north facade covered with DouVent gates that reduce the thermal load of the building. It also has low energy consumption Led lighting, and a reduction in the use of water due to the installation of ecological tanks and dry urinals, in addition to having air conditioning systems with Inverter technology (VRF) of high energy efficiency.

SUSTAINABLE DEVELOPMENT GOALS

7 AFFORDABLE AND CLEAN ENERGY

Efficient use of energy





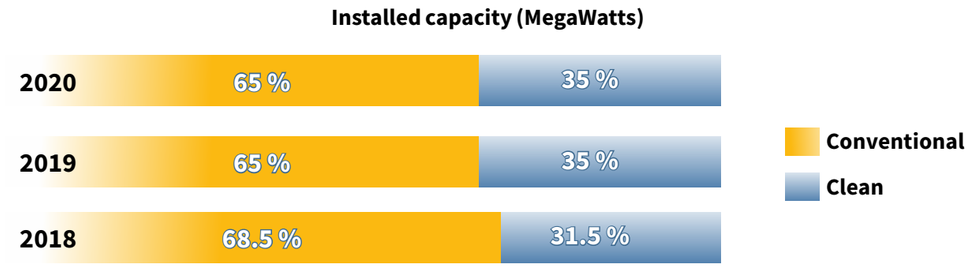
The implementation of energy efficiency actions in the campuses and facilities that are part of the UANL has had various environmental and economic benefits, among which are the reduction of greenhouse gas emissions. These are considered the main cause of climate change. We also saw economic savings derived from the decrease in the annual demand for energy.

The containment of the growth of energy consumption in the UANL has involved carrying out actions that have required significant economic investments, such as the replacement of air conditioning devices and conventional light lamps with other high-efficiency ones, the installation of photovoltaic panels and the installation of motion sensors, among others. However, other types of actions with low or no economic cost have also been implemented, such as the Awareness and Communication and Diffusion for Sustainability programs, as well as courses and conferences, which promote the energy consumption reduction through a change of habits in the use of energy by members of the university community.

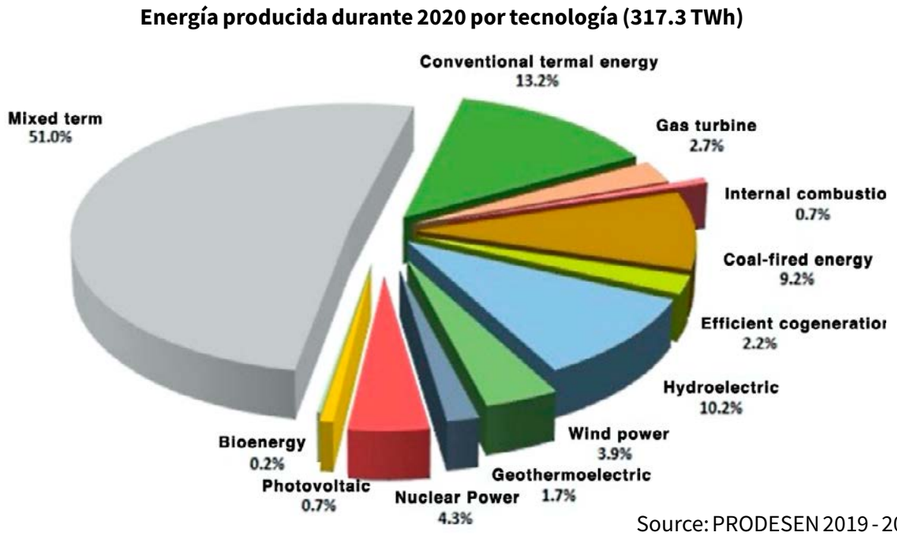
In the latter case, the habits acquired are not only applied on the UANL campus and facilities by university students. This culture of efficient use of energy is carried to their homes and work centers where the benefits that are obtained are even greater.

The application of energy efficiency and saving measures favors an increase in the awareness and commitment of the university community in the process of sustainable energy management.

According to the report provided by the energy provider, of the total energy consumed in the different campuses and facilities of the UANL in 2020, 35% was generated using renewable energy sources.



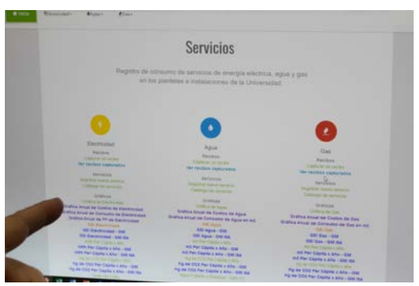
Power generation by type of technology



Source: PRODESEN 2019 - 2033.

Annual consumption of electrical energy

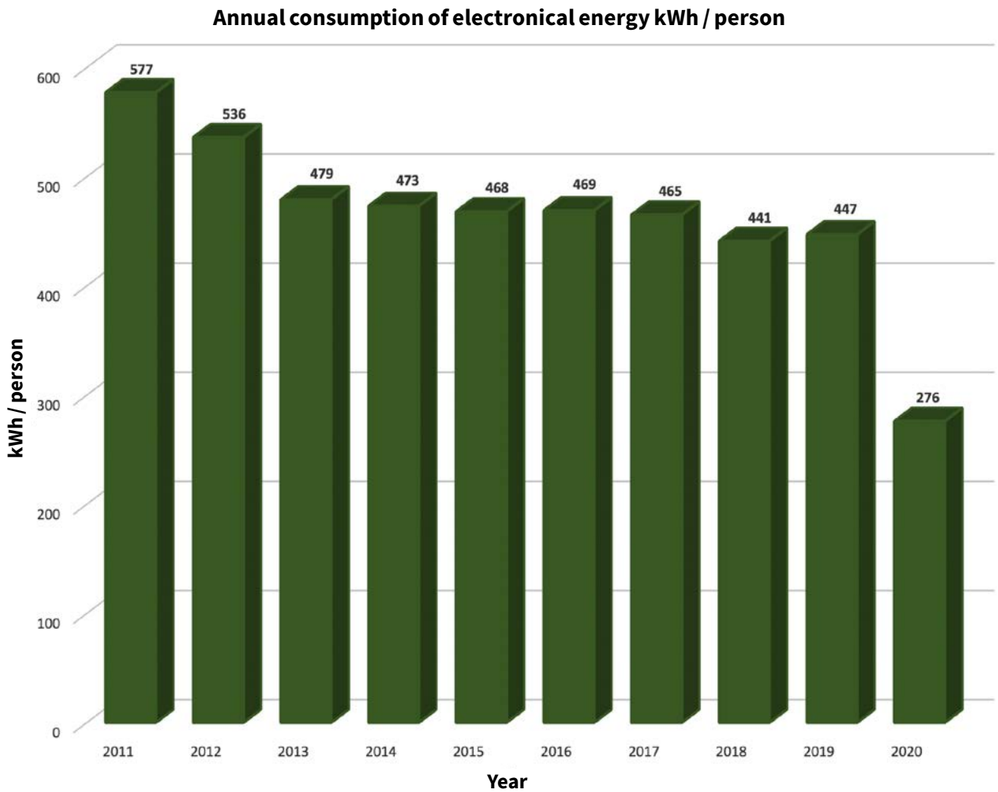
With the aim of knowing the behavior of energy consumption in the UANL campuses and facilities, since 2015 the Control Panel program was implemented, a computerized system that allows to count the energy consumption that the university institutions have throughout the year, fed with the information generated by 217 meters of electricity (169) and gas (48) consumption which are distributed in the university units. This has allowed the creation of databases that are used to make decisions relevant to sustainable energy management.



According to the annual energy consumption report issued by the Control Panel, in 2020, the UANL had a total energy consumption of 62,722,006 kWh, which represents a decrease of more than 36 million kWh compared to the consumption registered in the year 2019. This allowed to have a per capita consumption of 276 kWh in 2020.

This decrease was caused by the fact that as of April 2020, and for the rest of the year, all academic activities were carried out in an out-of-school modality, in addition to the fact that most of the administrative activities were carried out remotely using digital platforms, due to the pandemic caused by the COVID-19 disease.

Energy consumption was 276 kWh per capita in 2020

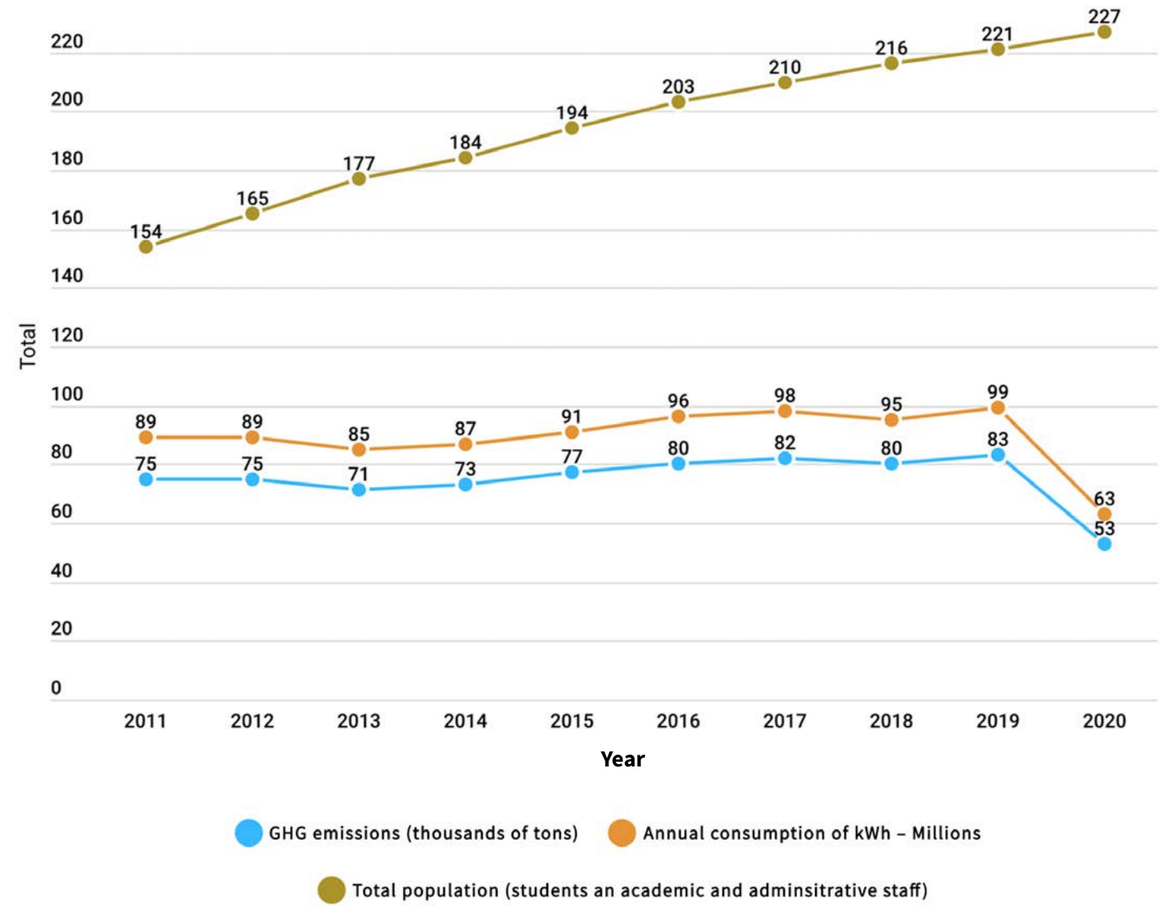


1,094,087 kWh

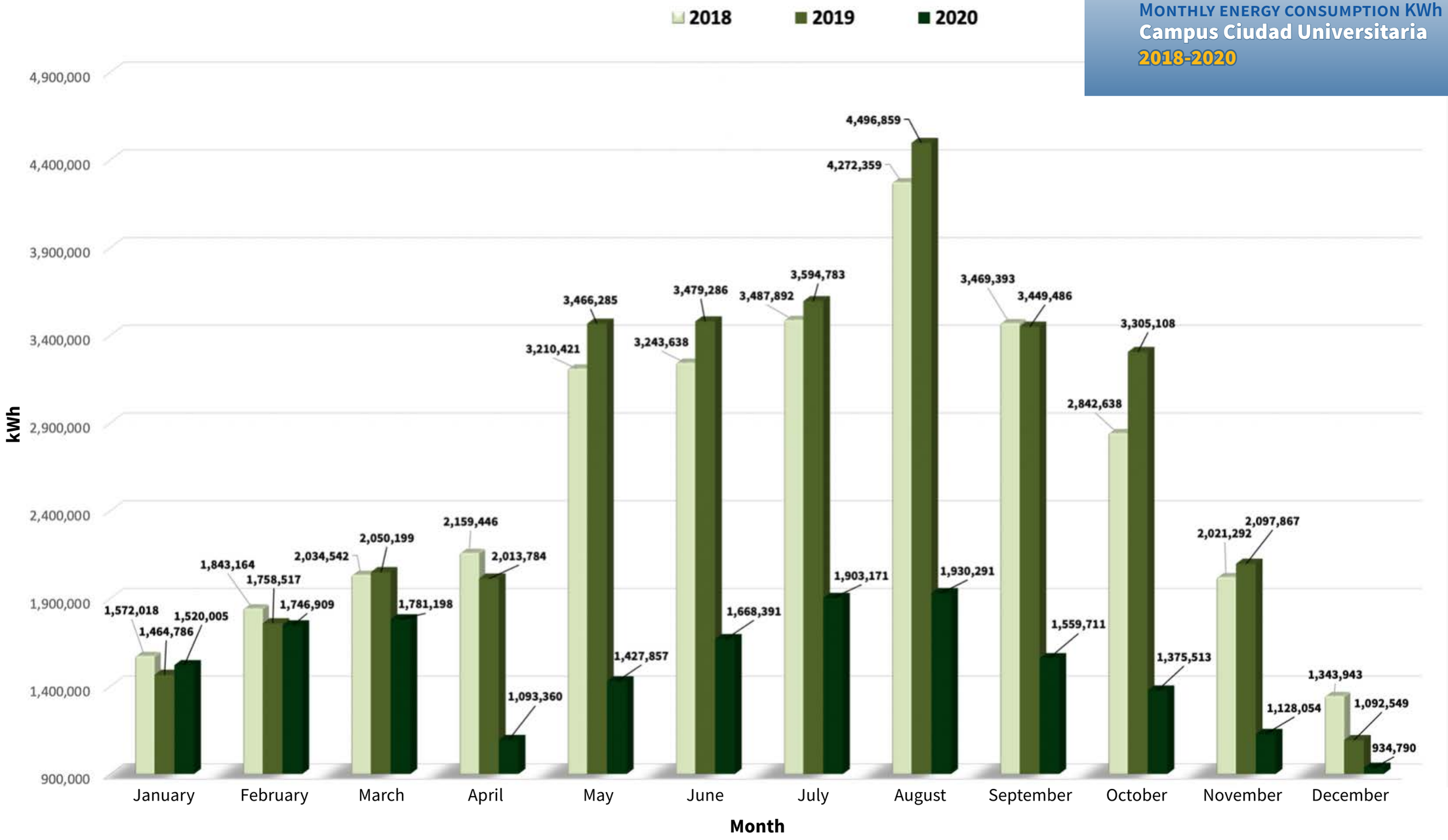
of annual photovoltaic energy production

Energy	
1,094,087 kWh solar	Renewable energy produced in the campus per year
62,722,006 kWh	Electricity consumption in 2020
276 kWh	Electricity consumption per capita in 2020
53 anual	Thousands of tons of CO2 emissions
8,440 kWh	Classroom energy consumption per year

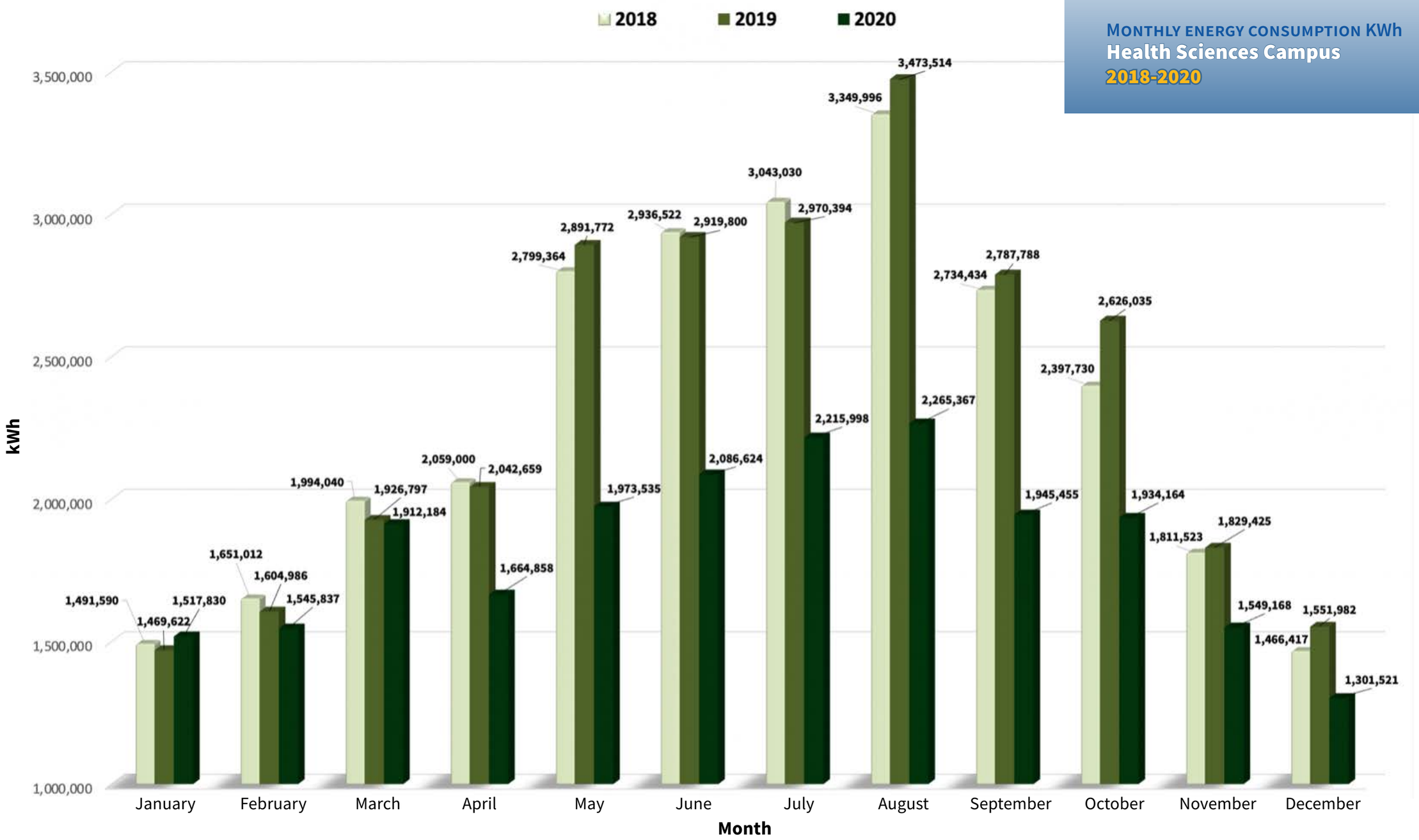
Electrical energy consumption 2011-2020



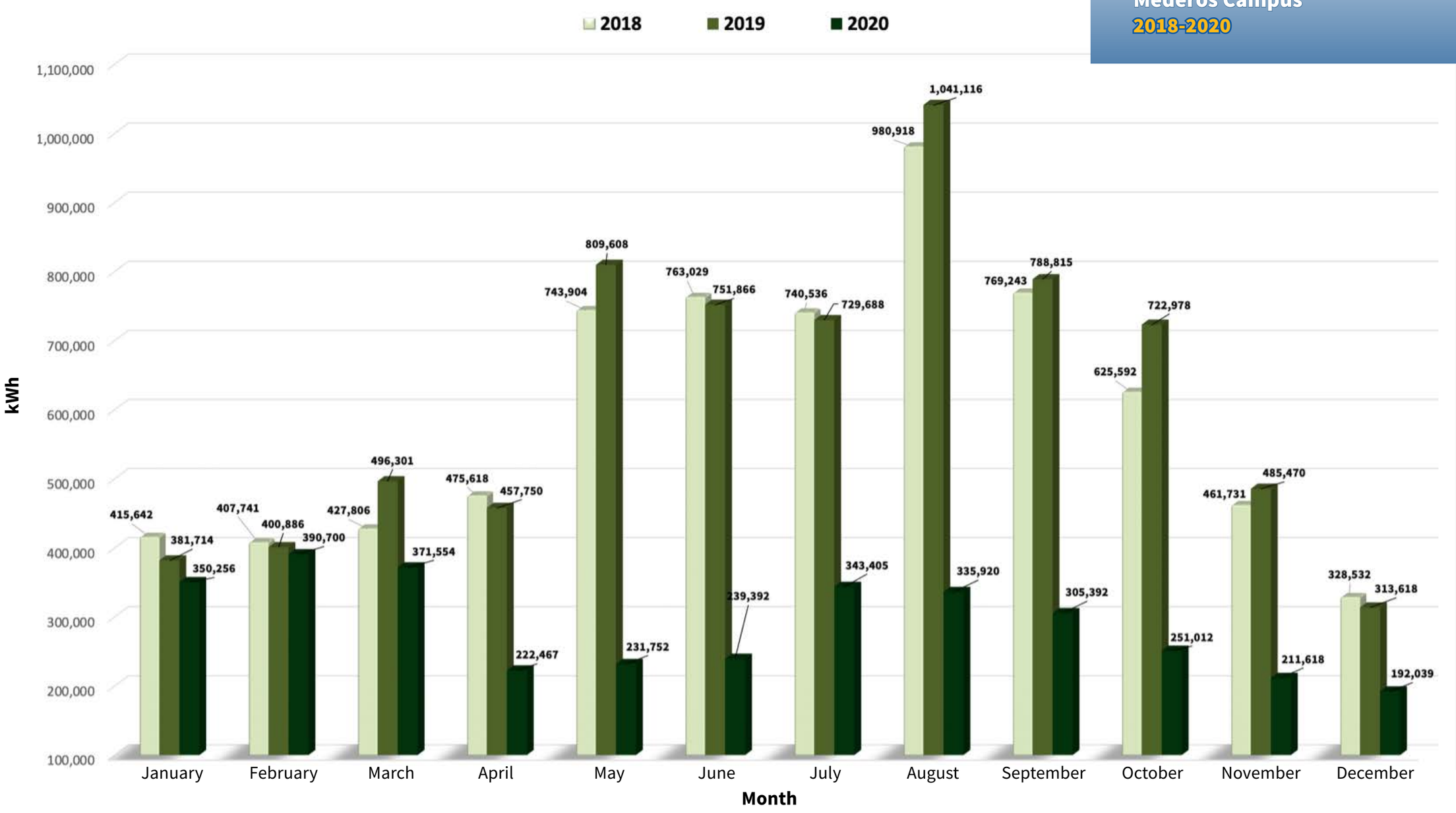
Monthly energy consumption KWh
Campus Ciudad Universitaria
2018-2020



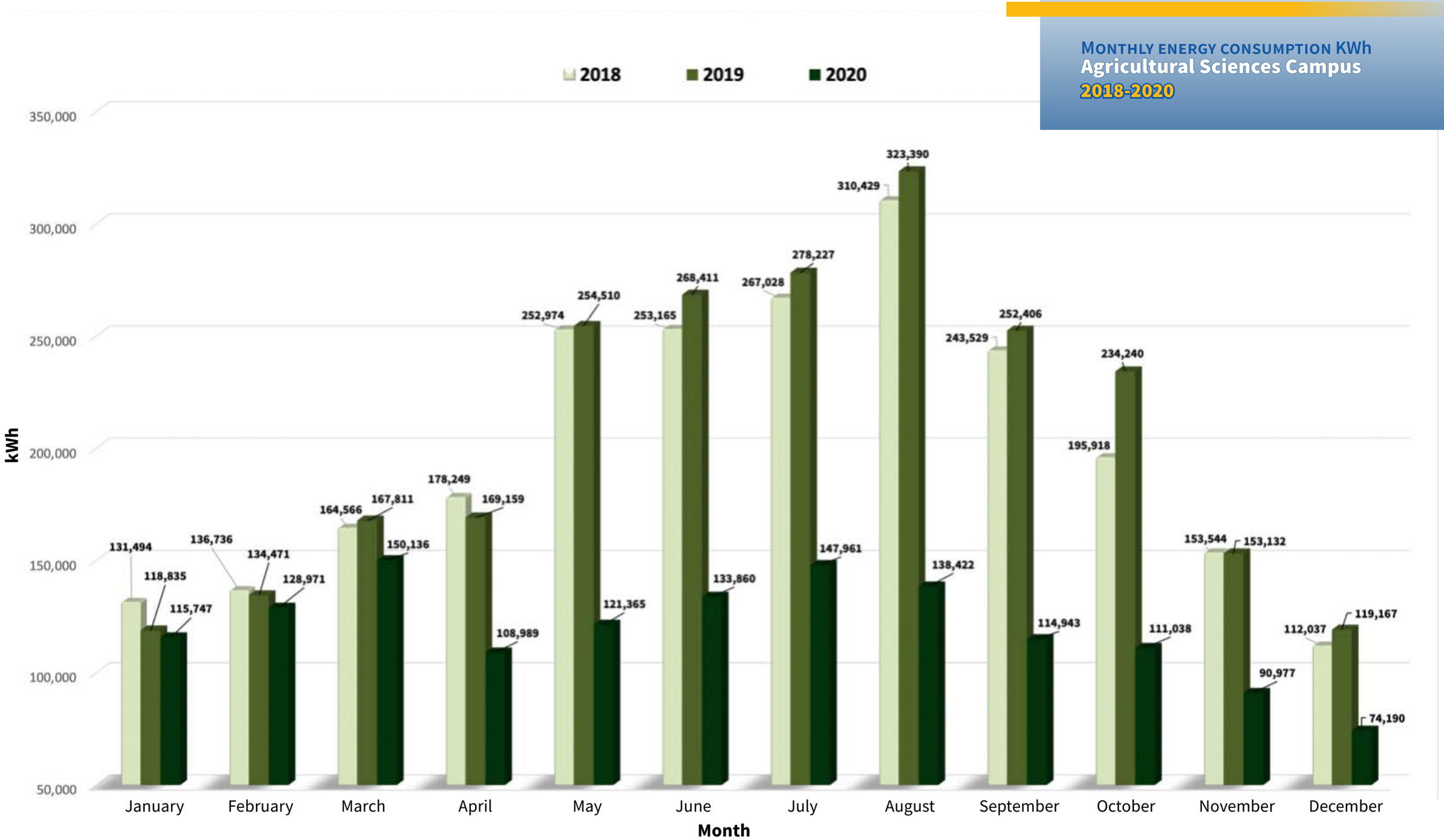
Monthly energy consumption KWh
Health Sciences Campus
2018-2020



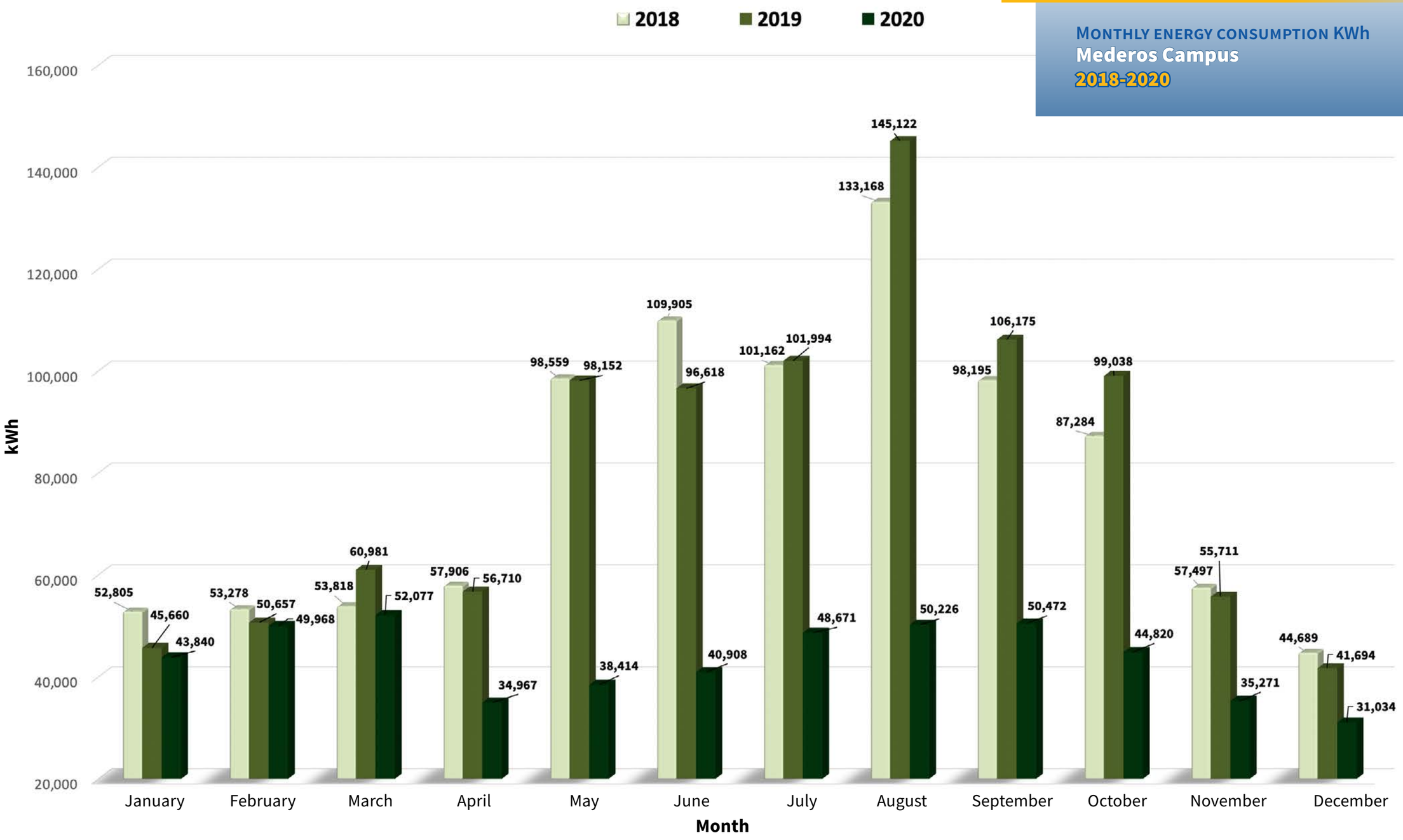
Monthly energy consumption KWh
Mederos Campus
2018-2020



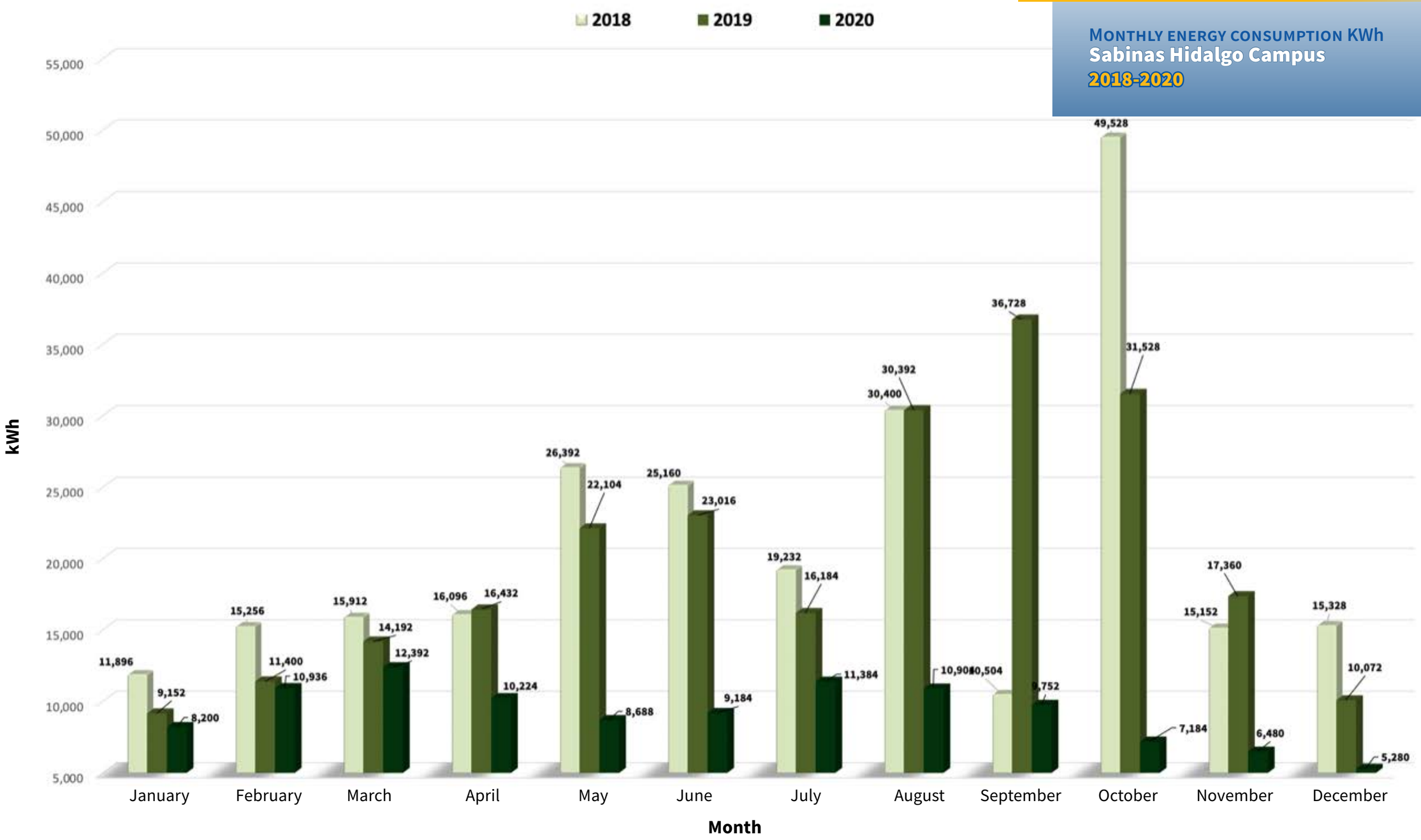
Monthly energy consumption KWh
Agricultural Sciences Campus
2018-2020



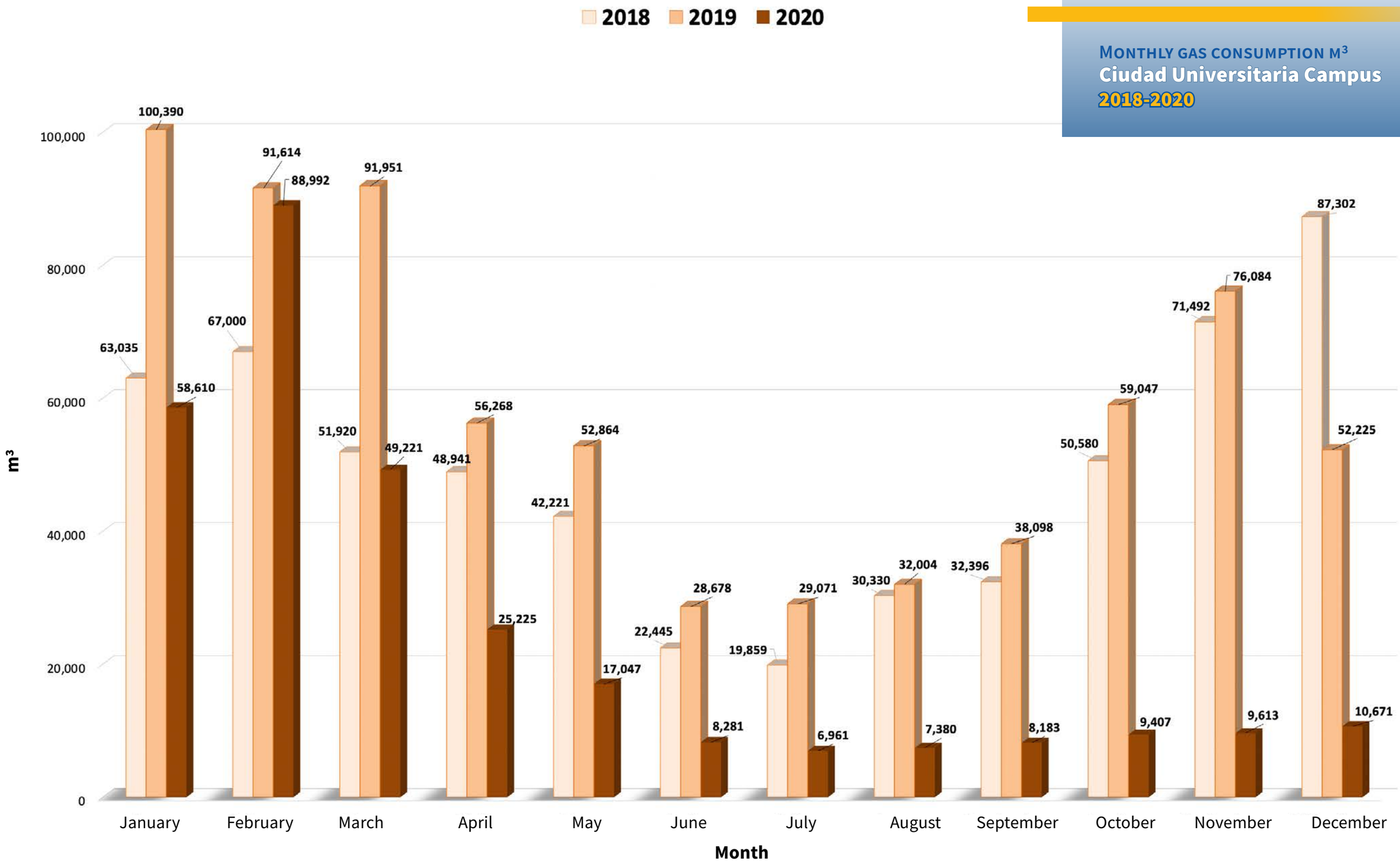
Monthly energy consumption KWh
Mederos Campus
2018-2020



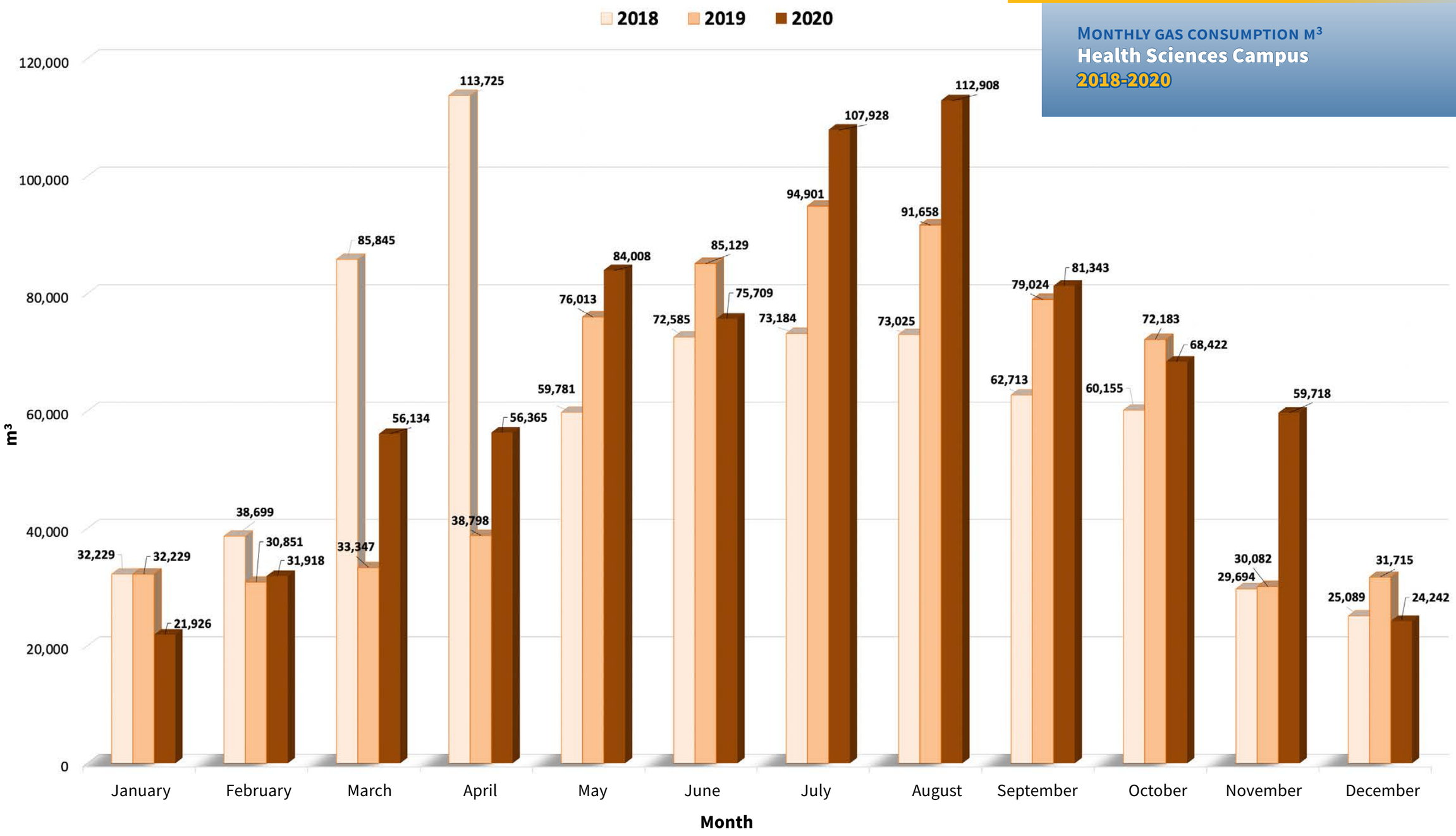
Monthly energy consumption KWh
Sabinas Hidalgo Campus
2018-2020



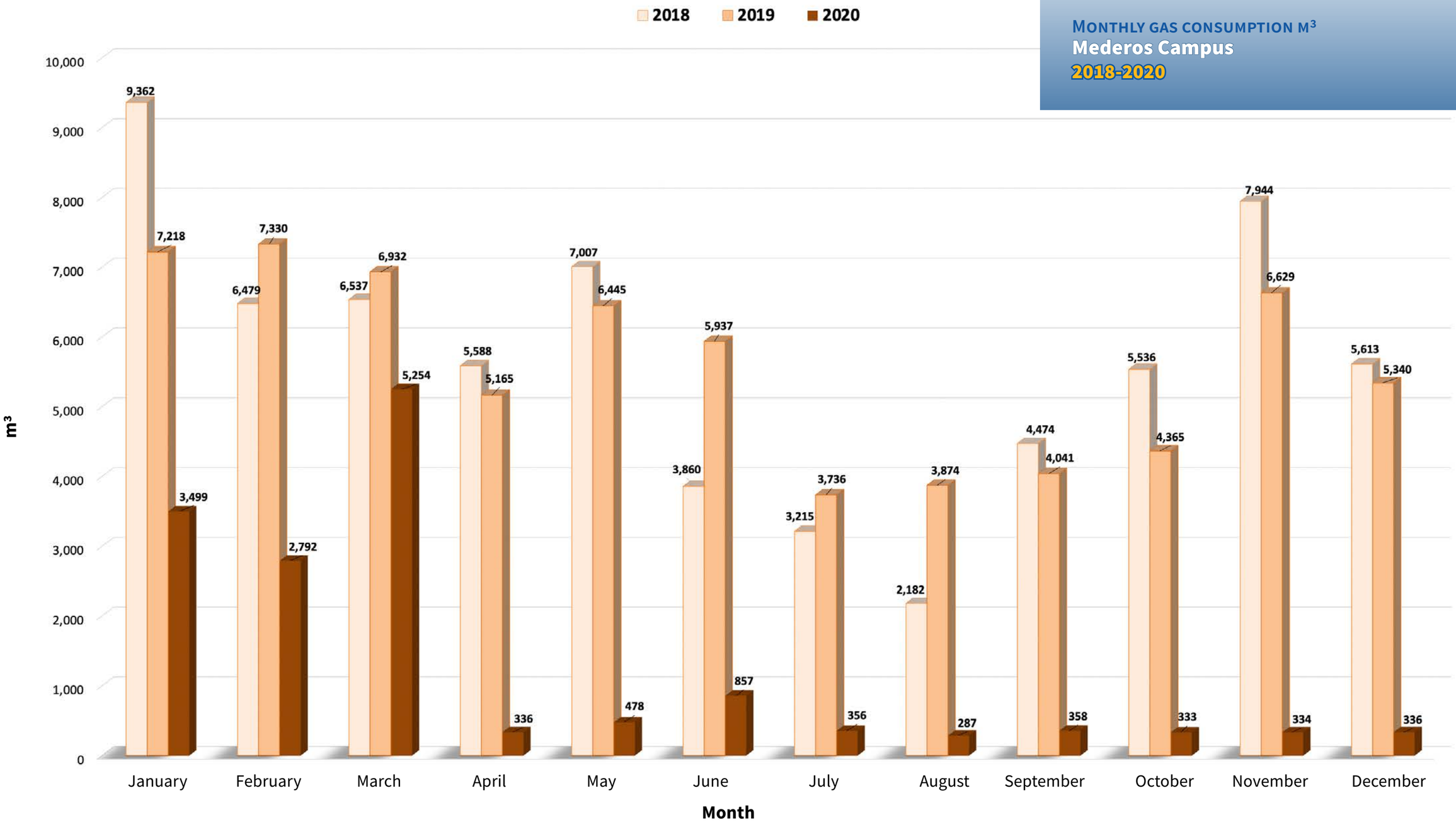
Monthly gas consumption m³
Ciudad Universitaria Campus
2018-2020



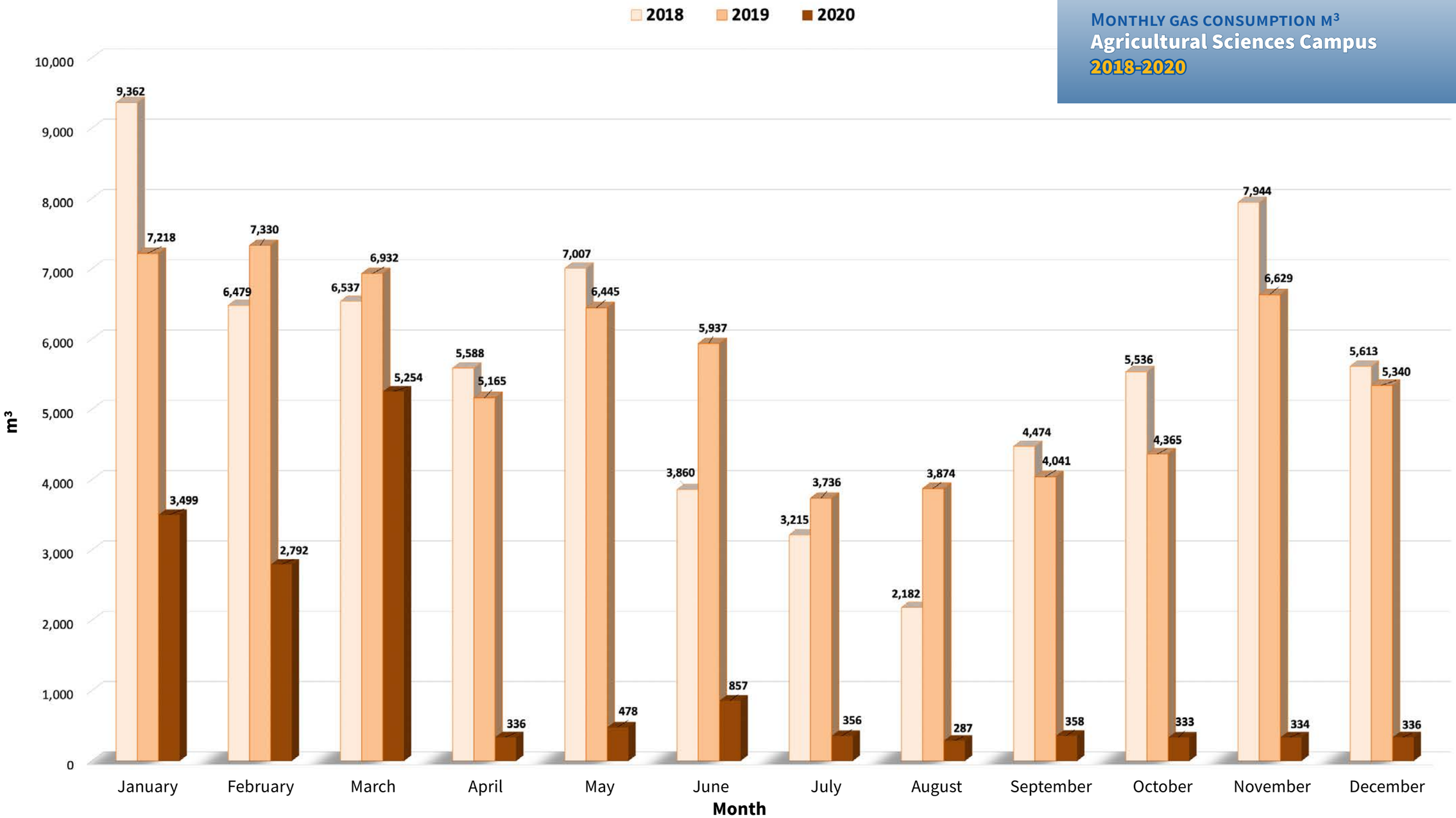
Monthly gas consumption m³
Health Sciences Campus
2018-2020



Monthly gas consumption m³
Mederos Campus
2018-2020



Monthly gas consumption m³
Agricultural Sciences Campus
2018-2020



SUSTAINABLE DEVELOPMENT GOALS

Climate change adaptation actions

With the aim of contributing to the reduction of the effects caused by climate change, the Universidad Autonoma de Nuevo Leon (UANL) carries out several actions such as promoting the sustainable use of natural areas that are under protection, maintaining the environmental services that provide and allow their conservation.

98% of the territory occupied by the UANL is covered by natural vegetation in a good state of conservation, where approximately 550 thousand tons of CO_2 equivalent are stored.

Campus	Type of vegetation	Surface (ha)	Área con vegetación natural	Factor (C ha-1)	Stored carbon (ton)	CO_2, equivalent (ton)
Mederos	Sub-mountain scrub	193.60	161.10	41.30	6,653.43	24,418.09
Linares	Thorny scrub	772.60	680.00	34.50	23,460.00	86,098.20
Iturbide	Oak- pine	988.60	989.00	34.50	34,120.50	125,222.24
Marín	Thorny scrub	1,052.40	1,051.00	51.80	54,441.80	199,801.41
Bravo	Thorny scrub	630.00	600.00	51.80	31,080.00	114,063.60
	Totales	3,637.20	3,481.10	213.90	149,755.73	549,603.54

CO_2 Carbon Balance		
	Kg CO_2 (equivalent)	Balance
Consumed electricity	52, 686,485	52,686,485
University Bus (TigreBus)	198,000	52,884,485
Automotive vehicles	2,774,400	55,658,885
Motorcycles	66,960	55,725,845
CO2 storage in vegetation	-549, 604,000	-493,878,155
Waste recycled	-1,182,250	-495,060,405
Digital Education	-2,168,395	-497,228,800

In 2020, the UANL registered a positive balance of Green-house Gas Emissions (GHG) of 497,228,880 KG of CO_2 equivalent

Major actions for adaptation to climate change

For more than 10 years, the UANL has supported the efforts made by Natura y Ecosistemas Mexicanos, A.C. (NATURA), a non-profit civil organization, to preserve the region known as “Selva Lacandona”, the best preserved massif of tropical rain forest, not only in Mexico but in all of Mesoamerica.

This jungle has a territorial size of more than 320,000 hectares where 28% of the mammalian species live, 32% of the birds, 12% of the reptiles, 9% of the amphibians and 15% of the species of freshwater fish so far known in the country.

	Type of vegetation	Surface (ha)	Vegetation (ha)	Carbon (ton/ha)	Stored Carbon (ton)	O_2	CO_2 equivalent (ton)
Montes Azules Biosphere Reserve	Bosque tropical	321.200	321.200	90,5	29.068.600	77,869,899	106.681.762
	Total	321.200	321.200	90,5	29.068.600	77,869,899	106.681.762

The natural vegetation present in the La Selva Lacandona jungle allows to store more than 106 million tons of CO_2 equivalent, and release into the atmosphere more than 77 million tons of oxygen annually.

La Selva Lacandona contributes with more than 85 billion m^3 of average annual runoff to the Usumacinta-Grijalva Basin, considered the most important hydrological basin at the national level and the seventh largest in the world.

SUSTAINABLE DEVELOPMENT GOALS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Wastes

Institutional Program for the Management and Handling of Waste

This program consists of several strategies to carry out the integral management of the different types of waste that are generated in all the UANL campuses. The main objective is to achieve the correct identification, classification, labeling and final disposal of the same within the current legal framework, as well as to promote the reduction of generation in the cases that apply. This program is coordinated by the Sustainability Department, through the Environmental Management and Operational Safety (DGASO) Department since 2014.

t = Tons according to the International System of Units

Hazardous Waste (dangerous residues) (RP)

As part of the strategies made by the Head Office of Environmental Management and Operational Safety for the correct management and disposal of Hazardous Waste, procedures have been distributed among all academic and central dependencies (for the internal collection of hazardous waste in UANL schools, for the classification, collection and disposal of hazardous biological-infectious waste in UANL offices and for the classification of hazardous waste in UANL schools) with the objective that they are taken as a basis for the elaboration of the manual for the environmentally adequate management of the generated waste.

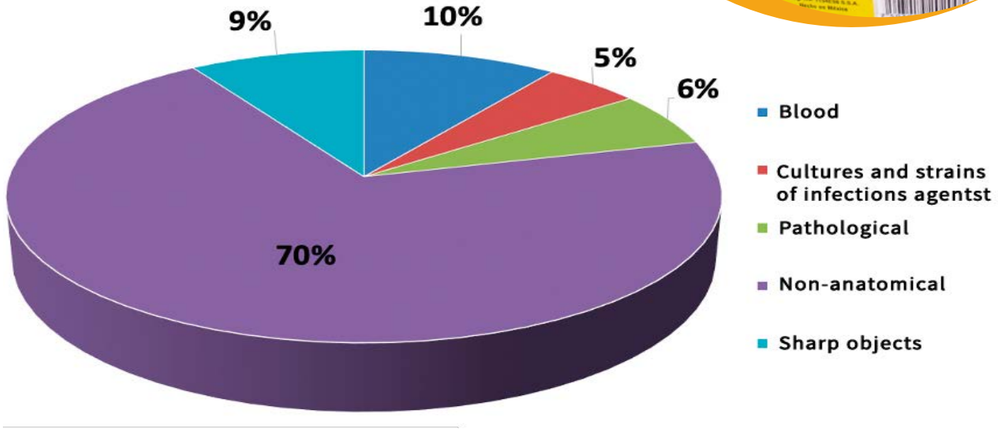
In 2020, a total of 146.17 tons (t) of hazardous waste were generated in 21 UANL institutions, of which 97.15 t correspond to biological-infectious hazardous waste (RPBI) and 49.02 t of hazardous waste of chemical origin (of which 0.32 t correspond to expired drugs) which were managed in accordance with current environmental regulations.

Residues Generation

Bio-infectious hazardous waste (RPBIs)

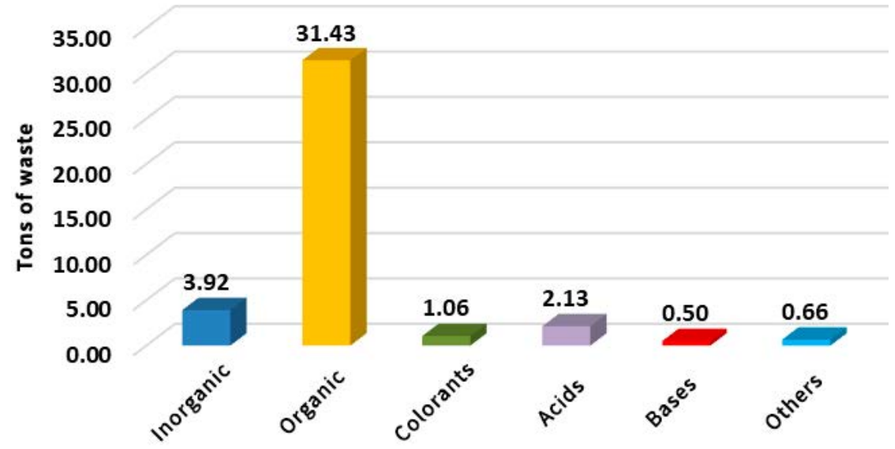
In the January-December 2020 period, 97.15 t of RPBIs were generated in 21 institutes, where 70% corresponds to non-anatomical waste (disposable gloves, healing material soaked or dripping blood and disposable containers containing liquid blood) and the remaining 30% corresponds to the other types of RPBIs as shown in the following graph:

RPBI Characterization 2020



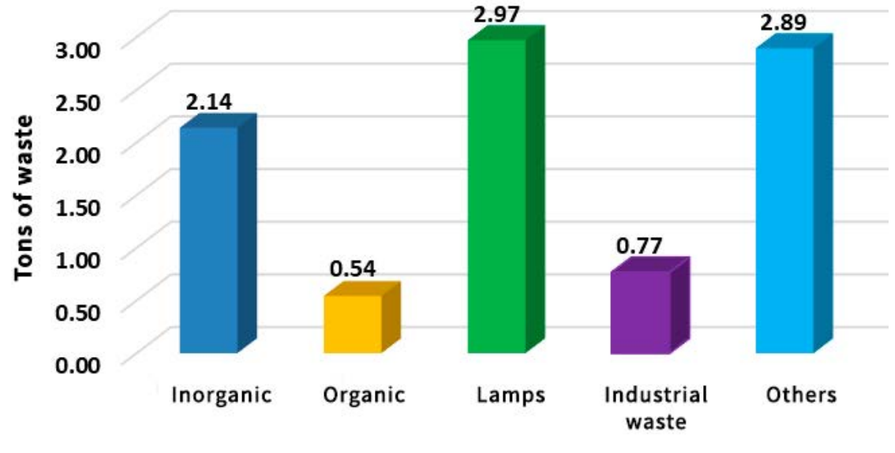
In the case of hazardous waste of chemical origin, 49.02 t were generated in the same period, of which 9.32 are solid waste and 39.70 are liquid waste.

Liquids



Characterization of RP liquid, period january – december 2020

Solids



Characterization of RP solid, period january – december 2020

As part of the waste management plan, once they were collected by a company authorized by the corresponding authorities, 100% of them are subjected to treatment or confinement as stipulated in current environmental regulations.

Another important aspect to take in consideration in regards to waste management is being registered as a Hazardous Waste generator before SEMARNAT (Ministry of the Environment and Natural Resources), based on the average estimate of hazardous waste generated in a year, placing in the first instance the category in which they are (micro, small or large generator), the above with the aim of managing their Hazardous Waste in accordance with current environmental legislation.

During the January-December 2020 period, two university institutions carried out procedures before this federal agency and obtained their Environmental Registration Number (NRA), with the support and advice of the Head Office of Environmental Management and Operational Safety to carry out said procedure.

Another type of hazardous waste that is generated in most homes and/or workplaces is expired drugs. In accordance with current environmental legislation, these wastes are classified as dangerous, so their disposal must be carried out through companies authorized by competent federal agencies (SEMARNAT and the Ministry of Communications and Transport SCT), since these companies own the equipment and qualified personnel to apply the necessary security measures to carry out their transport, treatment and/or final disposal.

The UANL has a container located in the University Pharmacy “Q.F.B. Emilia Vasquez Farias” at the School of Chemical Sciences, where expired medicines are deposited by the university community and general public. They are later collected by personnel from a specialist company in the field, who is in charge of taking them to a collection center where they are separated from their primary packaging and then classified by therapeutic group and pharmaceutical form, to later be taken to final disposal with an authorized supplier.

From January to December 2020 320.65 kg of expired medicines were collected

Special Handling Waste

As of 2014, through the Sustainability Department, the UANL carries out collection campaigns for electrical and electronic waste, in order to avoid serious problems that such materials could cause to human health and the environment by not being disposed of correctly. We also sensitize the university community and society so that they carry out an adequate management of this type of waste. Due to the COVID-19 sanitary contingency which began in March 2020 and to take care of the health of our students, teachers and administrative personnel who work at UANL, the electronic recycling campaign was not carried out. However, some institutions had electronic material that they had in safekeeping already unaffected.

75,797
KWH unused electricity

12
tons of CO_2 not emitted

In summary, during 2020 a total of 3,212 kg of electrical and electronic waste was generated. With the recycling of the aforementioned amounts, important environmental benefits were obtained such as energy savings and tons of CO_2 not emitted.

Organic Waste

For 16 years, the School of Agronomy of the UANL has carried out a project for the use and exploitation of livestock waste (manure) and the use of pruning (waste from the gardens) of the Marin campus, which consists in treating said waste using worms where humus or compost (vermicompost) and a leachate rich in essential nutrients (fulvic acids) are obtained, which are used to fertilize the nursery, experimental crops and gardens of the same campus.

In 2020, an approximate of 0.75 t of organic waste were treated, obtaining a total of 350 kg of humus or compost, as well as 500 liters of leached; the latter is rich in nutrients and is used for irrigation of gardens or fields or in foliar form by sprinkling.

Waste fats and oils from cafeterias

Waste produced from vegetable oils and fats and/or animals used in food preparation is the main cause of contamination of surface and groundwater due to uncontrolled discharge. It is estimated that one liter of used oil can contaminate 1,000 to 10,000 liters of water producing blockages, bad odors and pest proliferation in drainage and/or sewerage systems. It can even harm the soil by severely affecting its fertility by altering its biological and chemical activity.

Therefore, the UANL promotes a program for vegetable oil produced in cafeterias inside campus to be collected in special containers so that it is collected later by a specialized company that has the corresponding permits.

In 2020, 7.37 tons of vegetable oil were collected from cafeterias in different University Departments to be recycled and used later in friendly products with the environment in the chemical and biofuel industries.

Solid Urban Waste

Solid Urban Waste generated in the UANL is collected by authorized companies, which take them to a transfer station, to later be taken to the sorting plant where the recyclable waste (cardboard, paper, aluminum, plastics and steel) is separated. The rest is taken to the confinement cells of the sanitary refill of the Comprehensive System for Ecological Management and Waste Processing (SIMEPRODE) (http://www.nl.gob.mx/simeprode), located in the municipality of Salinas Victoria and administered by the government of the state of Nuevo Leon. In SIMEPRODE, waste are placed in special cells compacted to reduce its volume and subsequently covered with layers of clay, complying with the established by the General Act on the Prevention and Integral Management of Waste (LGPGIR), which states that a landfill must incorporate particular engineering works and methods that allow the control of the leakage of leachates and the proper handling of gases produced by the confined waste with the aim of avoid contamination of subsoil and aquifers.

It should be noted that methane gas, also called biogas, produced by the breakdown of organic matter is used to produce energy. Biogas is driven through a system of special pipes to a bioenergy plant where it is transformed into electrical energy, which is used to power the public lighting network of seven municipalities in the metropolitan area of the City of Monterrey, five Departments of the state government, “Fundidora Park”, as well as to providing power to the collective transport system “Metrorrey” (urban electric train) , which makes it a one-of-a-kind project, within the mitigation actions carried out in Mexico to prevent the production of gases that cause global warming.

Separation and recycling program (PROSER)

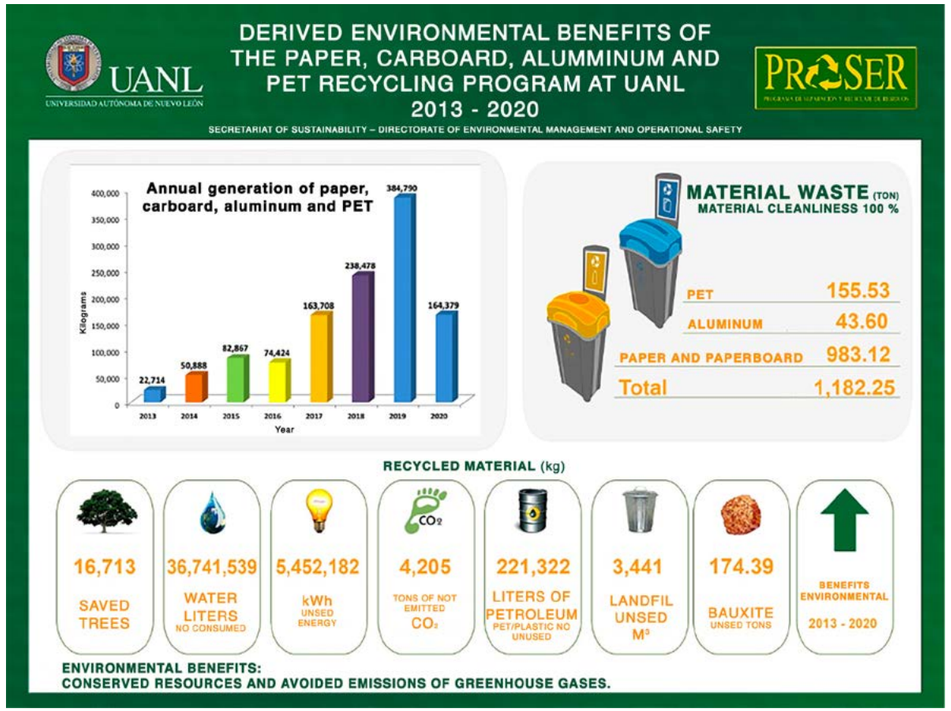
UANL's Waste Separation and Recycling Program (PROSER) began in February 2013 in the Provost’s Office and Administrative Offices in Ciudad Universitaria with the aim of maximizing the use of resources and preventing or reducing impacts on the environment. The process of recycling and processing the waste obtained is supported by several local companies that have an extensive experience in the management of recyclables product such as COPAMEX, Biopappel, Grupo Alen and ECOCE A.C, thus ensuring the correct management and final disposition of urban waste with recyclable characteristics. Nowadays, the program operates through

a network of collaboration and commitment of several UANL Departments, where each separates its waste into special containers used for this purpose. Afterwards, the supplier collects and processes them, delivering as payment recycled paper or cash, which is used for the purchase of containers or some other activity related to the program. Finally, once

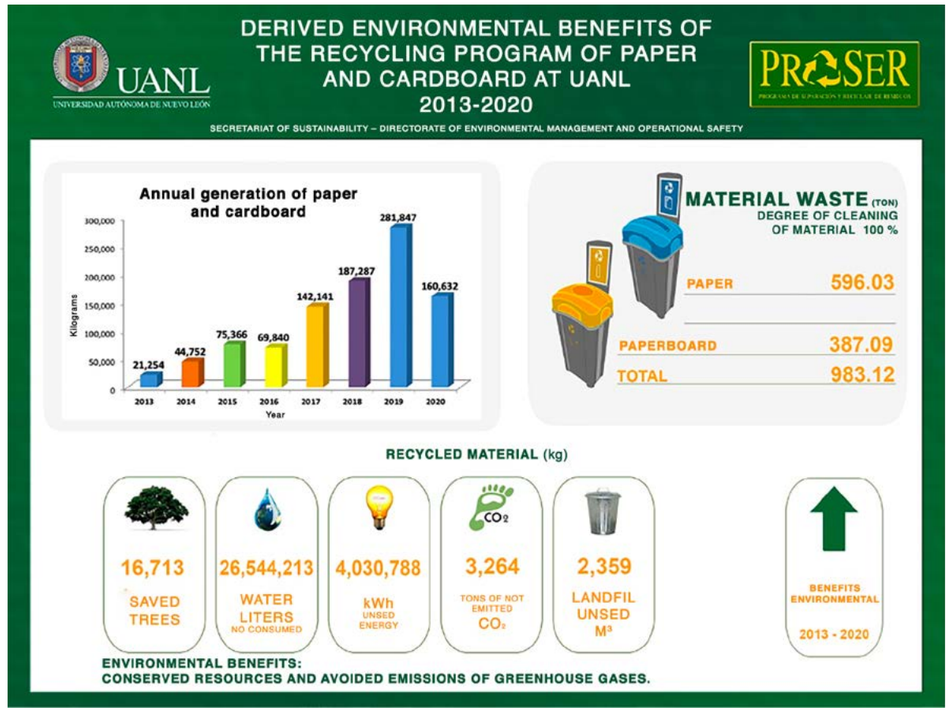
the recycling process is complete, a report is carried out by the supplier in which it explains the environmental benefits obtained.

A total of 54 units of the UANL have a permanent recycling program and/or carry out campaigns to collect recyclable materials (paper, cardboard, aluminum and PET), of which there are 37 academic units and 17 central units.

During the period from February 2013 to December 2020, a total of 1,182.25 tons of recyclable material were collected. With the implementation of this important program for the collection and recycling

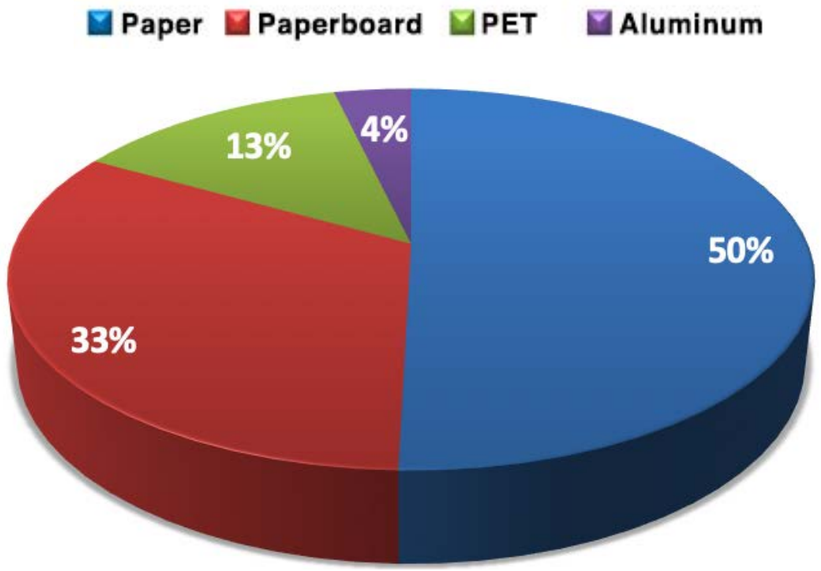


of materials in the UANL, important environmental benefits have been obtained, among which are an energy saving of 5,452,182 kWh and 36,741,539 L of water. Among other benefits as shown in the following graph:



Specifically, in 2020 there was a collection of 164,379 kg of recyclable materials (paper, cardboard, aluminum and PET). As we can see in the previous graph, the amount of waste collected was significantly lower than that collected in 2019, since as of March 2020, the UANL activities are mostly carried out virtually due to the health contingency.

Characterization of material collected during 2019



Technical guidelines for waste handling and management

The UANL Sustainability Department, through the Environmental Management and Operational Safety Department, came up with technical guidelines for:

- **The management of urban solid waste with recyclable characteristics and special handling.**
- **The handling and management of hazardous waste generated within the different university campuses, as well as the sustainability guide for workshops and laboratories.**

Consumables return and recycling program

Every year on campus and university facilities a large amount of consumables for printers such as toner cartridges, ink bottles among others are consumed, which contain various substances like carbon, iron, chromium, copper and organic cyanides which can cause various health problems for people when released into the environment. They also cause negative effects on the environment due to the metals they contain, which can spread in the air 10 times faster than ordinary dust, causing concentration of polluting particles.

Due to this situation, the return and recycling of printer consumables has become an activity of primary importance for the Universidad Autonoma de Nuevo Leon (UANL), in order to prevent this type of waste from causing damage to health and the environment.

Since 2020, the UANL, through its General Warehouse, has joined the Hewlett-Packard (HP) Planet Partners program. It is an initiative designed to process discarded cartridges into raw materials that can be used to make new plastic and metal products, and any remaining material is responsibly disposed of

or processed through energy recovery processes. The program is free for the consumer and has a system for accounting for the returned waste so that it is processed properly, preventing it from being deposited in landfills.

By carrying out these actions, the UANL generates benefits for human health and the environment, in addition to complying with the rules and regulations provisions concerning the management of special handling waste, including NOM-161-SEMARNAT-2013 and NOM-052-SEMARNAT-2011.

In 2020, the UANL carried out the return of a total of 3,234.3 kg of the following materials within the HP Planet Partners program:

Type of waste	Units
Ink cartridges and bottles	403
Toner cartridge	2,144
Print head and ink for graphics	56
Long-life consumables	0
Out of reach objects	728
Total weight (kg)	3,234.3

Which allowed to obtain the following environmental benefits:

Not consumed energy (kWh)	CO_2 not emitted (Ton)
76,323	12

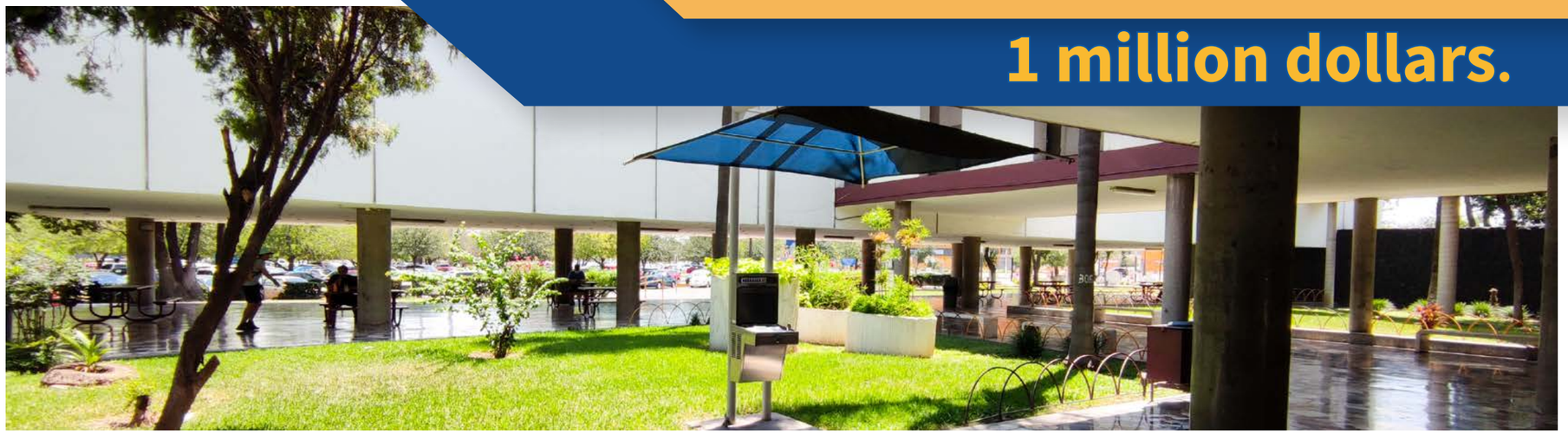
SUSTAINABLE DEVELOPMENT GOALS

Responsible consumption

During 2020 the consumption of
2 millon bottles of water was avoided,
generating savings for users of almost
1 million dollars.

The consumption of bottled drinks causes various problems to the health of the population. Because in many cases these are sugary drinks that contribute to raising the overweight and obesity rate, causing the emergence of cardiovascular diseases and diabetes, in addition to environment problems. This is one of the main causes of waste generation, especially plastic.

In order to replace the consumption of packaged beverages on the campus of Ciudad Universitaria, the Universidad Autonoma de Nuevo Leon (UANL) created the Drinking Water Fountains Program in 2015, through which a total of 30 drinking fountains have been installed in the campus of Ciudad Universitaria.

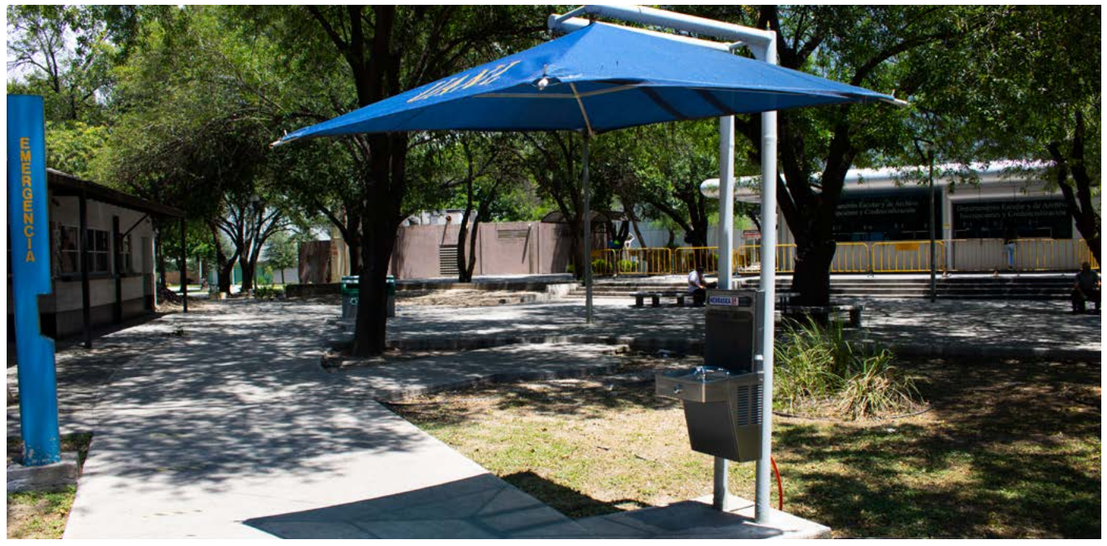


Floor	Drinking fountains installed per floor
1	Provost Office Building, School of Architecture, School of Mechanical and Electrical Engineering and School of Civil Engineering 1 and 2.
2	Sports stadium Gaspar Mass 1 and 2, dressing rooms and football field, athletics track, basketball court, and fast football soccer field.
3	C. Biological, C. Chemic, I. Civil, Afirme Bank, Bookshop 1 and 2, Subway 1, 2, 3 Accounting School, Todd Building 1, 2 and 3, Water Park, Sunken Park, Chico Rivera Stadium 1, 2 and 3.

Economic benefits of the program “Drinking Water Fountains”

Year	Total of consumed liters of water average	Total of not consumed plastic bottles of water (of 500 ml.)	Savings that represent to the user of water drinking fountain do not buy 500ml. bottles of water annually
2020	1,290,133	2,580,266	$ 1,096,613 (DLS)*
2019	2,469,293	4,938,586	$ 2,098,899 (DLS)*
2018	553,517	1,107,034	$ 470,489 (DLS)*

*Considering the price of the 500 mL bottle at $ 0.42 (DLS)



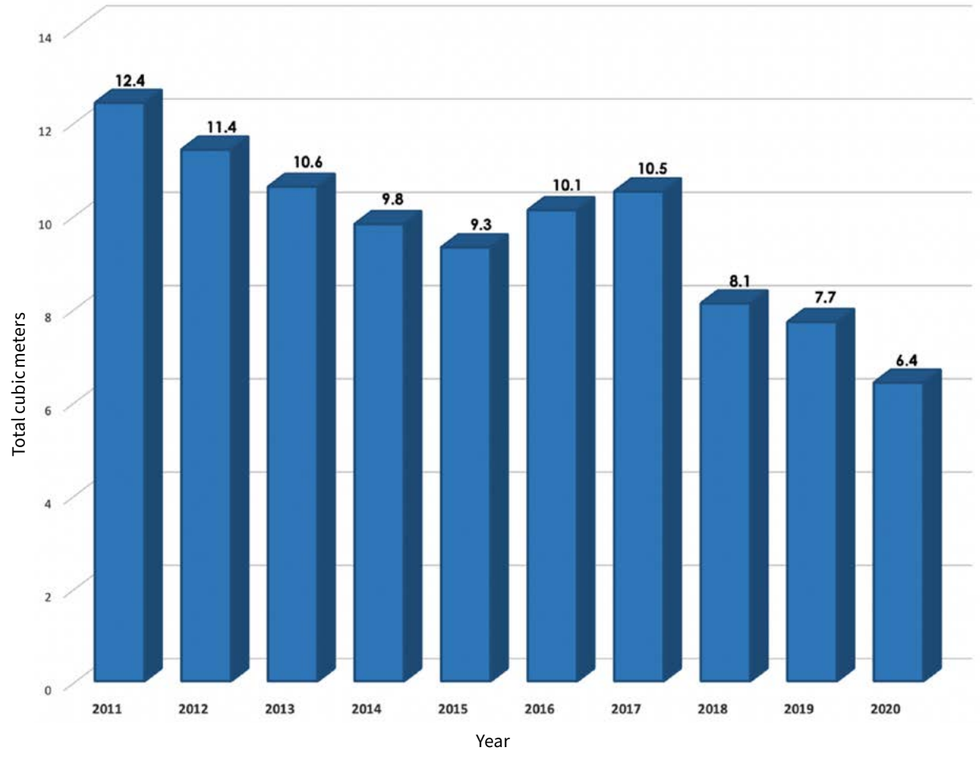
Environmental benefits of the program “Portable drinking fountains”

Year	Water consumed (L) in drinking fountains at CU	Equivalent to bottles (500ml)	Tons of PET not used	Not consumed energy (kWh)	Not consumed water (L) (in the manufacturing of PET)	CO_2 not emitted (tons)	Landfill not used (m^3)	Oil saved (L)
2020	1,290,133	2,580,266	31.0	155,993	1,238,528	53	168	44,061
2019	2,469,293	4,938,586	59.2	298,927	2,370,521	101	321	84,331
2018	553,517	1,107,034	13.3	66,927	531,376	23	72	18,904

Efficient use of water

During 2020, per capita water consumption at the Universidad Autonoma de Nuevo Leon (UANL) was 6.4 m3. During the last 10 years, the UANL has managed to reduce its per capita water consumption thanks to the implementation of various actions aimed at promoting the efficient use of this important resource.

Per capita consumption 2022 – 2020



Couse of action	Actions
Policy design and application	Aimed at improving the facilities and equipment used to conduct and distribute water on university campuses.
Installation and / or replacement of equipment	Use of efficient water devices (drinking fountains, toilets, among others).
Implementation of permanent programs	Leak detection and control
Education and change of culture of water use	Awareness of the proper use of water by users

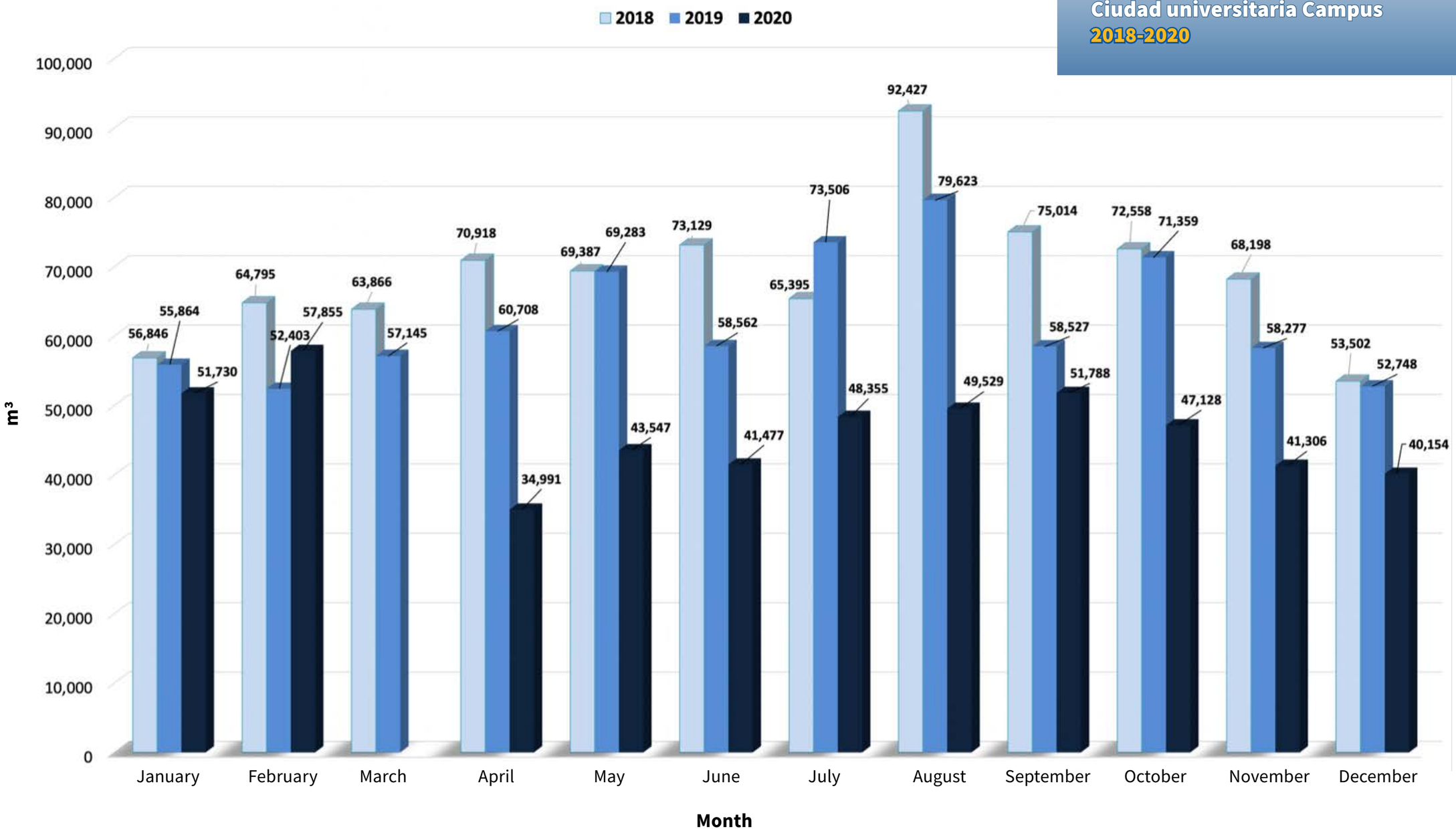
100% of the green areas in the Ciudad Universitaria campus are irrigated with treated wastewater, generating significant economic savings because the price of wastewater is 82% lower than the price of potable water.

"Zero Water Leaks" Program

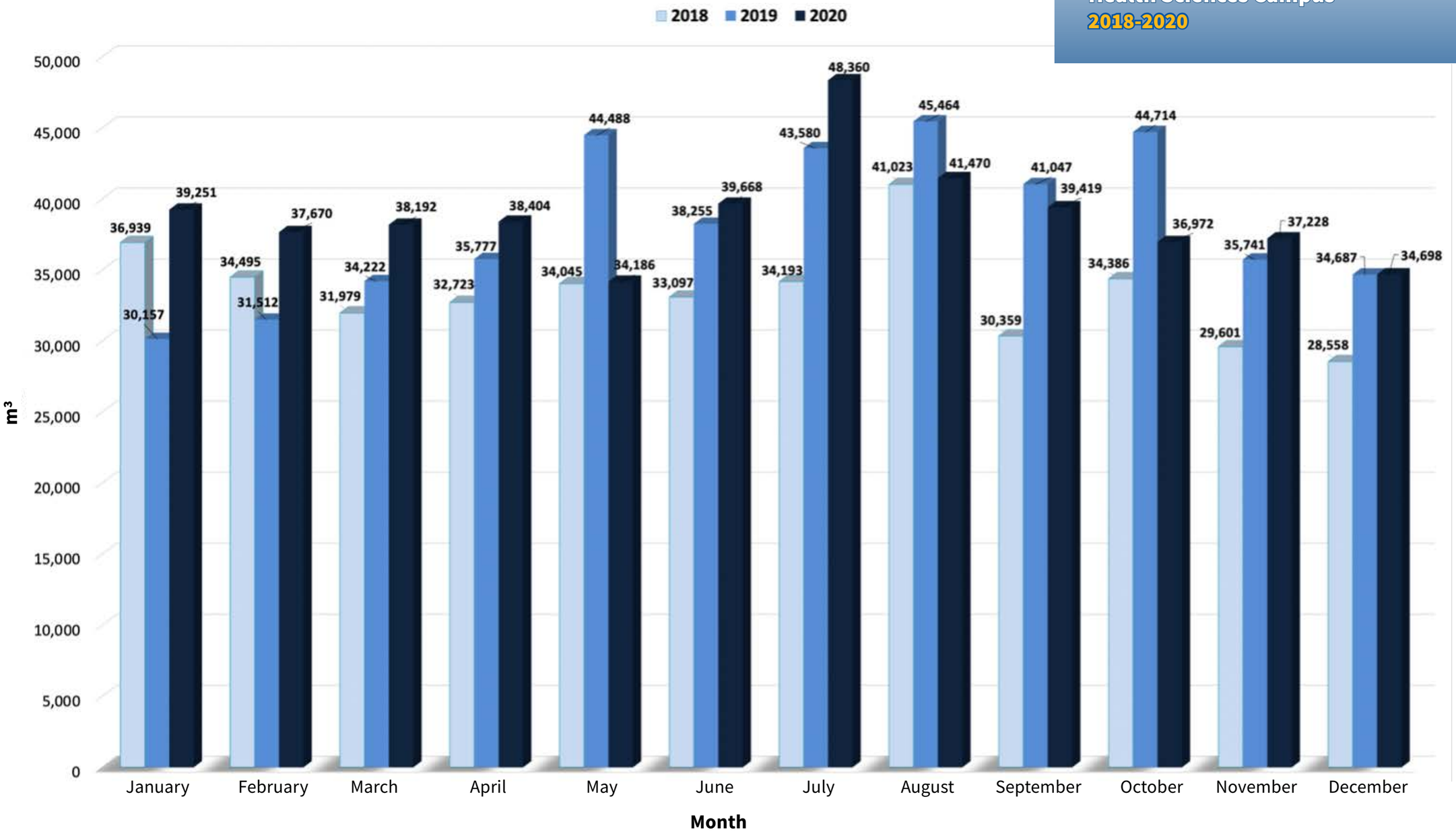
Through the operation of the permanent program "Zero Water Leaks", the UANL carries out the early detection and correction of failures in the water supply and distribution network. Additionally, monthly monitoring of the water consumption of all university facilities has been carried out. The records are entered into a computerized database that allows detecting "unusual" water consumptions in specific places. This generates inspection visits to verify whether there are failures in the operation of the distribution network or an inappropriate use of this precious liquid, which allows actions to be taken to correct the problems detected.

In 2020, a total of 1,447,034 m3 of water were consumed, which meant a decrease of 252,490 m3 compared to the water consumption registered in 2019, which is equivalent to a daily saving of 691,753 liters of water throughout the year.

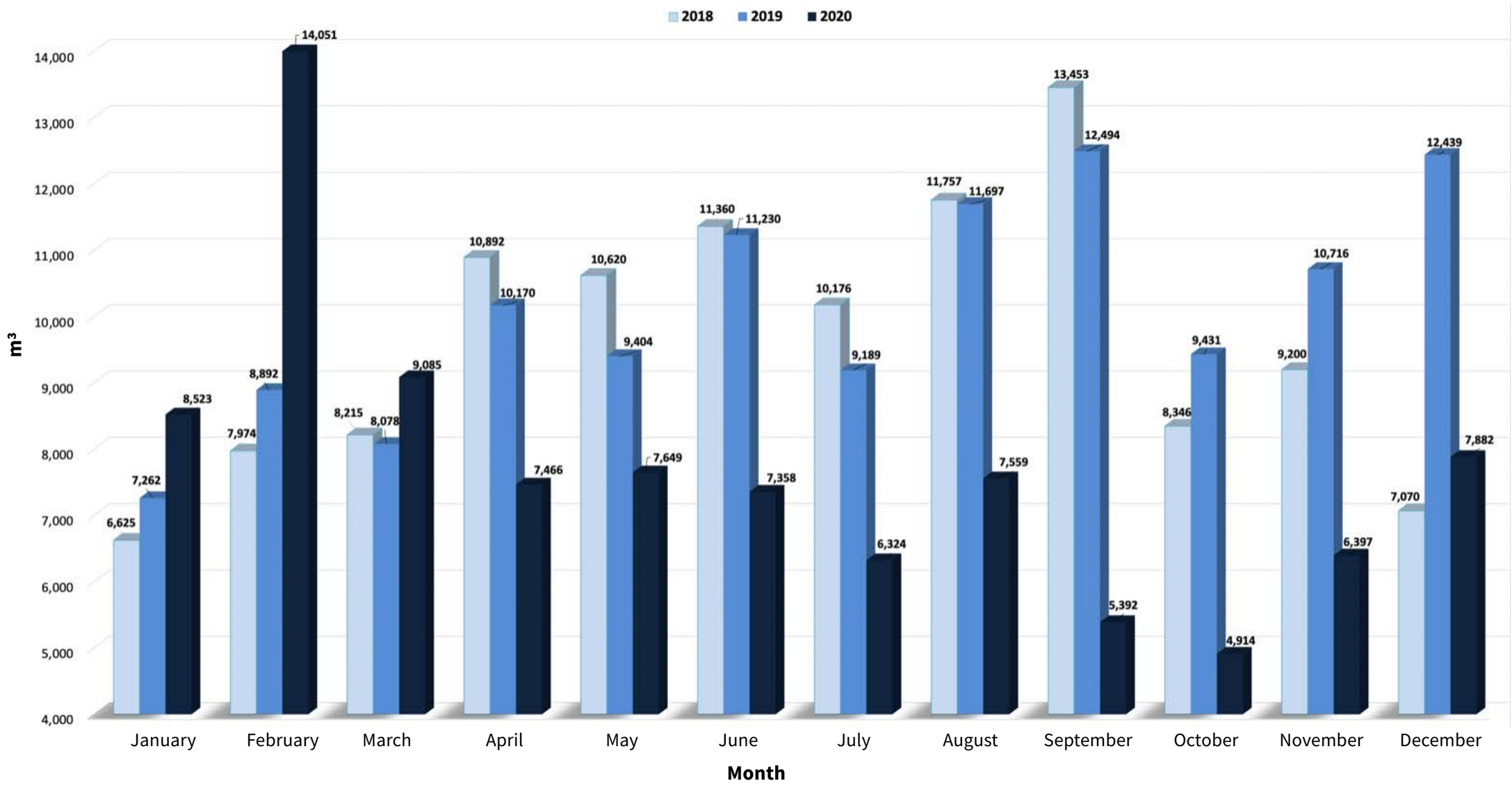
WATER CONSUMPTON M³
Ciudad universitaria Campus
2018-2020



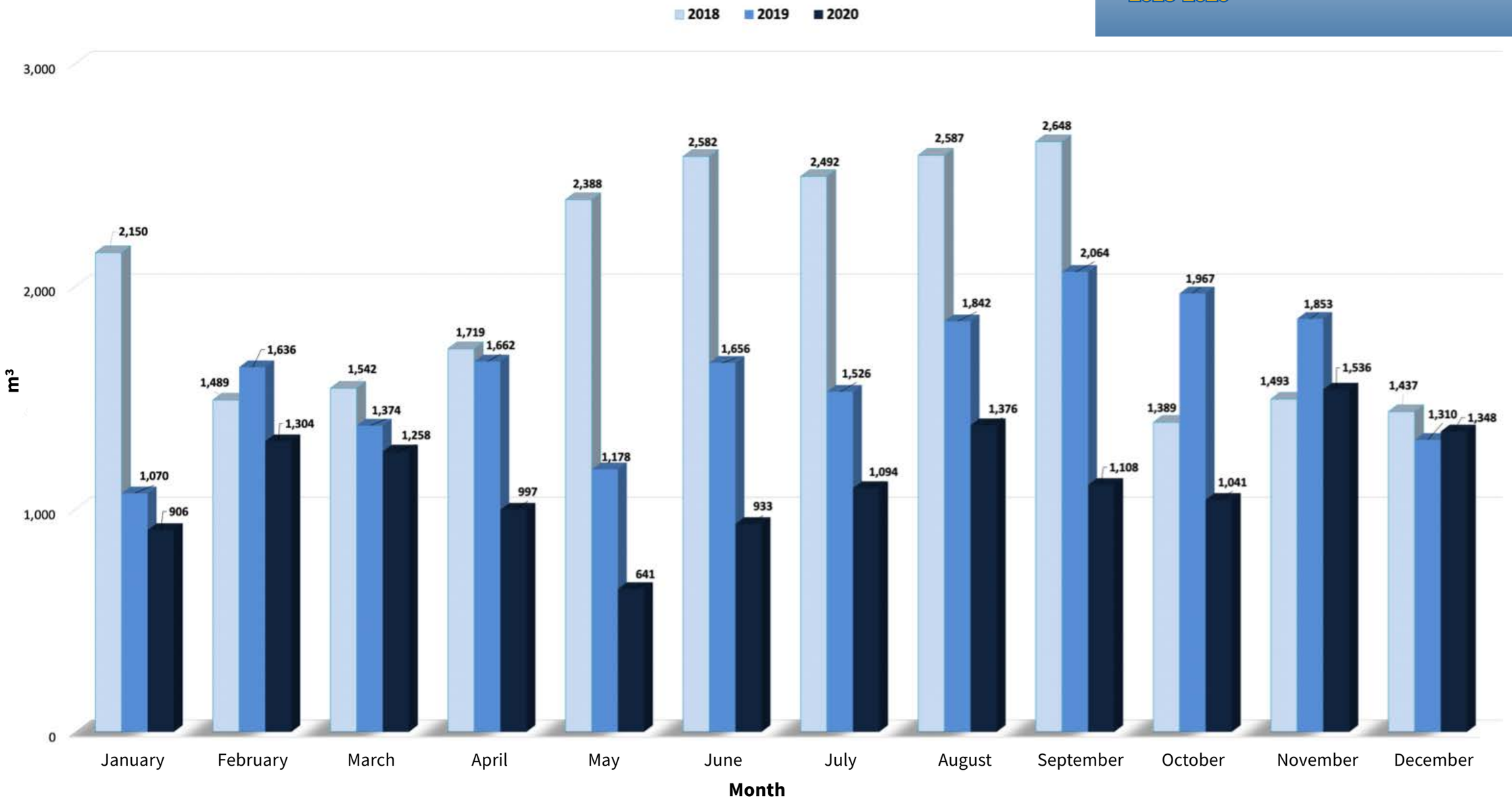
Water consumpton m³
Health Sciences Campus
2018-2020



WATER CONSUMPTON M^3
Mederos Campus
2018-2020



Water consumpton m³
Agricultual Sciences Campus
2018-2020

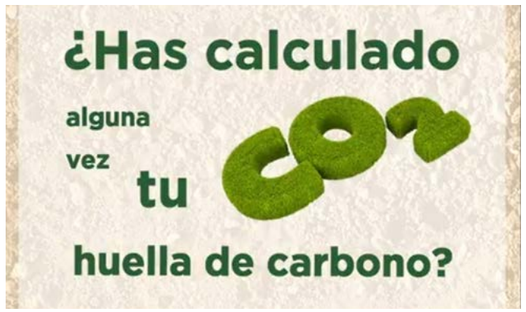


Huella conCiencia Program

With the aim of raising awareness in the UANL community about the emission sources and problems that cause the release of Greenhouse Gases (GHG), in particular carbon dioxide CO2, the electronic survey “Know your CO2 Footprint” was designed.

The questionnaire is available to all members of the university community through the SIASE system of the UANL, during the months of February to May of each year and is intended to:

- Find out the personal carbon footprint and provide information to calculate the UANL carbon footprint.
- Design and apply mitigation strategies against the effects caused by climate change.
- Inform each university department about the average energy consumption of their students and teachers.
- Issue recommendations to members of the university community to make efficient use of water and energy.



Mid-Higher Level	
Participants	Total
Students	72,780
Teachers	2,856

Bachelor	
Participants	Total
Students	131,948
Teachers	6,011

University institutes that operate programs for the efficient use of water:

- High School No. 1 Apodaca
- High School No.4 Linares
- High School No.6
- High School No.12
- High School No.13
- High School No.16
- High School No.21
- “Pablo Livas” Industrial School and Technical High School
- Medical and Technical School and High School
- School of Biological Sciences
- School of Nursing
- School of Veterinary Medicine and Zootechnics
- School of Social Work and Human Development
- School of Visual Arts
- School of Earth Sciences

SUSTAINABLE DEVELOPMENT GOALS

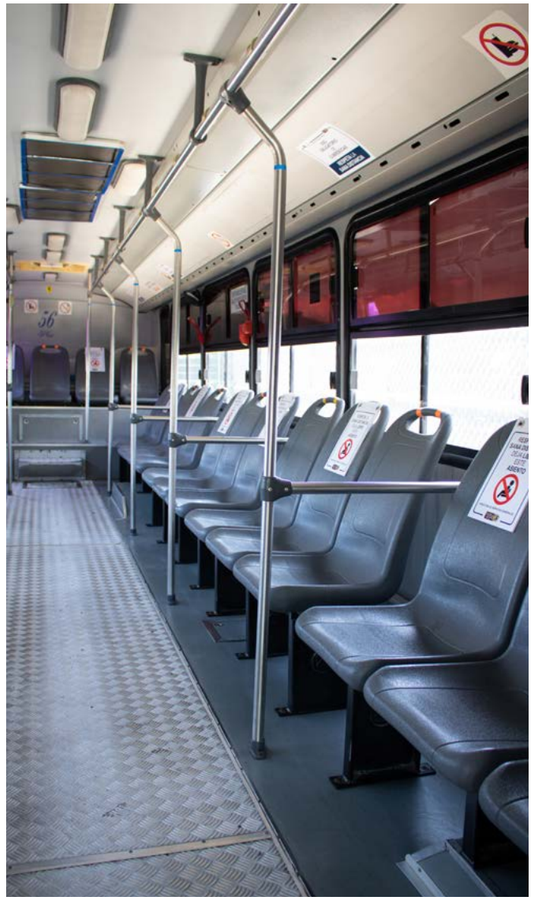
11 SUSTAINABLE CITIES AND COMMUNITIES

Sustainable mobility

Mobility is the activity through which people move from one place to another using their own means of locomotion or some type of transport. It is an activity that responds to a basic need and a collective right that must be guaranteed under equal conditions in the community. But it must also be exercised responsibly, because millions of displacements occur daily worldwide. This involves a high consumption of fuels primarily of fossil origin, which results in the generation of pollutants into the atmosphere.

The mobility concept is especially important for urban areas, where the largest human populations that generate main mobility daily flows are concentrated.

The current way in which people move in most cities in the world is based on a transportation model that uses private cars as the basis of mobility. This generates different problems such as traffic, noise, high

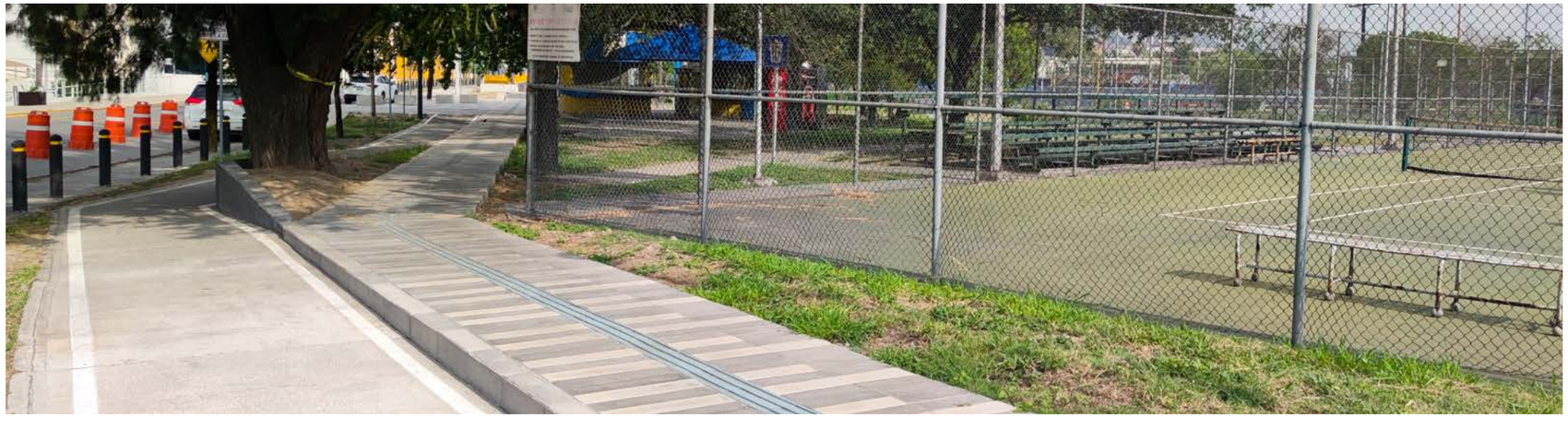


maintenance costs of both means of transport and communication routes, but especially greenhouse gas (GHG) emissions, the main causes of climate change.

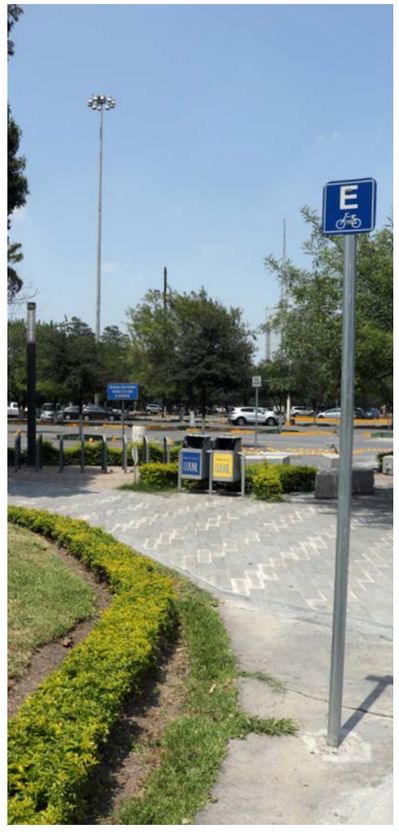
Sustainable mobility is the complete opposite of that panorama. It is a healthy transport model that allows people to go from one place to another in an accessible, efficient, safe and equitable way, with a low carbon consumption. It also prioritizes the elevation of urban life quality and the collective well-being, as well as the creation of public spaces that favor citizen coexistence.

University campuses are urban areas where large numbers of people are concentrated daily, who carry out academic or work activities. This causes the concentration of high amounts of public and private transportation that generates an increase in noise and environmental pollution, congestion in the start and end of the various university schools, among other problems.

Due to this situation, educational institutions have the social and environmental responsibility to promote models of sustainable mobility, which allow an adequate use of transportation, promoting forms of non-motorized mobility, reducing the emission of pollutants, in addition to promoting a better quality of life and productivity in university environments.



The Master Plan of Sustainable Mobility



Today's practices of commute to work and school affect people, institutions, mobility and the environment. In regards to this situation, the Universidad Autonoma de Nuevo Leon created the Master Plan of Sustainable Mobility (PMMS) which promotes policies and sustainable mobility strategies. Its aim is to reinforce the principle of equity and guarantee that members of the university community move to and within the campuses using sustainable and effective alternatives under a sustainable mobility scheme.

Through the PMMS, the UANL promotes the implementation of different sustainable mobility actions such as the following Sustainable Mobility Master Plan

- Promote the non-motorized movement of people on campus, through the construction and equipping of pedestrian cross walks and bicycle lanes.
- Replacement of motor vehicles with electric ones.
- Implementation of strategies that improve connectivity between university campuses and population centers, using public transport.
- Actions that promote the shared use of the private car or that discourage its use.
- Strengthening of the free university public transport system "TigreBus".
- Installation of signs that promote non-motorized travel on and around campus.
- Reduce parking areas, through the operation of the CONECTA - UANL program.
- Improve social integration, quality of life and productivity.

CONECTA UANL

Planting of more tan 1,100 trees in common use áreas

Construction of 26 access ramps in level changes

16,700 m² of new pedestrian areas

Ordinance of concessioned public transport

Improvements in parking áreas management

A cycle lane of 3.2 km

An integral mobility system

TigreBus

TigreBus *Interconnection service between campus*			
Home campus	Destination campus	Schedule	Total runs
University Campus	Agricultural Sciences Campus	06:15	1
University Campus	Healt Sciences Campus	06:15	1
University Campus	Mederos Campus	06:15	3
Mederos Campus	University Campus	11:00	2
		16:00	1
		13:00	2
		18:00	2
		21:15	3
Agricultural Sciences Campus	University Campus	20:30	1
Healt Sciences Campus	University Campus	21:15	1
		Total	17

TigreBus			
Campus	Number of units	Number of runs per unit	Total runs
University Campus	1	31	31
University Campus (Tigre cart)	2	4	8
Mederos Campus	4	44	176
Healt Sciences Campus	2	72	144
Agricultural Sciences Campus	2	32	64
		Total	423

The operation of the free university public transport service fulfills the double objective of discouraging the use of private cars on university campuses and reducing the emission of Greenhouse Gases (GHG) into the atmosphere, and on the other hand generating significant economic savings to its users.

TigreBus			
Year	Number of runs	Total annual services	Savings for users
2020	423	*362,626	$ 133,990 (DLS)

*El servicio de TigreBus en el año 2020 únicamente se realizó durante el período enero-marzo, debido a la suspensión de actividades presenciales provocadas por la pandemia de COVID-19.

Tigre Cart

Due to climatic and orographic factors of the Monterrey metropolitan area, the dispersion of pollutants emitted by industry and internal combustion vehicles that use fossil mainly fuels is difficult. Currently, more than 2 million vehicles circulate in the city of Monterrey and its metropolitan area, contributing with approximately 45% of the total of the main atmospheric pollutants emissions, among which are carbon, nitrogen and sulfur oxides, ozone, particles smaller than 2.5 and 10 microns.

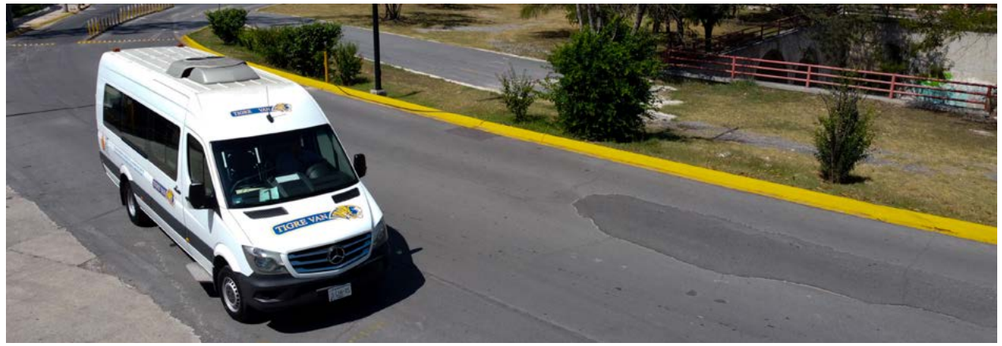
Because of this situation, it is of utmost importance to carry out actions that discourage the use of cars and public transport that use fossil fuels. Along this line is the incorporation of electric vehicles to public transport.

Therefore, the Universidad Autonoma de Nuevo Leon (UANL) within the framework of its social responsibility promotes the design and operation of 100% Mexican electric vehicles, which are manufactured with a harmonious design in
bodywork, have an easy control of the vehicle and an affordable cost.

Tigre Cart is a service provided by the UANL that uses 8-seater electric vehicles that are used to transport people on the campus of Ciudad Universitaria in a comfortable and safe way.

Due to its characteristics, Tigre Cart is an ecofriendly and zero emissions vehicle because it is electric. It is considered safe because of its low speed. It is comfortable and does not emit noise. It is also equipped with rechargeable batteries that use alternating current of 110 volts, making it easy to charge.

Mobility	
5,780	Cars entering the university daily
279	Motorcycles entering the university daily
0.028	Ratio of vehicles (cars and motorcycles) divided by the total population within the university
475	Average number of zero emission vehicles (bicycles, cars) in the campus per day
0.0021	Ratio of zero emission vehicles divided by the total university population
81,285 m²	Total parking area
0.21 %	Ratio of total parking area in the campus
1.3 km	Approximate daily travel distance of vehicles inside the campus



Institutional Vehicle Park

Type of vehicle	Central office	Faculties	Total units
Cars	114	63	177
Trucks	63	184	247
Motorcycles	15	0	15
Buses	1	11	12
Loading trucks	7	9	16
Electrical cars	14	1	15
		Total	482

Sustainable Mobility Promotion

During 2020, being aware that sustainable mobility is not only promoted through actions such as those described above, but also through a change of culture towards new mobility models, spaces for reflection were generated online at the UANL collective, where renowned specialists participated and addressed different sustainable mobility topics. This was created in order to promote an urgent change in mobility habits amongst the members of the university community, which allows for providing solutions to the multiple problems that arise in the field of mobility.

During 2020, the following academic events were promoted online where sustainable mobility issues were addressed from the perspective of experts, in which around 15,000 people participated.

Join the conference “Perspectives of bicycle mobility in Monterrey and its metropolitan area” with the following code:

"Perspectives of bicycle mobility in Monterrey and its metropolitan area" online dialogue

Join the conference “Sustainable Urban Mobility: Impact and commitment to the environment” with the following code:

“Sustainable Urban Mobility: Impact and commitment to the environment”

Additionally, during the week of July 13 to 19, 2020, a Virtual Day was held through social networks with issues of sustainable mobility in times of pandemic.

Conference	Audience
"Perspectives of bicycle mobility in Monterrey and its metropolitan area"	7,400
"Sustainable Urban Mobility: Impact and commitment to the environment"	6,200

Communication and dissemination strategy for sustainability

Mobility conference in times of pandemic at UANL 2020

SUSTAINABLE DEVELOPMENT GOALS

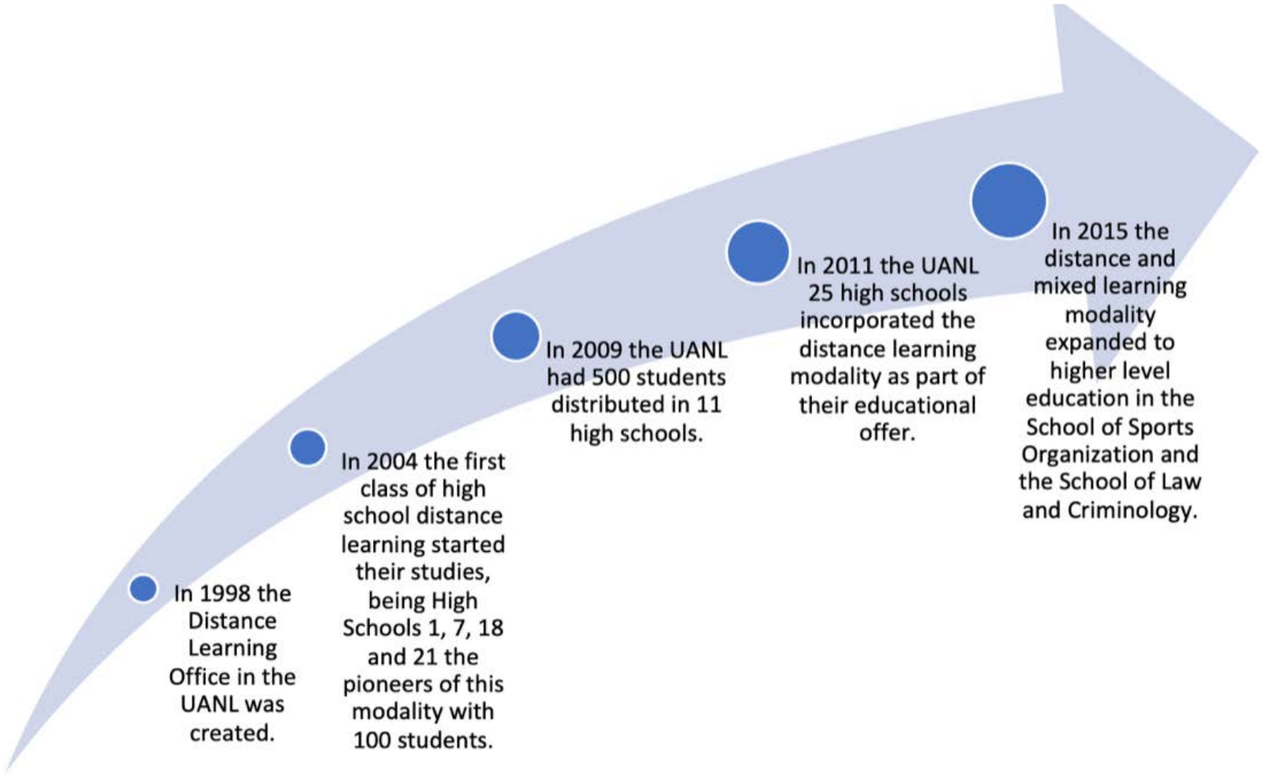
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Digital Strategy

In March 2020 the Universidad Autonoma de Nuevo Leon (UANL) suspended all academic and administrative activities in person due to the health emergency caused by the Covid-19 pandemic.

In response to this situation, the H. University Council through the Academic Commission instituted the Digital Strategy, in order to give continuity to the academic and administrative activities of the UANL, transformed and enabled face-to-face teaching-learning processes to the online modality. To achieve this, institutional services were made available to the entire academic community, as well as academic support to ensure that all staff and students had the support that would allow them to attend online services and classes.

2020 Digital Strategy



In the Microsoft Teams Platform, the Information Technology Department automatically generated the groups that each teacher had registered in the Comprehensive System for the Administration of Educational Services (SIASE), a system designed to support and optimize the processes of administration of the departments in educational institutions such as School, Human Resources, Finance, among others. Microsoft Teams was of vital importance to be able to create the virtual classrooms required to give continuity to the delivery of learning units.

With the digital experience of two decades, during the first two weeks of April 2020, the UANL carried out a permanent training process for teachers and administrators through Microsoft Teams, which led to the creation of 80 thousand virtual classrooms.

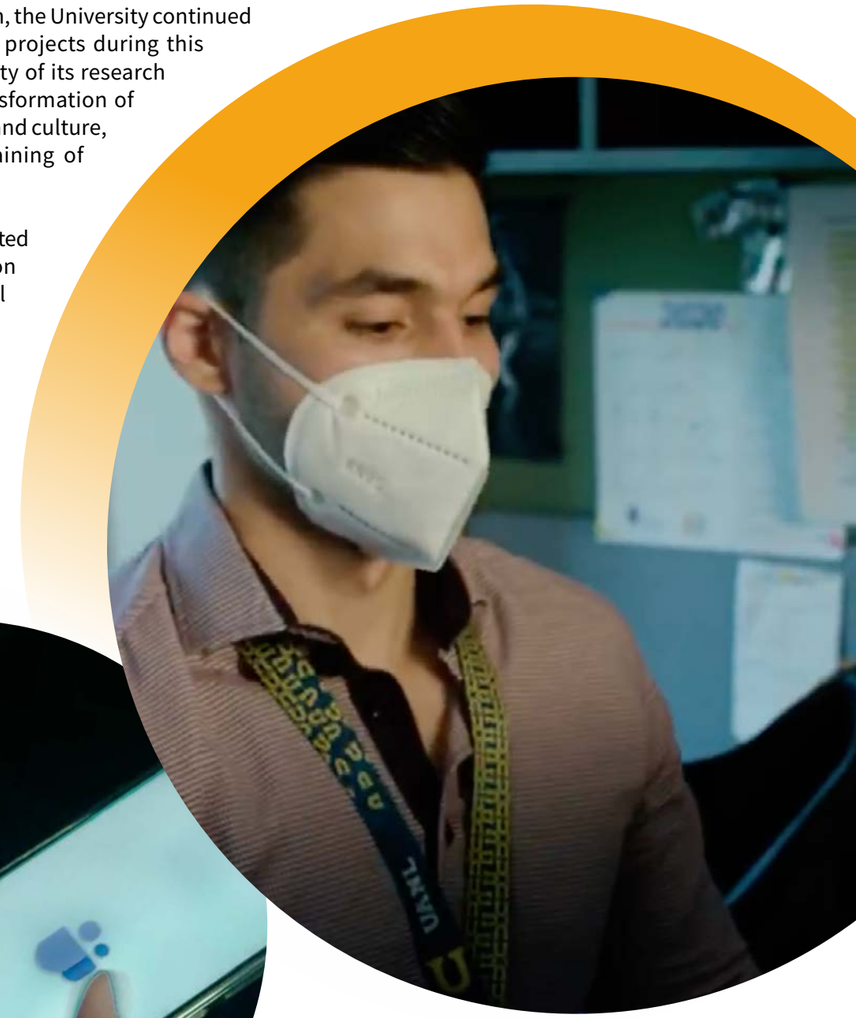
On April 20, 2020, the UANL made a great leap towards virtual education called “UANL Digital Strategy”. This allowed more than 216,000 students of the mid-higher and higher education level to resume their academic training in the middle of the health contingency. Likewise, attention was provided to the entire university community through technological platforms so that more than 6 thousand professors and more than 6 thousand administrators could resume their work activities online.

During the beginning of the UANL Digital Strategy implementation, the university authorities faced different challenges, such as the existence of digital gaps between the members of the student community, since not all young people had access to the internet or computer equipment. However, with the support of the UANL Foundation, computers and electronic tablets were granted to students who required them, in addition to carrying out the expansion of the reach of the Internet in the southern part of the state.

The results one year after the implementation of the online classes far exceeded the expectations we had: during the first semester of 2021, schools and faculties had an attendance of between 90 and 95 percent of their students, while in on-site lessons, students attended at an average of 80 percent. Likewise, students were able to carry out the semester August 2020- January 2021 in a timely manner.

Besides fulfilling its teaching function, the University continued to promote its strategic evaluation projects during this first digital year, to ensure the quality of its research programs, to contribute to the transformation of society, education for sustainability and culture, to promote the comprehensive training of students.

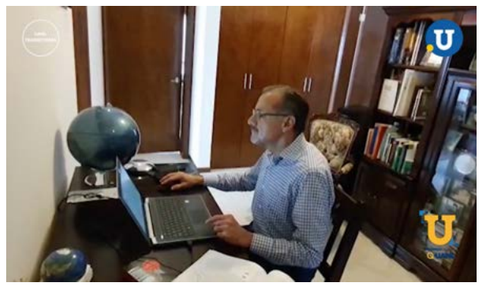
An example of this situation is represented by the Faculty of Medicine, which on April 13, 2021 received international accreditation from the German agency ASIIN (Global Leader in Quality Assurance in Higher Education) to its Medicine Surgeon and Midwife program, with a process of evaluation that was carried out completely online.

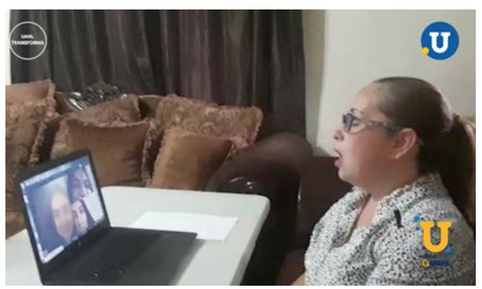


In the field of research, the UANL positioned itself as a benchmark in scientific development, generating projects that dealt with Covid-19, thanks to the development of a protocol for researchers to return to their laboratories.

In the cultural area, the Universidad Autonoma de Nuevo Leon expanded the promotion of arts and culture. Digital platforms made it possible to connect with celebrities and followers from all around the world.

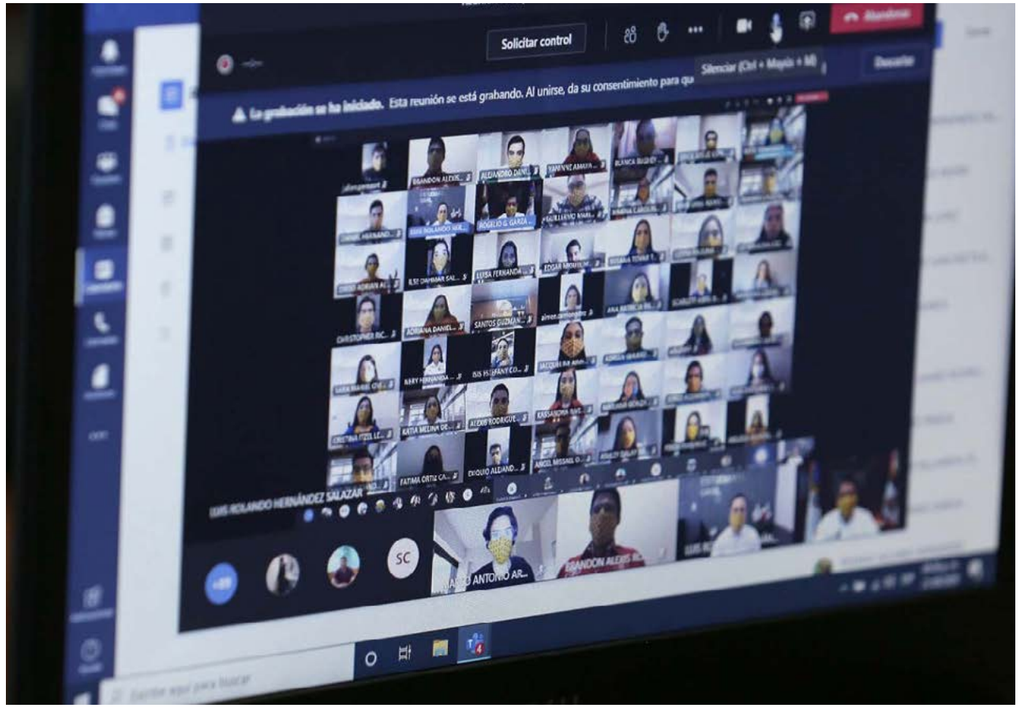
A lot of the UANL Digital Strategy success was due to the fact that it already possessed and worked with the technological base and infrastructure that was required for this enormous challenge. We also saw the great willingness that members of the university community showed when asked to migrate to this new teaching-learning modality, and the ability of new generations to adapt to a digital environment. Additionally, a large logistical deployment was carried out in all university units in a short period of time.





Challenges met by the UANL Digital Strategy

- 92 % attendance of students of all educational levels
- 40 thousand students took the admission exam
- 52,600 students took the high school admission exam
- +275 thousand global exams performed on the NEXUS platform
- + 3 million minutes of video
- + 7 million messages sent
- 90 thousand active channels
- 80 thousand virtual classrooms
- + 7 thousand trained teachers
- +120 thousand meetings
- + 7 thousand trained administrative personnel
- + 213 thousand academic activities



Essential points of the UANL Digital Strategy

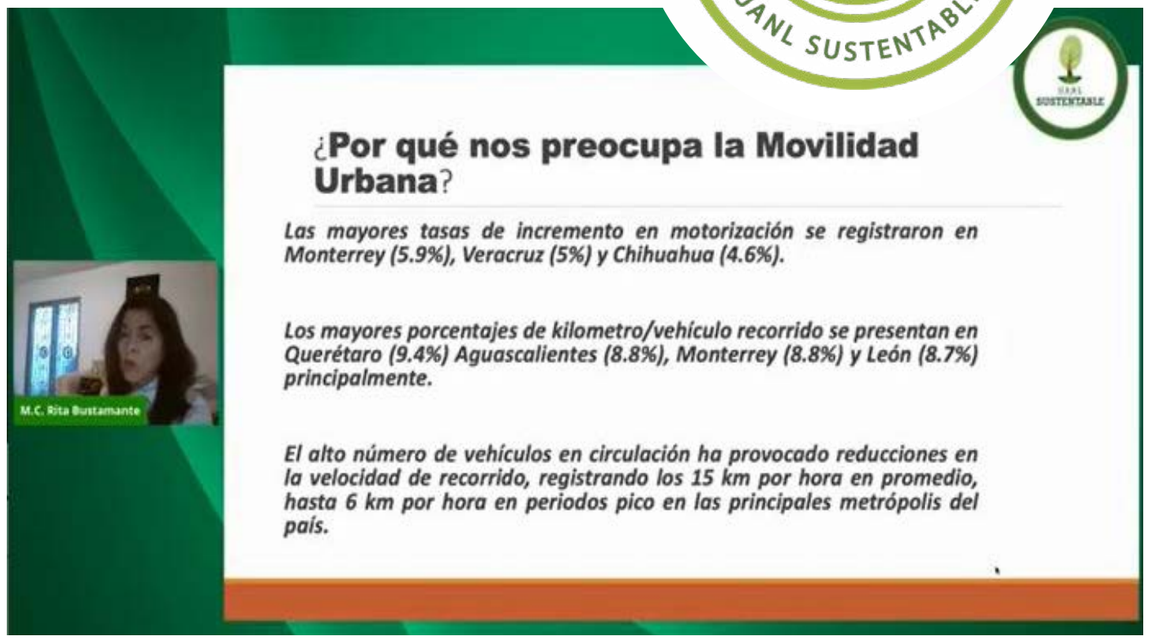
The UANL worked on the implementation of different essential topics considered as vital for the Digital Strategy implementation, where the following stand out:

- **Instructional guides for online learning units.**
- **Creation of digital spaces for the training and operation of the strategy.**
- **Technological support before, during and at the end of the strategy.**
- **Advice to management personnel.**
- **Online teacher performance indicators.**
- **Creation of the Help Center.**
- **Creation of the role of a virtual prefect.**

In the process of the UANL Digital Strategy implementation, different university institutions participated such as the Head Offices of Digital Education, Information Technologies and Educational Innovation, in coordination with the Academic Department and the Academic Commission of the University Council. Together incorporated new digital options such as Microsoft Teams, Territorium and Moodle to give continuity to online academic and administrative activities during 2020.

Some additional benefits that derived from the transfer of the UANL academic and administrative activities to online modality that began in April 2020, was a significant decrease in greenhouse gas emissions derived from the use of energy, as well as a significant reduction in waste generation and water consumption, among other environmental impact indicators.

The development that the UANL has had in digital matters was key to the timely and transformative response to the emergence of the health emergency caused by the Covid-19 disease. This allows the Institution to strengthen its capacities in the technical and knowledge areas, and to maintain the University spirit that educates to transform and transforms itself to educate.



Education and research

Higher Education Institutions (IES, for its acronym in Spanish) have taken on the challenge of training human resources that will play an important role in the development of societies. Therefore, the role of these Institutions goes beyond being transmitters of knowledge, addressing the training of students with a comprehensive vision.

For approximately two decades these Institutions have included the comprehensive training of students on various issues related to sustainability, since, according to the United Nations Educational, Scientific and Cultural Organization (UNESCO), this strategy provides the competencies necessary to face environmental, social and economic problems through the design and execution of solution proposals, of an individual or collective nature, in order to achieve social justice, economic development and environmental conservation.

Within this framework, the Universidad Autonoma de Nuevo Leon (UANL) has worked in the incorporation of sustainability in plans and courses of study, in addition to the promotion of the university community members' participation in formal and non-formal education activities that promote sustainability in university environments and society. All this under a multimodal approach that includes learning, teaching, research, administration, reflection, collaboration, and action.

University Academy for Sustainable Development (AUDS)

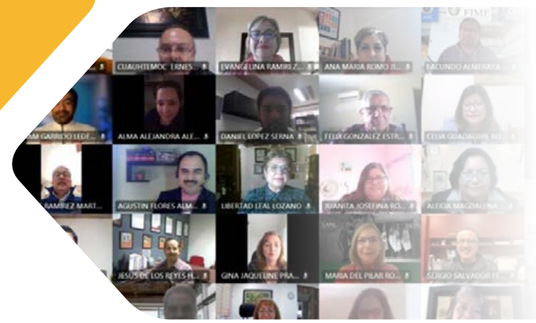
The AUDS is a space for collaboration, discussion and analysis made up of 118 specialists from different areas of knowledge assigned to different academic units, which aims to facilitate communication, stimulate research, teaching, dissemination, exchange of knowledge and innovation in the field of sustainability.

AUDS activities in 2020

Organization of 28 academic events through different digital platforms

Approximately 2,000 attendees

62 national and international experts participated



Academic events

* 387 academic and dissemination events of the UANL related to sustainability.

***In 2020, the number of activities decreased due to the suspension of face-to-face activities caused by the COVID-19 pandemic.**

Educational offer related to sustainability issues

In 2020, the UANL taught twenty undergraduate and eighty-two postgraduate degrees at UANL related to sustainability issues.

Bachelor in:
- Biology
- Genomic Biotechnology
- Food Science
- Energy Management and Sustainable Development
- Medicine Veterinary and Zootechnician
- Nutrition
- Social Work and Human Development

Engineering in:
- Agronomy
- Agrobusiness
- Biotechnology
- Food Industries
- Geophysics
- Geology
- Mineral Geology
- Oil/Petroleum Engineer
- Human Resources Management
- Forest
- Environmental
- Civil
- Biomedical

Master in::
- International Management with Specialty in Sustainable Business
- Animal Science
- Sciences with Specialty in Urban Affairs
- Sciences with Specialty in Environmental Engineering
- Sciences with Specialty in Biosystems Engineering
- Sciences with Specialty in Food Industries Engineering
- Sciences with Specialty in Immunobiology
- Sciences with Specialty in Microbiology
- Sciences with Specialty in Applied Microbiology
- Sciences with Specialty in Social Work
- Engineering Sciences with Specialty in Thermal and Renewable Energies
- Engineering Sciences with Specialty in Nanotechnology
- Engineering Sciences with Specialty in Energetic Technology
- Nutrition Sciences

Agricultural Production Sciences
Forest Sciences
Engineering Sciences with Specialty in Food
Engineering Sciences with Specialty in Molecular Biology and Genetic Engineering
Engineering Sciences with Specialty in Medical Entomology
Engineering Sciences with Specialty in Wildlife Management and Sustainable Development
Engineering Sciences with Specialty in Management and Administration of Plant Resources
Sciences with Specialty in Medical Microbiology
Sciences with Specialty in Nutrition and Food Technology for Aquatic Organisms
Sciences with Specialty in Sustainable Processes
Sciences with Specialty in Environmental Analytical Chemistry
Sciences with Specialty in Biomedical Chemistry
Sciences with Specialty in Natural Products Chemistry
Sciences in Public Health
Geological Sciences
Social Sciences with Specialty in Sustainable Development
Preservation, Wildlife and Sustainability
Energy Law and Sustainability
Law with Specialty in Constitutional Law and Governability
Human Rights
Medical Entomology and Veterinary
Hydrogeology
Management and Comprehensive Use of Biotic Resources
Psychology with Specialty in Gender-Based Violence
Regulation Specialty in Energy
Regulation Specialty in Regulatory Improvement
Regulation Specialty in Regulated Sectors
Ecological Restoration
Social Work with Specialty in Social Projects
Physical Activity and Sports with Specialty in Health Promotion
Engineering with Specialty in Environmental Engineering
Engineering with Specialty in Traffic Engineering and Roadways
Gender in Public Policies

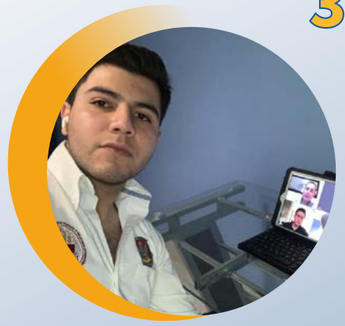
Doctor's Degree in:
Animal Science
Agricultural Sciences
Sciences with Specialty in Biotechnology
Sciences with Specialty in Geosciences
Sciences with Specialty in Immunobiology
Sciences with Specialty in Microbiology

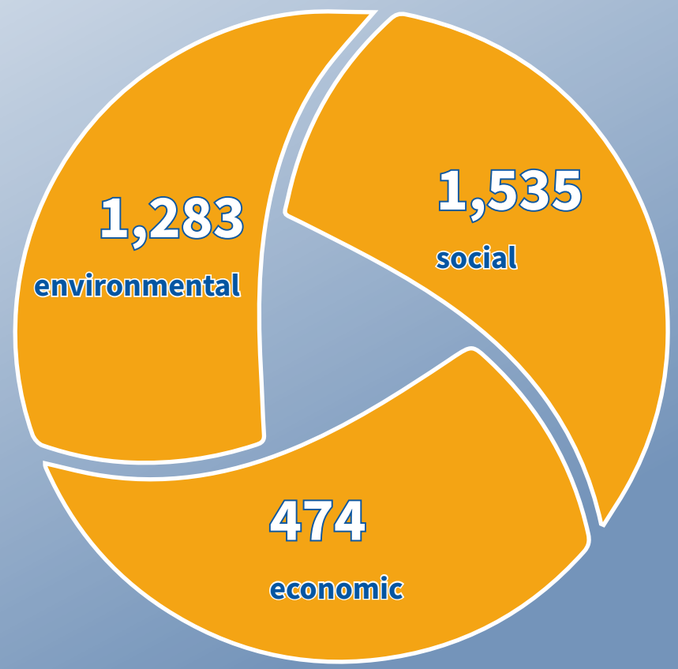
Sciences with Specialty in Applied Microbiology
Sciences with Specialty in Chemistry of Materials
Sciences with Specialty in Food
Sciences with Specialty in Molecular Biology and Genetic Engineering
Sciences with Specialty in Medical Entomology
Sciences with Specialty in Pharmacology and Toxicology
Sciences with Specialty in Wildlife Management and Sustainable Development
Sciences with Specialty in Management and Administration of Plant Resources
Sciences with Specialty in Medical Microbiology
Sciences with Specialty in Nutrition and Food Technology for Aquatic Organisms.
Sciences with Specialty in Sustainable Processes
Sciences with Specialty in Environmental Analytical Chemistry
Sciences with Specialty in Biomedical Chemistry
Sciences with Specialty in Natural Products Chemistry
Social Sciences with Specialty in Sustainable Development
Preservation, Wildlife and Sustainability
Law with Specialty in Constitutional Law and Governability
Medical Entomology and Veterinary
Engineering with Specialty in Environmental Engineering
Management and Comprehensive Use of Biotic Resources
Medicine
Social Work and Social Policies
Sciences with Specialty in Human Resources Management
Philosophy with Specialty in Architecture and Urban Affairs

Specialty in :
Preservation, Wildlife and Sustainability
Medical Entomology and Veterinary
Epidemiology
Management and Comprehensive Use of Biotic Resources
Oil Processes Sustainability

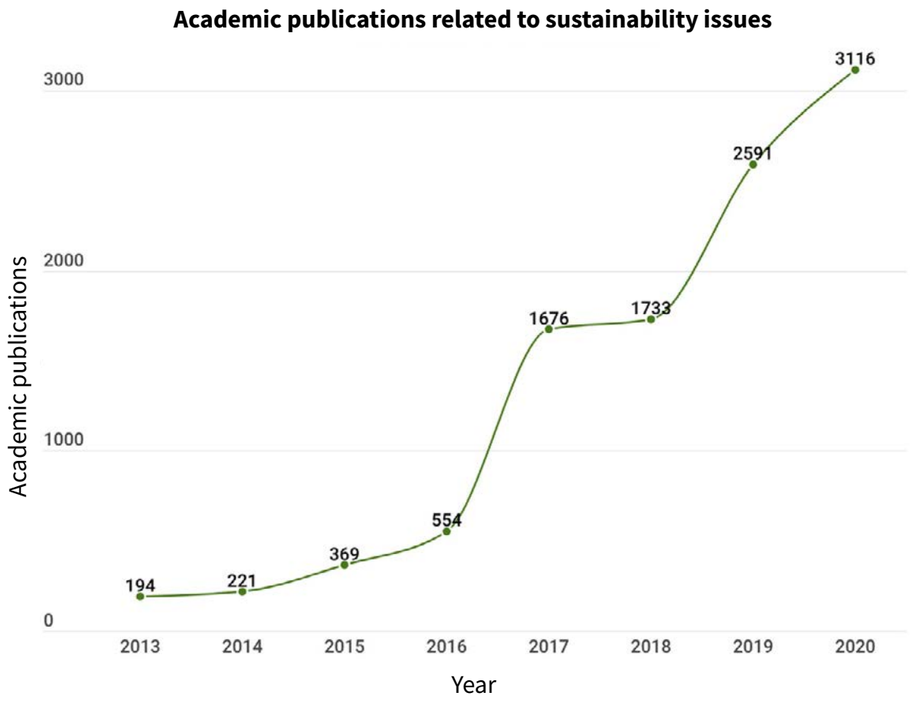
Diagnosis on the incorporation of sustainability in the university curriculum of the UANL

In 2020, the **26 Schools** that are part of the Universidad Autonoma de Nuevo Leon offered an academic offer of **81 degrees** which were taught with a total of **6,936** **Learning Units (UA)** where **3,282** are linked to sustainability issues:





Research and scientific dissemination and research in sustainability



Recognitions to the Academic Staff

1,604 with Program for the Professional Development of Teachers Profile (PRODEP)

944 in the National System of Researchers (SNI)

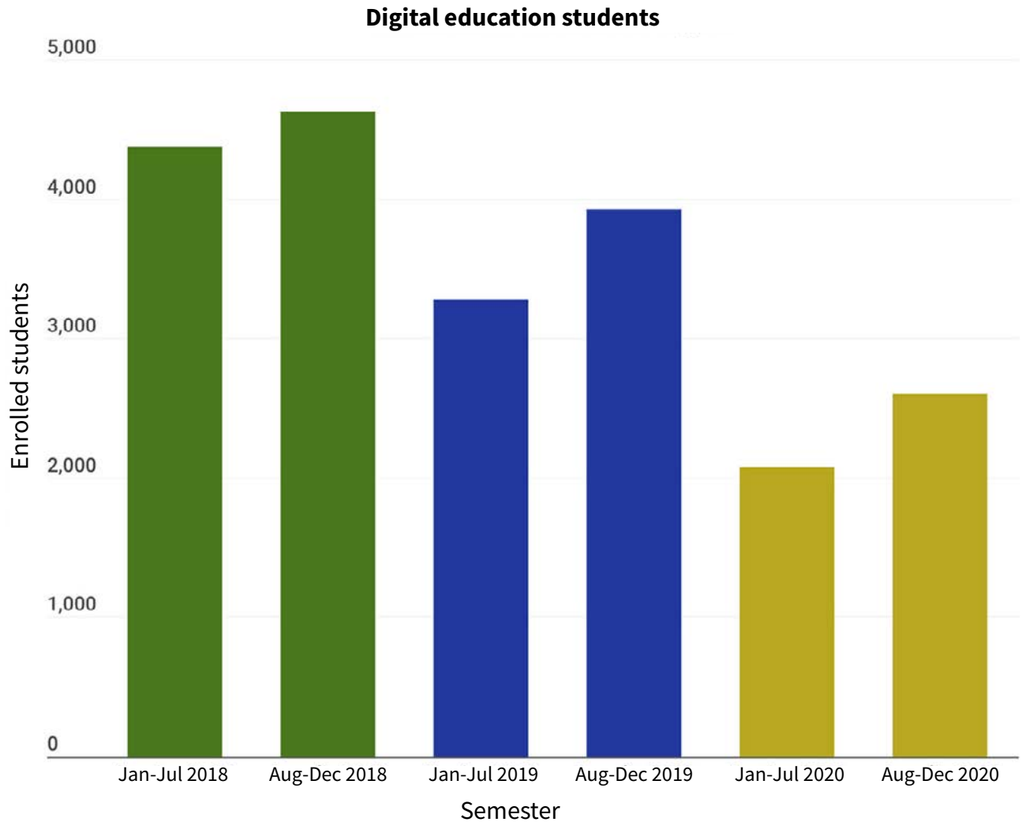
3 in the National System of Creators (SNC)

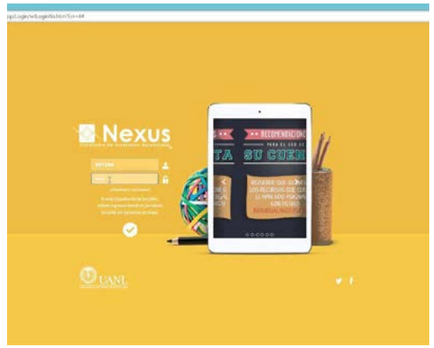
Digital Education Program

The UANL's Digital Education (ED) program aims to train human resources by combining self-learning, interactivity and the use of information and communication technologies; considering the principles of quality, equity, coverage, curricular flexibility, academic innovation and social responsibility.

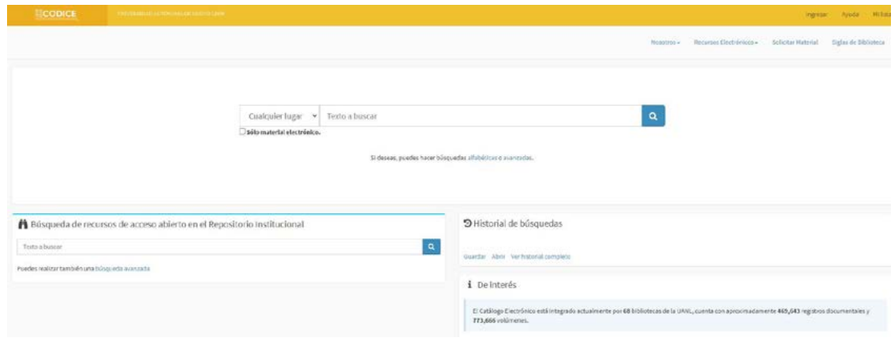
In addition to the academic and social benefits that the ED program generates, environmental benefits are added through the decrease in the emission of Greenhouse Gases (GHG), because the students who participate in this program do not need to travel to the university facilities to receive on-site lessons, and in turn decrease the use of motor vehicles that run on fossil fuels and avoid the consumption of energy and water in university facilities.

In 2020, through the UANL Digital Education Program, the emission of a little more than 2 tons of CO^2 equivalent was avoided, due to the 5,773 students who participated in the online educational programs.





Nexus. Institutional virtual platform that enables the collaboration between teachers and students in the teaching and learning process in the on-site, distance, and mixed modalities.

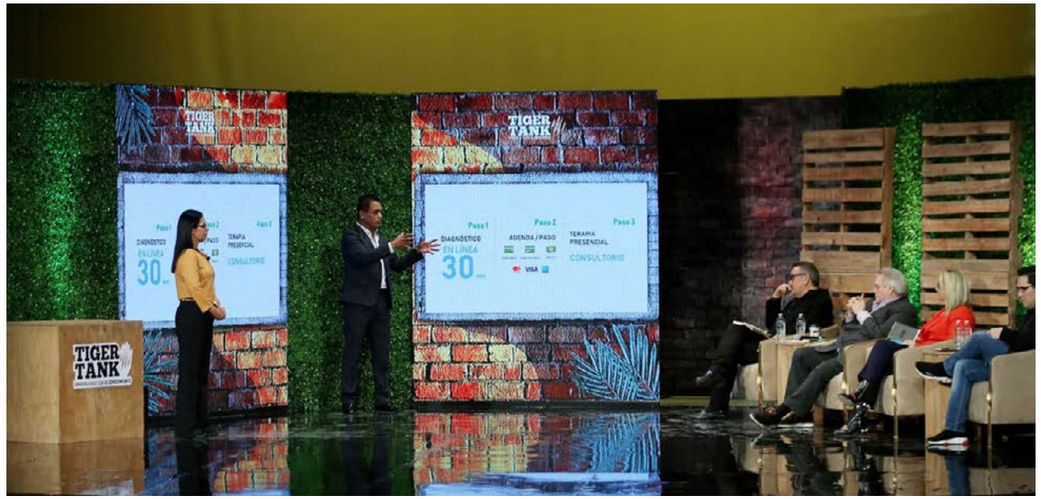


CÓDICE. Electronic catalogue of libraries that is composed of 68 UANL departments.

VIRTUANL
SISTEMA DE APRENDIZAJE EN LÍNEA

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

Innovation and entrepreneurship linked to sustainability



With the mission of promoting the entrepreneurship of innovative solutions that improve the level of human development, the Universidad Autonoma de Nuevo Leon (UANL), through its area of innovation and entrepreneurship, promoted in 2020 the participation of 80 projects proposed by students, academic and administrative staff through the Tiger Tank program. This program supports high-impact entrepreneurs whose condition is the fulfillment of at least one of the United Nations Sustainable Development Goals.

TIGER TANK 2020
Finalists

	Proyecto	Dependencia	Descripción
1	LABGO	School of Mechanical and Electrical Engineering and School of Chemical Sciences	Portable learning kits for STEM disciplines, through games and experimentation.
2	XEQUIME	School of Physical Mathematical Sciences, School of Philosophy and Arts, School of Medicine	Comprehensive project that offers high-tech menstrual underwear and education on the subject.
3	SABILDENT	School of Dentistry	100% natural mouthwash made from aloe vera.
4	CERVELLO	School of Physical Mathematical Sciences, School of Public Accounting and Management	A device supported by a social network to find lost people and pets.
5	HOUNTEK	School of Civil Engineering	Augmented reality platform for viewing furniture products and design studios, anywhere, from your mobile.
6	PROMIONIC	School of Architecture, School of Public Accounting and Management	Low-cost prosthesis, for traumatic amputation patients of the hand, with movement functions that gives you the opportunity to perform at work.
7	SITU	School of Civil Engineering	Marketplace of construction material and equipment, which allows builders to quote, order and receive the material on site, on time and in the manner.
8	SYNBIOFOAM	School of Biological Sciences, School of Chemical Sciences	Bio-foam for extinguishing fires, without fluorine and other contaminants.

Through the CREALTII program (Creation of High Impact Companies by Researchers) the UANL seeks to identify research projects that are capable of operating in the commercial field, as long as they are profitable and have a growing market in order to generate economic development and social welfare. In 2020, a total of 16 projects were presented, of which 13 are linked to sustainability issues.

CREALTII 2020

	School	Projects linked to sustainability
1	School of Architecture	SEANIP Murals and Green roofs in Nuevo Leon
2	School of Biological Sciences	Development of an insulating material based on natural fibers from Agave Lechuguilla for application in sustainable buildings
3	School of Medicine	Development of intelligent and multifunctional polymeric nanomaterials applied to nanomedicine
4	School of Political Sciences and International Relations	Thermoacoustic insulation made with recycled material from the textile industry
5	School of Agronomy	AGROALGA: bio stimulant from microalgae in a circular economy
6	School of Public Health and Nutrition	Development and evaluation of the digestive and anti-inflammatory effect of a nutraceutical gel based on pineapple (Ananas comosus), guava (Psidium gajaya) and walnut (Juglans regia) in patients with irritable bowel syndrome
7	School of Civil Engineering	Portland cement-based concrete blocks and recycled PET for sustainable and economical construction
8	School of Civil Engineering	Photoelectrocatalytic reaction system based on coatings of semiconductor materials to produce solar fuels
9	School of Civil Engineering	Photocatalytic CPC reactor as a complementary technology in wastewater treatment plants for the degradation of dyes and drugs using sunlight as an energy source
10	School of Civil Engineering	Additive for hydraulic concrete with the purpose of contributing to the purification of the air and self-cleaning of surfaces
11	School of Chemical Sciences	RPET filement
12	School of Chemical Sciences	Luminescent molecules for obtaining fluorescent bioimaging of cancer cells
13	School of Chemical Sciences	Bio-production of sucrose, glutamic acid and environmental purification

Student participation

The comprehensive formation of students constitutes one of the central purposes of educational policies at a global level.

In this regard, it is important to promote and organize activities, such as extracurricular programs that complement the study plans and programs. This has the fundamental objective of strengthening the activities aimed at the comprehensive training of students to promote their development in the educational, sustainable, humanistic, cultural, artistic, recreational, civic, sports and health fields. This should translate into an improvement in their standard of living, in their understanding of themselves, their environment and their society.

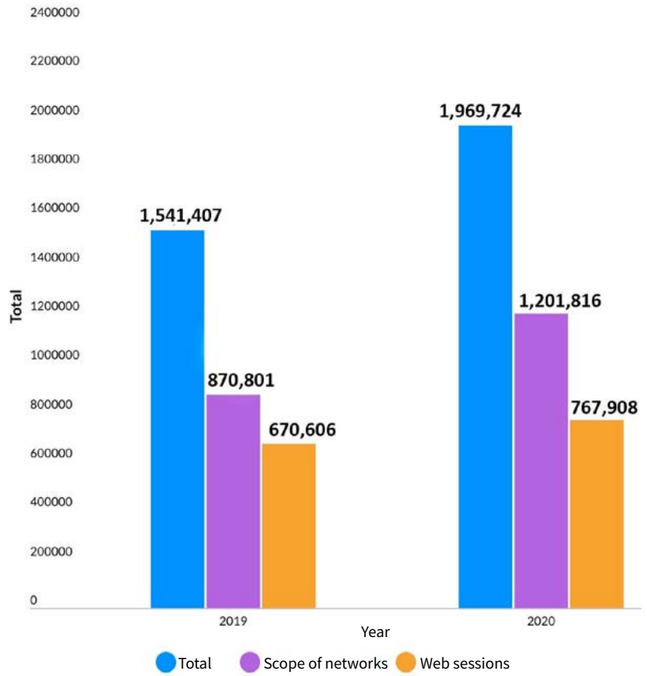
At the UANL there are 103 registered academic organizations that work with issues related to the three aspects of sustainable development: social, economic and environmental. Of these, 50 correspond to independent organizations, 27 to university federations and 26 to representative student societies of each School. Both the university federations and the student societies maintain an organizational scheme headed by a President and a Secretary General, supported by groups of young leaders, who support the implementation of projects registered in an annual work program and put them into practice with the purpose of benefiting the university community and the social environment that surrounds it.

It is important to note that some student groups are part of international programs, such is the case of the student group SDG Students Program, an initiative of the United Nations Sustainable Development Solutions Network - Youth, which began operating at the UANL in the August-January semester of 2020-2021 and has currently approximately 50 members. The objective of this program is for the members of the student community to learn, work and promote the 17 Sustainable Development Goals of the United Nations 2030 Agenda. Some of the activities they carry out are: lectures, dialogues with guests, "Hackathones", "Cine-Debates", some of which include the participation of SDG Students Hubs from other regions. For all the above, the student group SDG Students Program is considered as one of the success stories that exist at UANL to promote the tasks, values and knowledge of sustainability by student associations.

On the other hand, for more than nine years, the Sustainability Department of the UANL, through the Head Office of Development Projects has facilitated the implementation of activities between groups of students, civil society organizations, faculties, universities and public institutions leading the development of sustainable actions. Some of its activities include the commemoration of international dates set by the United Nations, among which are the World Days of Water, Earth, Environment, the Seas, Animals and others. In addition, the realization of virtual conferences organized by experts and student associations where the causes of various socio-environmental problems are addressed, as well as their possible solution. The Board of Directors of the University has promoted the dissemination of exhibitions, fairs, forums, recommendations and other recreational activities promoted by student groups.

In 2020, the University suspended on-site academic and student activities in mid-March. This occurred because of the health contingency caused by Covid-19, which led student associations linked to sustainability to migrate their activities to the digital platforms and social networks, such as Facebook, Instagram, WhatsApp, Zoom, Microsoft Teams, Skype, Discord, among others. These media allowed them to continue with their integration agendas and activities.

The result obtained on the website and social networks of UANL Sustentable is very encouraging as it reflects an increase in the scope higher than the previous year.

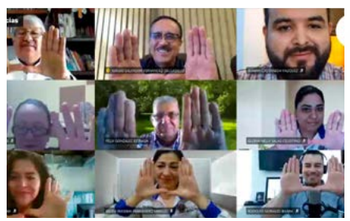


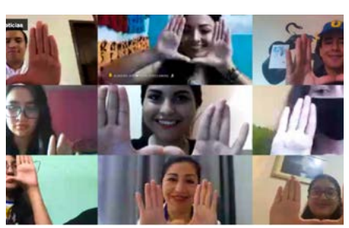
Comparative chart of the year 2019 – 2020 regarding the scope in digital media of UANL Sustentable

A continuación, una lista de las actividades de la UANL 2020 vinculadas a la sustentabilidad:

Summary of activities carried out by the sustainability department in 2020

January 22-23. Workshop on the preparation and implementation of contingency plans. An internal Civil Protection program carried out at the UANL internationalization center, a 16-hour course in 2 days.
January 28. Accident/incident investigation and analysis workshop-course.
February-May. "Training of leaders who promote sustainability", a course for all students and student groups of the university and Civil Society in general (on-site and virtual modality after the pandemic).
February 5. Interpretation and implementation workshop of NOM-018-STPS-2015 and the Globally Harmonized Classification and Labeling System for Chemicals (GHS-GHS).
February 12 y 13. Workshop for the preparation and implementation of contingency plans for the internal Civil Protection program.
February 20. Lecture "Meteorological aspects of air pollution in Monterrey" by Dr. Jonathan D.W. Kahl.
March 4. Ordinary session of the University Academy for Development Advisory Council.
March 6 -July 11. Diploma course on risk management with a duration of 128 hours.
17-20 marzo. In collaboration with the student group ARSAFE: “Green Week 2020 at the UANL School of Economics.”





(the academic recess began on March 23 and afterwards the confinement was declared)

April 30, photographic exhibition "In the sights of sustainability" on the website of the Department.
May 6, 13, and 20. Online resuming of the course "Training of leaders promoting sustainability".

Environment week at the UANL **(June 1 - 5)**
June 1. Urban Fauna Conference: a new paradigm in wildlife management, by Dr. Rogelio Carrera. And informative videos by the student community.
June 2. Workshop "Problematic of invasive exotic species", by Ing. Aldo Aleman Garcia of the National Commission of Protected Natural Areas. And informative videos by the student community.
June 3. Dialogue "Perspectives of mobility by bicycle in Monterrey and its metropolitan area" by Biol. Antonio Hernandez Ramirez, from the collective association “Pueblo Bicicletero”. And informative videos by the student community.
June 4. Workshop "Observing birds in the city" by Ing. Aldo Ceballos Tello. And informative videos by the student community.
June 5. Conference "Intelligence for decision-making in the conservation and sustainable management of nature" by Dr. Jose Sarukhan Kermez. And conference "The presence of emerging diseases and their relationship with the loss of biodiversity" by Dr. Ramiro Avalos Ramirez. And informative videos by the student community.

June 10. Online conference "Climate change: solutions to the environmental crisis" by Mtro. Rodolfo Morales Ibarra.
June 24. Online conference: "Social responsibility and ecological clubs in middle and higher level" By Biol. Jose Guadalupe Garcia Hernandez.
July 1. Conferencia en línea “La condición global de los bosques” a cargo del Dr. César Cantú Ayala.
July 17. Online Conference "Biodiversity in Nuevo Leon: Protected Natural Areas" by Dr. Juan Antonio Garcia Salas.

Cycle of online conferences "Social responsibility and sustainability"
July 29. Conference "Sustainable urban mobility" by the M.C. Rita Bustamante Alcantara.
Augus 5. Conference "Social responsibility and sustainable development" by Dr. Gina Jaqueline Prado Carrera.

Augus 12. Conference "Evaluation of waste recovery strategies through life analysis" by Dr. Pasiano Rivas Garcia.

Augus 12. Ordinary online meeting of UANL Student Associations related to sustainability.
Augus 19. Ordinary online meeting of the University Academy for sustainable development. Meeting for professors and researchers with an interest in sustainability.
September 1 - October 30. Sixth photo contest "In the sights of sustainability" with the theme "Waste and recycling".
September 11 and 12. Safety and environment webinar, aimed at teachers, laboratory technicians, students and public in general.
September 21. Online conference "The current geohydrological situation of the Cumbres Monterrey national park" by Dr. Jose Longoria.
3 septiembre. Online conference "Conservation program of the protected natural areas system" by Professor Cesar Sanchez Ibarra.
28 septiembre. Permanent seminar of the University Academy "Sustainability in the light of the pandemic" by Dr. Pedro Cesar Cantu Martinez.

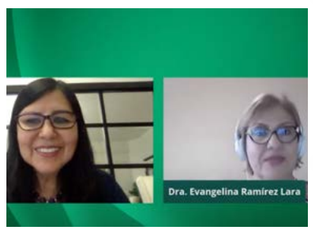
International online course "Training of leaders promoting sustainability"
September 23. Conferences:
1. “The challenges of sustainable development in Mexico" by Dra. Julia Carabias Lillo.
2. "Education for Climate change" by Dr. Edgar Gonzales Gaudiano.
3. "Key tasks for environmental education" by MC. Luz Maria Nieto Caraveo.
4. "Environmental education for preservation" by Dra. Adriana Nelly Correa Sandoval.

September 30. Conferences:
1. "Sustainable regional development" MC. Carlos Toledo Manzur.
2. "Sustainable forestry development" Mtro. Salvador Anta Fonseca.
3. "Management of natural areas in urban areas" MC. Rafael Obregon Viloria.
4. "The importance of aquatic ecosystems in natural environment conservation programs" Dr. Carlos Ramirez Martinez.

October 7. Conferences:
1. "Social responsibility and sustainability" Dra. Gina Jaqueline Prado Carrera.
2. "Design of public policies to transform the future of transportation and sustainable urban development" M.C. Fernando Baranda Sepulveda.
3. "How to plan development from the perspective of regional geography" Dr. Jorge Ernesto Lapena.
4. "Financing strategies for environmental conservation projects" M.A. Martha Iliana Rosas Hernandez.

October 14. Conferences:
1. "Current status and prospects of bioenergy in Mexico" Dr. Artemio Carrillo Parra.
2. "Process and use of bioenergy in Nuevo Leon" Ing. Ruben Simental Angulo.
3. "Energy sustainability" Dr. Paolo Perissinotto Tomasi.
4. "Sustainable energy and energy transition" Dra. Maria del Pilar Rodriguez.

October 21. Conferences:
1. "Risks of urban expansion over natural areas" Dr. Leon Guillermo Staines Diaz.
2. "Method for evaluating the environmental impact of megaprojects in Mexico" Dr. Fernando Cordova Tapia.
3. "The use of geo information in development planning" MC. Gilberto Hernandez Cardenas.
4. "Restoration strategies for impacted natural environments" Dra. Paula Meli.



October 28. Conferences:
1. "Towards the construction of smart, resilient and sustainable cities and territories" Dr. Luis Jimenez Herrero
2. "National strategy on invasive species" Dra. Ana Isabel Gonzales Martinez
3. "Current status of environmental legislation in Mexico" Lic. Maria de Lourdes Bello Sanchez
4. "Circular economy" Dr. Cristina Cortinas Duran.

October 8. "International webinar on animal welfare" by MC, Stella Maris Huertas Canen, Dr. Francisco Galindo Maldonado, MC. MECBA. Andrea Gonzales Baez, and Dr. Juan de Jesus Taylor Preciado.

October 15. Online conference "Situations of waste electrical and electronic equipment in Latin America" by Dra. Pilar Tello Espinoza.
October 26. Permanent seminar of the University Academy for sustainable development "Culture as an urban regeneration strategy: diagnosis and case analysis of the center of Monterrey" by Dr. Fabiola Rosamaria Garza Rodriguez.
November 4. "Health Webinar" by Dr. Sergio Salvador Fernandez Delgadillo, Dr. Carlos Eduardo Medina de la Garza, and Dr. Juan Jose Zarate Ramos.
November 8. The event "Plogging: running for a greener world" was held in coordination with the student group of Sustainable Medicine.
November 23. Online Conference: “Perspectives of the state system of protected natural areas in Nuevo Leon" by Dr. Cesar Cantu Ayala.
November 27. Online discussion: "Background and perspectives of the creation of the state system of protected natural areas" by MC. Magdalena Rovalo Merino, Ing. Julian de la Garza Castro and Dr. Edgardo Ortiz Hernandez.
November 30. Permanent seminar of the University Academy for sustainable development "Solid waste management: technological and sociocultural aspects" by Dr. Rodolfo Morales Ibarra.

Cycle of lectures on the spiral circular economy
November 12. Online conference "Transition to circular economy in the paradigm of sustainability" by Dr. Luis M. Jimenez.
November 17. Online Conference "Characteristic Principles of Circular Economy" Dr. Emilio Cerda.
December 2. Online conference "Cycle of critical materials in the circular economy" Dr. Antonio Valero.
December 9. Online conference "Circular bioeconomy of integrated production systems" by Dr. Agustin Molina.
December 2. Annual online meeting of the University Academy for sustainable development..

Communicationn

Communication and Dissemination Program for Sustainability

The UANL Sustainability Department, through the Project Development Office, coordinates the "UANL Sustentable" communication and dissemination program, which is aimed at members of the university community and the different sectors of society linked to our university's work. The program is to keep them informed about the initiatives and actions that the Institution carries out to speed up the process of transition towards sustainability, with the aim of achieving their involvement and collaboration in said process.

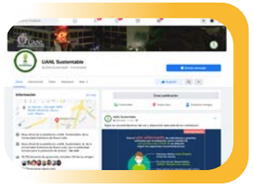
The program promotes the principles, values and tasks of sustainability through various communication media and strategies, such as social networks and web pages, printed materials, audiovisual productions and forums, seminars, courses, workshops, conferences, publications, contests, among others.

19 Mundo Sustentable produced and broadcast television programs.

139 videos made and published on social networks.

65 online conferences on topics related to sustainability.

52 weekly virtual sessions on topics related to sustainability.



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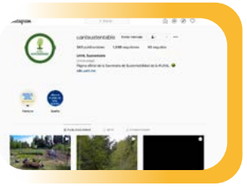

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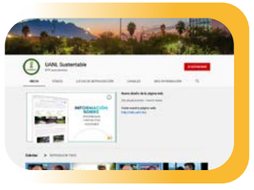
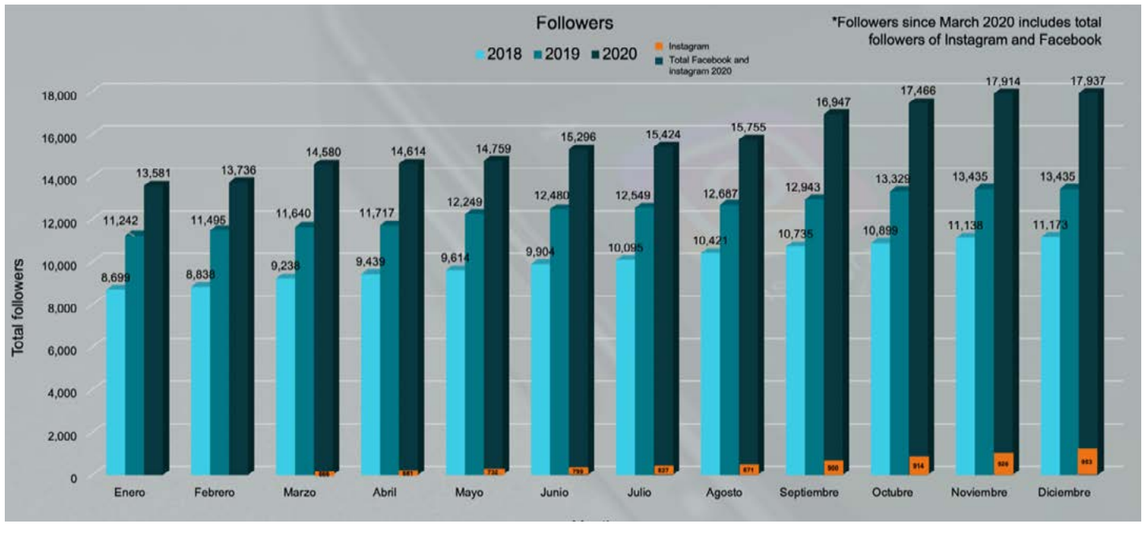


YouTube:
UANLSustentable

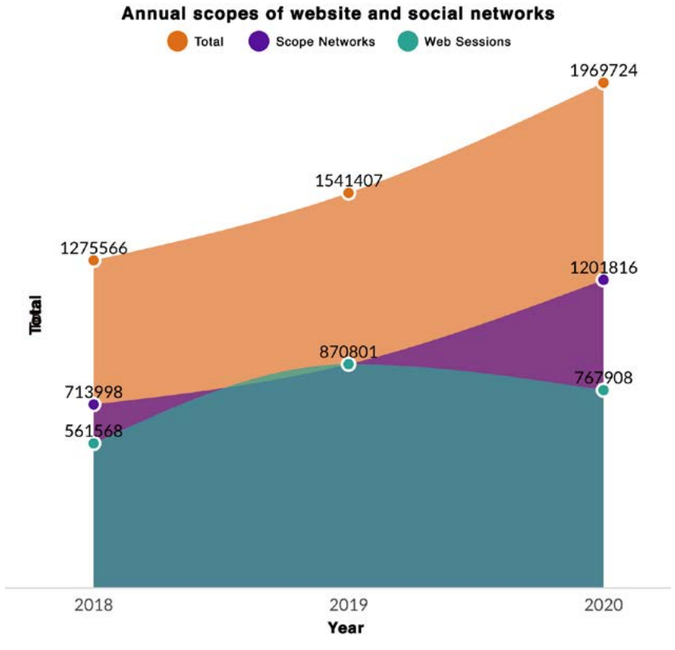
Website:
sds.uanl.mx

Most relevant results from the website and social network:

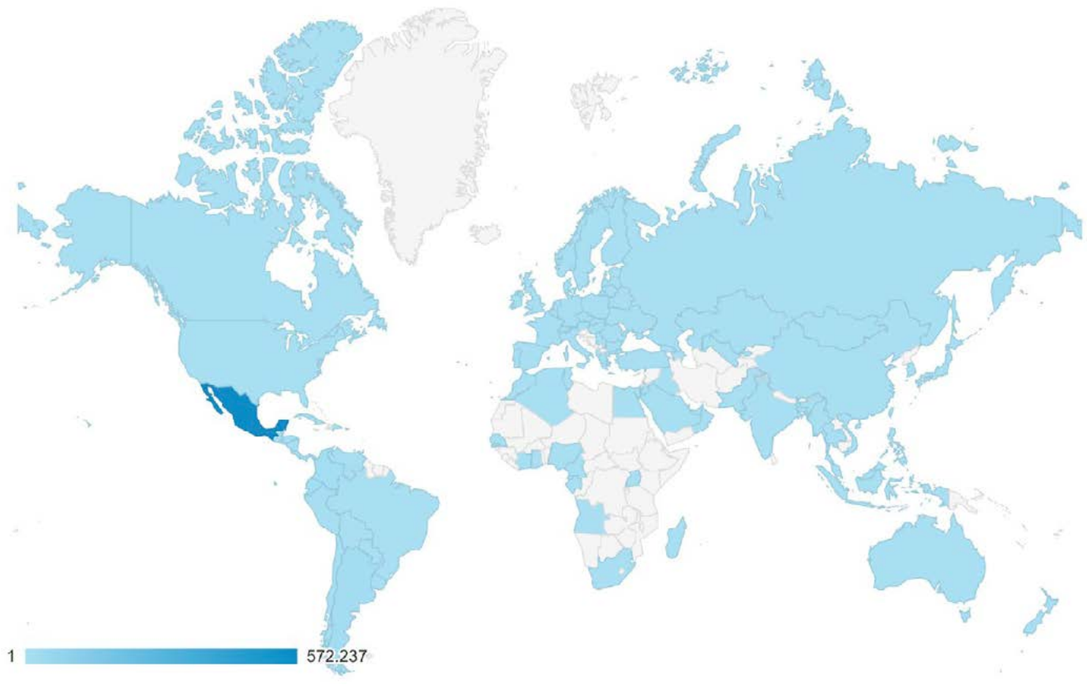
Followers on Facebook UANL Sustentable



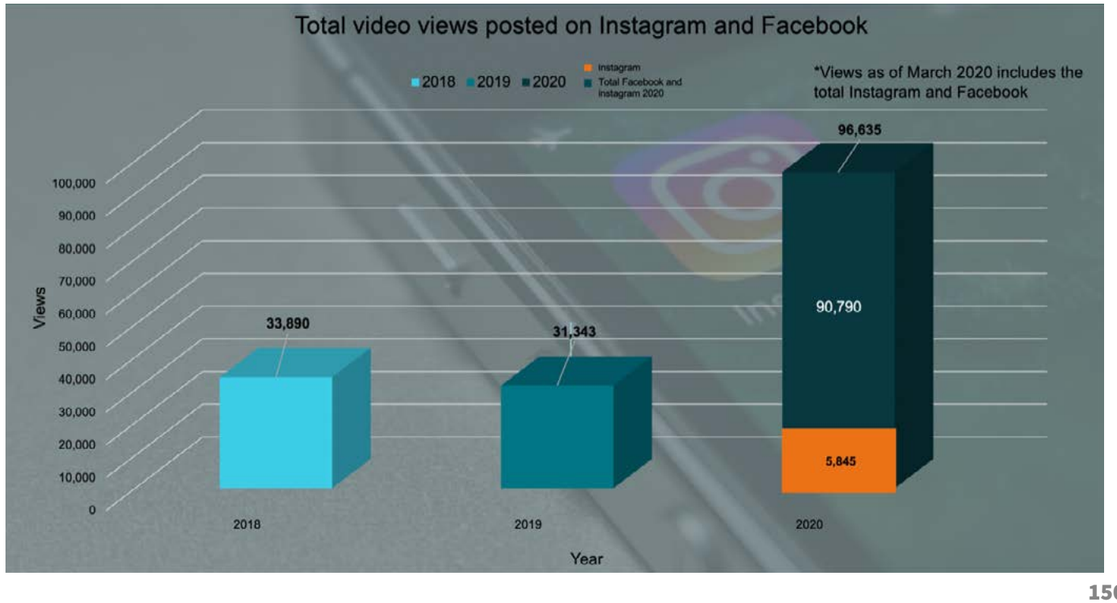
Annual scope *sds.uanl.mx* and Facebook *UANL Sustentable*



Countries visiting the website
sds.uanl.mx



Reproductions of videos published in social networks of UANL Sustentable



During 2020 19 tv shows of the “Mundo Sustentable” series were produced, equivalent to 114 production and editing hours.

Mundo Sustentable

The television program in charge of the Sustainability Department, through the Project Development Department, aims to share with the public the actions carried out by noticeable members of the university community and society to promote sustainable development. We invite the viewing public to be part of the change that living in a sustainable society entails.

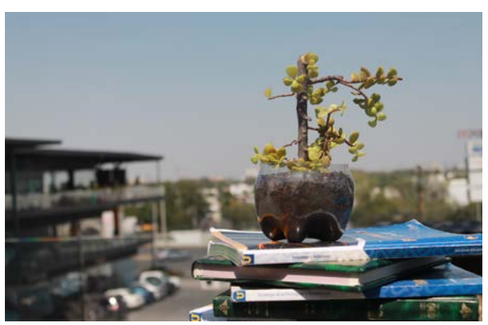
On the UANL Sustainability Web page (sds.uanl.mx) the 173 programs of the 9 seasons of the program are available, which include the 19 that were carried out in 2020.

Sustainability and culture

Photography has been considered as one of the best cultural expressions in which more people around the world participate, this because its practice is carried out by camera professionals to passionate amateurs of capturing images that inspire reflection or change of attitudes on their audience.

Due to this, since 2015 the Universidad Autonoma de Nuevo Leon has been given the task of promoting the photography contest "In the light of sustainability", in order to promote a culture of sustainability in the student community through messages captured through photography.

The theme of the sixth edition of the contest held in 2020 was "Actions for a Sustainable University" in which 227 students from 9 university institutions participated.



Guidelines

With the objective of inducing changes in attitude and functioning in the activities carried out by members of the university community in the field of environmental management, efficient use of energy, water and responsible consumption, the Universidad Autonoma de Nuevo Leon, through the Sustainability Office, has prepared and published the following guidelines applicable to all university units:

- Technical guideline for the thermal insulation of university real estate.
- Technical guideline for green construction
- Technical guideline for the efficient use of water for irrigation.
- Technical guideline for sustainable mobility.
- Technical guideline for the efficient use of water.
- Regulation for the acquisition of air conditioning equipment..
- Technical guideline for the use of drinking water and wastewater treatment.
- Sustainability guide for workshops and labs.
- Technical guideline for equipping luminaires for classrooms.
- Technical guideline for testing products aimed at improving the energy efficiency of air conditioning equipment.
- Technical guideline for the acquisition of goods and services, green purchasing.
- Technical guideline for operational security.
- Technical guideline for responsible consumption.
- Technical guideline for the handling and management of urban solid residues with recyclable characteristics and special handling.
- Technical guideline for the handling and management of hazardous residues.
- Institutional policy for the incorporation of good sustainability practices in the UANL.

Acknowledgments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Por haber calificado entre los mejores laboratorios, al menos en tres secciones, entre más de 3200 usuarios de todo el país, durante el periodo de 2014 y 2015.
Octubre de 2015.
Dr. en C. Sergio I. Alva Estrada
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"Para nosotros buscar la calidad es la luz que nos guía"


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