UANL
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

Aniversario · UANL

UANL SUSTENTABLE

VISIÓN UANL 2030

SUSTAINABLE DEVELOPMENT GOALS

UANL
Annual Sustainability Report

UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

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PROLOGUE

With just under ten years left to achieve the Sustainable Development Goal (SDG), it is necessary to identify the contributions that Higher Education Institutions (HEIs) have made globally to support the fulfillment of this important initiative promoted by the United Nations (UN).

In this context and within the framework of its social responsibility, the Universidad Autonoma de Nuevo León (UANL) presents its Annual Sustainability Report, a document that shows the achievements that our institution reached in terms of sustainability in 2019.

Some of the most relevant achievements are the progress made in the program for efficient water use, having increased the institutional capacity for self-generation of energy using renewable sources, having concluded the construction of the Center for Environmental Research for Sustainability (CIAS), the implementation of the sustainable mobility project CONECTA-UANL, the expansion of institutional coverage in the proper management of residues, in addition to maintain in good condition the natural areas that are under the protection of the Institution. By carrying out all these actions we have regulated the growth of the Carbon Footprint, despite the great growth that student enrollment has experienced in recent years, which in 2019 exceeded 206,000 students.

In the academic field, the achievements of the University Academy for Sustainable Development (AUDS) are worth mentioning, an academy composed by more than 100 specialists assigned to different university dependencies, whose objective is to establish links within the academic community and the social environment, to carry out research, teaching and scientific dissemination activities regarding sustainability, and that, in November 2019, was awarded the Medal of Ecological Merit awarded by the municipality of Monterrey for its work in promoting sustainable development in university environments and society.

The aforementioned actions and some more that are mentioned in this document have allowed UANL to be considered for the third year in a row, the most sustainable Higher Education Institution in Mexico and, in a very relevant way, be part of the select group of the 55 most sustainable universities worldwide, out of a total 780 universities participating in the GreenMetric World University Ranking.

With particular satisfaction, I can attest that the commitment and attitude assumed by members of the university community in promoting sustainability, for more than two decades, has made it possible to effectively support the fulfillment of the SDGs in the spectrum of action of the UANL, which motivates us to continue working to transform and transform to transcend towards the construction of a society capable of compromising its reality to improve its environment under sustainability approach.

MTRO. ROGELIO G. GARZA RIVERA
Provost

WHO WE ARE

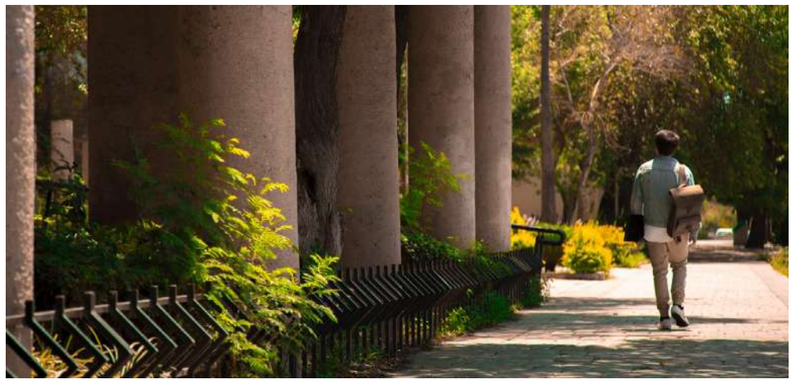
Mission

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.



*1

Values

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

SUSTAINABILITY REPORT **2019**

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NUMBERS

UANL Community

206,640
students

6,988
scholars

7,512
administrative employers

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.

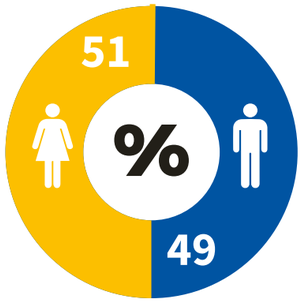
There are **34** municipalities in the State of Nuevo Leon with UANL academic infrastructure.

Educational coverage

67 %	56 %	79	13
municipalities of the state	schools	buildings	community centers

Distribution of enrolled students by gender

Specialized higher education institution



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

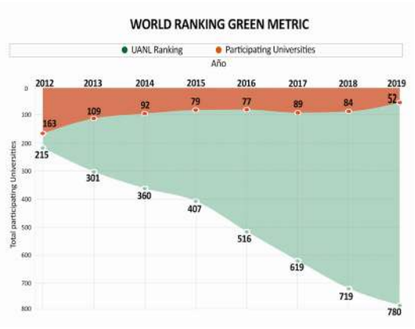
Position of the UANL in the GreenMetric World University Ranking

National	Worldwide	Participating universities
1	52	780

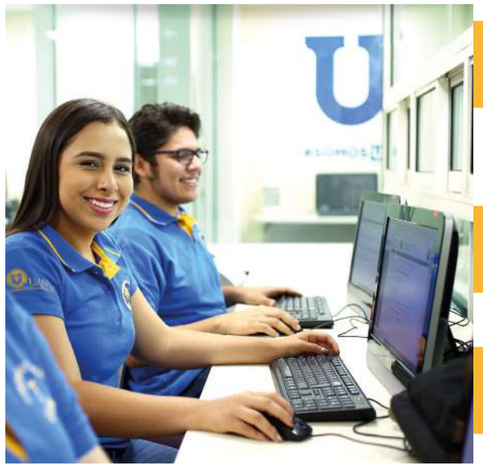
UANL Position by World Ranking Indicators

Transportation	Education	Residues	Energy and climate change	Environment and infrastructure	Water	Urban campus
57	34	96	93	195	119	23

Universities participating in the 2010 – 2019 GreenMetric Ranking



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)

48 international academic bodies with which we have collaboration agreements.

57 internationally accredited educational programs.

Source: Academic Department.

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.

102	88	90	91	73	66
consolidated	in consolidation process	currently being trained	consolidated	in consolidation process	currently being trained

Academic bodies linked to sustainability issues

Acknowledgment to professors

1,647 are in the “Program for the Professional Development of Teachers” Profile for the Higher Type (PRODEP).

838 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	34	34 %	65	66 %	99	3 %
	Master	667	38 %	1,075	62 %	1,742	53 %
	Specialty	10	5 %	117	95 %	187	6 %
	Doctorate	31	2 %	1,256	98 %	1,287	39 %
	Subtotal	742	22 %	2,573	78 %	3,315	100 %
Half time	Bachelor	13	24 %	42	76 %	55	26 %
	Master	67	45 %	82	55 %	149	70 %
	Specialty	0	0 %	1	100 %	1	0 %
	Doctorate	2	25 %	6	75 %	8	4 %
	Subtotal	82	38 %	131	62 %	213	100 %
Subject	Bachelor	1,038	54 %	938	46 %	2,021	58 %
	Master	454	35 %	857	65 %	1,311	38 %
	Specialty	8	21 %	30	79 %	38	1 %
	Doctorate	10	11 %	80	89 %	90	3 %
	Subtotal	1,555	45 %	1,905	55 %	3,460	100 %
Total		2,379	34 %	4,609	66 %	6,988	100 %

Source: Report of activities carried out at the UANL corresponding to the year 2019.

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	7	0	7
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	80	1	81

Source: System of Bachelor's Studies Head Office (DSEL).

Number of bachelor programs accredited by national organizations

Nivel	CIEES: Interinstitutional Committees for the Evaluation of Higher Education	COPAES: Accreditors that belong to the Council for the Accreditation of Higher Education
Bachelor's	31	64
Higher University Technician	0	1
Total	31	65

Source: System of Bachelor's Studies Head Office (DSEL).

Specialty

Master

Doctorate

Postgraduate level Educational Programs

	Grade			
	Doctorate	Master	Specialty	Total
Programs by level	42	98	59	199
Programs in PNPC*	33	46	38	117
International competence	2	2	10	14
Consolidated	13	14	13	40
In development	13	22	13	48
Recently created	5	8	2	15

*PNPC: National Quality Graduate Program.

Source: System of Graduate´s Studies Head Office (DSEP).

Program “University for the Elderly”

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	58
Courses and Workshops	13	717
Total	14	775

181 students graduated in 2019 in this educational program

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

Educational offer in alternative modalities

Modality	Studies level			Total
	High School	Bachelor	Postgraduate	
Mixed distance learning	1	0	0	1
Distance learning	1	1	1	3
Open system	1	0	0	1
Mixed	1	2	14	17
Mixed modality in community centers (Aula.edu)	1	0	0	1
Schooled (face-to-face)	44	78	183	305
Totales	49	81	198	328

Source: System of Bachelor’s Studies Head Office (DSEL) and System of Graduate´s Studies Head Office (DSEP).

Educational Programs of Bachelor's Degree and Higher University Technician

Level	Total	Valuable Educational Programs	Non-valuable Educational Programs
Bachelor	80	70	10
Higher University Technician	1	1	0
Totales	81	71	10

Source: System of Bachelor’s Studies Head Office (DSEL).

Inclusion program for students with disabilities

2,744
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.

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	1,237
Higher level	1,507
Total	2,744

Mid-higher level

Disability type	Quantity
Vision	954
Hearining	59
Motor	72
Mental	17
Neurological	49
Learning disorder.	70
Cognitive	16
Total	1,237

Higher level

Disability type	Quantity
Vision	1,247
Hearining	100
Motor	79
Mental	16
Neurological	29
Learning disorder.	28
Cognitive	8
Total	1,507

Responsible: Coordination of Educational Inclusion for people with Disabilities and Older Adults.

Inclusive infrastructure

Network of youth orchestras for the equality

The objective of the program is to carry out actions to prevent violence against women and girls, through the dissemination of messages of gender equality and non-discrimination through music education and concerts in schools and public spaces, in order to promote the complaint and non-discrimination culture, as well as the exercise of women's rights for a transformation of cultural patterns to eradicate gender violence in Nuevo Leon.

352
concerts with an audience of 121,902 people

700
participants
aged 5 to 75 years

23
orchestras

Responsible: School of Music

Health 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.

4,998,525
services provided

2,874,754
population benefited

Social assistance, community services and volunteer programs

Services provided	Number	Benefited population
Social	46,128	531,682
Legal	3,257	11,550
Health	4,949,140	2,331,522
Total	4,998,525	2,874,754

Source: Report of Activities developed in 2019 by the UANL.

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In 2019 the UANL Per Capita Carbon Footprint was 0.39 metric tons *

Efficient use of water and energy program

7.7 m³
per capita / annual water consumption

447 kWh
per capita / annual energy consumption

Background photography * 3

UANL funds and budget for sustainability

$ 426,198,838.00 (DLS) UANL annual Budget	$ 15,982,120.00(DLS) research funds
$ 43,552,848.00 (DLS) budget allocated to sustainability investments	$ 1,453,696.00 (DLS) funds for sustainability research

22 %

of the UANL budget is annually allocated to issues concerning sustainability

In 2019, the Carbon Footprint of the UANL was 86,431 metric tons *

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

*4

Sports

UANL is the #1 University in sports in Mexico, champion of the National Universiade with 49 gold, 43 silver and 51 bronze medals.

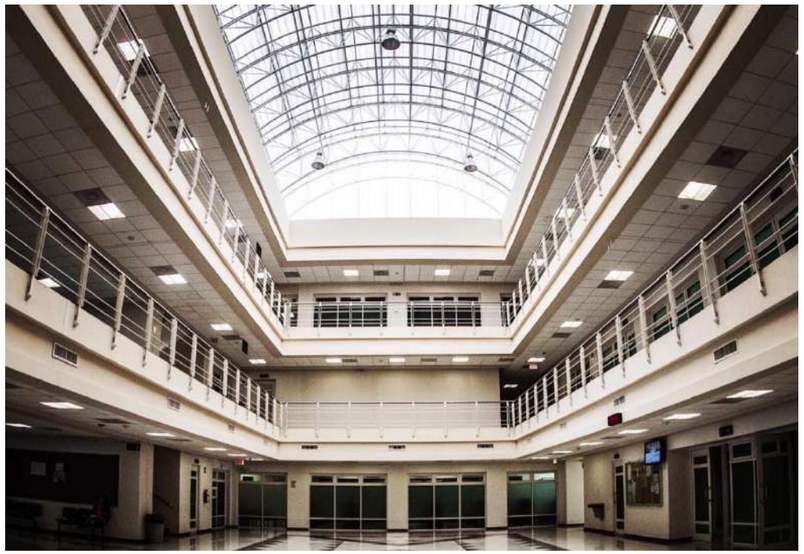
- **28** UANL athletes participated in the 2019 Barranquilla Central American and Caribbean Games.
- **43,415** students participated in 220 sports activities carried out by the Sports Department.
- **16** championships won in the National Universiade.
- **467** students participated in the National Universiade.
- **5** championships won by the UANL Amputees Tigres soccer team.
- **81** students participating in 9 adapted sports disciplines with special requirements.

SUSTAINABILITY REPORT **2019**

SUSTAINABLE DEVELOPMENT GOALS

9 | INDUSTRY, INNOVATION AND INFRASTRUCTURE

SUSTAINABLE INFRASTRUCTURE



UANL school of economics

The Universidad Autonoma de Nuevo Leon (UANL) is the largest Higher Education Institution in size and student population in northern Mexico, the third nationwide and one of the largest in Latin America.

The UANL is currently made up of 26 schools that are located in 6 campuses, four in the metropolitan area of the city of Monterrey, N.L. Mexico and two in rural areas. All UANL campuses are located in semi-arid climatic zones.

Sustainable Infrastructure	
37,449,120 m²	**Total area occupied by the six campuses of the UANL.**
35,570,294 m²	Water Retentive Area.
1,079,294 m²	Built área.
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 UANL has implemented a construction and renovation infrastructure policy, available in the university campuses. This policy incorporates structures and equipment with international standards used in the construction of sustainable buildings, such as those described below:

26 Schools y 39 buildings

- Electric energy supply produced by photocells.
- Air conditioner units with inverter technology.
- Infrastructure thermal insulation.
- Use of natural ventilation.
- Use of natural light for interior lighting.
- High efficiency LED lights in classrooms and administrative offices
- Low energy consumption LCD screens.
- Motion detectors in classrooms and offices.
- Equipment to make efficient use of water and energy.
- Areas designated for parks and gardens on all campuses.
- Green roofs.
- Large tracts of rainwater retentive surface.
- Use of a solar power plant to heat water, among others.

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Despite the significant growth that its student enrollment has experienced in recent years, the UANL has managed to lower the growth of Greenhouse Gas (GHG) emissions that are the result of carrying out its daily activities. This is due to the application of sustainable infrastructure policies, the installation of high efficiency air conditioning and lighting equipment, as especially for the results obtained by the permanent awareness program on the proper use of energy in which all members of the university community participate.

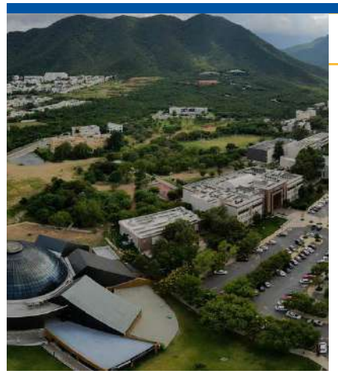
University Campuses

Ciudad Universitaria Campus

It is located in the municipality of San Nicolás de los Garza, N.L., Mexico. It has an area of 95 hectares where the Provost's Office and the Schools of Mechanical and Electrical Engineering, Law and Criminology, Public Accounting and Management, Architecture, Civil Engineering, Biological Sciences, Physical and Mathematical Sciences, Sports Organization, Chemical Sciences, Philosophy and Arts and Social Work and Human Development are located.

Health Sciences Campus

It is located in the central part of the City of Monterrey, N.L., Mexico. It has an area of 29 hectares, and is the headquarters of the Schools of Medicine, Psychology, Dentistry, Nursing and Public Health and Nutrition. It also includes the University Hospital, which provides medical services to the local community and federal entities of northeastern Mexico.



Mederos Campus

It has an area of 194 hectares and is located in the southern area of the City of Monterrey, N.L., Mexico. There we can find the Schools of Political Sciences and International Affairs, Economics, Communication Sciences, Visual Arts, Music, Performing Arts, as well as the Institute for Social Research, the Center for Studies and Certification of Foreign Languages, Center for Research, Innovation and Development of Arts, the University Theater and the University Radio and Television facilities. A large part of the territorial extension occupied by this Campus is covered by natural vegetation in a good condition.

Sabinas Hidalgo Campus

It is located in the municipality of Sabinas Hidalgo, N.L., Mexico on the outskirts of the city of Monterrey, N.L., Mexico and has an area of 7 hectares. It houses the academic facilities of the Schools of Public Accounting and Management, Law and Criminology, Nursing and Psychology.

Linares Campus

This campus is located in the municipality of Linares in the south of the state of Nuevo Leon. It is the headquarters of the Schools of Forest Sciences and Earth Sciences. It also houses the academic extensions of the Schools of Public Accounting and Management, Law and Criminology, Philosophy and Arts, Sports Organization, Mechanical and Electrical Engineering and Nursing. The Agricultural Production Research Center is also located here, with an area of 989 hectares: most of it is covered by natural vegetation in good condition. At the same time, these academic units use the forest reserve that is located in the municipality of Iturbide, which has an area of 1,053 hectares, as a forest-school for research and academic practices.

Agricultural Sciences Campus

Located in the municipality of General Escobedo in the North of the City of Monterrey, this campus has an area of 25 hectares where we can find the School of Veterinary Medicine and Zootechnics (with an annex in General Bravo) and the School of Agronomy (with an annex in Marin). In the case of the agricultural research annex located in General Bravo, it has an area of 620 hectares, of which 20 have been transformed and the remaining 600 are occupied by forest vegetation. On the other hand, the annex located in the municipality of Marin has an area of 772 hectares, of which 0.4% is built area, 99.6% is a retention-water surface, 1.4% is covered by planted vegetation, 22.7% is occupied by crops, 67% is forest vegetation and 6.6% is occupied by bodies of water.

Cadereyta Campus (under construction)

Located in the municipality of Cadereyta Jiménez, N.L., Mexico, the first project stage has a territorial area of 1,298 square meters, where five theoretical classrooms are built, administrative area, one central library, a multipurpose room, a computer room, cubicles for researchers and sports courts.

SUSTAINABLE BUILDINGS

8 sustainable buildings
59,145 m² total built area

The Universidad Autonoma de Nuevo Leon has a construction and renovation policy of sustainable infrastructure. This has allowed our university to expand to more than 59,145 square meters the area occupied by buildings that have been built with sustainable standards and that are equipped with state-of-art technology.

Smart buildings have sensors that transmit signals to the process central control, which is in charge of verifying the status of our basic facilities and the supply of electricity, water, gas and services. In addition, they are equipped with highly energy efficient air conditioning systems, luminaires and water-saving equipment, as well as intelligent systems that regulate lighting and air conditioning schedules, optimizing their operation and generating savings in energy consumption.

Smart buildings serve as headquarters for administrative offices and research centers in the Health Sciences area of, Biomedicine, Biotechnology and sustainability. These generate knowledge and technological innovation that support the training of specialists in different areas of knowledge.

Smart buildings are used to carry out scientific research in the areas of health sciences, biomedicine, biotechnology and sustainability, generating knowledge and technological innovation, supporting the training of specialists in different areas of knowledge, as well as providing professional services to the industry.

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	Center for Environmental Research for Sustainability (CIAS)
5,352 m²	Center for Digital Education and Entrepreneurship
5,200 m²	Center for Biotechnology and Nanotoxicology Research
3,600 m²	Center for Research and Innovation in Aeronautical Engineering (CIIIA)
59,145 m²	**Total**

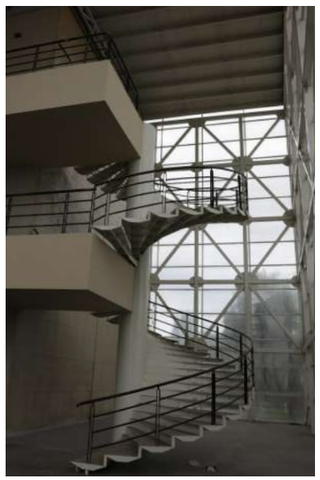
Center for Research and Innovation in Aeronautical Engineering (CIIIA)

The Center for Research and Innovation in Aeronautical Engineering (CIIIA) is a multidisciplinary and integrating center of the Universidad Autonoma de Nuevo Leon, under the administration of the School of Mechanical and Electrical Engineering (FIME). It was built with an investment of $12,932,122.00 (DLS) with the aim of becoming a technological development center that supports the development of the aeronautical and aerospace industries in northern Mexico. This is to be achieved through the creation of associations between academia and research through scientific and technological projects that contribute to generate value and that provide practical and effective solutions to the development of these industries.

The CIIIA is located in the municipality of Apodaca, N.L., close to the North International Airport (Aeropuerto Internacional del Norte), in a land area of 3,600 m² and 7,367 m² of construction that consists of three levels in which there are classrooms and laboratories, a hangar for laboratory practices of Aircraft Structures and Systems, Development of Design and Construction Projects, cubicles for teachers and researchers, business offices for agreements with companies, administrative offices, a multipurpose room, a wind tunnel, 15 level-reference laboratories international and national serving specific lines such as design, aerodynamics, advanced materials, simulation, failure analysis, corrosion, among others; in addition to being the headquarters of the "Monterrey Aerocluster".

Center for Environmental Research for Sustainability (CIAS)

Designed and built in accordance with international standards applicable to sustainable buildings, the Center for Environmental Research for Sustainability (CIAS) will have laboratories for Environmental Geomatics, Climatology, Toxicology and Environmental Risk, Calibration and Maintenance of Measurement Instruments, as well as a research laboratory for research on of air, soil and water quality. In addition, it will house administrative areas, a library, a meeting room, a maintenance space, parking and green areas, as well as rooms for researchers, research assistants and social service providers in an area of 5,913 m^2 of construction and equipped with air conditioning systems and high-efficiency lighting, as well as power generation systems through photovoltaic panels and wind turbines. CIAS intends to become a regional reference center promoting sustainable development in northeast Mexico, generating proposals for solutions to the problem of efficient use of water and energy, air and soil quality, as well as social and economic aspects related to sustainability.



SUSTAINABLE DEVELOPMENT GOALS

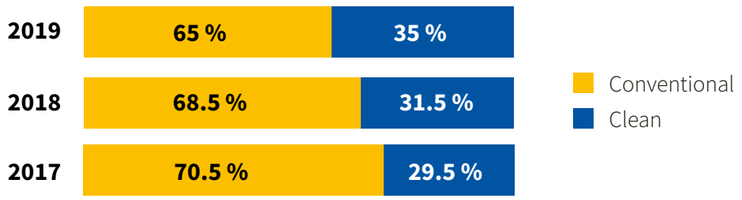
7 | AFFORDABLE AND CLEAN ENERGY

EFFICIENT USE OF ENERGY

The Universidad Autonoma de Nuevo Leon (UANL) promotes policies and actions to improve energy efficiency with sustainability criteria in all university facilities. This has made it possible to contain the growth in annual energy demand, in addition to promoting the use of renewable energy sources such as photovoltaic panels and wind turbines, but especially by promoting the proper use of energy through the program of habits of use and adequate consumption of energy through the implementation of the communication and dissemination program for sustainability, the teaching of courses, conferences and awareness campaigns aimed at members of the university community.

Of the total energy consumed by UANL in 2019, 35% was generated using renewable energy sources, according to the report provided by the provider of this service.

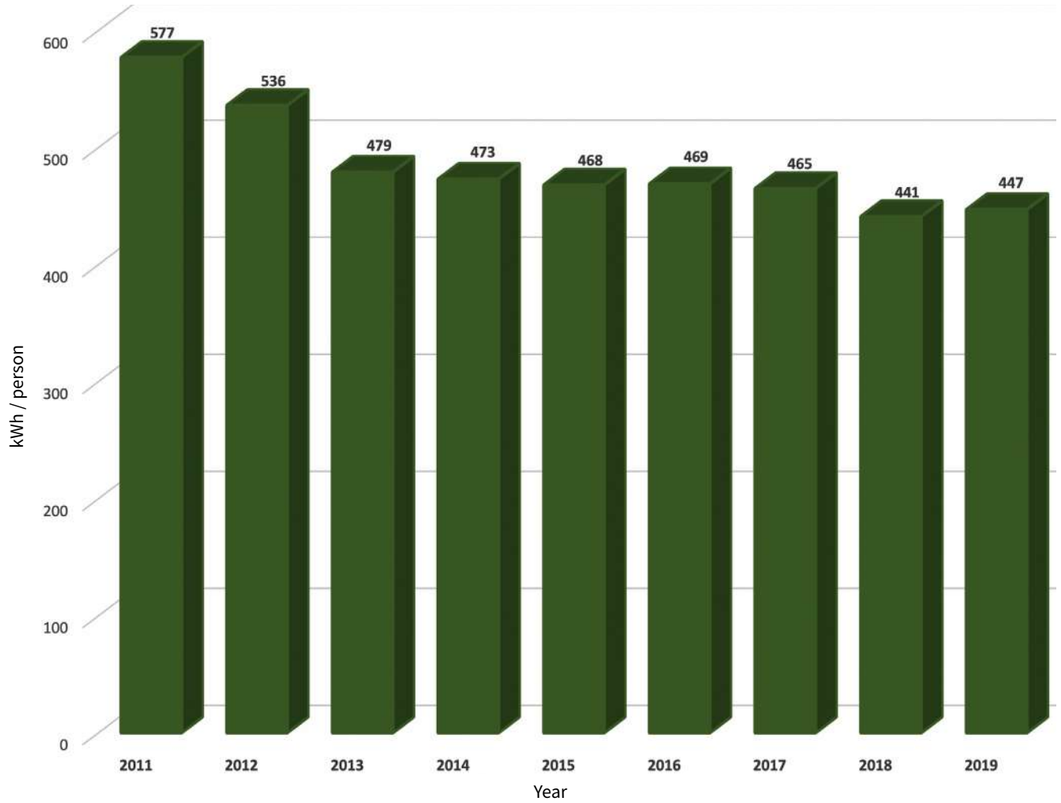
Installed capacity (MegaWatts)



Annual electrical energy consumption

In 2019, the UANL registered a total energy consumption of almost 99 million kWh. The highest energy consumptions are registered from late spring to mid-autumn due to the fact that high ambient temperatures that occur during this period drive to a greater use of air conditioning systems.

Annual consumption of electrical energy kWh / person



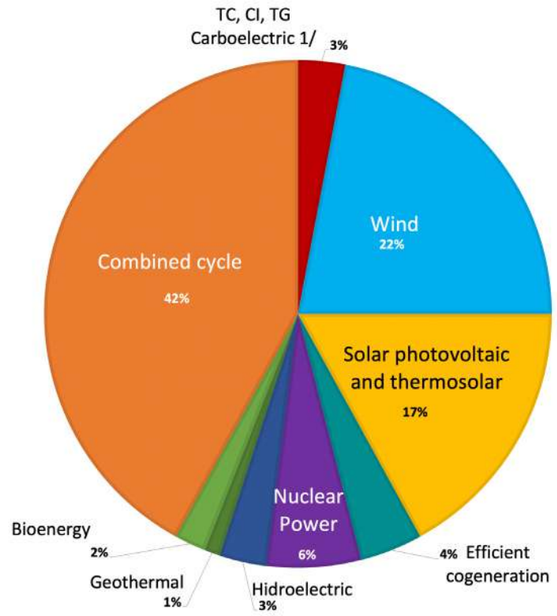
Per capita energy consumption was 447 kWh in 2019.

The following graph describes the installed electric power generation capacity by type of technology in 2019, according to the UANL electric power service provider.

Installed electricity generation capacity by type of technology 2018-2032

1 / Includes mobile plants.
2 / Shared Risk Trust (FIRCO), Distributed Generation (DG) of various technologies and Regenerative Brakes (FR). Total may not total due to rounding.

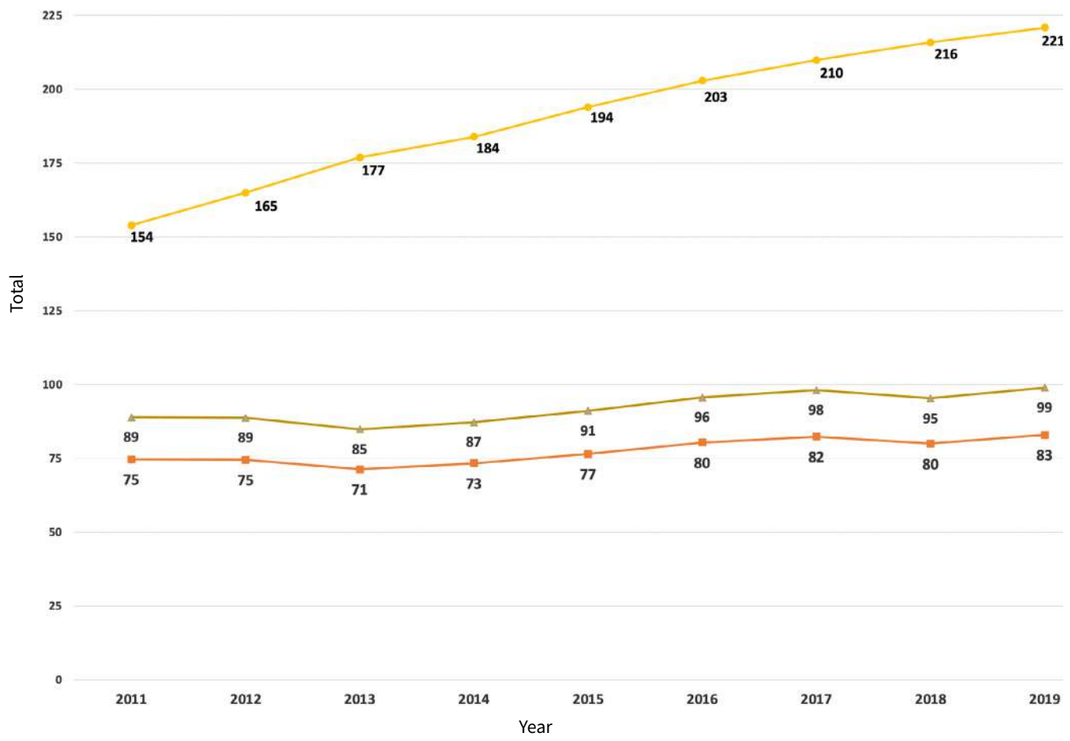
Source: prepared by SENER with data from CFE, CRE, CENACE and the Undersecretariat of Energy Planning and Transformation.



Energy

1,084,000 kWh solar 48 kWh wind	Renewable energy produced in the campus per year
99 million de kWh	Electricity consumption in 2019
447 kWh	Electricity consumption per capita in 2019
85 annual	Thousands of tons of CO2 emissions
8,440 kWh	Classroom Energy consumption per year

Electrical energy consumption 2011 - 2019



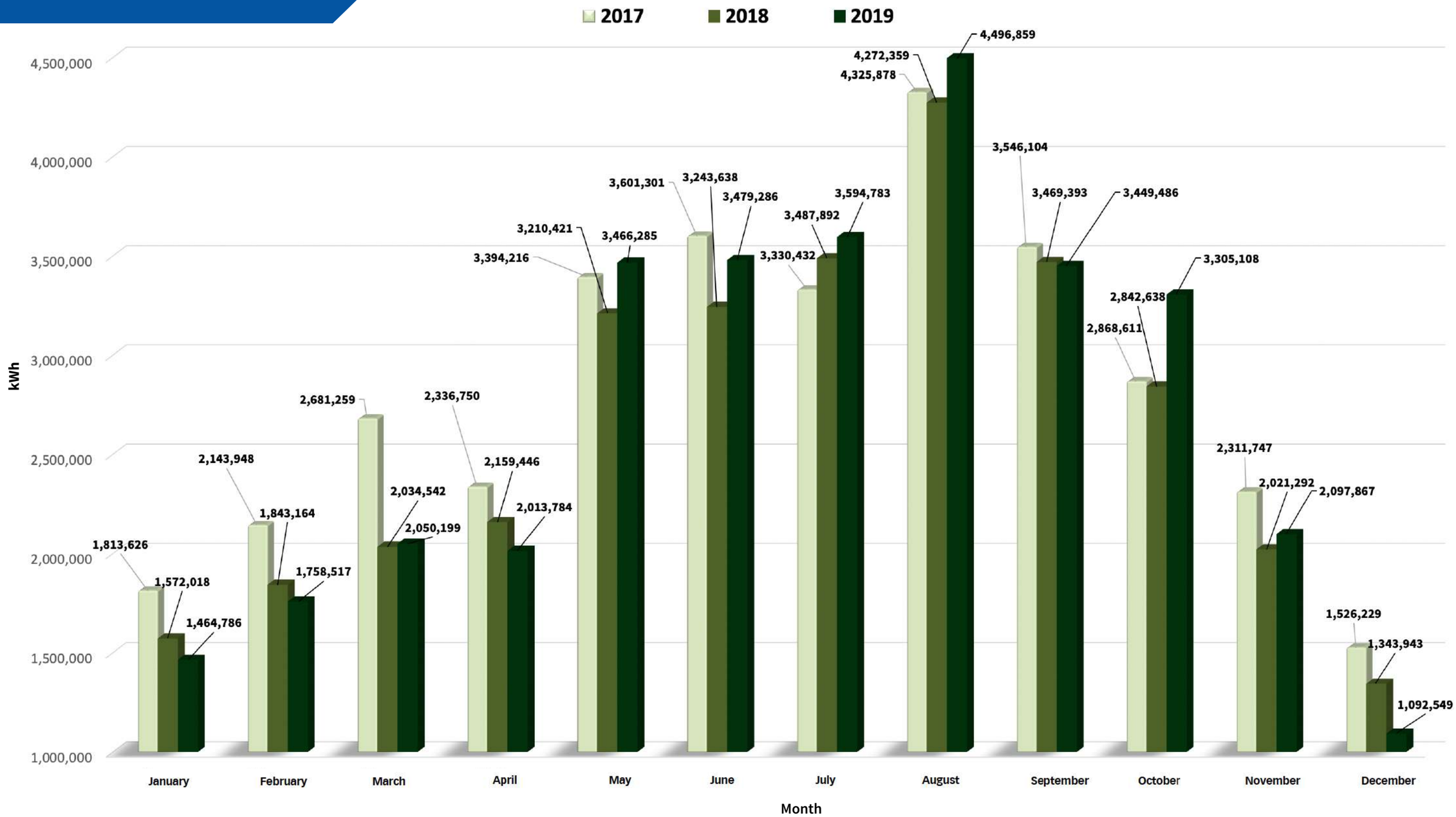
SUSTAINABILITY REPORT **2019**

SUSTAINABILITY REPORT **2019**

1,084,000 kWh of annual photovoltaic energy production

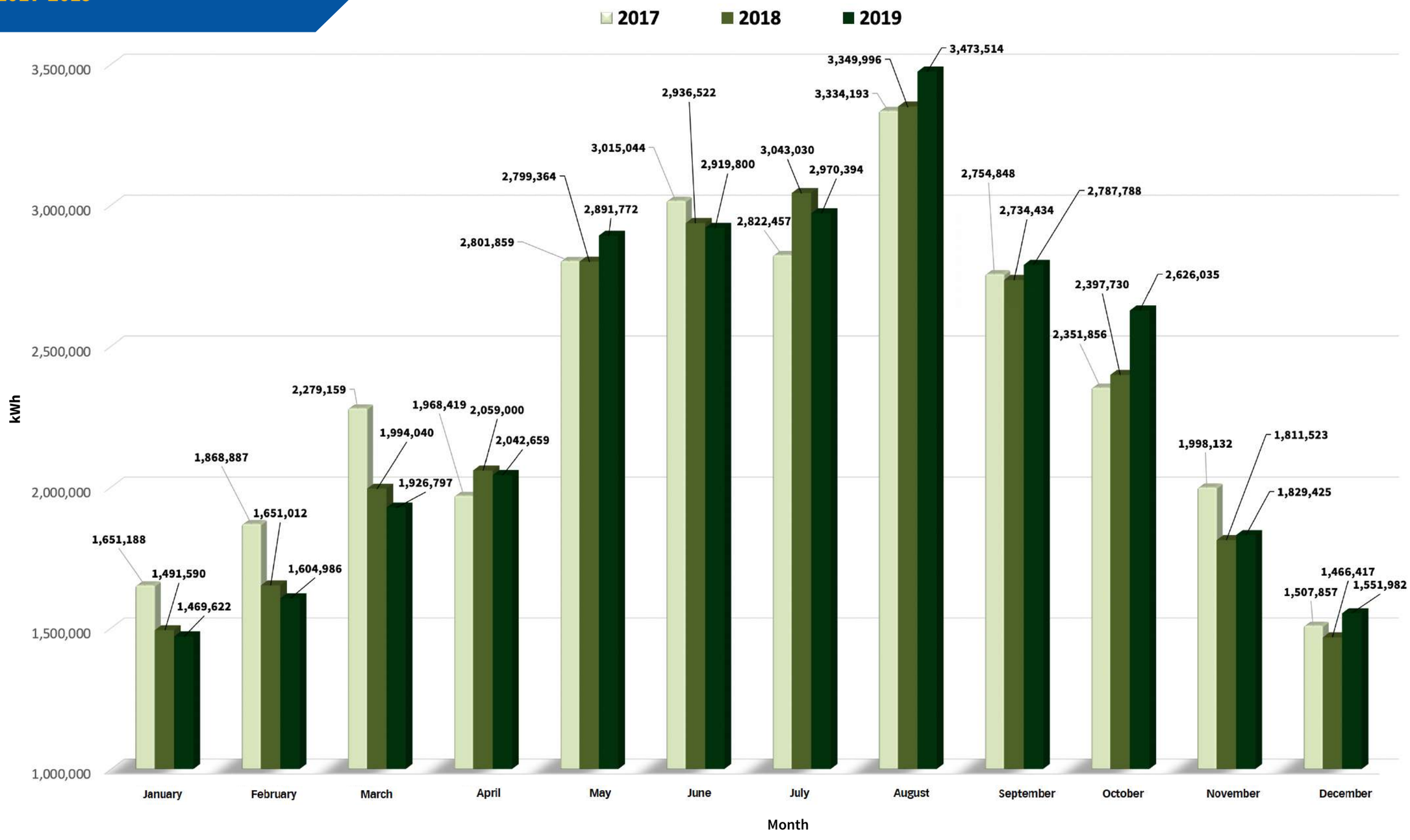
Photovoltaic energy	
1,900	Panels
1,084,000 kWh	Annual production in 2019
42,452 m²	Area served

ENERGY CONSUMPTION KWH
Ciudad Universitaria Campus
2017-2019



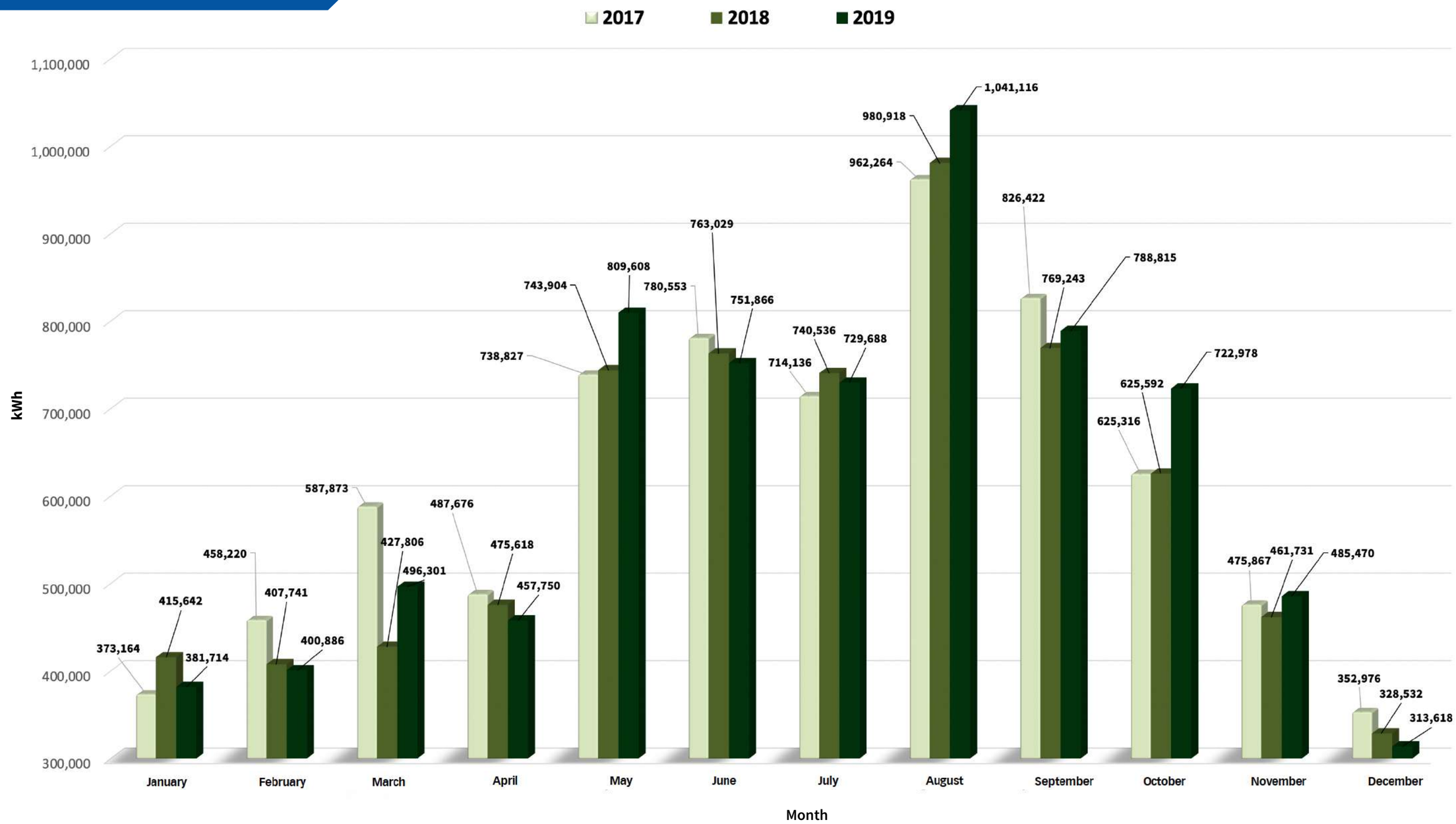
SUSTAINABILITY REPORT 2019

Energy consumption kWh
Health Sciences Campus
2017-2019



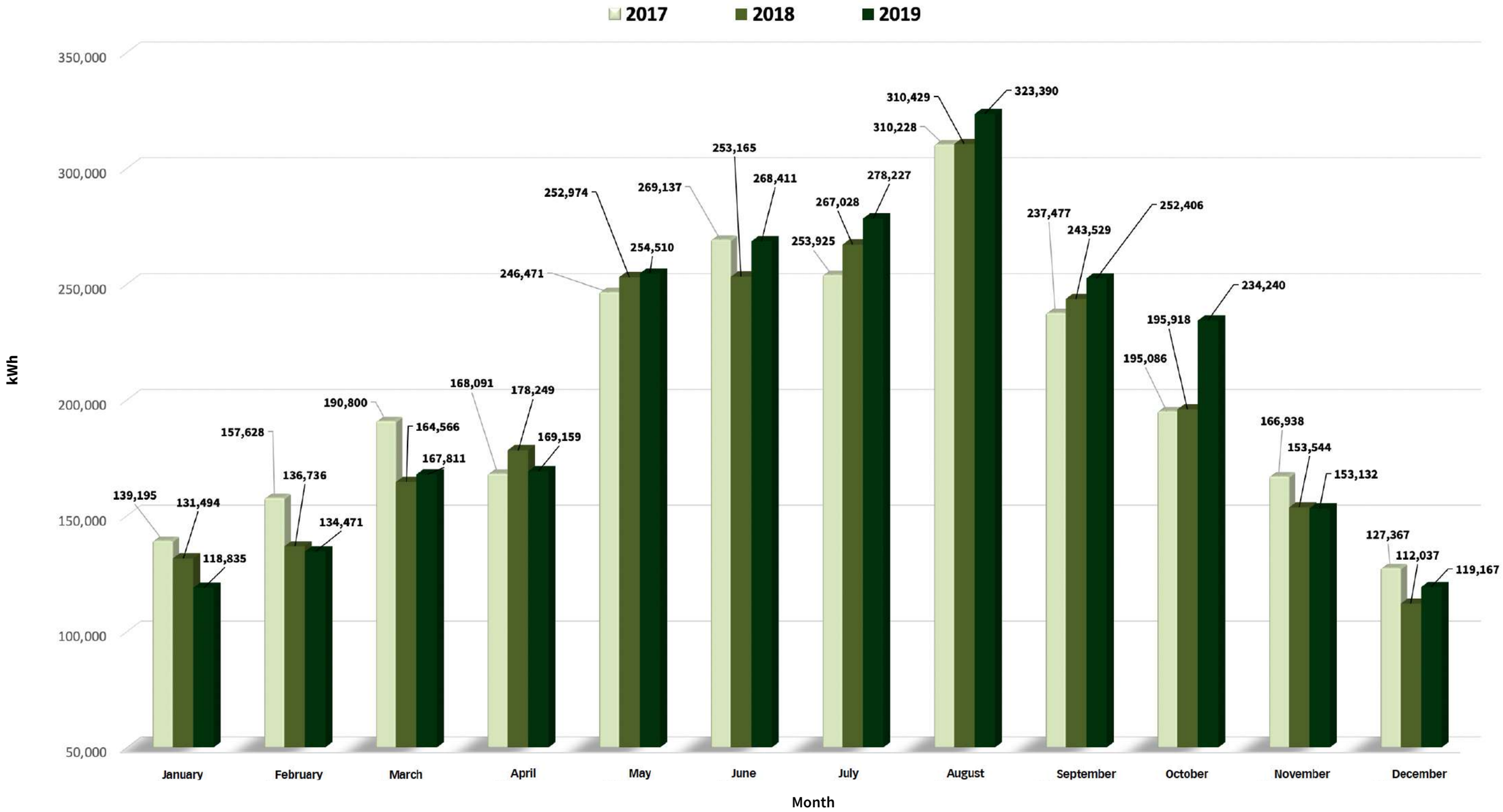
SUSTAINABILITY REPORT 2019

Energy consumption kWh
Mederos Campus
2017-2019



SUSTAINABILITY REPORT 2019

Energy consumption kWh
Agricultural Sciences Campus
2017-2019

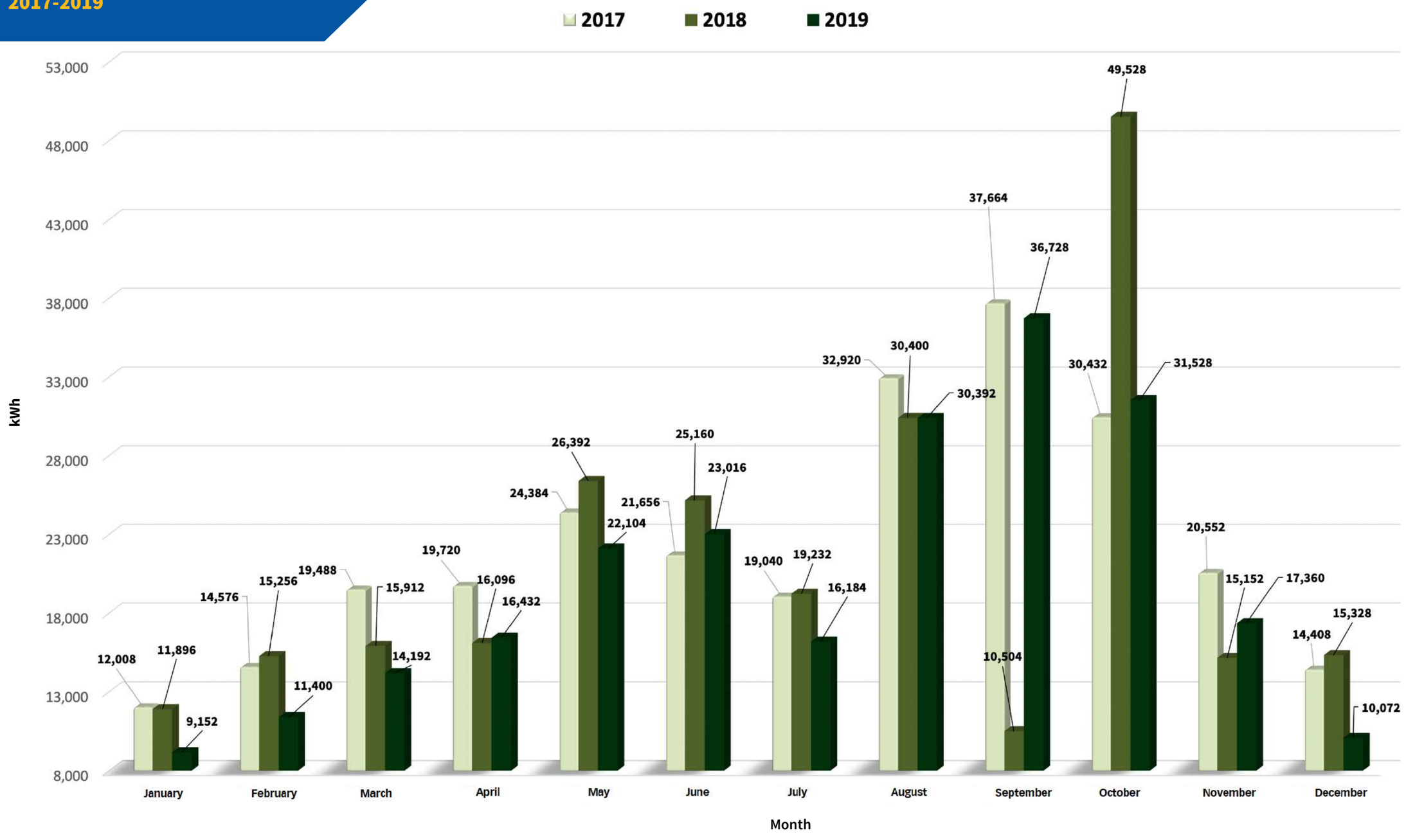


SUSTAINABILITY REPORT 2019

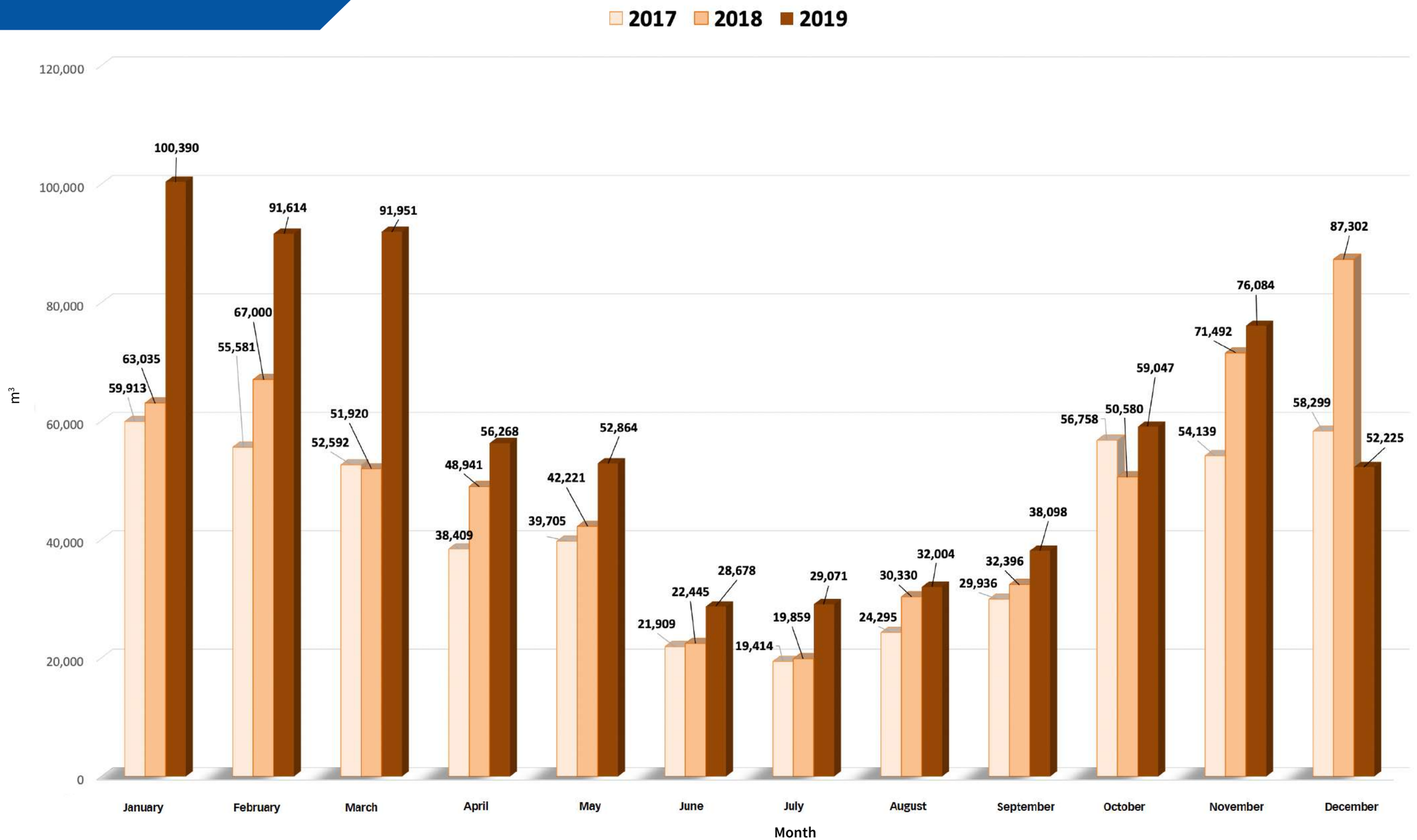
Energy consumption kWh
Agricultural Sciences Campus
2017-2019

SUSTAINABILITY REPORT 2019

ENERGY CONSUMPTION KWH
Sabinas Hidalgo Campus
2017-2019

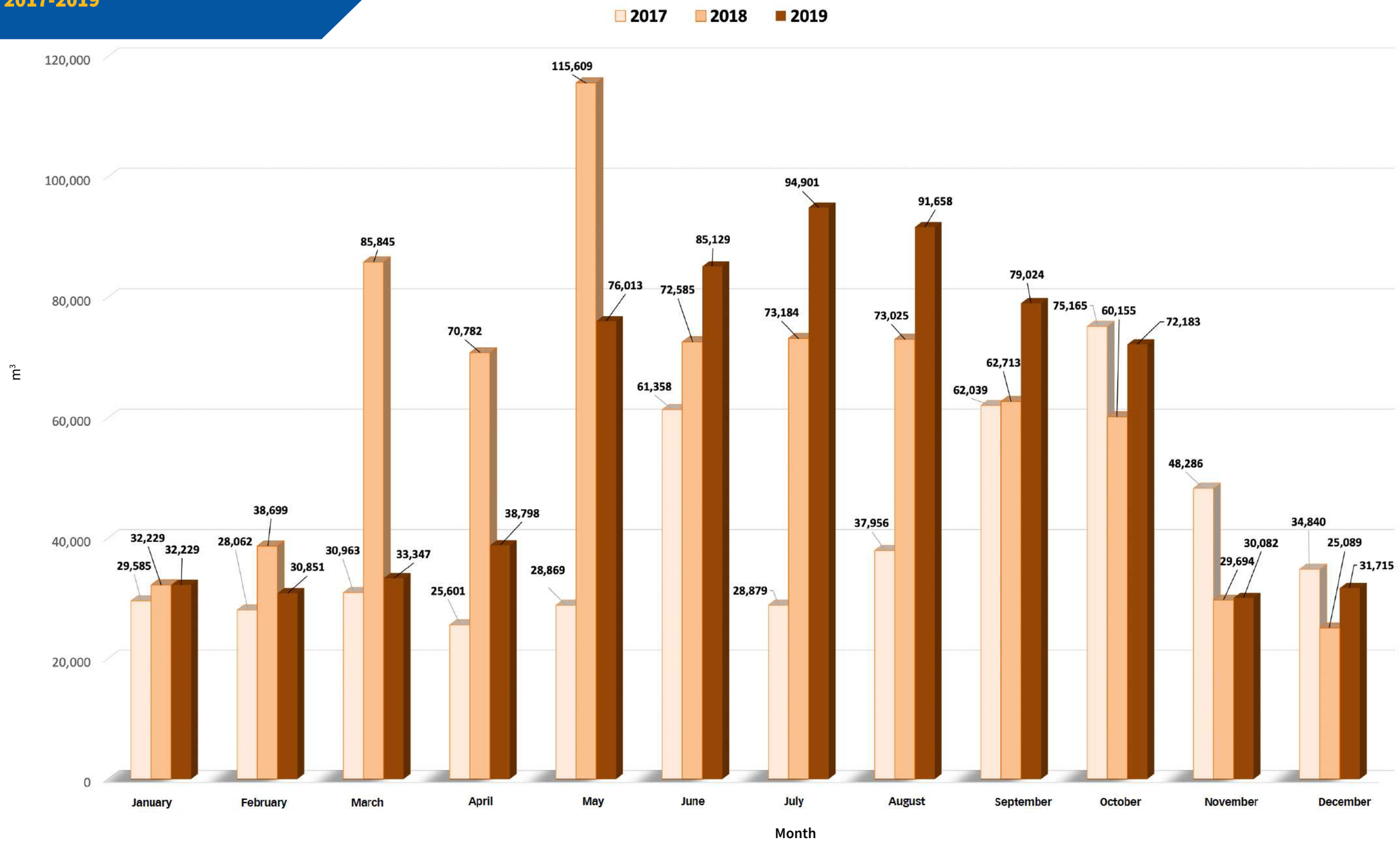


GAS CONSUMPTION M³
Ciudad Universitaria Campus
2017-2019

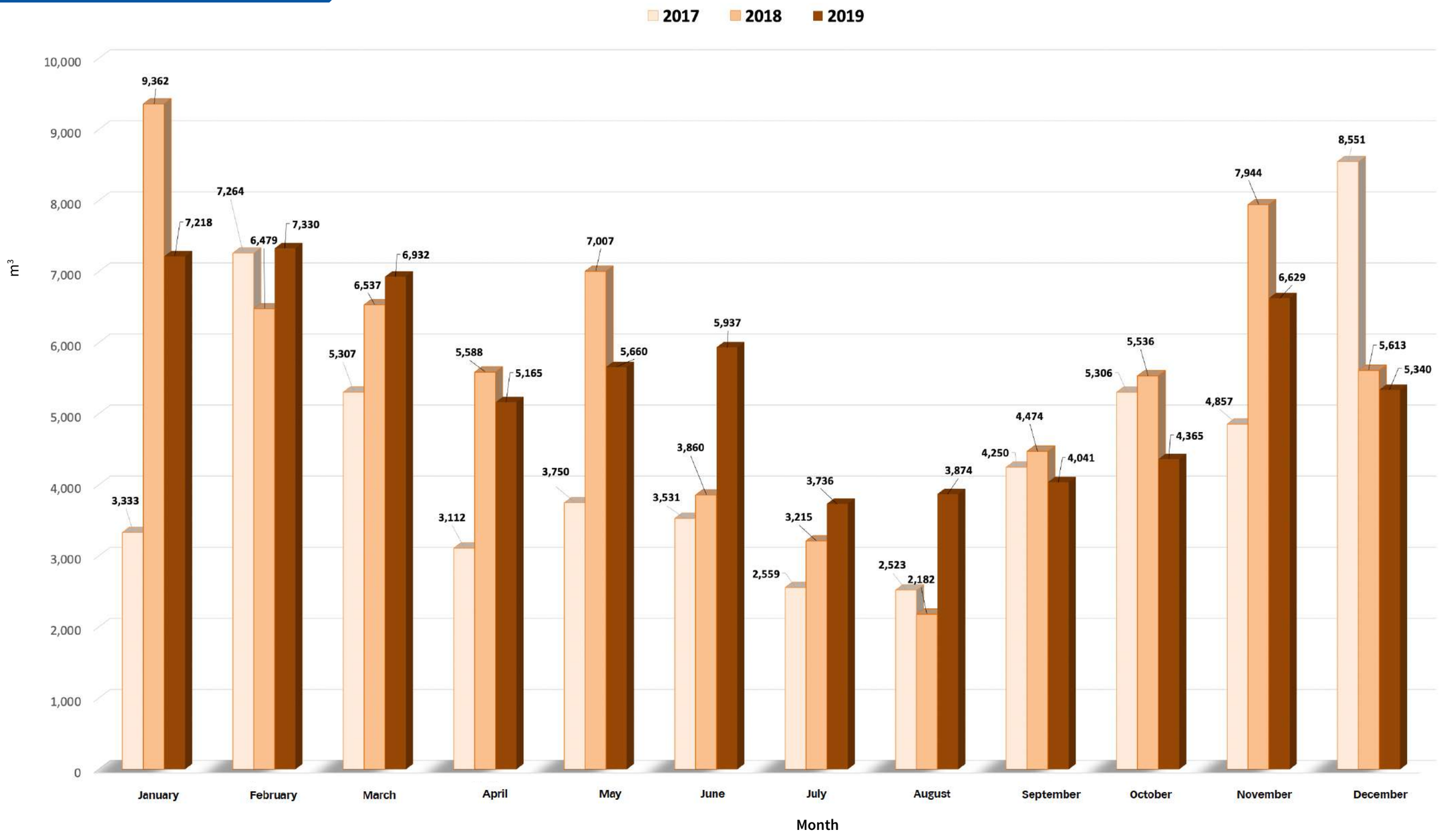


SUSTAINABILITY REPORT 2019

GAS CONSUMPTION M³
Health Sciences Campus
2017-2019

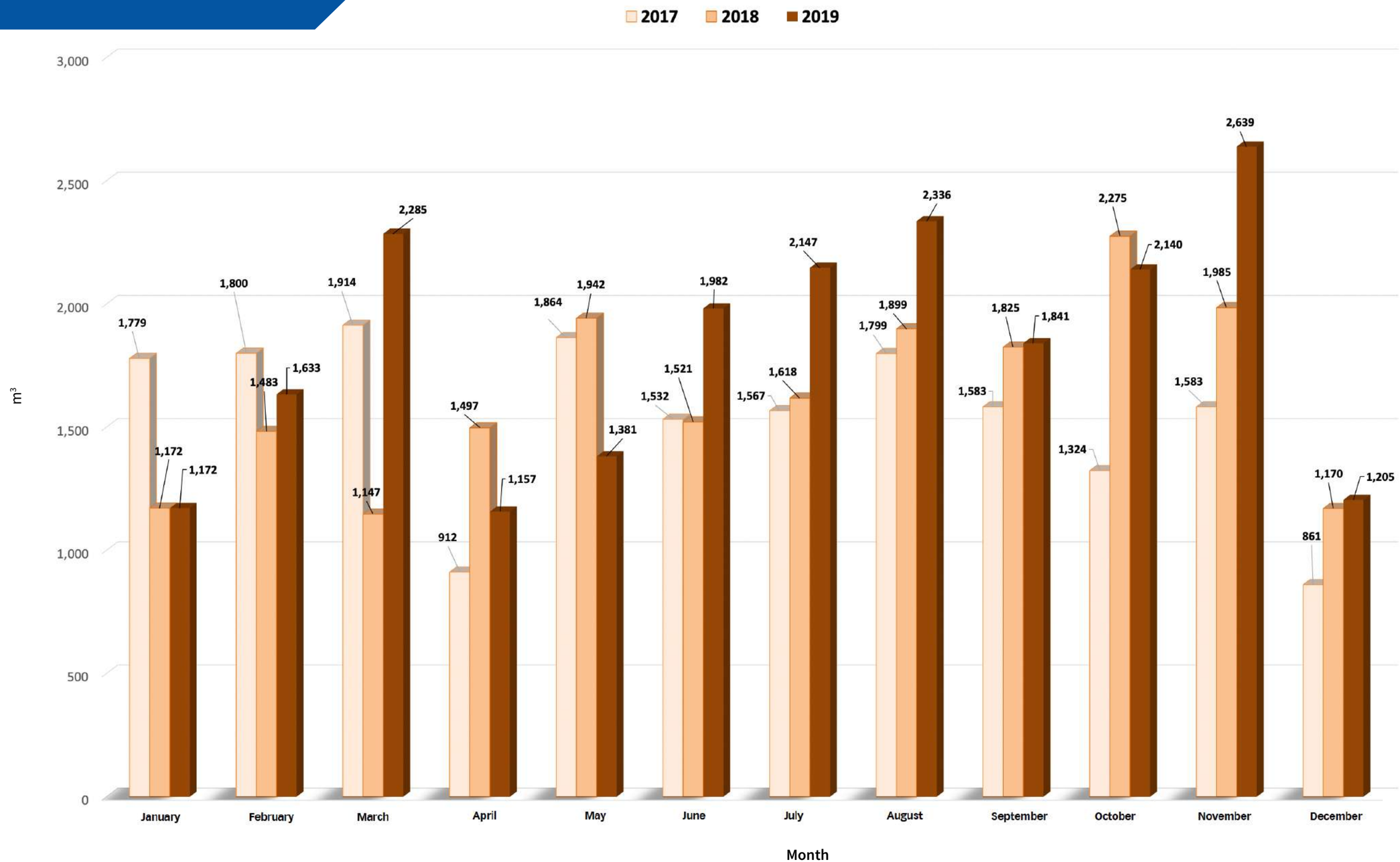


GAS CONSUMPTION M³
Mederos Campus
2017-2019



SUSTAINABILITY REPORT 2019

GAS CONSUMPTION M³
Agricultural Sciences Campus
2017-2019



SUSTAINABLE DEVELOPMENT GOALS

13 | CLIMATE ACTION

CLIMATE CHANGE ADAPTATION ACTIONS

SUSTAINABILITY REPORT 2019

In order to reduce the vulnerability of society and ecosystems to the effects of climate change, the Universidad Autonoma de Nuevo Leon (UANL) carries out actions aimed at reducing the effects of climate change, taking into account the guidelines established in the public policy instruments that regulate national policy on climate change, such as the General Law on Climate Change, the National Climate Change Strategy and the Special Program on Climate Change.

Within the Climate change adaptation actions carried out by the UANL, one of the most important is the conservation and sustainable use of the natural environments that are under its protection, in order to conserve their biodiversity and the important environmental services they provide.

Currently, of the more than 36 million m² that the UANL territory occupies, approximately 98% is covered by different types of natural vegetation in a good state of conservation, where more than 149 thousand tons of carbons are stored , which are equivalent to more than 549 thousand metric tons of CO^2 equivalent.

Campus	Type of vegetation	Surface (ha)	Natural vegetation area	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
	Total	3,637.20	3,481.10	213.90	149,755.73	549,603.54

At the end of 2019, a positive balance of more than 478 thousand tons of CO_2 equivalent was registered, due to the fact that the carbon emissions produced by energy consumption and the use of motor vehicles that use fossil fuels were largely compensated by carbon emissions not issued, due to the implementation of climate change adaptation activities such as the program for the conservation and sustainable management of the areas covered with natural vegetation that it has, recycling of waste and the operation of the Digital Education Program.

CO_2 Carbon Balance		
	Kg CO_2 (equivalent)	Balance
Consumed electricity	83,160,000	83,160,000
University Bus (TigreBus)	252,000	83,412,000
Automotive vehicles	2,952,000	86,364,000
Motorcycles	66,960	86,430,960
CO_2 storage in vegetation	-549,604,000	-463,173,040
Waste recycled	-3,830,000	-467,003,040
Digital Education	-11,783,254	-478,786,294

Positive balance in Gases Emissions Greenhouse effect (GHG) of 478,786,294 kg de CO_2 equivalent

Great adaptation actions to Climate Change

One of the best strategies to prevent the effects caused by Climate Change is to carry out the conservation and sustainable use of ecosystems, however, every year large areas of forests and jungles are deforested in the world, in order to expand the agricultural frontier where many cases practice unsustainable production systems.

The rain forests are terrestrial ecosystems that have a great diversity of plant and animal species, some of them are still unknown to humanity.

In Mexico, a large part of the rain forest has disappeared, remaining only less than 12% of the territory of this type of ecosystems in the country, so their conservation is a matter of greater relevance at the national and global scope.

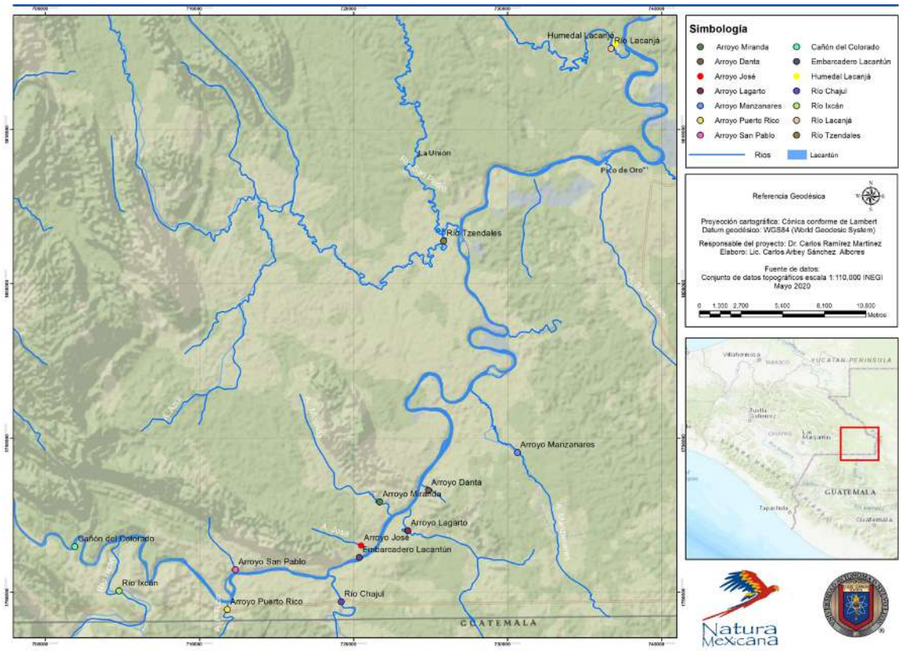
Aware of this situation and within the framework of its University Social Responsibility, for more than 10 years the UANL decided to support the efforts carried out by Natura y Ecosistemas Mexicanos, AC (NATURA), a non-profit civil organization, to protect more than 320,000 hectares of rain forest that are in a good state of conservation and are part of the Lacandon rain forest.

The Lacandona is the largest and best preserved tropical rainforest, not only at the national level but also in Mesoamerica, it is considered a global hotspot worldwide (a place that concentrates a very high biodiversity), where live approximately 28% of mammalian species, 32% of birds, 12% of reptiles, 9% of amphibians and 15% of the freshwater fish species known so far 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

Due to the good conservation status of the natural vegetation that covers most of the 320,000 hectares that are part of this important region, it allows the storage of more than 29 million tons of CO_2, which is equivalent to more than 106 million tons of CO_2, besides annually more than 77 million tons of oxygen are released into the atmosphere.

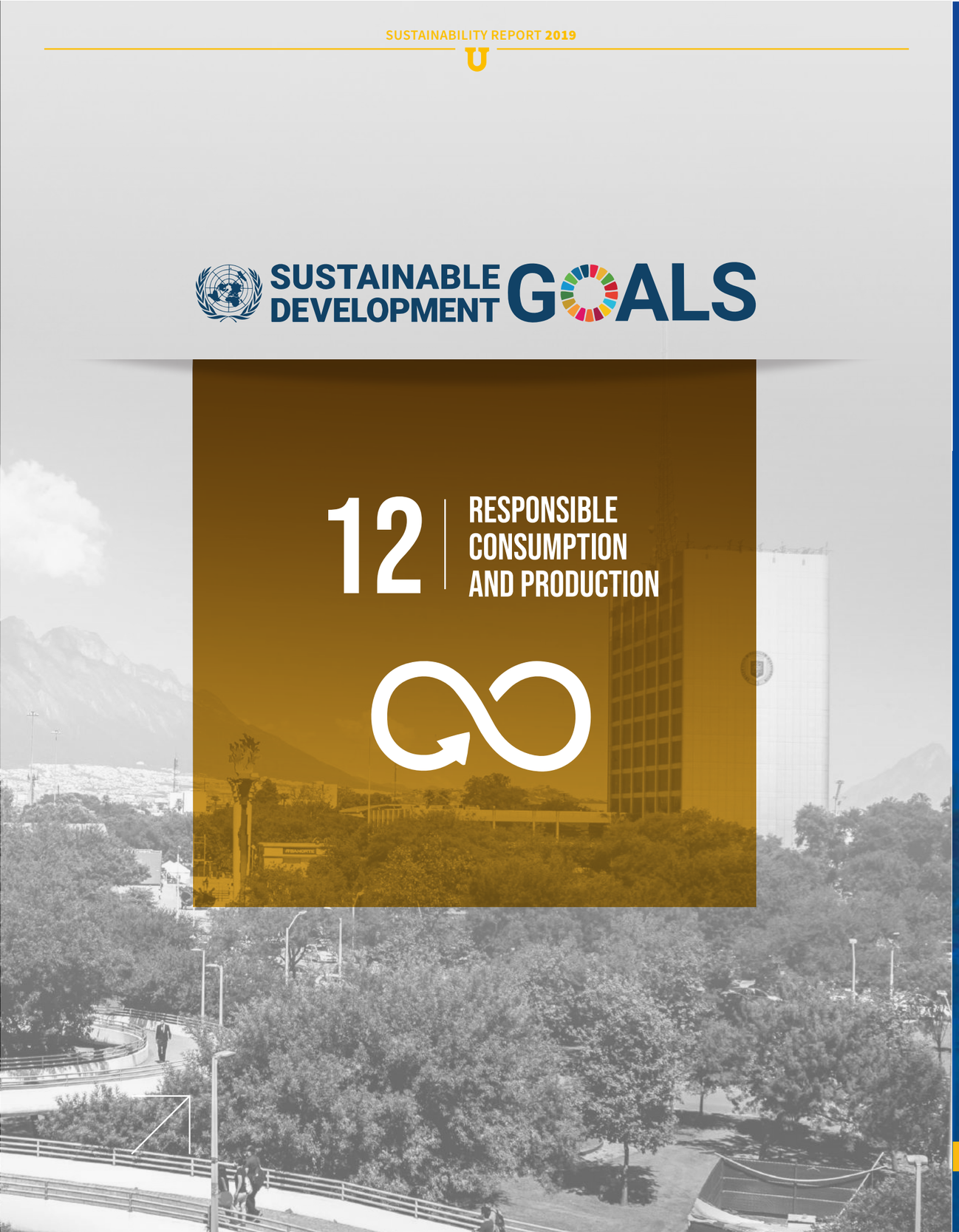
In addition to carrying out communication and dissemination actions about the Lacandona rain forest great importance at the local, national and global level, in order to make sensitive the population of the importance caring and preserve this region, since 10 years ago, the UANL coordinates a multidisciplinary and inter-institutional scientific research group dedicated to monitoring the state of conservation of the aquatic environments of the Lacandona rain forest in order to issue early warnings in the event that situations of alteration in the structure and operation of this type of ecosystems are detected, in order to develop and implement immediate strategies to revert the identified alterations.



Another important environmental service, on a worldwide level, that Lacandona rainforest provides is the catchment of large amounts of water, contributing a significant volume of this vital liquid to a 85 billion m³ average annual runoff registered in 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

The Sustainability Secretariat through the Environmental Management and Operative Security Genera Office (DGASO) makes available for the university community the Institutional Program for Management and Handling of Waste responsible to design the strategies to make the integral handling of the different types of waste and reduce them in all the UANL campus.

2019

- Program to reduce the use of paper and plastic **59.2 TONS OF PET**
- Hazardous waste management and disposition **227.58 TONS**
- Separation and recycling program (PROSER) **1,017.87 TONS**
- Electronic waste recycling **44.9 TONS**
- Organic waste treatment **1.5 TONS**

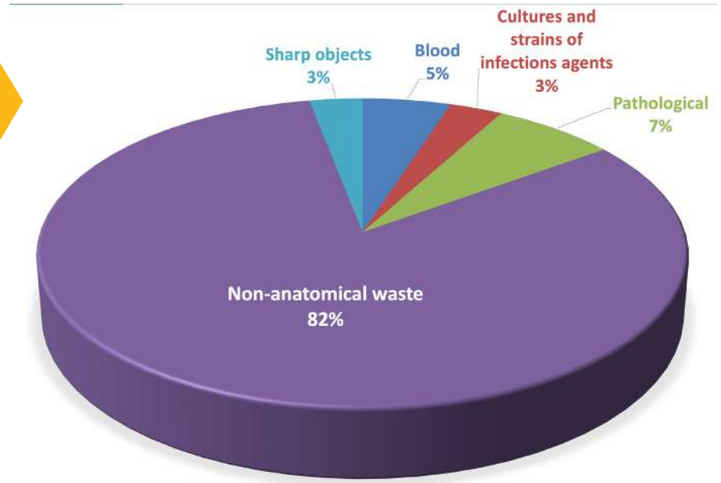
Hazardous waste (RP)

DGASO implements currently a program for the management and disposition of hazardous waste produced on all its campus, which aims to comply all the applicable legal provisions; this program consists on classifying, storing and managing the transport and final disposition of waste with authorized companies by federal entities.

During 2019, the proper handling and disposition of a total of 227.58 tons of hazardous waste was carried out, of which 183.39 tons corresponded to biological infectious hazardous waste (RPBI) and 44.19 tons to hazardous waste of chemical origin (0.29 tons correspond to expired drugs).

Waste Production

RPBI Characterization
january - december 2019

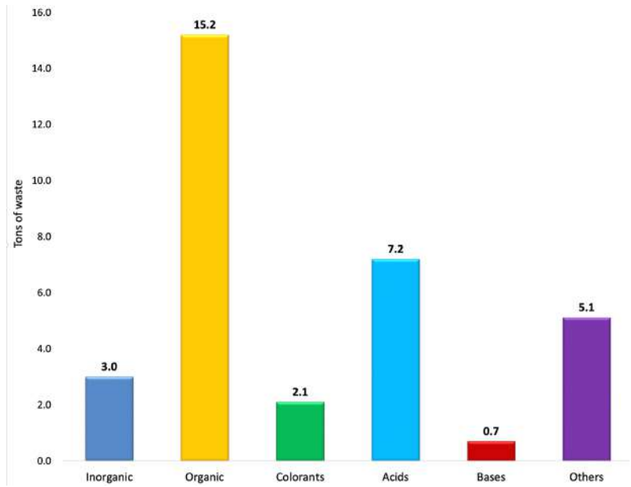


Biological infectious hazardous waste (RPBIs)

From January to December 2019 183.39 tons of RPBI's were produced, where the 82% corresponds to non-anatomical waste (disposable gloves, healing material soaked and dripping with blood and disposable containers with blood).

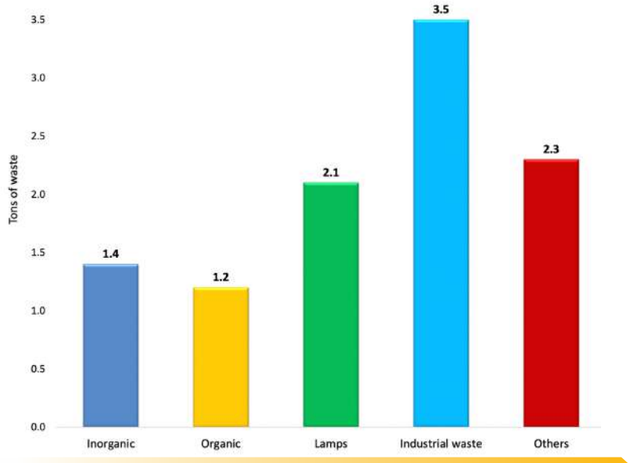
In the case of hazardous waste of chemical origin in the same period, 44.19 tons of which 10.89 tons are solid waste and 33.3 tons of liquid waste were produced.

Liquids



Characterization of RP liquid, period january - december 2019

Solids



Characterization of RP solid, period january - december 2019

As a part of the waste management plan once they are collected by an authorized company by the corresponding authorities, 100% of them are treated or confined as it is established in the environmental regulations in force.

From January to December 2019

289.25 kg

of expired medicines were collected

Another important point within waste management is to obtain registration as an RP producer before SEMARNAT, based on the average estimate of hazardous waste produced in one year, placing first the category in which they are located (micro, small or great producer), the foregoing with the aim of managing their RPs in accordance with the environmental legislation in force.

From January to December 2019, three university Departments carried out the procedures before this Federal Agency obtaining their Environmental Registration Number (NRA) with the support and advice of DGASO to carry out this procedure.

Another type of hazardous waste produced in most households and/or workplaces is expired medicines. In accordance with the environmental legislation in force, these wastes are classified as hazardous, so their arrangement must be made through an authorized companies by qualified Federal Agency (Secretariat of the Environment and Natural Resources SEMARNAT and Secretariat of Communications and Transport SCT), since these companies have the equipment and personnel qualified to apply the necessary security measures to carry out their transport, treatment and / or final disposition. The UANL has a container located in the University Pharmacy "Q.F.B. Emilia Vásquez Farias" from the School of Chemical Sciences in which expired drugs are placed by the university community and the general public from where they are later collected by a specialized staff of a company of this field, to later carried out at final disposal with an authorized supplier.

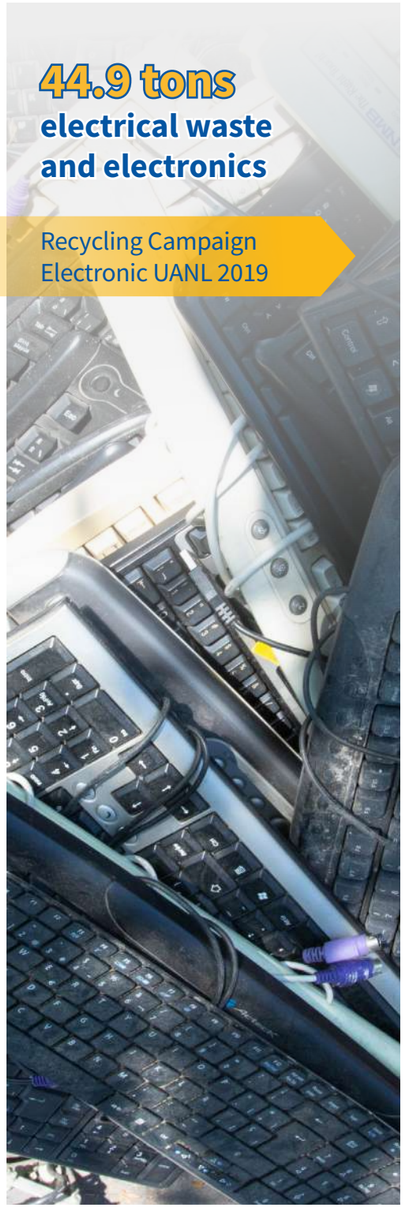
Special Handling Waste

Electrical and electronic waste

As of 2014, the UANL, through the Sustainability Secretariat, 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 correctly , in addition to sensitizing the university community and society to carry out an adequate handling of this type of waste.

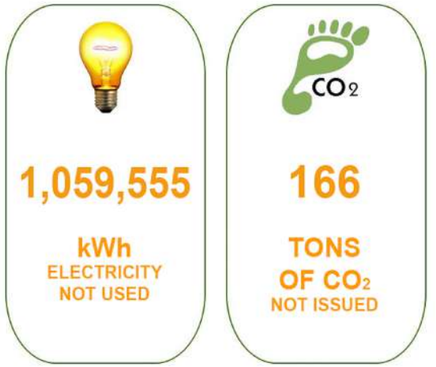
During 2019, two electronic recycling campaigns were carried out, the first of them in June within the framework of World Environment Day and the second in October within the framework of International Day of Waste of Electrical and Electronic Devices with the valuable support of academic and central Departments of the UANL supporting their facilities to place collection centers.

During 2019, were collected 44.9 tons of electrical and electronic waste, which 20.06 tons were collected in the June campaign and 24.84 tons in the October campaign, represented as follows:



Waste	Percentage (%)
Projection equipment	37.3
UCPs and Laptops	11.6
Printers and peripheral	28.7
Cellphones	0.5
Cables, CDs and batteries	12.5
Appliances	9.3

Recycling the aforementioned quantities were obtained significant environmental benefits such as:



Another important campaign that began with a first stage during 2019 was the collection of empty toner cartridges from all UANL Departments through the Purchase Head Office. This campaign collected 1,338 empty toner cartridges which were donated to the Child Anti-Cancer Alliance as a part of our Institution's Social Responsibility. This material will support the funding of treatments for children with cancer.

Organic waste

The School of Agronomy of UANL has been carrying out since 15 years ago a project for the use and exploitation of livestock waste (manure) and the use of pruning (garden waste) of the Marin campus, which consists of treating such residues using worms to obtain humus or fertilizer (lombricompose) and a leachate rich in essential nutrients (fulvic acids) which are used to fertilize the nursery , experimental crops and gardens on the same campus.

During 2019 1.5 tons of organic waste were treated obtaining a total of 700 kg of humus or fertilizer, as well as 1000 liters of leachate annually; this is rich in nutrients and is used for irrigation of gardens or fields or in foliar form by spray.

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 2019, 2.5 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.

Separation and recycling program (PROSER)

UANL's Waste Separation and Recycling Program (PROSER) began in February 2013 in the Provost 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.

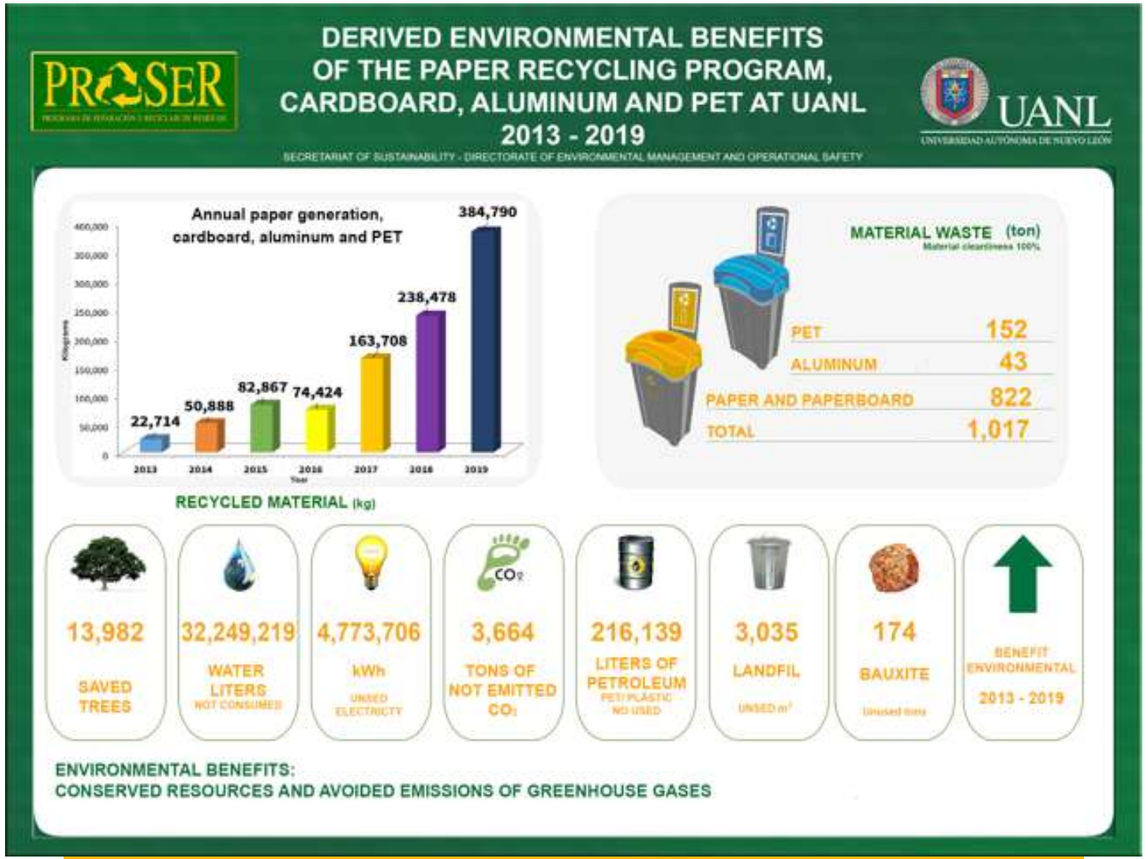
In January 2019, the Sustainability Secretariat through the Environmental Management and Operational Safety Head Office recognized 21 UANL Departments according to the degree of progress in environmental performance they had, which made them credited with recognition as well as giving them sets of containers to strengthen their recycling programs.

The collection of recyclable material (paper, cardboard, PET and aluminum) is carried out systematically in 37 Academic Units and 17 Central Departments of UANL, an increase of 23% compared to 2018. Currently, 53% of total coverage has been reached, achieving greater Departments participation in this important program.

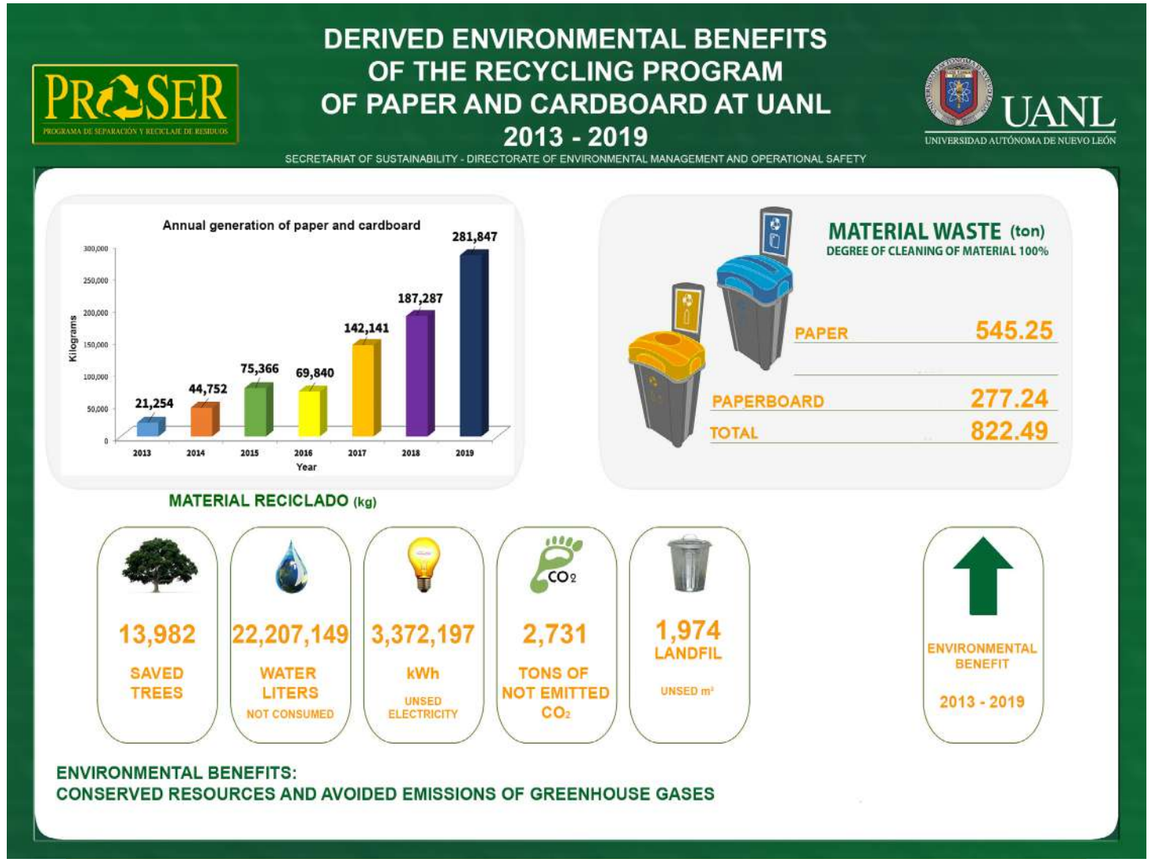
The residues produced in UANL are collected by authorized companies, which moved them to a transfer station, and then taken to the sorting plant where the recyclable waste (cardboard, paper, aluminum, plastics and steel) are separated and the rest are taken to the confinement cells of the landfill of the Integral 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.

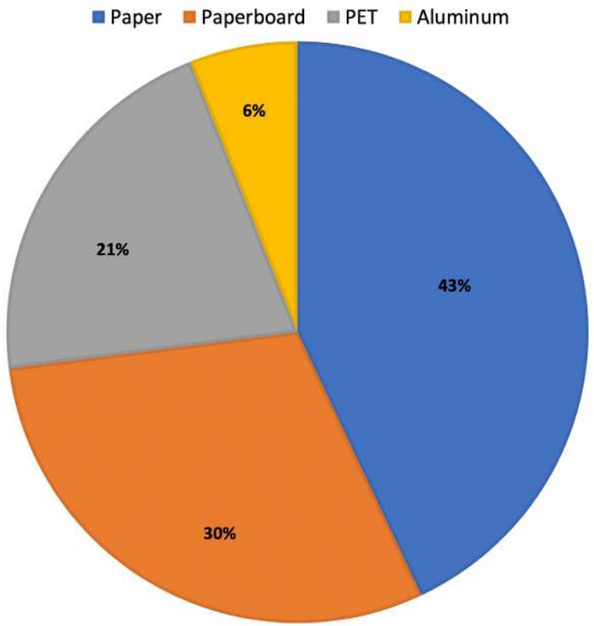
From February 2013 to December 2019, a total of 1,017.87 tons of recyclable material were collected. With the implementation of this important material collection and recycling program at UANL, significant environmental benefits have been obtained, including:



Stressing the success of this important program and thanks to the commitment of the university community in the adoption of sustainable practices, only during 2019 there was a collection of 384,790 kg of recyclable materials (paper, cardboard, aluminum and PET), representing an increase of 61% compared to the amount collected in 2018.



Characterization of material collected during 2019



Another activities carried out in parallel at UANL is the "Uni Uni in Recycling Culture" a program carried out by UANL's Social Service and Professional Practices Head Office until December 2019, which consisted of community social service students providing recyclable material which was then earmarked for social support programs , during 2019, a total of 218.64 tons were collected.

SUSTAINABLE DEVELOPMENT GOALS

6 CLEAN WATER AND SANITATION

RESPONSIBLE CONSUMPTION

Thanks to the "Drinking Fountain Potable Water" program in 2019, 4,938,586 commercial drinking water bottles were no longer consumed in presentation of 500 mL.

Starting in 2015, UANL promoted the Drinking Water Drinkers program, which included the installation of two water purification plants located in Ciudad Universitaria, which supply 30 drinkers located in the following sites:

Floor 1, drinking fountain: Provost Office Building, School of Architecture, School of Mechanical and Electrical Engineering and School of Civil Engineering 1 and 2.

Floor 2, drinking fountain: Sports stadium Gaspar Mass 1 and 2, dressing rooms and football field, athletics track, basketball court, and fast football soccer field..

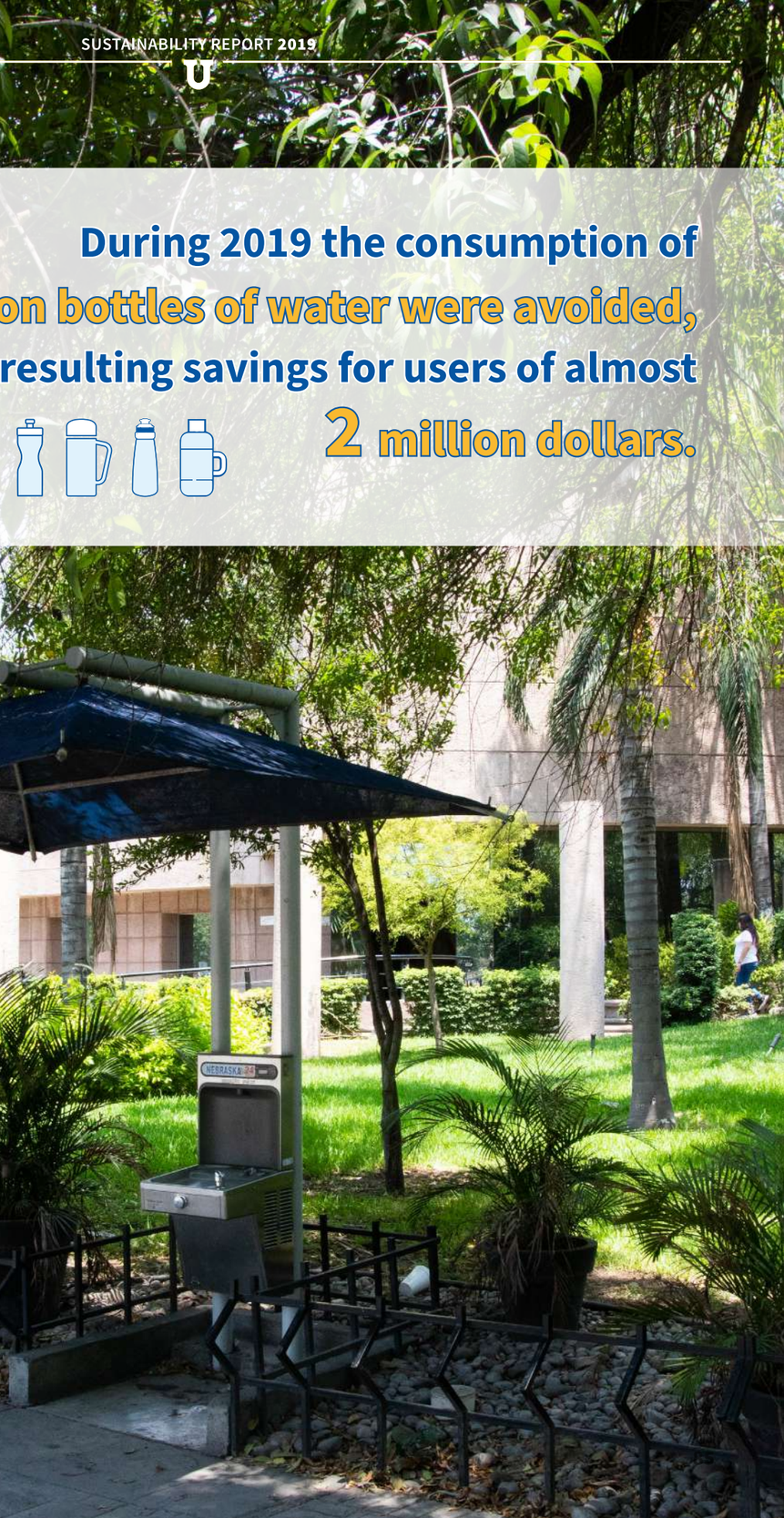
CONNECTING Project. C. Biological, C. Chemic, I. Civil, Afirme Bank, Bookshop 1 and 2, Subway 1, 2, 3 Accounting School, Todd Building 1, 2 and 3, Water Park, Sunken Park, Chico Rivera Stadium 1, 2 and 3.

During 2019, the water dispensers issued 2,469,293 litres of drinking water, which meant that members of the university community would stop consuming 4,938,586 commercial drinking water bottles in presentation of 500 mL.

The operation of this project represented great environmental benefits, by avoiding the generation of solid waste (PET bottles) protect the health of users, as well as it represents a significant economic savings for them, calculated at $ 2,139,551.00 (DLS).

SUSTAINABILITY REPORT 2019

During 2019 the consumption of 5 million bottles of water were avoided, resulting savings for users of almost 2 million dollars.



Economic benefits of the program "Portable drinking 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 ofwater drinking fountain do not buy 500ml. bottles of water annually
2019	2,469,293	4,938,586	$ 2,139,551.00 (DLS)*
2018	553,517	1,107,034	$ 479,602.00 (DLS)*
2017	598,342	1,196,684	$ 518,441.00 (DLS)*

*Considering the price of the 500 mL bottle at $0.43 (DLS).

Environmental benefits of the program "Portable drinking fountains"

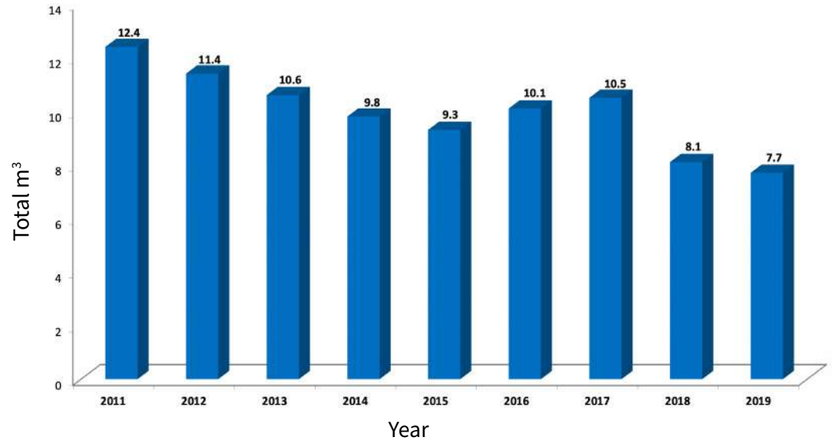
Year	Water consumed (L) in drinking fountains at CU	Equivalent to bottles (500ml)	Tons of PET not used	Not consumed energy (kWh)	Not consumed water (L) (in the manufacturing of PET)	CO_2 not emitted (tons)	Landfill not used (m3)	Oil saved (L)
2019	2,469,293	4,938,586	59.2	298,927	2,370,521	101	321	84,331
2018	553,517	1,107,034	13.3	66,927	531,376	23	72	18,904
2017	598,342	1,196,684	14.4	72,347	574,408	24	78	20,435

EFFICIENT USE OF WATER

The 70% of territory occupied by the state of Nuevo Leon has a dry and semi-dry climate, 20% is warm subhumid, 6% temperate subhumid and the remaining 4% has a very dry climate. The average state rainfall is 650 mm per year, with a summer rain regime that occurs primarily during the months of August and September.

Due to this situation, the UANL campuses are located in areas where water stress is present for most of the year. Therefore the efficient use of water in university facilities is a matter of utmost importance.

Per capita water consumption in cubic meters 2011 - 2019



Nowadays, the UANL promotes the efficient use of water through the following actions:

- Application of strategies aimed at improving the facilities and equipment used to conduct and distribute water
- Use of efficient water devices (taps, toilets, etc.)
- Application of a permanent leak detection and control program
- Use of treated wastewater
- A permanent program of awareness on proper use of water by users.

The application of these actions and the assumed commitment by the university community in regards to water care has allowed the decrease of the consumption of potable water per capita in a sustained way through the current decade, going from 12.4 m^3 in 2011 to 7.7 m^3 in 2019, despite the significant growth in students' enrollment during this period.

Use of the wastewater treatment

Due to the fact that the UANL campuses are located in water stress areas, and in addition to the increasing demand for water caused by the student population growth each year, new alternatives have been sought to face this challenge, among which are the recovery and use of treated wastewater.

Once the wastewater is treated the Water and Sewage plants of Monterrey, it returns to the university campuses and is used to spray green areas and gardens.

Currently, 100% of the green areas of Ciudad Universitaria Campus are sprayed with treated wastewater, which has allowed improving the water care, as well as generating significant economic savings, because the price of treated wastewater it is only 18% compared to the price of potable water.

"Zero Water Leaks at the UANL" Program

One of the biggest problems faced by the water conduction and distribution network of the university facilities are the losses of this vital liquid due to the emergence of "leaks" that occur. This is because of the failures caused by old equipment or incidents caused by changes in pressure that can be produced by heavy rains or damaged water pumps. All this causes strong pressures in water which ends up breaking the pipes, among other possible causes.

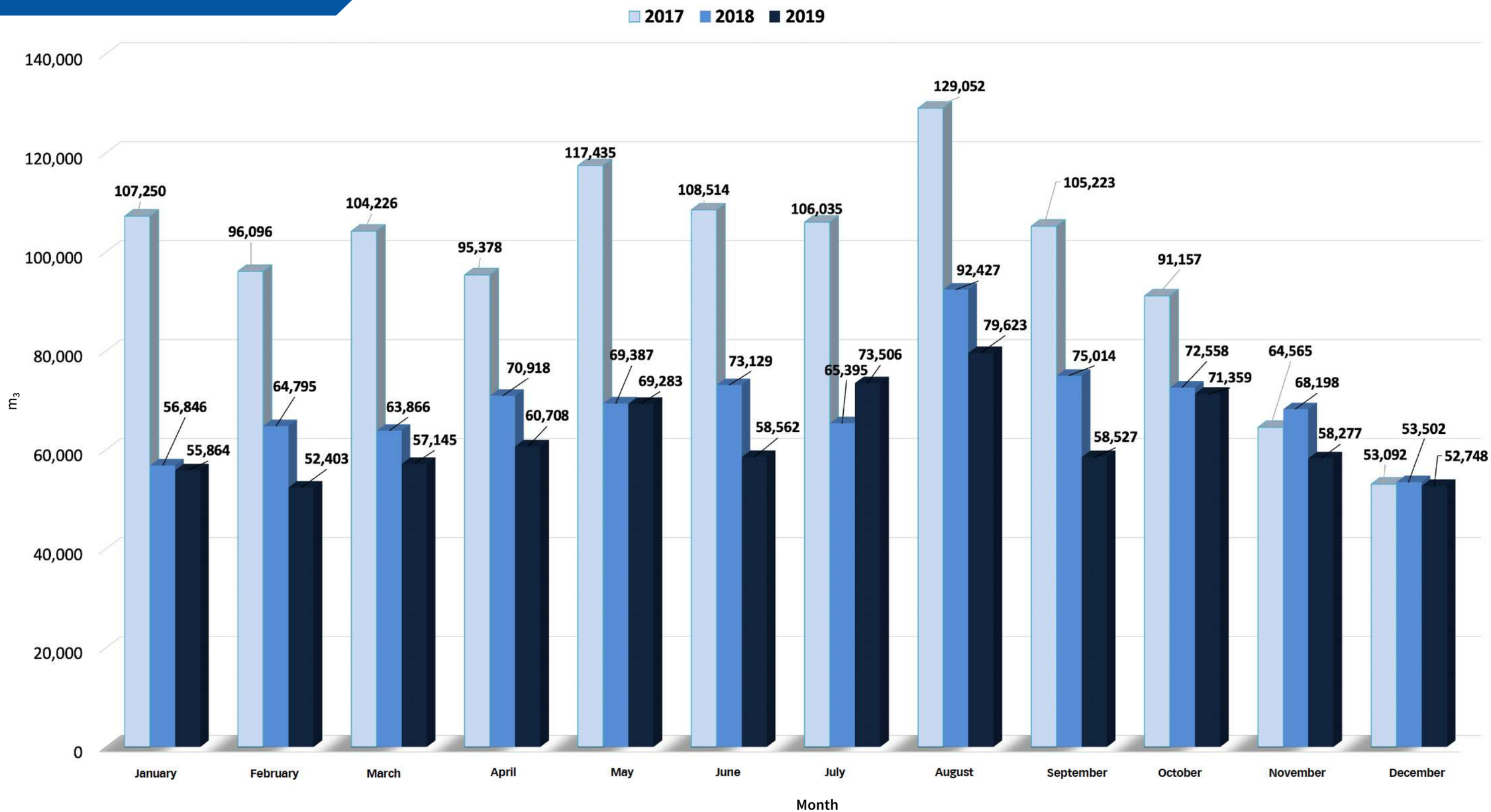
In order to identify water leaks early in the water conduction and distribution network, the "Zero Water Leaks at UANL" program has been operating for several years. It consists of periodically reviewing the consumption of water from university departments, besides carrying out a periodic review of the hydraulic network in order to detect leaks or any problem which the network may present.

In 2019, a total of 1,699,474 cubic meters of water were consumed, which meant a saving of 63,881 cubic meters compared to the water consumption of 2018.

Through the "Zero Water Leaks at the UANL" program operation, we avoided the loss of 63,881 cubic meters of this vital liquid during 2019. This is equivalent to a daily saving of 175,000 liters of water throughout the year.

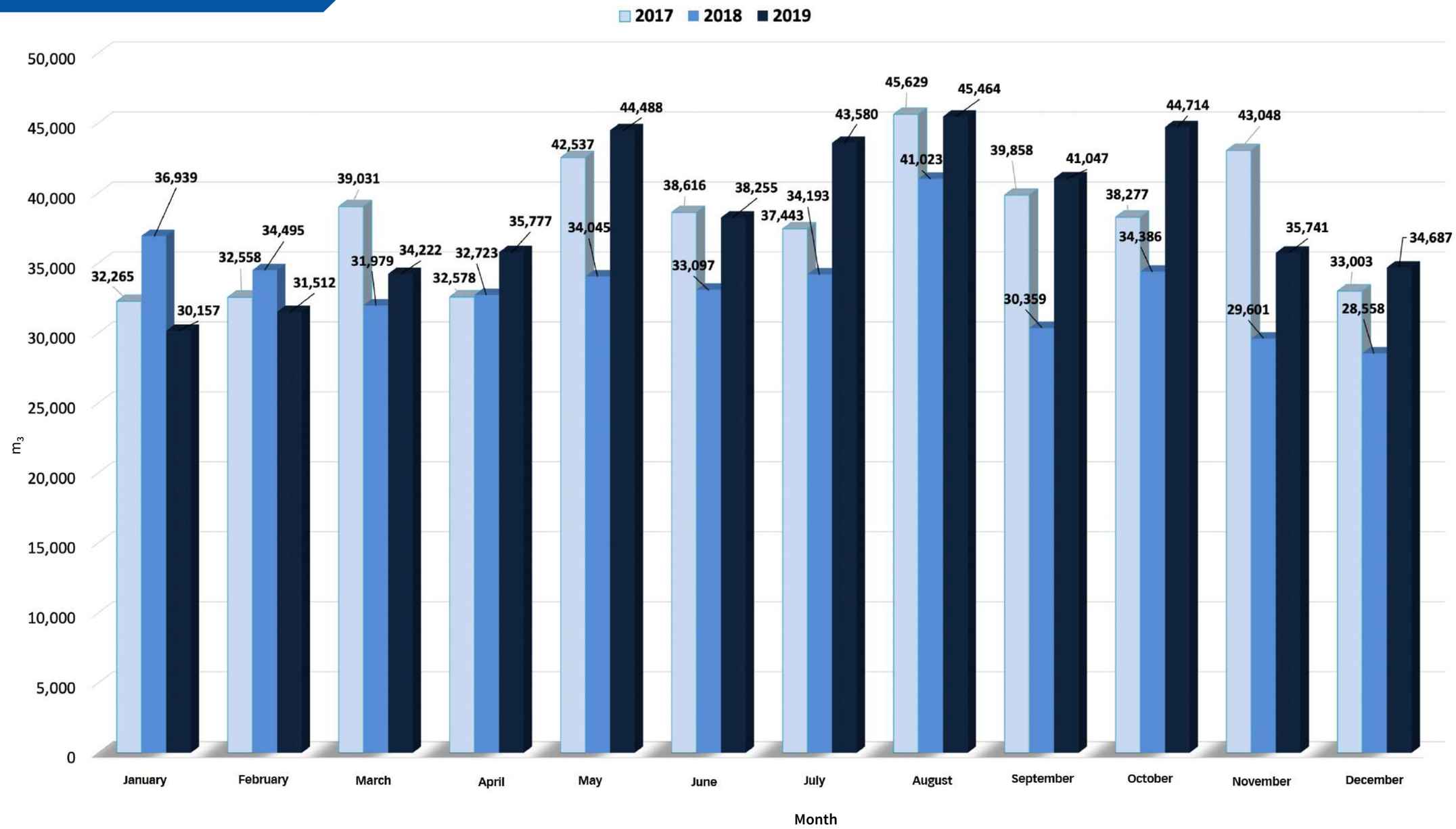
SUSTAINABILITY REPORT 2019

Water Consumption m³
Ciudad Universitaria Campus
2017-2019

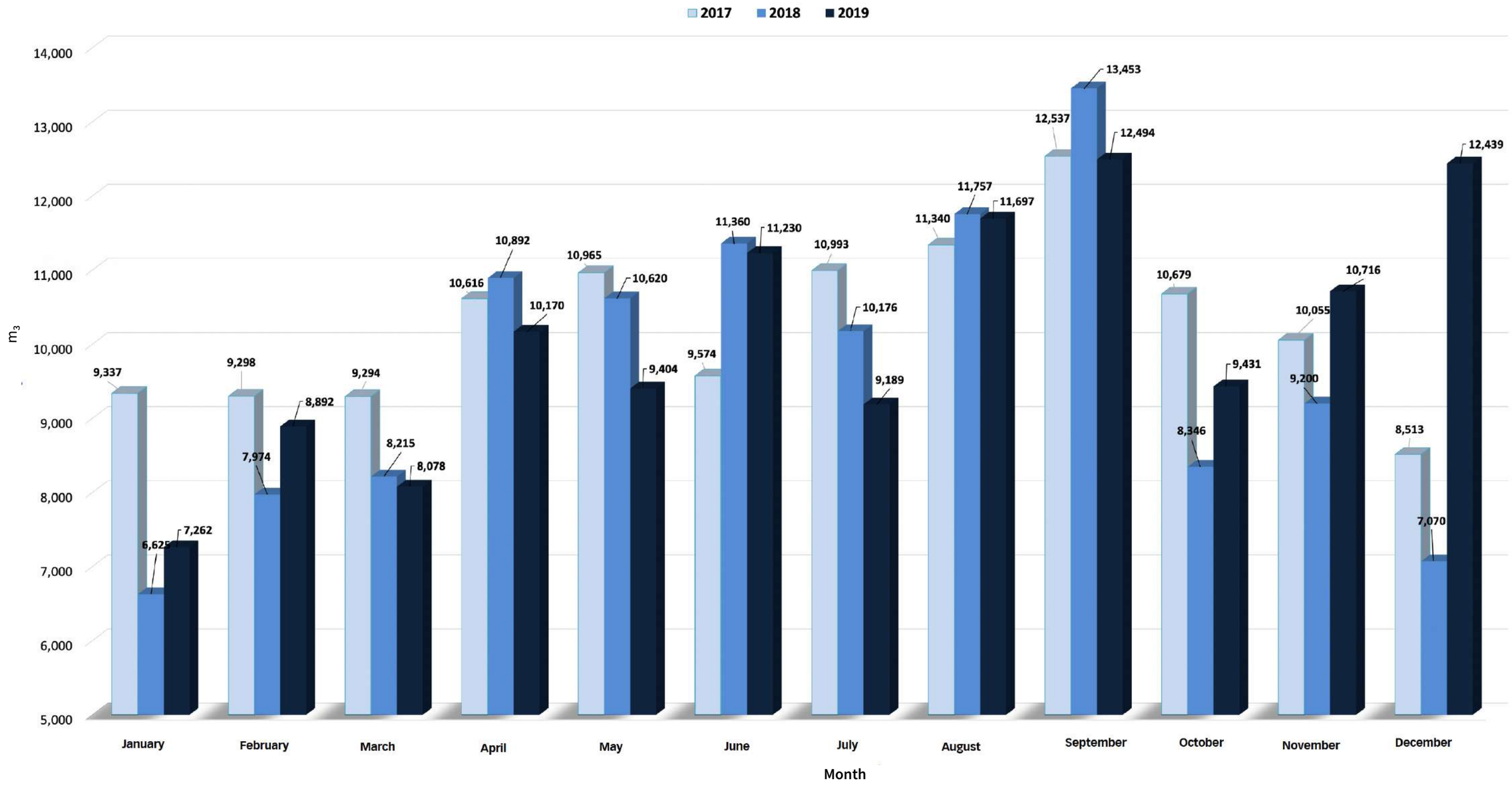


SUSTAINABILITY REPORT 2019

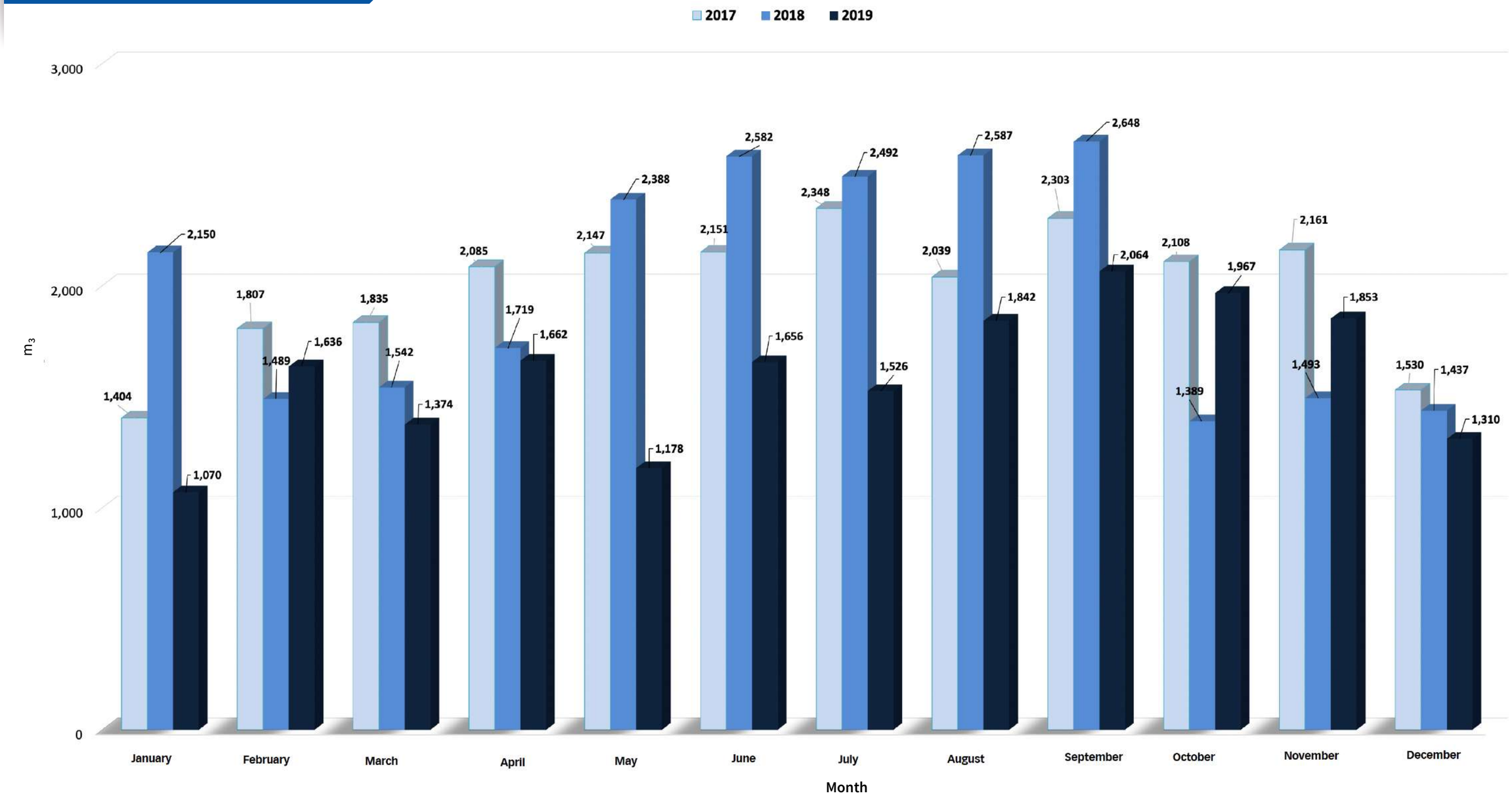
Water Consumption m³
Health Sciences Campus
2017-2019



Water Consumption m³
Mederos Campus
2017-2019

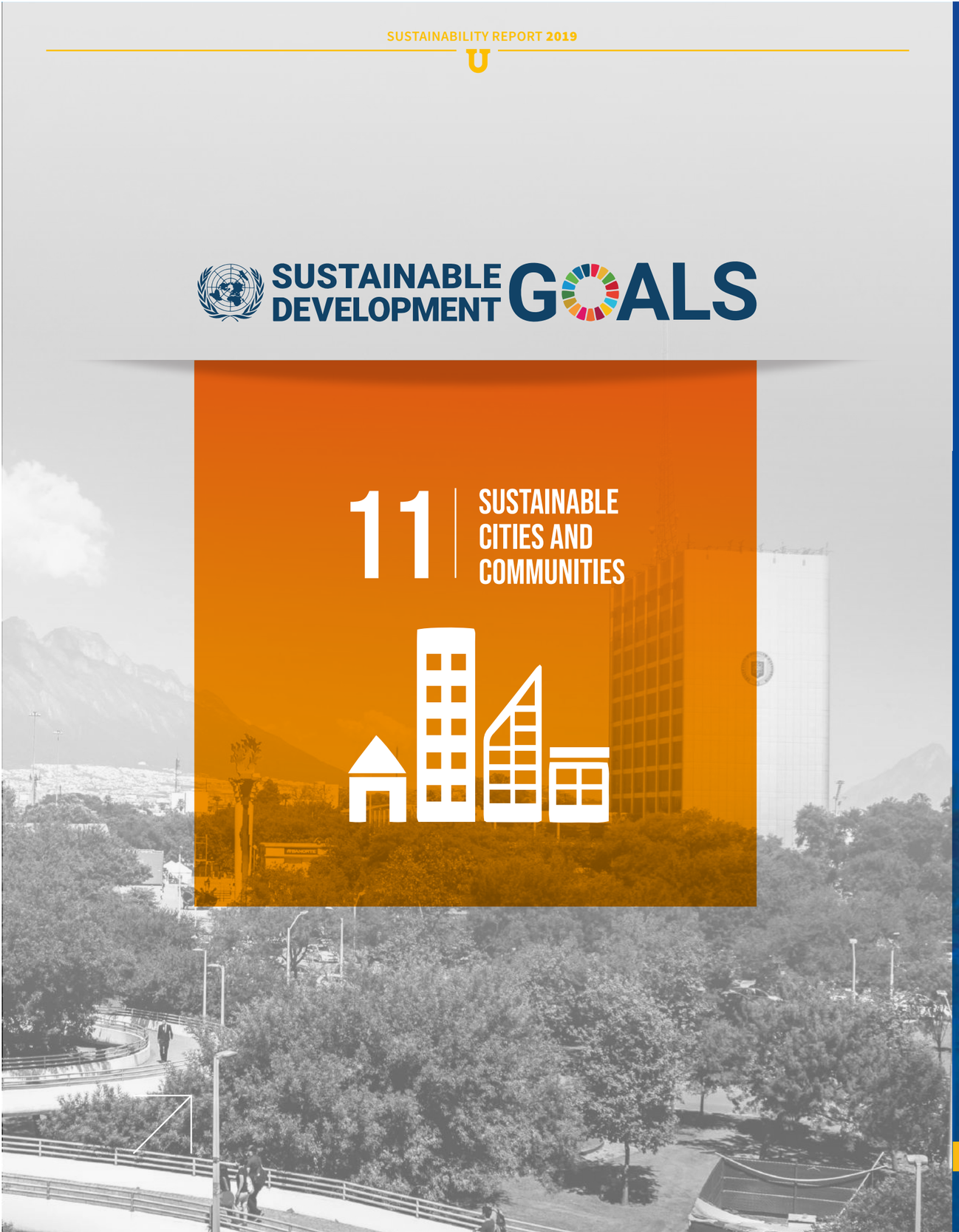


Water Consumption m³
Agricultural Sciences Campus
2017-2019



SUSTAINABLE DEVELOPMENT GOALS

11 | SUSTAINABLE CITIES AND COMMUNITIES



SUSTAINABLE MOBILITY

The mobility is the set of practices and travel strategies used by the population, considering all means of transportation, motorized and non-motorized, in order to meet the needs of users. The nature of sustainability lies in the fact that solutions to mobility requirements must be carried out at the lowest possible cost, and evaluating their impacts on the social, economic, and environmental aspects.

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

One of the urban areas in which high mobility levels are generated is the university campuses. These are spaces used as headquarters for higher education institutions.

On university campuses there is the junction of various groups of people (students, teachers, administrative staff, and visitors) who daily commute from their home to work/school and vice versa and show a high level of dependence on public or private transport.

The Master Plan of Sustainable Mobility (MSPM) of Universidad Autonoma de Nuevo Leon promotes mobility and transportation strategies and policies with the objective of assuring that the university community members move from and inside the campuses under a scheme of sustainable mobility.

The MPSM promotes the performance of the following actions:

- Collaborative planning.
- Pedestrian and cyclist security.
- Use of public transport.
- Decrease in parking areas.
- Decrease in motor vehicle traffic.
- Use of electric transport units.
- Implementation of the UANL CONNECT program.
- Connectivity between university campuses and population centers, through the use of public transport.
- Implementation and operation of the free university public transport system “Tigrebus”.
- To discourage the use of private vehicles.

Mobility	
6,150	Cars entering the university daily
279	Motorcycles entering the university daily
0.029	Ratio of vehicles (cars and motorcycles) divided by the total population within the university
375	Average number of zero emission vehicles (bicycles, cars) in the campus per day
0.0017	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

Tigrebus			
Year	Number of runs	Total annual services	Savings for users * Contemplating a $ 0.37 (DLS) student fee.
2019	423	5,076,00	$ 1,911,908.00 (DLS)*

Environmental and economic benefits from the operation of the “Tigrebus” university public transport

The operation of the free university public transport service discourages the use of private vehicles on university campuses, which contributed to reducing Greenhouse Gas (GHG) emissions into the atmosphere, besides generating significant economic savings for students for more 1 million dollar during 2019.

Tigrebus			
Campus	Number of units	Number of runs per unit	Total runs
University Campus	1	31	31
University Campus (tigrecart)	2	4	8
Mederos Campus	4	44	176
Health Sciences Campus	2	72	144
Agricultural Sciences Campus	2	32	64
Total			**423**

Tigrebus university transport system

5,076,000 free services provided to students in 2019

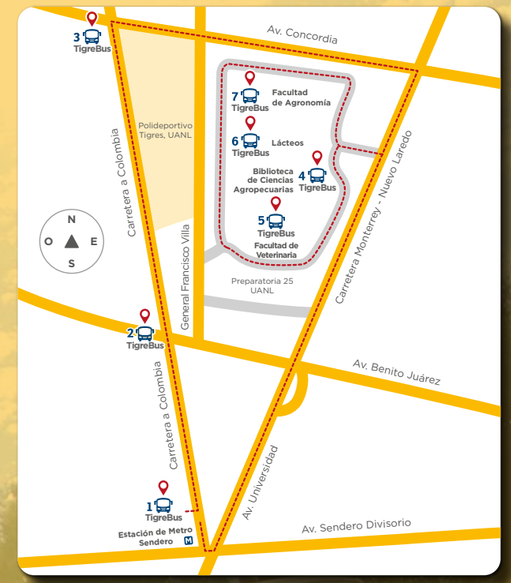
13 units which integrate the system

50 average amount of passengers per unit

423 number of daily trips

Health Sciences Campus

Agricultural Sciences Campus



University Campus

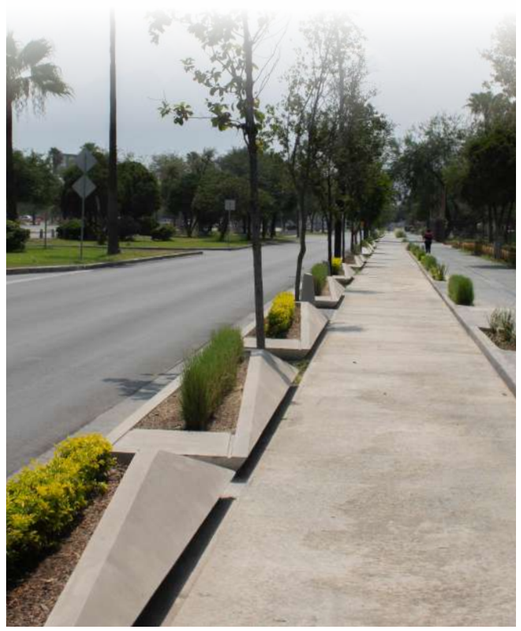
Mederos Campus

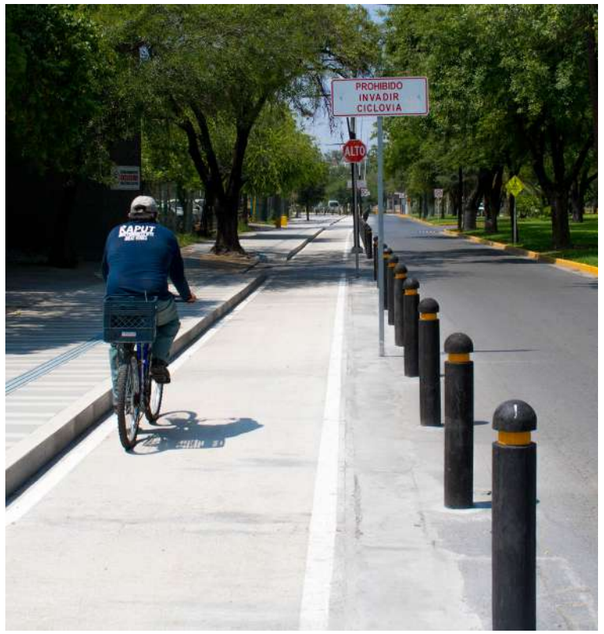
Tigrebus			
Home campus	**Destination campus**	**Schedule**	**Total runs**
University Campus	Agricultural Sciences Campus	06:15	1
University Campus	Health Sciences Campus	06:15	1
University Campus	Mederos Campus	06:15	3
		11:00	2
		16:00	1
Mederos Campus	University Campus	13:00	2
		18:00	2
		21:15	3
Agricultural Sciences Campus	University Campus	20:30	1
Health Sciences Campus	University Campus	21:15	1
Total			**17**

Institutional Vehicle Park

Due to the sizes and number of campuses of the UANL, we have a vehicle park that allows the movement into the campuses in a group and organized way for students, teachers, and administrative staff.

Type of vehicle	Central office	Faculties	Total units
Cars	75	47	122
Trucks	130	240	370
Motorcycles	8	6	14
Buses	7	15	22
Loading trucks	6	15	21
Electrical cars	14	0	14
Total			**563**





CONECTA UANL

It is the MPSM's most important project and it has the objective to promote sustainable mobility schemes at Ciudad Universitaria campus to guarantee the road, the pedestrian, and cyclist safety, reduce travel times and promote the building of public spaces that encourage coexistence, cultural expressions, and recreation among university students, through the construction of new pedestrian areas by more than 12,000 m². Besides the operation of a 3.2 kilometers Cycle Lane, accompanied by a public bicycles program, a comprehensive multimodal mobility system, the ordering of a public transport concession, improvements in the management of parking lots on the campus and the planting of more than 1,100 trees in common use areas.

CONECTA UANL is not just a project. It is an institutional platform that proposes a change in the paradigm of the university policy in terms of mobility, that supports the transformation of the actual model, which allows to humanize and improve the university spaces quality.

SUSTAINABILITY REPORT **2019**

New pedestrian areas of 12,000 m²

A Cycle Lane of 3.2 km with a public bicycles program

An integral mobility system

The planting of more than 1,100 trees in common use areas

The order of a public transport concession

The improvements in parking areas management

SUSTAINABLE DEVELOPMENT GOALS

4 | QUALITY EDUCATION

EDUCATION AND RESEARCH

University Academy for Sustainable Development Program (AUDS)

The AUDS is a space of collaboration, discussion, and analysis unified by specialists of distinct areas of knowledge assigned in different university units, which aims to facilitate communication, stimulate research, teaching, dissemination, exchange of knowledge and innovation in sustainability field.

In 2019, the AUDS promoted the achievement of 9 academic events, where 20 national and international experts participated and more than 1,380 assistants attended. They discussed topics like sustainable mobility challenges, public policies about the conservation and natural areas protected management, an air quality panel in the metropolitan area of Monterrey, methodological strategies applied to the study of circular economy, conservation and care of water and the importance of health, and the interrelation between human, animal, and environmental health.

The obtained results in these before mentioned events were made into recommendations of public policies aimed at government authorities in order to support the generation of viable solutions to the problems they faced in terms of caring for the environment and sustainability.

The Universidad Autonoma de Nuevo Leon has achieved the incorporation of the sustainability concept at the degree it offers.

80 Bachelor's Degrees Programs in **26** Schools

The Sustainability Secretariat, through the Project Development Department, gave an assessment about the incorporation of the sustainability concept in the university syllabus

The **6,755**

Learning Units (UA) were reviewed

resulting in

3,265

Learning Units related to topics related to sustainability.

48%

of the total Learning Units taught at UANL is related to sustainability topics, proving the interest and commitment to incorporate the subject into the undergraduate academic syllabus.

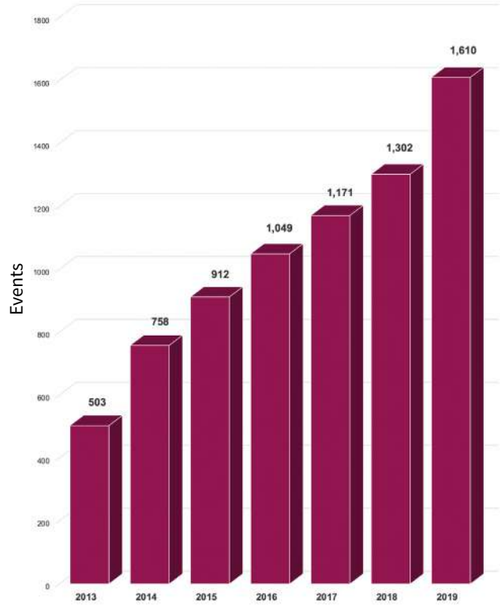
1,236
environmental

1,535
social

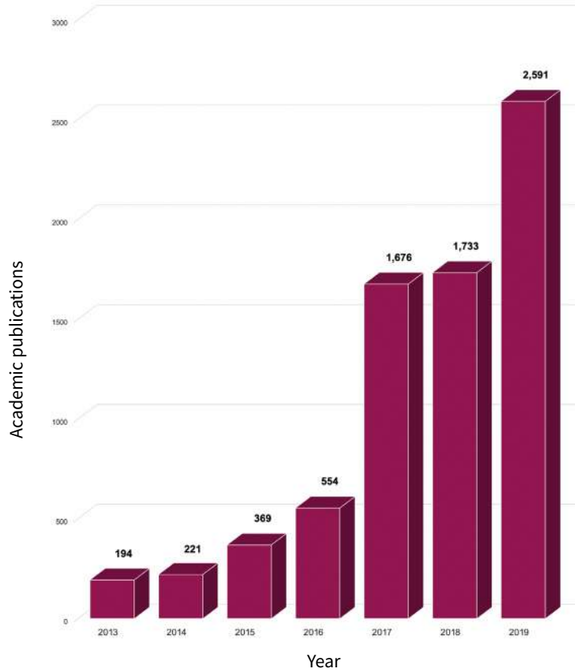
494
economic

In total, 6,755 Learning Units are taught in the syllabus of all Bachelors' studies currently taught at UANL, of which 3,265 have content related to sustainability.

Academic and dissemination events linked to sustainability



Academic publications related to sustainability issues

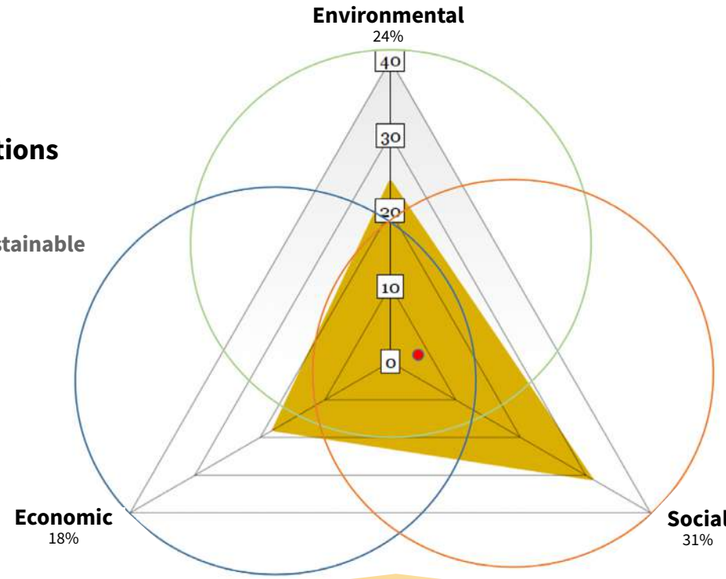


Diagnosis on sustainable development in the university curriculum

In 2019, the diagnosis of the incorporation of sustainable development in the university syllabus was updated. Here are some examples where it is possible to appreciate the trends that undergraduate studies have towards the social, economic, or environmental knowledge field.

Faculty of Political Science and International Relations

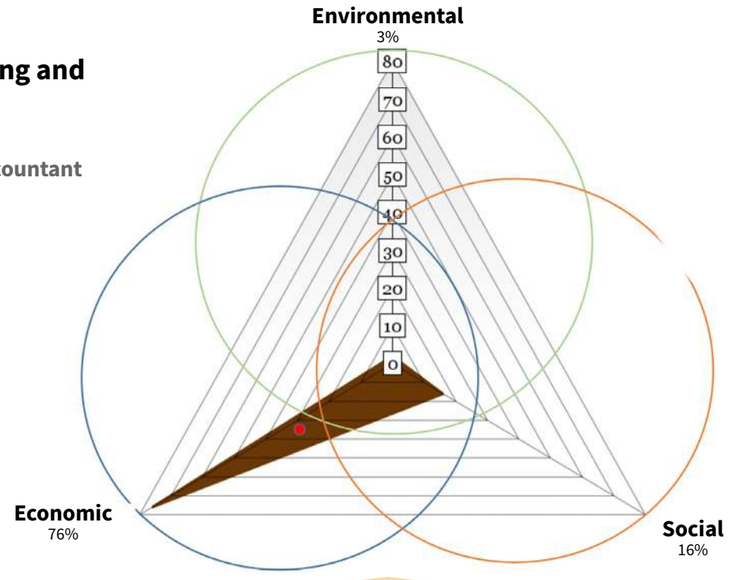
Bachelor of Energy Management and Sustainable Development



Degree with environmental, economic and social tendency

Faculty of Accounting and Administration

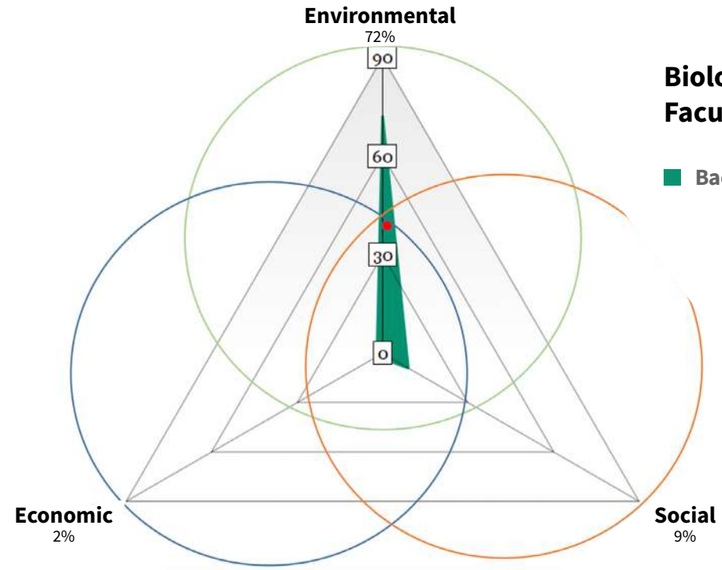
Bachelor of Public Accountant



Bachelor with economic tendency

Biological Sciences Faculty

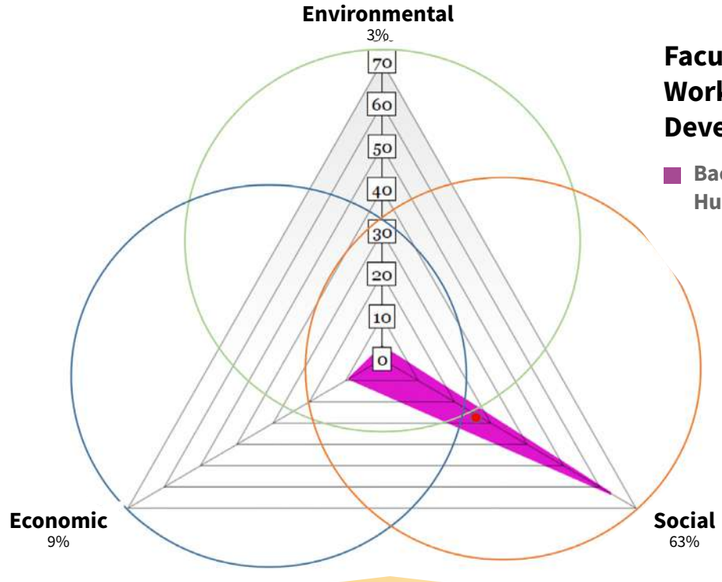
Bachelor of Biology



Degree with environmental tendency

Faculty of Social Work and Human Development

Bachelor of Social Work and Human Development



Bachelor with social tendency

http://sds.uanl.mx/diagnosis-on-the-incorporation-of-the-topic-on-sustainable-development-in-the-university-curriculum/?lang=en

During 2019 were taught fourteen undergraduate and sixty-three postgraduate degrees at the UANL with topics related to sustainability:

Bachelor's degrees:

- Environmental Engineering
- Biomedical Engineering
- Agribusiness Engineering
- Agricultural Engineering
- Biotechnology Engineering
- Geophysics Engineering
- Geology Engineering
- Mineralogy Geology Engineering
- Natural Resources Management Engineering
- Forest Engineering
- Petroleum Engineering
- Bachelor in Energy Management and Sustainable Development
- Bachelor in Genome Biotechnology
- Bachelor in Biology

Postgraduate:

- Master in International Administration Major in Sustainable Business
- Master in Animal Science
- Master of Science Major in Urban Affairs
- Master of Science Major in Molecular Biology and Genetic Engineering
- Master of Science Major in Environmental Engineering
- Master of Science Major in Wildlife Management and Sustainable Development
- Master of Science Major in Management and Administration of Plant Resources
- Master of Science Major in Microbiology and/or Immunobiology
- Master of Science Major in Applied Microbiology
- Master of Science Major in Medical Microbiology
- Master of Science Major in Nutrition and Food Technology for Aquatic Organisms
- Master of Science Major in Sustainable Processes

- Master of Science Major in Environmental Analytical Chemistry
- Master of Science Major in Biomedical Chemistry
- Master of Science Major in Chemistry of Natural Products
- Master of Engineering Sciences Major in Thermal and Renewable Energies
- Master of Engineering Sciences Major in Specialty in Nanotechnology
- Master of Engineering Sciences Major in in Energy Technology
- Master of Science Major in Nutrition
- Master of Science Major in Agricultural Production
- Master of Science Major in Public Health
- Master in Forest Sciences
- Master of Geological Sciences
- Master in Social Sciences with Orientation in Sustainable Development
- Master in Conservation, Wildlife and Sustainability
- Master in Energy Law and Sustainability
- Master in Medical and Veterinary Entomology
- Master in Hydrogeology
- Master of Engineering Major in Environmental Engineering
- Master in Engineering Major in Traffic Engineering and Land Roads
- Master of Engineering Major in Structural Engineering
- Master in Management and Comprehensive Use of Biotic Resources
- Master in Psychology Major in Gender Violence
- Master in Regulation Major in Energy
- Master in Ecological Restoration
- Master of Gender in Public Policies
- Doctor of Animal Sciences
- Doctor of Agricultural Sciences
- Doctor of Science Major in Orientation
- Doctor of Science Major in Molecular Biology and Genetic Engineering
- Doctor of Science Major in Biotechnology
- Doctor of Science Major in Medical Entomology
- Doctor of Science Major in Geosciences
- Doctor of Science Major in Immunobiology
- Doctor of Science Major in Wildlife Management and Sustainable Development
- Doctor of Sciences Major in Management and Administration of Plant Resources
- Doctor of Sciences Major in Microbiology
- Doctor of Sciences Major in Applied Microbiology
- Doctor of Sciences Major in Nutrition and Food Technology for Aquatic Organisms
- Doctor of Science Major in Sustainable Processes
- Doctor of Science Major in Environmental Analytical Chemistry
- Doctor of Science Major in Biomedical Chemistry
- Doctor of Science Major in Chemistry of Natural Products
- Doctor of Forestry Sciences Major in Natural Resources Management
- Doctor in Social Sciences Major in Sustainable Development
- Doctorate's Degree Major in Conservation, Wildlife and Sustainability
- Doctorate's Degree Major in Medical and Veterinary Entomology
- Doctor of Philosophy Major in Architecture and Urban Affairs
- Doctor in Engineering Sciences Major in Environmental Engineering
- Doctorate's Degree Major in Comprehensive Management and Use of Biotic Resources
- Specialty in Medical and Veterinary Entomology
- Specialty in Sustainability of Petroleum Processes
- Specialty in Epidemiology

Research and scientific distribution and research in sustainability

Academic Level recognitions

1,647 with Program for the Professional Development of Teachers Profile (PRODEP)

838 in the National System of Researchers (SNI)

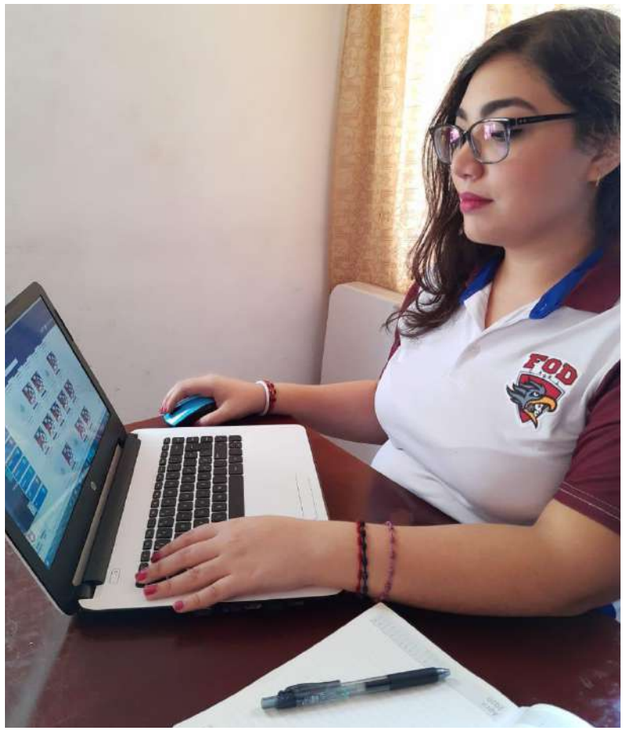
3 in the National System of Creators (SNC)

280 academic bodies

41 research headquarters and institutes

Digital Education program

The UANL Digital Education (ED) program aims to form the human resources of high technical and humanistic quality that requires the economic and social development of the state of Nuevo Leon and the country, supporting one of the main objectives of Sustainability that consists of guaranteeing an inclusive, equitable, and quality education for every person who may require it, no matter their economic nor social conditions.



Furthermore, the ED program helps to decrease the generation of Greenhouse Gases (GEI) produced by the daily academic activities of the UANL since the students enrolled in this program avoid going to the university campuses to receive academic instruction, so they do not use cars that work by fossil fuels, moreover they generate important savings on energy and water.

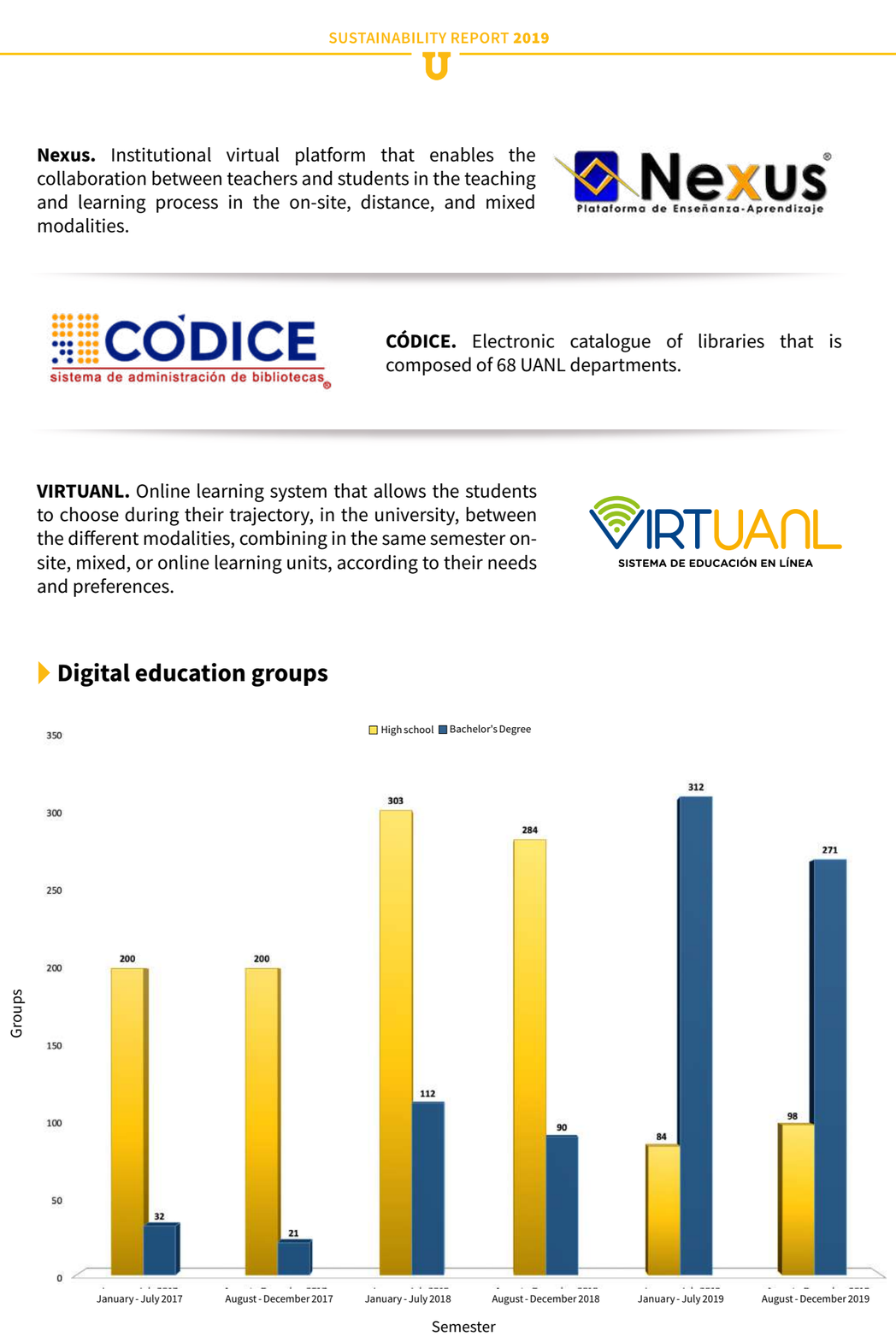
In 2019, thanks to the 31,371 students of the Distance Education program, UANL avoided producing an estimate of 12 thousand tons of CO_2 equivalent, which decreases the carbon footprint that is generated by making academic activities in the university campuses, despite of having more students enrolled every year.

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.

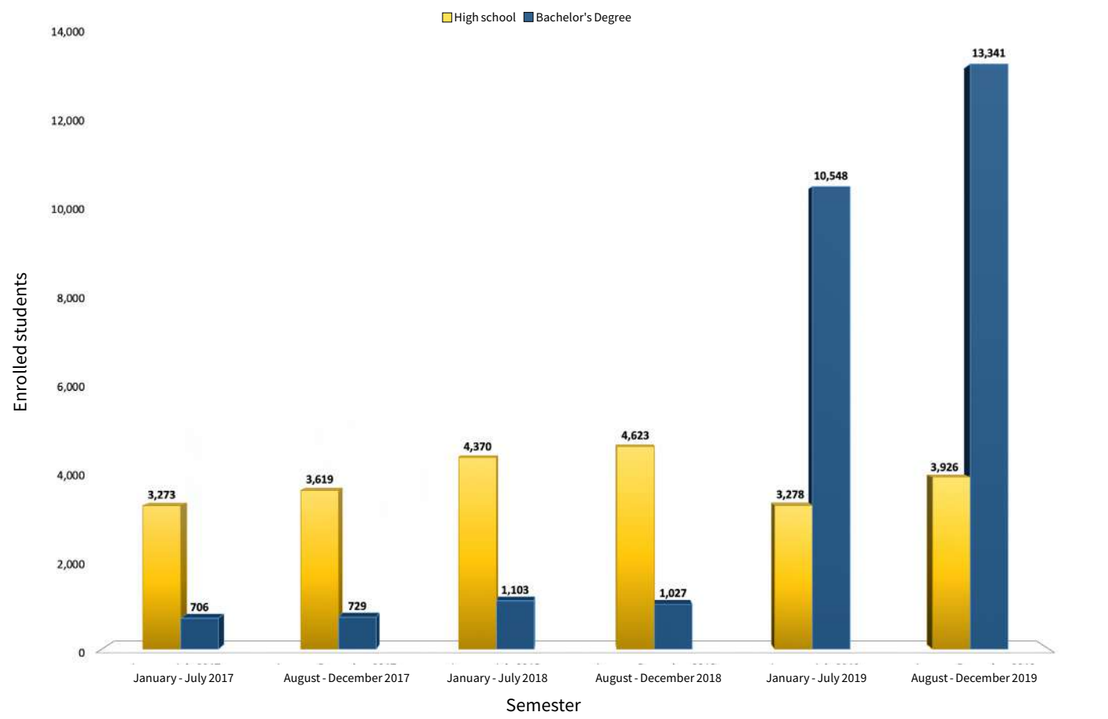
CÓDICE. Electronic catalogue of libraries that is composed of 68 UANL departments.

VIRTUANL. 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.

Digital education groups



Digital education students



111 student organizations

Student participation

The university is a space that has an important role in the student development, therefore encouraging their participation and entrepreneurship in the university life is a key factor in their professional training. From this point of view, the participation produces positive results in the students training that allow them to acquire a belonging and identification sense with the university.

The students that participate and organize in associations have similar interests, motivations and objectives; conditions that stimulate their participation in the design and implementation of action plans that transform the university environment from the social, political, environmental, and cultural point of view.

On the other hand, the students that decide to get involved in a student organization suffer positive changes in the personal, social, and academic areas; by acquiring several competences such as team work, leadership, problem resolution, and critical thinking, and acquiring a bigger responsibility and belonging sense that is reflected in the classroom with a better academic performance, which are favorable elements to boost their professional development.

One the most important commitments of the UANL is to form professionals with a broad sense of life, compromised with the sustainable development; so that students are provided with quality education in terms of sustainability, both formal and informal. This last category includes the work carried out by the UANL to encourage the creation of student organizations, by giving spaces for development and practice of their extracurricular activities: cultural, environmental, sporting, politic, social, and recreation activities; factors that are part of a quality education.

In 2019, the UANL had a register of 111 student organizations related to sustainability topics, of which 58 correspond to independent organizations, 27 to university federations, and 26 to student societies representing each of the schools. The university federations as well as student societies keep an organizational diagram leaded by a president and a general secretary, supported by groups of young leaders that collaborate in making projects enrolled in an annual work program, putting them into practice, in order to benefit the university community and its social environment.

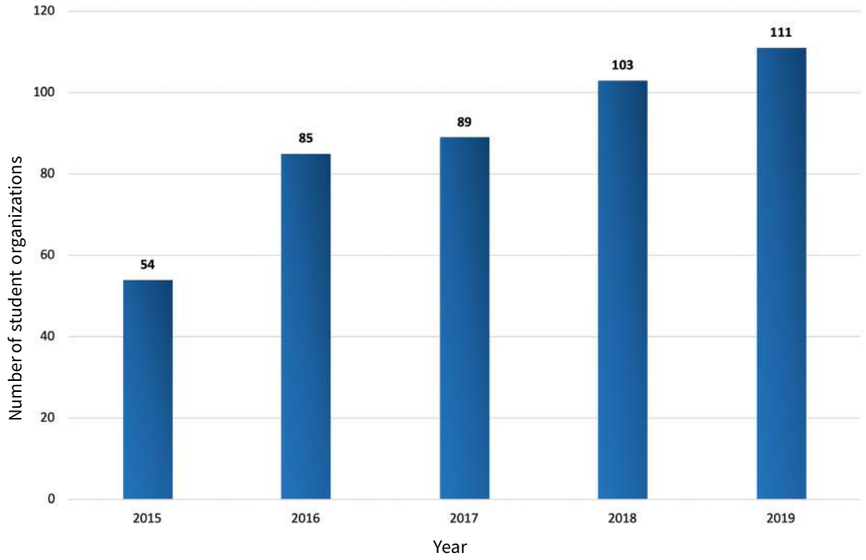
UNIVERDE is the main university environmental federation of the UANL, and it has as main objective to promote the environmental sustainability culture in the university environment; it is composed of assigned members of the different schools.

Furthermore, there are University Federations that aim to start specific programs to get the academic, extracurricular, and social integration of its members and the student community in general, with the purpose of promoting activities like health, nutrition, human rights, cultural diversity, among others; through workshops, conferences, seminars, and brigades such as: “Jovenes por la Salud”, “Universitarios contra el Cancer”, BideSida, Nutre, Fem, and the research groups: DIA, DIME, GERONTE, PAYPA, GRECCA, GIPSIDA, ISA and SOUPAD.

For more than eight years the UANL Sustainability Department, through the Project Development Office, promotes making linking activities between student associations, civil society organisms, university dependences, and public institutions, aiming to conform collaboration networks focused on promote actions in favor of sustainability. Out of these activities, the celebration of international days set by the UN stands out, for example the International Water day, Earth day, Environment day, Oceans day, Animals day, among others; in which keynote conferences by experts are held where causes of the problems causes that arise in each of these topics and possible ways to face them are presented; as well as expositions, knowledge fairs, forums for the exchange of proposals, and other recreational activities promoted and operated by the student associations supported by the university authorities.

In 2019 different academic activities were carried out such as “Water Days”, within the framework of the celebration the “World Water day” with the keynote conference “Plan Hidraulico Nuevo Leon” presented by Ing. Jose Octavio Salinas Ramirez, Head of Engineering Services of Agua y Drenaje de Monterrey, on March 22nd in the auditorium “Jorge Carpizo McGregor” of the School of Chemical Sciences, with the participation of 320 students and academic staff of UANL schools.

Student organizations linked to sustainability issues



With the purpose of promoting the public spaces recovery with high ecologic importance and making the community be aware of the importance of the environmental services that those spaces give, and the biological diversity that lives in them, since 2016 there have been Days of Recovery of Natural Environment in Urban Zones.

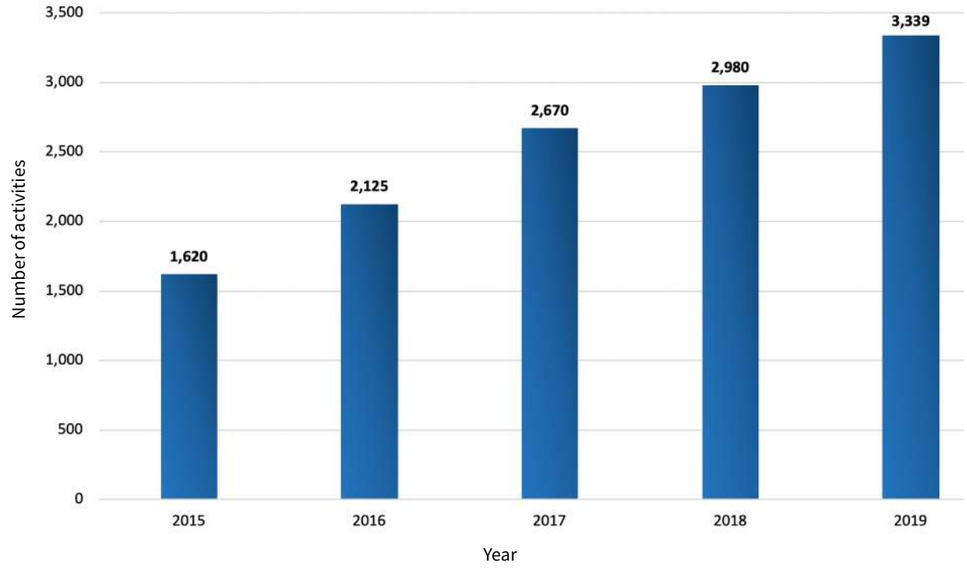
In 2019, there were 5 days of recovery work. The first one took place in the “Santa Catarina” river in the month of February with the participation of more than 300 volunteers who carried out activities like removing invasive exotic plants with the mentoring of the National Commission of Protected Natural Areas (CONANP). In addition, 16 tons of solid residues such as single-use plastic, bangers, wheels, carton, PET, glass, among others were recollected. The Sustainable Development Office of the government of the state of Nuevo Leon, the Public Services and Natural Environment Office of San Pedro Garza García municipality, the CONANP, volunteers, and the university community made this activity possible.

The second day of recovery work took place as part of the activities in celebration of the “World Water day” in the “El Capitan” stream on March 23rd, 2019, with the participation of more than 200 volunteers who carried out activities such as planting 51 native trees, recollecting solid residues in the stream, invasive exotic plants extraction, etc.; additionally, divulgation workshops on the diversity that lives in the natural areas took place simultaneously . The associations responsible of the workshops were: Birds Watchers, Bee and Plant, Zayolin, and the CONANP.

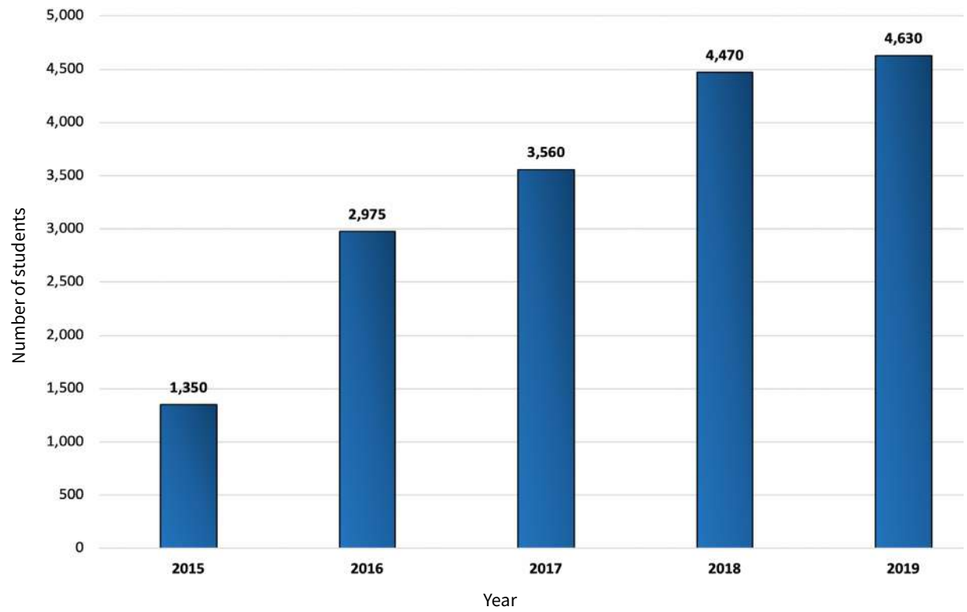
In May, in order to support the invasive exotic species control program that is currently present in “La Huasteca” ecologic park, a recovery day was held in which more than 180 volunteers participated. There was an informative talk on the invasive exotic flora presented by the Ing. Aldo Aleman Garcia, a CONANP member; later the extraction of the invasive plant, known as “the mother of thousands” (Kalanchoe sp) was extracted in a half of hectare of land. This activity was possible thanks to the participation of the National Commission of Protected Natural Areas, Lets Reforest Mexico C. A., volunteers and university community.

In order to reiterate the commitment that

Activities carried out by organizations and federations



Students enrolled in student organizations



university students have with the conservation of natural environments, the Conference in favor of the Environment was held, within the framework of the celebration of World Environment Day, among the programmed activities the fourth day of recovery work took place on June 7, 2019 in the Rio "La Silla" Natural Park where residues collection activities were carried out in the riverbed and riverbank area, as well as the extraction of invasive exotic flora in addition to the teaching of environmental culture workshops by participating civil associations.

Subsequently, on October 11, 2019, the fifth day of recovery work took place in the “Parque Lago”, to carry out activities to extract invasive aquatic flora inside the wetland, as well as planting trees of the zone with the support of more than 130 volunteers that had the opportunity to take environmental culture workshops on environmental culture and participate in dynamics with environmental care issues.

In addition to carrying out aforementioned activities, the Institutional Linking coordination of the Project Development Head Office promotes the holding of courses, workshops, seminars, and other kind of academic events in order to train student as promoters of different topics linked to sustainability, which have a broad and enthusiastic participation by members of the student community.

Electronic and audiovisual media are another communication strategy used to promote sustainability inside and outside the university environment, having a positive impact through audiovisual material, gifts, and digital conferences consisting of a series of posters alluding to celebrations of important dates labeled by national organisms and for the UN. In 2019, 36 student digital conferences were held from which 271 posters were prepared and published on the official Facebook account of Sustainable UANL, which transmitted relevant information topics such as: proper use of natural resources, promotion of human rights, green economy, sustainable mobility, animal welfare, food, among others.

In order to disseminate the work carried out by student organizations linked to sustainability issues, as well as promote the exchange of experiences and initiatives, between university organizations and others that work in the state of Nuevo Leon, the Mexican Republic and the world, the sds.uanl.mx website offers a directory of UANL student organizations related to sustainability issues.

SUSTAINABILITY REPORT 2019

COMMUNICATION

Sustainability Communication and Broadcasting Program

UANL Sustainability Office, through the Project Development Office, coordinates the Sustainable-UANL Communication and Broadcasting program, which is directed to the members of the university community and the different society sections that are linked to the university tasks, to keep them informed about the initiatives and actions that the institution does to accelerate the transit process towards sustainability, in order to accomplish their involvement and collaboration in the such process.

The Sustainable UANL program promotes the principles, values and tasks of sustainability using different communication media and strategies such as social media and web sites, design and broadcasting of printed material, audiovisual productions and forums, seminars, courses, workshops, conferences, posts, contests, etc.

34 interviews with famous experts on sustainability.

25 production and broadcasting of the TV show “Mundo Sustentable”

100 making and posting videos on social media.

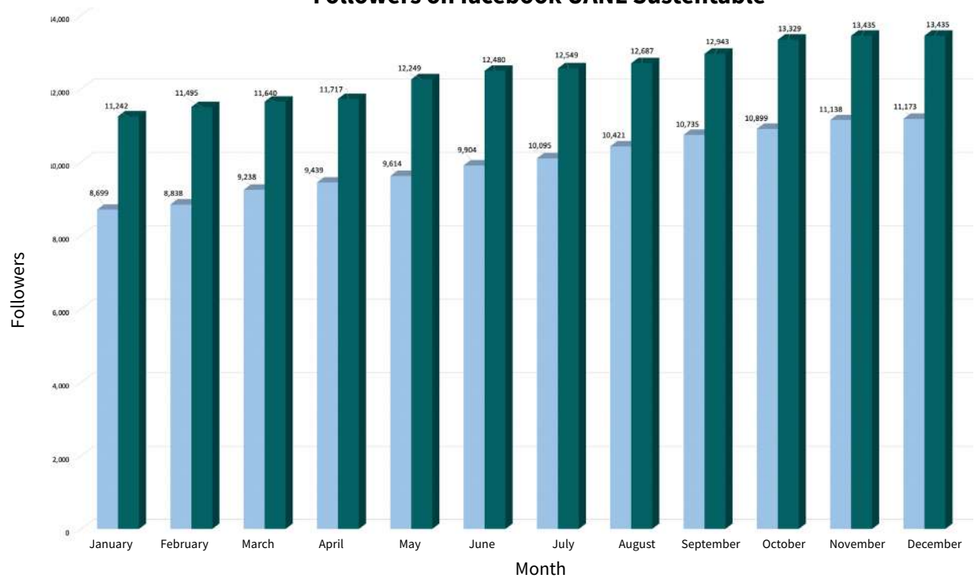
68 conferences on topics related to sustainability.

38 weekly virtual days on topics related to sustainability.

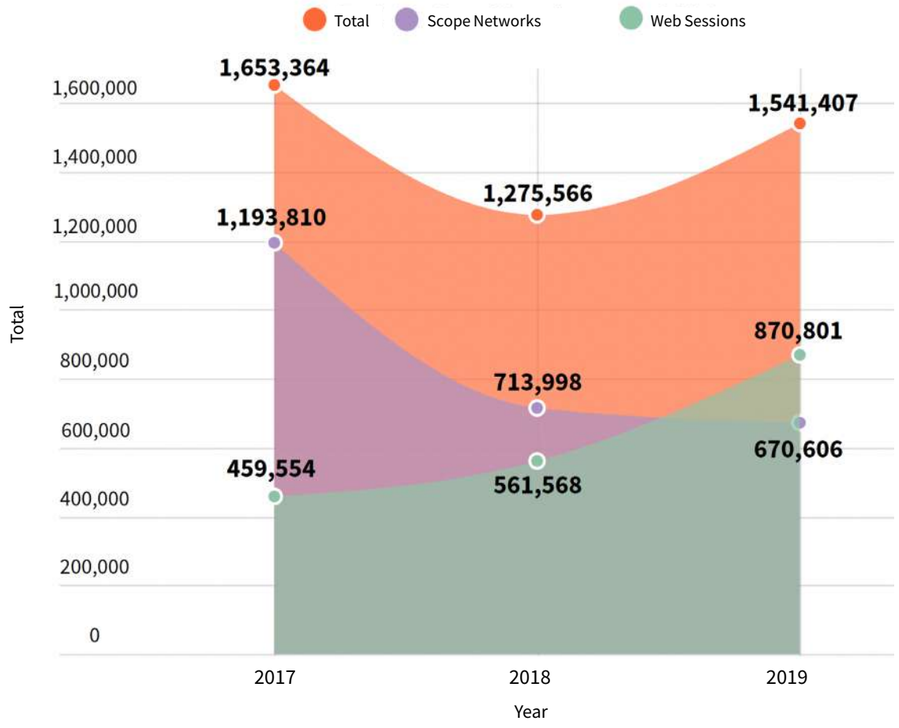
/UANLSustentable www.sds.uanl.mx /uanlsustentable

Most relevant results from the website and social networks:

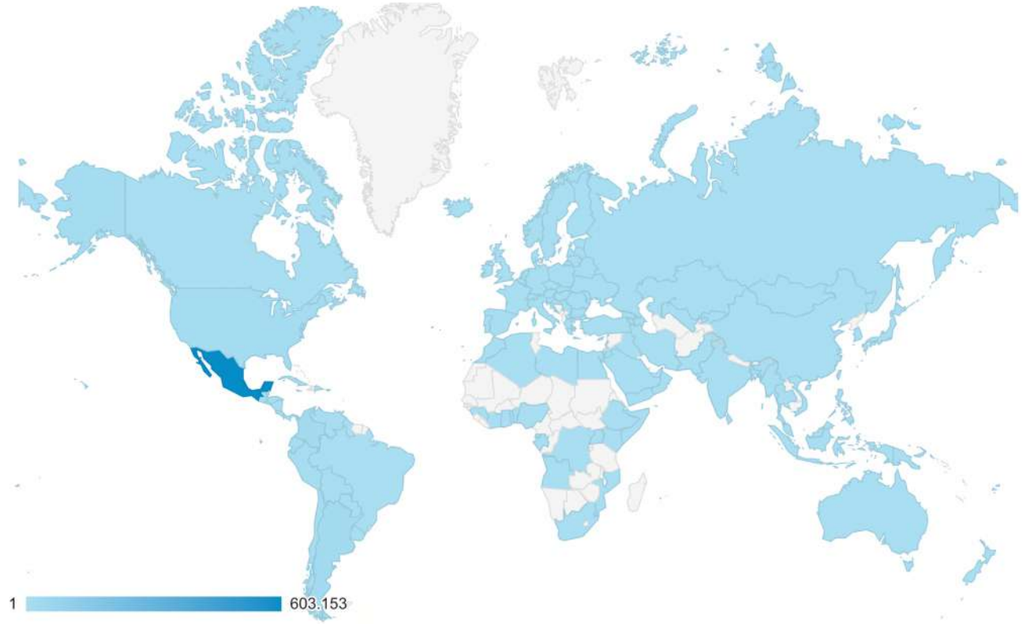
Followers on facebook UANL Sustentable



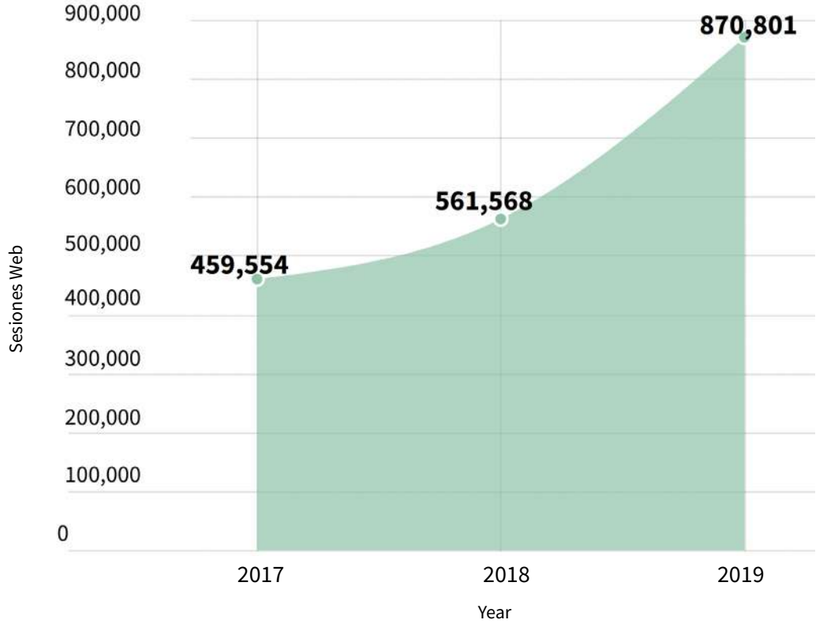
Annual scope sds.uanl.mx website and facebook UANL Sustentable



Countries visiting the website
sds.uanl.mx



Web Sessions
sds.uanl.mx



“Mundo Sustentable”

The tv program in charge of the Sustainability Office, through the Project Development Office, aims to disseminate the actions made by the outstanding members of university community and the society to encourage the sustainable development, and invites the public to be part of the change that is to live in a sustainable society.

On the website of the UANL sustainability (sds.uanl.mx) there are 154 programs of the 8 seasons of the show, including the 25 episodes recorded in 2019.

SUSTAINABILITY REPORT 2019

During 2019 25 tv shows of the “Mundo Sustentable” series were produced, equivalent to 151 production and editing hours.

*6

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.

Because of this, since 2015 the UANL has decided to promote the photography contest “En la mira de la sustentabilidad” in order to promote in the student community a sustainability culture by messages taken in a photograph. In 2019, the topic of the fifth edition of the contest was “Actions to build a sustainable city” in which 208 students participated, from 12 university dependencies.

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Photography exhibition

Starting in June 2018, there is a photographic exhibition called “En la mira de la sustentabilidad” in which the winning works of the contest of the same name are exhibited, as well as the works that obtained an honorific mention.

In the photographic exhibition, besides contemplate the artistic quality of the works, it is possible to see images that invite to think about the context in which we live, under a sustainable perspective.

During 2019 the exhibition was presented in 5 university dependences and 3 extern places, allowing thousands of people to appreciate it and reflect on the challenges and opportunities that the university environments and the society that surrounds it face in the process of transition towards the sustainable development.

Locations of the 2019 gallery	
Location	**Date**
School of Medicine	February 27
Legal and Criminological Technology Research Center (CITEJYC), School of Law and Criminology.	March 14
Lobby of the School of Communication Sciences.	May 07
Lobby of the Citizen Pavilion.	June 05
BAM Cultural Center	July 05
"Dr. Mario Sergio Estrada" Library, School of Social Work and Development.	August 07
"Ramón Cárdenas Coronado" Library, School of Public Accounting and Administration	September 12
Militarized High School College	October 16 – November 29

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:

- Procedure for the classification of hazardous residues in the schools of the UANL.
- Procedure for the classification, collection and disposal of hazardous biological-infectious residues in the UANL dependencies
- Procedure for the internal collection of hazardous residues in the schools of the UANL.
- Technical guideline for the handling and management of hazardous residues.
- Technical guideline for operational security.
- Technical guideline for the handling and management of urban solid residues with recyclable characteristics and special handling.
- Technical guideline for responsible consumption.
- Technical guideline for the acquisition of goods and services, green purchasing.
- Technical guideline for the thermal insulation of university real estate.
- Technical guideline for testing products aimed at improving the energy efficiency of air conditioning equipment.
- Technical guidelines for the acquisition and installation of extractors that allow the renewal of air in closed spaces.
- Technical guideline for equipping luminaires for classrooms.
- Technical guideline for the use of drinking water and wastewater treatment.
- Regulation for the acquisition of air conditioning equipment.
- Technical guideline for the construction and/or remodeling of buildings.
- Sustainability guide for workshops and labs.
- Institutional policy for the incorporation of good sustainability practices in the UANL.
- Policy on pedestrians and bicycles at the UANL.

Acknowledgments


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LABORATORIO ANALISIS CLINICOS
QFB IRIS GUAJARDO GUAJARDO
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.
"Para nosotros buscar **la calidad** es la luz que nos guía"


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SUSTAINABILITY REPORT 2019


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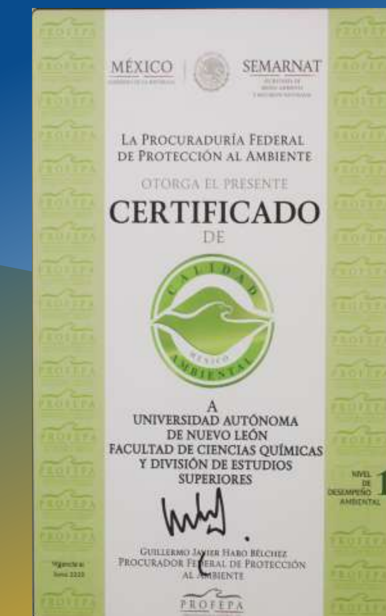
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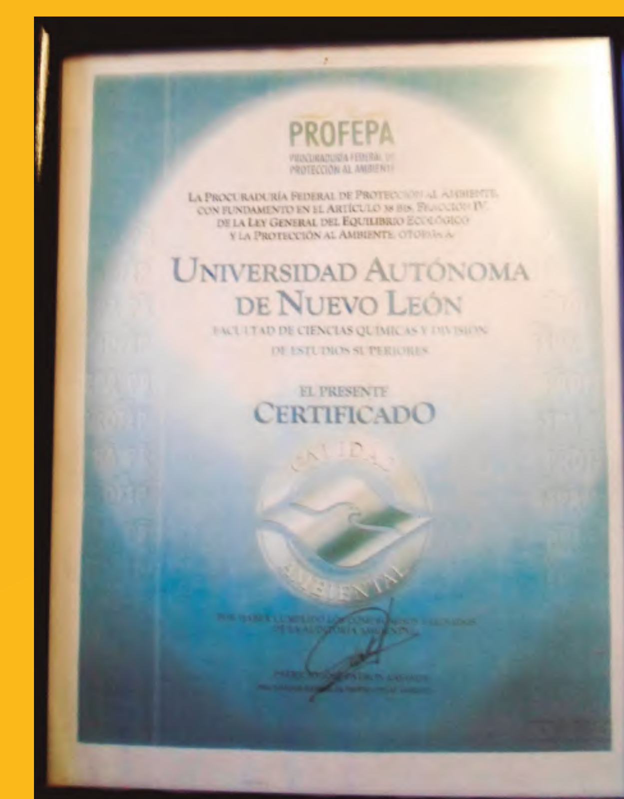
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Photography Credits

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Participants of "In the sights of sustainability" photography contest.

Number	Author	Title
*1	Cassandra Yemalla Lozano Delgado	Sembrando Esperanza
*2	Luis Ernesto Mota Martínez	Avanzando hacia el futuro
*3	Sofía Daniela López Hernández	indispensable en el mundo
*4	Jessica Montserrat Gómez Goñi	La vida en nuestras manos
*5	Cynthia Marcela Marroquín Hernández	Recuerdos Verdes
*6	Maria de Jesús Rodríguez Gallardo	Pequeñas acciones
*7	Martha Valeria Medrano Garza	La contaminación ambiental
*8	Carolina Heredia López	La buena casa
*9	Diego Iván Carvajal Ulate	Ceda el paso
*10	Andrea Guadalupe Torres Alcubilla	El sobreviviente
*11	Silvia Itzel Cárdenas Herrera	The Mountain of the Future

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15	Jesús Gerardo Martínez Mora
Led luminaire	Jesús Gerardo Martínez Mora
Mederos Campus	Ángel A. Rincón Moreno
31	Jesús Gerardo Martínez Mora

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74 group photo	Jesús Gerardo Martínez Mora
74 Vermicompost	Sandra Luz Zamudio de la Facultad de Ciencias de la Comunicación
76 - 77	Jesús Gerardo Martínez Mora
84 - 86	Jesús Gerardo Martínez Mora
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101	Paola D. Menchaca Candanoza
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112	Jesús Gerardo Martínez Mora
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114	Jesús Gerardo Martínez Mora
118 down	Jesús Gerardo Martínez Mora
120	Paola D. Menchaca Candanoza
124 - 125	Jesús Gerardo Martínez Mora
128 - 129	Jesús Gerardo Martínez Mora / Libertad Castillo
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Back cover	Salvemos al Río la Silla

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