

# AUB Sustainability *Report*

2021





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## List of Acronyms

<b>ASHRAE</b>	American Society of Heating, Refrigerating and Air-Conditioning Engineers
<b>AUB</b>	American University of Beirut
<b>AUBMC</b>	American University of Beirut Medical Center
<b>BGCI</b>	Botanic Gardens Conservation International
<b>BS</b>	Bachelor degree
<b>CARS</b>	Collaborative for the Study of Inhaled and Atmospheric Aerosols
<b>CCECS</b>	Center for Civic Engagement and Community Service
<b>CHSC</b>	Charles Hostler Student Center
<b>CIO</b>	Chief Information Officer
<b>EHSRM</b>	Environmental Health Safety and Risk Management
<b>EIA</b>	Environmental Impact Assessment
<b>EQUAL</b>	Education Quality and Learning for All
<b>ESDU</b>	Environment and Sustainable Development Unit
<b>E-waste</b>	Electronic Waste
<b>FAFS</b>	Faculty of Agricultural and Food Sciences
<b>FAS</b>	Faculty of Arts and Sciences
<b>FHS</b>	Faculty of Health Sciences
<b>FM</b>	Faculty of Medicine
<b>FOA</b>	Food and Agriculture Organization of the United Nations
<b>FPDU</b>	Facility Planning and Design Unit
<b>GHI</b>	Global Health Institute
<b>GTS</b>	Grounds and Transfer Services
<b>HE</b>	His Excellency
<b>HEPA</b>	High-Efficiency Particulate Air
<b>HSOON</b>	Rafic Hariri School of Nursing
<b>HVAC</b>	Heating, Ventilation and Air Conditioning
<b>IFI</b>	Issam Fares Institute for Public Policy and International Affairs
<b>IFPRI</b>	International Food Policy Research Institute (IFPRI)
<b>IT</b>	Information Technology
<b>kg</b>	Kilogram
<b>LDEM</b>	Landscape Design and Ecosystem Management
<b>LED</b>	Light Emitting Diode
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>MCF</b>	MasterCard Foundation
<b>MENA</b>	Middle East and North Africa region
<b>MoU</b>	Memorandum of Understanding
<b>MS</b>	Master's degree
<b>MSFEA</b>	Maroun Semaan Faculty of Engineering and Architecture
<b>NCC</b>	Nature Conservation Center
<b>NGO</b>	Non-Profit Organization
<b>NI</b>	Neighborhood Initiative
<b>OSB</b>	Suliman S. Olayan School of Business
<b>PC</b>	Personal Computers
<b>PPD</b>	Physical Plant Department
<b>REVA</b>	Reverse Vending Machines
<b>RO</b>	Reverse Osmosis
<b>SDGs</b>	Sustainable Development Goals
<b>SDSN</b>	Sustainable Development Solution Network
<b>SSEA</b>	Students for Sustainable Energy for All
<b>UFS</b>	University For Seniors
<b>UI</b>	University of Indonesia
<b>UK</b>	United Kingdom
<b>UL</b>	University Library
<b>UNICEF</b>	United Nations International Children's Emergency Fund
<b>VP</b>	Vice President
<b>WGS</b>	Women and Gender Studies

1.

# INTRODUCTION

Founded in 1866, the American University of Beirut bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. A teaching-centered research university, AUB has around 1,650 instructional faculty and a student body of around 9,376 students. The University encourages freedom of thought and expression and seeks to graduate men and women committed to creative and critical thinking, life-long learning, personal integrity, civic responsibility, and leadership.

The University, which was granted institutional accreditation in June 2004 by the Commission on Higher Education of the Middle States Association of Colleges and Schools in the United States and reaffirmed in 2016, includes seven faculties: Faculty of Agricultural and Food Sciences, Faculty of Arts and Sciences, Maroun Semaan Faculty of Engineering and Architecture, Faculty of Health Sciences, Faculty of Medicine, Rafic Hariri School of Nursing, and Suliman S. Olayan School of Business.

Sustainability is one of the main pillars of AUB long-term strategies and commitments. Sustainability teaching, research and practices are embedded within the institution culture and beliefs. This annual sustainability report highlights the work that was done by AUB over the course of the years 2020 and 2021, as well as the plans for the future in each of the following criteria:

1. General environment
2. Energy efficiency and climate change
3. Waste management
4. Water resources management
5. Social responsibility
6. Sustainable transport
7. Education and research
8. Sustainable development goals

The University has made a public commitment to sustainability by joining the Sustainable Development Solutions Network (SDSN). The Network promotes practical solutions for sustainable development, including the implementation of the Sustainable Development Goals (SDGs), by mobilizing global scientific and technological expertise (universities, research centers, and other knowledge-based institutions). In the Times Higher Education 2021 Impact Rankings, a pioneering global ranking that assesses the social and economic impact of universities based on the United Nations Sustainable Development Goals (SDGs), AUB was ranked number 87 among worldwide universities due to its remarkable efforts and work on the SDGs.

Moreover, AUB is also participating in the University of Indonesia (UI) GreenMetric World University Rankings that was initiated in 2010. The aim of this ranking is to provide the results of online surveys regarding the current condition and policies related to green campuses and sustainability in universities all over the world. The ranking is based on a multi-criteria analysis related to six broad categories namely setting and infrastructure, energy and climate change, waste management, water management, transportation, and research & education. AUB leaped forward in the ranking from 570 in 2018 to 242 in 2019 and then to 185 in 2020 out of 912 participating universities.

**Times Higher Education  
2021 Impact Rankings  
AUB=87<sup>th</sup>**

<b>THE IMPACT RANKINGS</b>	<b>SDG6 CLEAN WATER AND SANITATION</b> 2021 <b>TOP 80</b>
<b>SDG17 PARTNERSHIPS FOR THE GOALS</b> 2021 <b>TOP 5</b>	<b>SDG16 PEACE, JUSTICE AND STRONG INSTITUTIONS</b> 2021 <b>TOP 200</b>
<b>SDG11 SUSTAINABLE CITIES AND COMMUNITIES</b> 2021 <b>TOP 60</b>	<b>SDG7 AFFORDABLE AND CLEAN ENERGY</b> 2021 <b>TOP 200</b>
<b>SDG3 GOOD HEALTH AND WELL-BEING</b> 2021 <b>TOP 70</b>	<b>SDG5 GENDER EQUALITY</b> 2021 <b>TOP 200</b>

# 2.

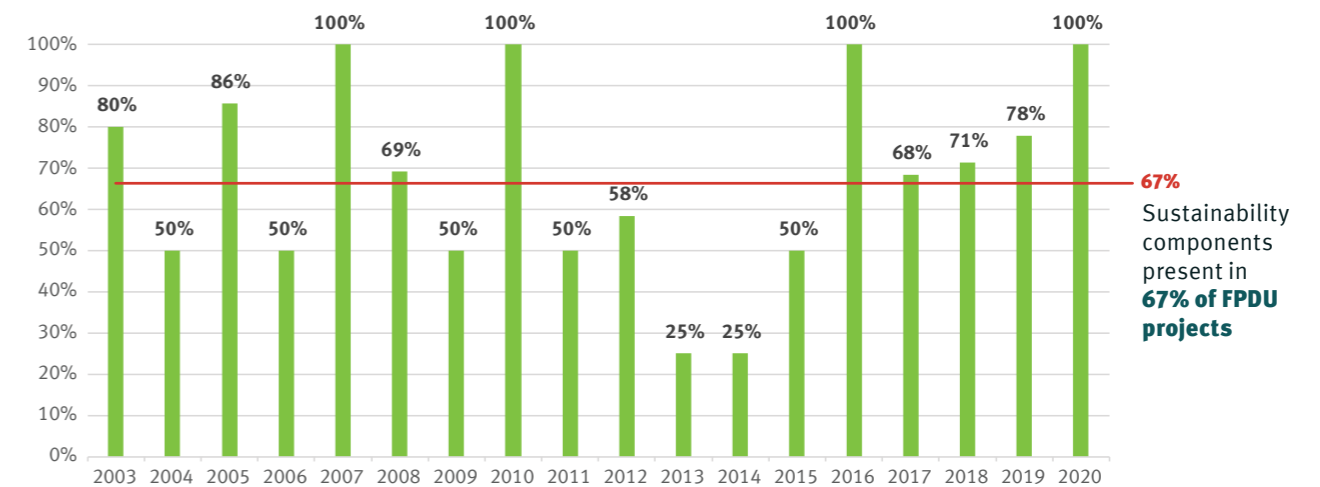
# RESPONSIBILITIES

Office/Unit/Department	Responsibilities
<b>Environmental Health, Safety and Risk Management (EHSRM)</b>	<ul style="list-style-type: none"> <li>- Address environmental and sustainability concerns as follows:</li> <li>- Uphold the university’s environmental responsibilities in its vision and mission statement, to play a leading role in establishing a culture of environmental concern by actively pursuing a policy of environmental best practice.</li> <li>- Promote an environment that is healthy, safe and conducive to excellent education and provide good occupational conditions.</li> <li>- Compile on a yearly basis all sustainability related initiatives and action plans and develop the university sustainability report.</li> <li>- Support and follow up on the implementation of the sustainability and climate change mitigation action plan by setting regular meetings with concerned stakeholders.</li> <li>- Manage the implementation of sustainability principles related to sound environmental and energy management.</li> <li>- Raise awareness on sustainability issues among staff, faculty and students.</li> </ul>
<b>AUBotanic</b>	<ul style="list-style-type: none"> <li>- Ensure the conservation of the living environment that makes up a large proportion of the AUB campus.</li> <li>- Educate members of the community, both within and outside of AUB, about the natural environment and the importance of preserving it for future generations.</li> <li>- Aim to increase the appreciation of the campus as a sanctuary for living things and to serve as a model for a sustainable relationship between people and nature.</li> <li>- Increase and manage green areas at AUB.</li> </ul>
<b>Facility Planning and Design Unit (FPDU)</b> <b>Physical Plant Department (PPD)</b>	<ul style="list-style-type: none"> <li>- Manage the implementation of sustainability principles applicable to energy and water management, infrastructure, operations and budgeting.</li> <li>- Implement green building principles in all renovation and construction projects.</li> </ul>

Office/Unit/Department	Responsibilities
<b>Procurement and Contracts Administration</b>	<ul style="list-style-type: none"> <li>- Apply green and environmental sound purchasing principles.</li> </ul>
<b>IT Department</b>	<ul style="list-style-type: none"> <li>- Use sustainability rated PC’s, laptops and monitors for all equipment whenever possible.</li> <li>- Reuse and recycle IT equipment whenever feasible.</li> <li>- Migrate from physical data centers to cloud based data centers to reduce the impact on the environment.</li> <li>- Reduce the use of paper and consumables through bulk changes in settings and centralizing multi-function printing devices.</li> <li>- Reduce the use of personal printers where not required.</li> <li>- Actively encourage university awareness of sustainable IT practices and principles.</li> </ul>
<b>Office of Communications</b>	<ul style="list-style-type: none"> <li>- Sustain awareness campaigns to promote sustainability and environmental protection in collaboration with other stakeholders.</li> <li>- Implement Green Events.</li> </ul>
<b>Office of Student Affairs</b>	<ul style="list-style-type: none"> <li>- Promote sustainability in all student activities.</li> <li>- Support student clubs that deal with sustainability.</li> </ul>
<b>Office of Auxiliary Services</b>	<ul style="list-style-type: none"> <li>- Strive to reduce parking areas on campus and ensure an efficient use of all parking spots.</li> <li>- Develop transportation initiatives to decrease private vehicles on campus.</li> </ul>
<b>Deans, faculty, office of grants, research funders</b>	<ul style="list-style-type: none"> <li>- Allocate research funds related to sustainability topics.</li> <li>- Incorporate sustainability principles in courses offered in all the university majors and programs.</li> </ul>
<b>Deans, directors, and department heads</b>	<ul style="list-style-type: none"> <li>- Ensure that sustainability principles are disseminated within their area of responsibility.</li> <li>- Hold conferences, workshops, educational sessions, awareness campaigns and trainings on sustainability topics.</li> <li>- Incorporate sustainability in the departmental budget.</li> <li>- Implement Green Events.</li> <li>- Implement environmentally preferable purchasing.</li> <li>- Encourage staff, students and visitors to co-operate with associated campaigns, projects and initiatives.</li> <li>- Compile data related to SDGs on a yearly basis (by FAFS).</li> </ul>
<b>All staff, faculty and students</b>	<ul style="list-style-type: none"> <li>- Comply with university sustainability policies and practices.</li> <li>- Take an active role in promoting sustainability.</li> <li>- Refrain from activities that may cause pollution.</li> <li>- Participate whenever possible in events related to sustainability.</li> </ul>

# 3. SUSTAINABILITY HIGHLIGHTS

Yearly share of projects with sustainability components from FPDU's capital and major renovation projects



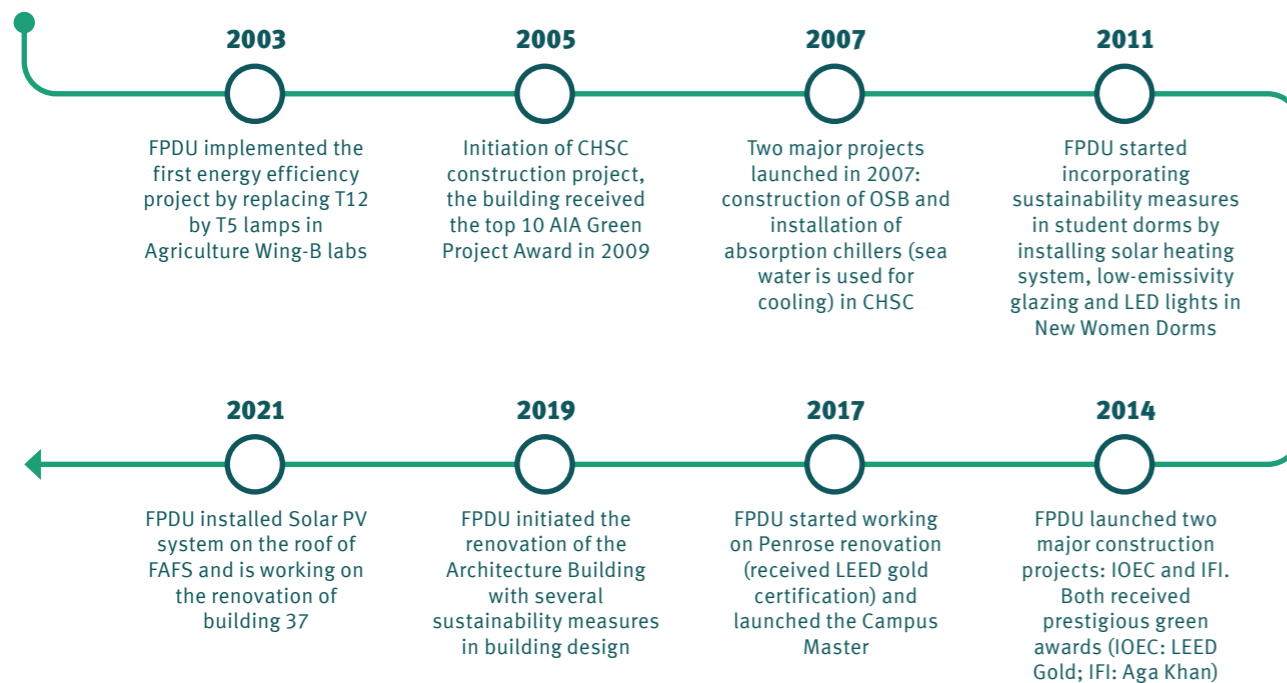
Recently, FAFS buildings witnessed the installation of a new system of solar panels that will generate useful energy to be used across campus. A new 100 kWp solar system was installed to generate more than 160 MWh of useful energy. The energy produced by this solar system saved more than 53,000 liters of diesel fuel during the first year of operation. The cost savings are estimated at more than 40 million LBP/year at current subsidized fuel costs.

FPDU has been incorporating sustainability initiatives in all their projects since 2003. On average, around 67% of FPDU projects includes components related to sustainability. These components include energy efficiency measures, water efficiency measures, automation systems and controls, sustainable architectural practices, indoor environmental quality enhancement, etc.

## 3.1. Sustainability in Construction and Renovation Projects

AUB has been incorporating sustainability initiatives in its construction and renovation project since 2003. The first project consisted of replacing T12 lamps in Agriculture Wing B labs by energy efficient lamps (T5).

### SUSTAINABILITY



Major sustainability milestones in construction and renovation projects



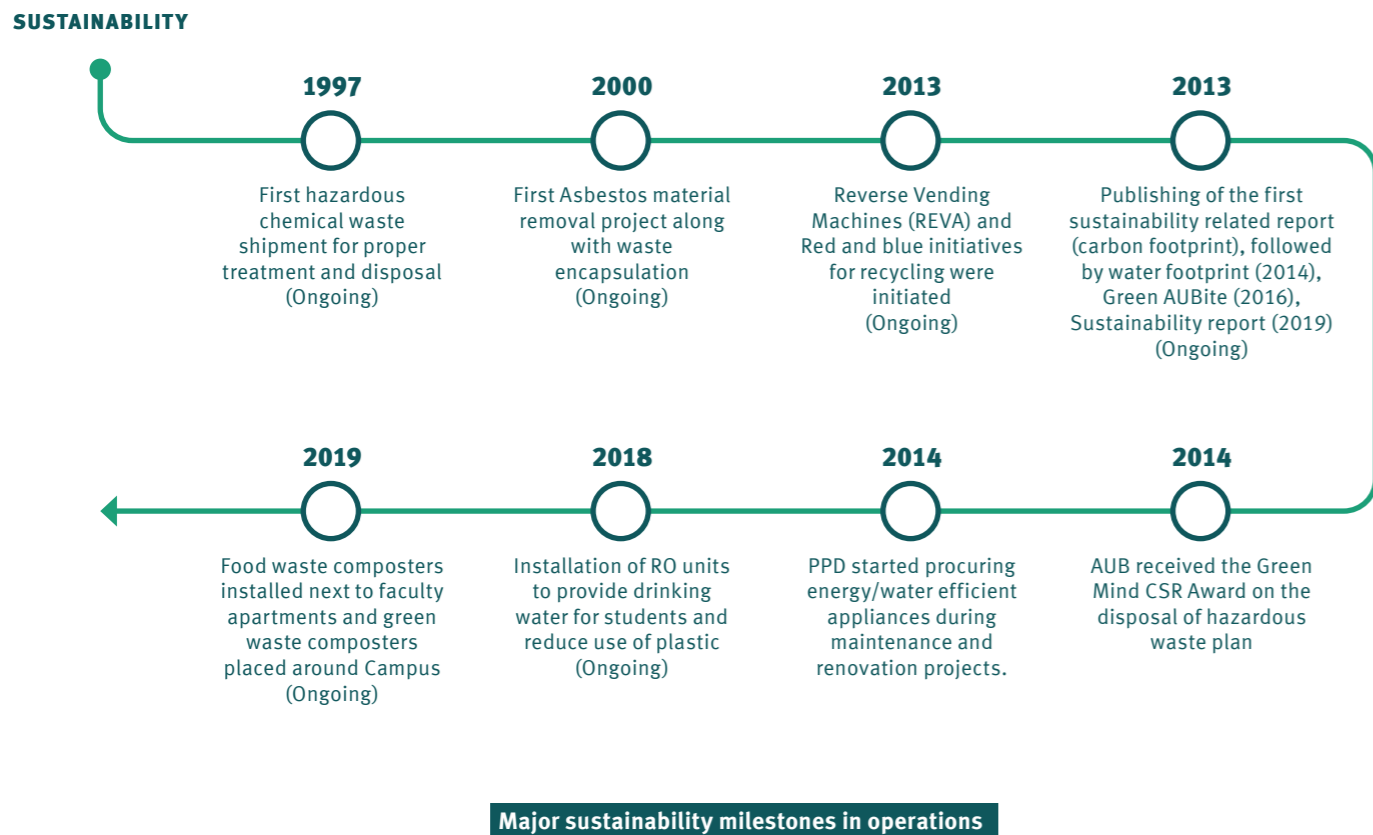
Solar photovoltaic panels installed on FAFS buildings

### 3.2. Sustainability in Operations

On the operational level, AUB through the Environmental, Health, Safety and Risk Management department and the Department of Physical Plant has introduced several sustainability initiatives related to several fields including waste management, climate change, energy efficiency and water conservation and management. The first hazardous chemical waste shipment for waste generated from laboratories and from the medical center was successfully implemented in

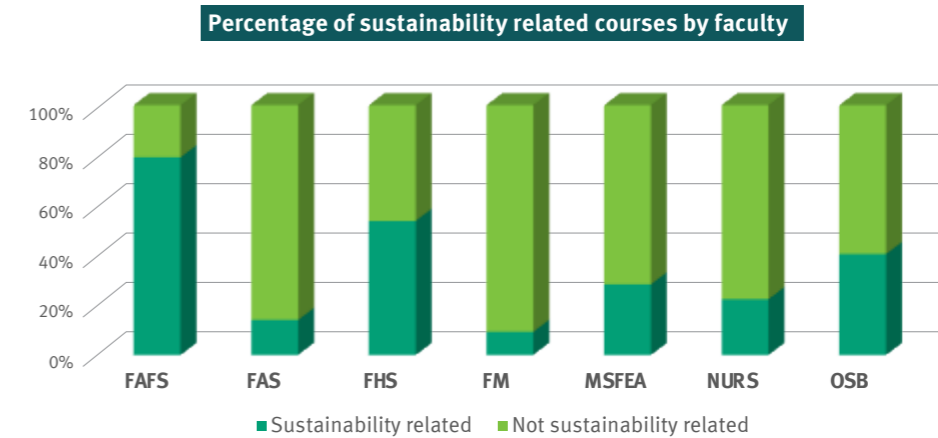
1997. The shipment was performed according to Basel Convention that regulates the transboundary movements of hazardous waste.

Since 2018, EHSRM initiated a project for the installation of reverse osmosis units to provide drinking water to students as part of the plan to reduce plastic bottles on campus. Four out of seven reverse osmosis (RO) units and 60 out of 109 new drinking water fountains were installed in several buildings across campus. So far, the project saved more than 1 million plastic water bottles that might eventually be disposed of in the environment.



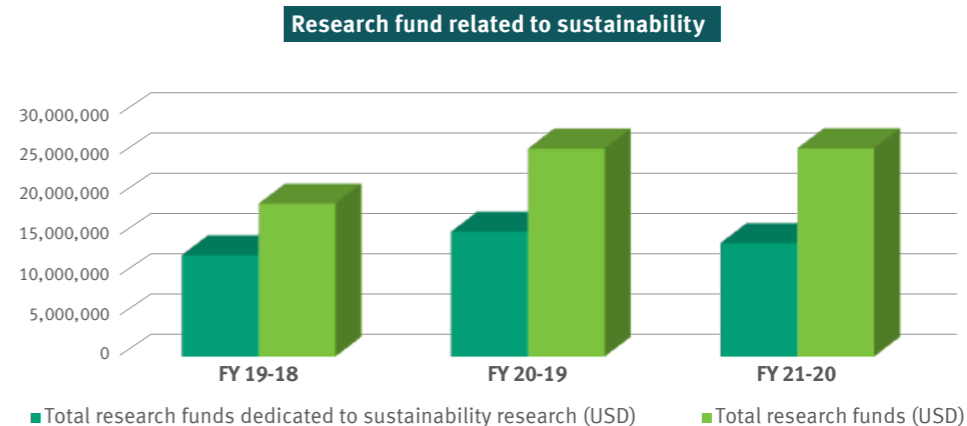
### 3.3. Sustainability in Academia

AUB's commitment to sustainability extends greatly into its educational mission. Across the university, students are given opportunities to learn about sustainability concepts and find solutions to complex environmental issues. AUB offers a variety of courses across departments that investigate sustainability through different lenses. From undergraduate to professional programs, sustainability is incorporated into all levels of education.

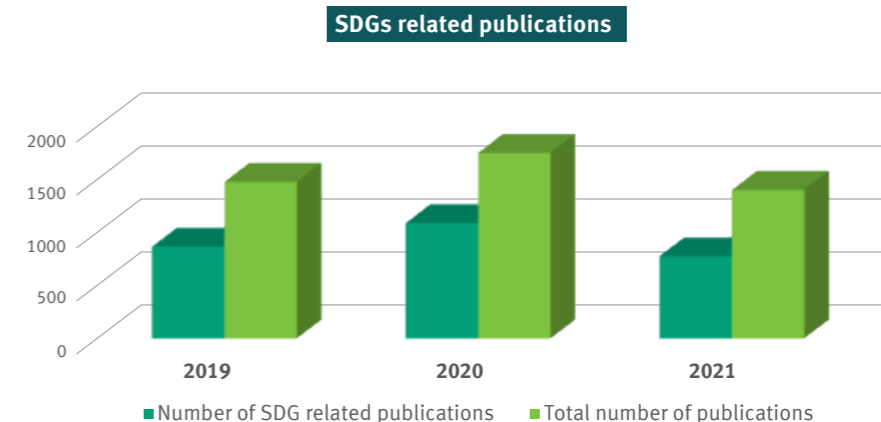


Out of 2,290 courses offered during the academic year 2020-21 in all faculties, 27.2 % of the courses are sustainability related. Sustainability courses represent a big chunk of the courses offered at FAFS, followed by FHS and then by OSB.

As far as research is concerned, research funding related to sustainability amounted to around 60 % of total funding during the last 3 fiscal years.



Similarly, the number of publications related to SDGs amounted to 2,730 out of 4,628 titles during the last 3 years.



# 4. SUSTAINABILITY CENTERS AND INITIATIVES

## 4.1. AUBotanic

The AUBotanic Garden has a three-pronged mission that will guide its work for the coming years.

- Commitment to the conservation of the living environment that makes up a large proportion of the AUB campus.

- Educating members of the community, both within and outside of AUB, about the natural environment with which we co-exist and the importance of preserving this environment for future generations.
- Increasing the appreciation of the campus as a sanctuary for living things and to serve as a model for a sustainable relationship between people and nature.



During the year of 2021, the Archeology department, Landscape Architecture department, and AUBotanic set to work on a project to build on AUB's involvement with EduBioMed. EduBioMed is a project which aims to strengthen, involve, and upgrade the academic activity at Lebanese higher education institutions like AUB in the context of Mediterranean Biosphere Reserves. The project was to build an archaeobotanical floatation unit capable of methodically extracting ancient seeds and archaeological remains from soil samples excavated from Jabal Moussa, one of Lebanon's significant archeological sites within the Chouf Biosphere Reserve.

AUBotanic Garden became a member of the Climate Change Alliance of Botanic Gardens and partnered with Botanic Gardens Conservation International (BGCI) among hundreds of other botanic gardens in the world. The purpose is to participate in climate change mitigation plans both on large and small scales. This reflects AUBotanic commitment to safeguard the legacy of plant collections, landscapes, and biodiversity for future generations.

AUB benefits by gaining access to tools and resources provided by the alliance, as well as a global pool of diverse expertise and support. Some committee members have registered for a workshop on the enhancement of techniques and tools to identify and manage climate change impacts. This alliance is a start on the right course of action in handling the unseen changes ahead for the campus.

## 4.2. Center for Civic Engagement and Community Service

The Center for Civic Engagement and Community Service (CCECS) builds bridges between the university community, stakeholders, humanitarian agencies, policymakers, and

community partners, with an overarching mission to integrate developmental planning aimed at empowering marginalized communities with experiential learning for leadership development and transformative education.

The unprecedented scale of destruction of the July 2006 War in Lebanon created a remarkable momentum to volunteer-for-relief among wide numbers of AUB students and faculty members and founded a calling that led to a university "Task Force for Reconstruction". After two years of decentralized and sporadic efforts, the Task Force realized the imperative of establishing the CCECS in 2008, and to promulgate this concept within the university's strategic plan.

Accordingly, CCECS has developed an operating framework in order to become more responsive to the exacerbating local needs on one end, and to be more strategic in pervading the culture of impactful engagement across all faculties on the other end. The dyad of (1) Transformative Education through Civic Engagement and (2) Community Development Projects, reflects CCECS's journey through the decade.

AUB's civic engagement through CCECS continues to garner international recognition. As a testament to the extensive community involvement of AUB students and faculty, AUB was ranked as the Most Civically Engaged University Campus in the Middle East and North Africa region (MENA) by Ma'an Alliance for Arab Universities in late 2015. In 2016, the Talloires Network awarded AUB first place in the MacJannet Prize for Global Citizenship for CCECS's Syria Relief Project. The Digital Skills Training Program won the MIT Enterprise Forum 'Innovate for Refugees' Award in 2017. The Ghata Project received the Learn by Design Honorary Award at South-by-SouthWest (SXSW) EDU, was shortlisted for the WISE Awards for high impact projects providing solutions to 21st century education challenges, and was awarded the Fritz Redlich Human Rights Award from Harvard University in 2018. Events organized in 2020 and 2021 are summarized below.

SDG	Project	Beneficiaries
3	1 x Student- led Community Based Projects MCF	475
	3 x Student- led Community Service Projects USAID	
4	Mastercard Foundation Action Research Application- Creating Refugee Access to Tertiary Education Through Blended Learning	3645
	PADILEIA- The Partnership for Digital Learning and Increased Access	
	Profuturo- Classroom in a Toolbox	
	HOPES Science Labs	
	2 x Student- led Community Based Projects MCF	
	7 x Student- led Community Service Projects USAID	
5	1 x Student- led Community Service Project USAID	6
8	Digital Skills Training	807
	1 x Student- led Community Service Project USAID	
9	Beirut Recovery Project	1500
10	1 x Student- led Community Service Projects USAID	16
11	2 x Student- led Community Service Projects USAID	607
12	2 x Student- led Community Based Projects MCF	35

### 4.3. Environment and Sustainable Development Unit (ESDU)

ESDU is an inter-disciplinary research and development center specialized in community development and sustainable agriculture hosted at FAFS. ESDU launched and worked on several initiatives in 2020 that include:

- ESDU and the department of Landscape Design and Ecosystem Management (LDEM) at FAFS are collaborating on the execution of the MedSNAIL Project in Lebanon, a project on sustainable agro-food funded by the EU through the ENI CBC MED Program. MedSNAIL project progresses in time of COVID-19: first desk reviews by the partners on the state-of-the-art of sustainable agrofood systems in the Mediterranean. MedSNAIL reached the stage of mapping products (raw materials, animal breeds, processed products, traditional techniques, recipes) that are present in the area of intervention, these products can fit to the presidia of slow food or the arc of taste, traditional products which are anchored in the culture and agriculture of the area of intervention
- Received the Khalifa International Award for Date Palm and Agricultural Innovation 2020 in Abu Dhabi for CLIMAT project: a one-year Food For Training project implemented during 2019 in Northeast Baalbeck and West Bekaa Lebanon, funded by the German Cooperation through the World Food Program. CLIMAT aimed to sustainably improve the skills, capacities and livelihood opportunities of vulnerable Lebanese and Syrian refugees in the targeted regions through enhancing the capabilities of women, youth and farmers on sustainable agricultural practices and food processing, in addition to providing the necessary tools and creating marketing links.
- ESDU, in collaboration with its partners Food Heritage Foundations, Lebanese League for Women in Business and Zico House under Ardi Ardak initiative and in collaboration with other national campaigns and the contribution of the generous donors, distributed 675 food parcels to families in need, and 87,000 seedlings and 12,000 seed bags to small

scale farmers in various villages and cities all over Lebanon since the beginning of the crisis in March 2020. The food items were procured from various suppliers including over 20 cooperatives, community kitchens and small scale local producers benefiting at least 35 vulnerable local families. The food parcels and seedlings truck visited many villages and cities in Lebanon, such as West Bekaa, Baalbeck, Aarsal, Beirut, Tripoli, Akkar and Chouf.

- In response to the catastrophic explosion on August 4, 2020 which decimated Beirut and shook the world, ESDU and Food Heritage Foundation team has set up **Cooking for Beirut**, an emergency relief effort in the framework of Ardi Ardak initiative to feed the city's most vulnerable victims of the tragedy.

### 4.4. Global Health Institute – AUB

The Global Health Institute (GHI) at AUB addresses global health challenges with a focus on context and sustainable impact by employing an interdisciplinary approach. The primary focus of GHI are challenges that are affecting the MENA region, but have relevance to and impact on other regions in the Global South. Strategically based in the MENA region, GHI came to be the regional leader and key partner in defining and addressing the global health agenda. Its vision is not only to contextualize global health, but also to have the voice of the region heard within the global health dialogue that is happening all around the globe.

GHI has three major divisions:

- The Programs, tackling global health challenges through research, policy and advocacy
- The Academy, which is the capacity-building arm of the institute
- And Assist which is the service arm.

During 2020 and 2021, GHI organized several in-person and on-line events related to its mission.

Event Title	Date	Venue
<b>NGOs Sustainability &amp; Effective Fundraising Techniques</b>	February 8, 15, 22, 29, 2020	College Hall B1, AUB
<b>WASH/AMR in an Ecology of War</b>	February 12 - 14, 2020	Halim and Aida Daniel Academic and Clinical Center, Multipurpose Conference Room
<b>Employment eHealth Solutions in Fragile Settings</b>	February 18, 2020	Online
<b>Foundations of Establishing a National Digital Health Strategy: Lessons Learnt from Tanzania</b>	February 25, 2020	Online
<b>Compliance and Legal Management for NGOs</b>	February 26, 2020	Halim and Aida Daniel Academic and Clinical Center, Multipurpose Conference Room
<b>Celebrating 10,000 Refugees with Sijilli Cloud-Based Electronic Health Record: Sharing A Story of Success</b>	March 3, 2020	Halim and Aida Daniel Academic and Clinical Center, Multipurpose Conference Room
<b>Global State of Digital Health 2020: Opportunities and Challenges of Implementation in LMICs</b>	March 3, 2020	Online
<b>AUB NGOi Virtual Meeting Covid-19 in Lebanon: How Can NGOs Work together towards Achievable Goals?</b>	April 2, 2020	Online
<b>Forced Migrations in Times of Covid-19: Insights from the Field</b>	December 18, 2020	Online
<b>NGOi Online Synchronous Course: Monitoring, Evaluation, Accountability &amp; Learning for NGOs</b>	February 24 – March 4, 2021	Online
<b>Anti-Microbial Resistance in Conflict: A Pilot Study in Gaza</b>	April 15, 2021	Online
<b>NIHR RUHF Symposium 2021: Health in Fragile Settings</b>	May 25 - 26, 2021	Online
<b>NGOi Online Synchronous Course: Monitoring, Evaluation, Accountability &amp; Learning for NGOs</b>	May 26 - June 5, 2021	Online
<b>Research and Ethical Conduct in Conflict - Affected Settings Workshop</b>	June 16 - 17, 2021	Online
<b>A State of Chronic Emergency: Breaking the Cycle of Endemic War in Gaza</b>	June 21, 2021	Online

### 4.5. Munib and Angela Masri Institute of Energy and Natural Resources

The Munib and Angela Masri Institute of Energy and Natural Resources at AUB was established in June 2007 through a generous endowment pledge of \$5 million by AUB Trustee Munib Masri of the Munib R. Masri Foundation. Over the past few years, the Masri Institute brought together a community of researchers who worked on topics related to clean energy production, energy efficiency, environmental management practices of the oil/gas industry, water purification sustainable energy for electricity, water production in rural communities in addition to many others.

The Masri Institute hopes to expand its role in becoming a hub for interdepartmental research within AUB with activities stretching beyond campus into the Lebanese society. Through this, the Institute intends to bridge both academic and professional collaboration and to promote further civic engagement between the youth, academia, the private and public sectors. In 2020, the institute tackled sustainability through the following:

- The institute signed an MOU with Dar Al-Handassah to establish academic cooperation in the areas related to sustainability for the Middle East region. The initiative marks a new partnership that will involve establishing academic cooperation in areas related to sustainability for the region with a focus on green buildings, green engineering, and sustainable practices.





- The institute awarded two outstanding proposals, totaling \$100,000 over two years, dealing with advancing knowledge and technology applications related to the impactful management of renewable energy resources and building energy performance for Lebanon and the MENA region. The two research proposals approved for funding are:
  - Sustainable large-scale stationary energy harvesting - Optimization and engineering stability.
  - Sustainable adsorption cooling systems with direct air capture of carbon dioxide for use in classrooms in universities.
- The institute partnered with MIT Lebanon Challenge 2020 in a competition to create and implement practical solutions to Lebanon’s most pressing challenges. MIT Lebanon Challenge 2020 is a 48-hour virtual hackathon designed to unite diverse minds from all professional and academic backgrounds to join virtually. The hackathon was scheduled from June 26 - 28, 2020.
- Masri Institute held the international virtual conference on efficient building design. The Fourth International ASHRAE Conference on Efficient Building Design was hosted by AUB in virtual format on November 5 and 6, 2020. The event, which was attended by around 360 participants, focused on novel building technologies that enhance environmental quality in buildings and the impact of energy reforms on both the demand and the environmental quality, with the

- goal of saving costs while providing the needed thermal and air quality environment for better performance and improved health.
- The Masri Institute launched a special call for proposals seeking safe, smart, and affordable solutions that target the Covid-19 related challenges. One of the funded proposals titled “A complete and automated UV light-based pathogen reduction technology for indoor learning spaces”, won 1st place in the final year project accelerator program by the Entrepreneurship Initiative.

#### 4.6. Nature Conservation Center

The AUB - Nature Conservation Center (AUB-NCC), is an academic research center addressing nature conservation in the MENA region and it uses the expertise and experience of AUB faculties, research staff, and volunteers to tackle the region’s most pressing environmental challenges. The NCC’s mission is to promote the conservation and sustainable use of biodiversity and encourage individuals to relate to nature through research, education, community development, and knowledge dissemination. The NCC developed and implemented many programs and projects targeted to enriching the biodiversity conservation and discovering of medicinal plants. AUB-NCC developed a plant database about native plants, including trees, shrubs, herbs and wild edible plants.

#### 4.7. Neighborhood Initiative

The AUB Neighborhood Initiative was established in 2007 to lead AUB’s engagement with its neighborhood. The initiative encourages AUB faculty and students to become engaged with issues of concern to neighbors in Ras Beirut through a mix of research, outreach, and advocacy activities.

The initiative team works collaboratively across the university with faculty, students, staff, and administrators, and with neighborhood residents, businesses, and public sector decision makers.

Initiative research and outreach projects and other activities respond to priorities of neighborhood residents from different social and economic backgrounds around themes ranging from the urban environment, community and well-being, to diversity and urban transformations.

The AUB 4 Beirut Disaster Response includes ongoing projects such as Al Jar lil Jar that provides monthly support to needy families in Ras Beirut, and referrals of vulnerable elderly neighbors to the AUB Gold Clinic for free consultations and support to secure medications and tests. Following the Beirut port explosion in August 2020, the Neighborhood initiative has implemented new projects such as:

- damage assessment for quick household and SME repairs (entrance doors, aluminum frames, and glass) in Ras Beirut, with Nusaned NGO;
- securing land in Karantina from the Municipality of Beirut and collaborating with Development Inc., Lebanon Reforestation Initiative, UN-Habitat, and other partners as part of the Rubble to Mountains Initiative to collect rubble and glass debris to be sorted and recycled for the rehabilitation of abandoned quarries in an effort to divert debris from landfills;

- supporting affected Karantina families with electrical appliances, food boxes and hygiene kits;
- reopening the Karantina Municipal Garden and collaborating with Catalytic Action and an AUB clinical psychology team to support children suffering from post-traumatic conditions.

To support heritage preservation efforts of buildings severely affected by the blast, the Neighborhood Initiative collaborated with Nusaned NGO, Save Beirut Old Houses Initiative, and Arcenciel to rehabilitate the Gholam cluster in the Mar Mikhael neighborhood. The two buildings are a beautiful example of the architectural development in Beirut between 1870 and 1930. Work was completed in spring 2021 and five families returned back home, bringing life and hope back to the blast area.



Programs at NCC	Projects
<b>Enriching Biodiversity Conservation Program</b>	<ul style="list-style-type: none"> <li>- <b>Conserving wild plants and habitats for people across the Mediterranean Project:</b> this project is an initiative to develop plant conservation actions in the South and East of the Mediterranean region.</li> <li>- <b>LINK Project:</b> the project aims to strengthen the engagement of civil society to support the conservation of plants that are critically endangered or have highly restricted ranges.</li> <li>- <b>EduBioMed Project:</b> this project, implemented with the support of the Erasmus and the European Union, aims to strengthen, ameliorate and upgrade academic activity at four Moroccan and Lebanese Higher Education Institutions in the context of Mediterranean Biosphere Reserves, in collaboration and through networking with Biosphere Reserve (BR)s’ stakeholders, public administrations and EU Partners.</li> <li>- <b>Test-Phase of Cocoon Technology in Lebanon:</b> this project is a collaboration with Menaqua Land Restoration to study the performance of land life company’s cocoon technology in three different locations with varying environmental conditions. The project aims to experiment if this technology is a solution for saving water, reducing planting costs, expanding the planting season, and improving the survival-rate of trees in agroforestry initiatives across Lebanon and the MENA region.</li> </ul>
<b>Discovering Medicinal Plants Program</b>	<ul style="list-style-type: none"> <li>- Members of the NCC analyze the essential oils of aromatic plants found in Lebanon, endemic to Lebanon and/or the Mediterranean, for their potential market value.</li> <li>- The NCC is collaborating with Hikma Pharmaceuticals for the development of novel synthetic derivatives and nanoparticle formulation of an anticancer drug.</li> </ul>
<b>AUB – NCC Plants Database</b>	<ul style="list-style-type: none"> <li>- The plants database at the AUB – Nature Conservation Center provides information about native plants, including trees, shrubs, herbs and wild edible plants. It is a culmination of more than ten years of efforts in research pertaining to Lebanon’s richness in biodiversity.</li> </ul>



#### 4.8. Strategic Health Initiatives

The office of Strategic Health Initiatives is the initiation platform of AUB's Vision on Health: "Health 2025". Through Health 2025, AUB will serve as the regional and global reference institution for health. This will be realized through impactful research, engaged instructional models, excellence in patient care and contextualized service. The office of Strategic Health Initiatives established a strategic partnership with the Municipal Council of Beirut to create a vision for a healthier Beirut and foster the development of the city. The partnership was formalized through signing a Memorandum of Understanding entitled "Towards a Healthier Beirut 2022" and 7 strategic themes were identified as key priority areas to achieve the vision.

#### 4.9. WEFRAH

WEFRAH, Water-Energy-Food-Health-Nexus, is a University wide initiative led by the Faculty of Agriculture and Food Sciences at AUB. It focuses on collaboration to achieve primary resources security. WEFRAH opens venues for collaboration with other universities within Lebanon and its outcome and action oriented approach links naturally and organically to the Sustainable Development Goals (SDGs) 2030 by presenting a contextualized, relevant approach to their achievement in the MENA region. WEFRAH collaborates with many institutions at national and international levels. Activities in 2020 and 2021 are summarized below.

WEFRAH Activities	Description
<b>Publications</b>	<ul style="list-style-type: none"> <li>- D. Al Assaad, M. Orabi, N. Ghaddar, K. Ghali, D. Salam, D. Ouahrani, M. Farran, R. R. Habib. A sustainable and localized air distribution system for enhancing the thermal environment and indoor air quality of a poultry house in semi-arid climates. <i>Journal of Biosystems Engineering</i>, 203 (3) 2021: 70-92.</li> <li>- Aoun, M. 2020. Pesticides' Impact on Pollinators. In: Leal Filho W., Azul A., Brandli L., Özuyar P., Wall T. (eds) <i>Zero Hunger. Encyclopedia of the UN Sustainable Development Goals</i>. Springer, Cham.</li> <li>- Doughan, Y (2020) <i>Economic Growth, Factors of Production and Sustainable Development</i>, Encyclopedia of the UN Sustainable Development Goals. Zero Hunger, Springer International Publishing.</li> <li>- Doughan, Y (2020) <i>Ecosystem Based Management: An Illustrative Approach</i>, Encyclopedia of the UN Sustainable Development Goals. Zero Hunger, Springer International Publishing.</li> <li>- Naja, F.; Hwalla, N.; Zouhbi, A.E.; Abbas, N.; Chamieh, M.C.; Nasreddine, L.; Jomaa, L. Changes in Environmental Footprints Associated with Dietary Intake of Lebanese Adolescents Between the Years 1997 and 2009. <i>Sustainability</i> 2020, 12, 4519.</li> </ul>
<b>Partnerships</b>	<p>WEFRAH collaborates with many institutions at national, regional and international levels. It has partnerships with:</p> <ul style="list-style-type: none"> <li>- Texas A&amp;M University (TAMU)</li> <li>- Texas A&amp;M University Qatar (TAMU Q)</li> </ul>
<b>Events</b>	<ul style="list-style-type: none"> <li>- WEFRAH joint-webinar on future research collaboration with Qatar University (January 2021).</li> <li>- WEFRAH's First Online Conference (August 2020). It featured first year research outcomes by WEFRAH community on various themes related to the Water-Energy-Food-Health Nexus. Nine research clusters across AUB presented their results, in addition to an annual report featuring goals and activities from WEFRAH coordination team.</li> <li>- A WEFRAH delegation visited in May 2020 key institutions in Qatar to develop research, extension, and educational opportunities that address the common interests of Lebanon and Qatar. The visit followed an earlier visit to AUB by representatives of the Texas A&amp;M Energy Institute and Texas A&amp;M-Qatar, also with the purpose of implementing the existing MoU.</li> </ul>

### 4.10. Climate Change and Environment Program

The AUB Climate Change and Environment program (CC&E) was originally launched as “The Research and Policy Forum on Climate Change and Environment in the Arab World. The program’s strategic objective is to generate, and influence

policy related to climate change and environmental issues in Lebanon and the Middle East and North Africa (MENA) region, in a multidisciplinary approach. The program implemented various awareness activities including conferences and policy dialogue events. Activities also include ongoing research projects, posters preparation, reports and working papers. The program collaborates with entities and institutions at national, regional and international level. Activities in 2020 and 2021 are summarized in the below table.

CC&E Activities	Description
<b>Posters</b>	<ul style="list-style-type: none"> <li>- “Forest Fires in Lebanon: A Recurring Disaster”</li> <li>- “Is Southern Lebanon Water Secure?”</li> </ul>
<b>Projects</b>	<ul style="list-style-type: none"> <li>- “Water-Energy Nexus of Water and Wastewater Service in Lebanon”</li> <li>- “The PHEMAC Project Consortium”</li> </ul>
<b>Events</b>	<ul style="list-style-type: none"> <li>- Conference: “Water in Lebanon: Turning Current Challenges into Future Opportunities”.</li> <li>- Conference: “Lebanon Water Forum”</li> <li>- Policy Dialogue: “Overcoming Bottlenecks in Water Governance”</li> </ul>
<b>Reports/Working Papers</b>	<ul style="list-style-type: none"> <li>- “Water: A Key Driver for Sustainable Growth”</li> <li>- “Climate Change and Conflicts in the Middle East and North Africa”</li> </ul>

### 4.11. University for Seniors (UFS)

The University for Seniors is a new life-long learning initiative at AUB, the first of its kind in Lebanon and the Middle East. It gives older adults (who are 50 and above) the opportunity to share their wisdom and passion, to learn things they have always wanted to learn in a friendly academic environment and to interact socially with other seniors, AUB faculty and students.

Topics are chosen according to member’s interest and the availability of a study group leader to lead the activity. The study group leader then chooses the format, whether it is a large lecture, a small seminar, or an excursion. The program offers the following for older adults:

- Study groups: Held once or more per week on various topics of interest. Study groups run for 4-6 weeks
- Mini-study groups: Held once or more per week on various topics of interest. Mini-study groups run for 2-3 weeks
- Lecture Series: Tackle a specific theme and open to all members and in some cases to the public
- Cultural travel programs: Organized in Lebanon and abroad based on a specific educational component
- Evening with the Profs: Offer AUB faculty an informal setup to talk about their research
- Intergenerational programs: Foster connection between the regular AUB student body and seniors enhancing the “Intergenerational Connections” principle
- Special Interest groups: Offered to members who would like to pursue a non-academic interest or activity
- Social and cultural events: Held once or more per term to enhance the “Community Building” principle

In 2020, several activities were provided for participants. A list of these activities are presented in the table that follows.



Event type	Events in 2020
<b>Events</b>	<ul style="list-style-type: none"> <li>- Fall 2020 Inaugural lecture and opening UFS’ first online term: (Re)Imagining the Long Road Home with AUB President Dr. Fadlo Khuri</li> <li>- UfS house parties: bi-weekly virtual gatherings for the UFS community to discuss, socialize and catch-up!</li> </ul>
<b>Study groups</b>	<ul style="list-style-type: none"> <li>- دور العلاج بالفنون لتخطي الاضطرابات ما بعد الصدمة with Adham Al Dimashki</li> <li>- Processing the August 4 explosion and mourning our losses with Tima El Jamil</li> <li>- Emotional intelligence with Sadika Kebbi</li> <li>- Learning in older age: a journey of hope, courage, and social change with Hany Hachem</li> <li>- من القصيدة إلى الأغنية with Fouad Fouad</li> <li>- Appreciating poetry with Bert Hirchhorn</li> <li>- «حبر وتبر» منتدى الرواية العربية with Dia Tayyara</li> <li>- English book club with Sawsan Maktabi</li> <li>- English as a second language with Mona Maktabi</li> <li>- الذوق والتذوق الفني with Majd Ramadan</li> <li>- Life-long melophile with Arbaa Raad</li> <li>- Face yoga with Chloe Hourani</li> <li>- Relaxation and guided meditation with Nawal Fleihan</li> <li>- Cooking                             <ul style="list-style-type: none"> <li>• نكهات تقليدية: فالفل وكنافة صنع البيت with Therese Geha</li> <li>• نحو نظام غذائي جديد with Amale Kerbaj</li> <li>• A glimpse of Armenia with Arpi Butchakjian</li> </ul> </li> </ul>
<b>Lecture series</b>	<ul style="list-style-type: none"> <li>- تحت المجر – Under the spotlight</li> <li>- كيف نعمر ولا نهرم with Hussein Charafeddine</li> <li>- قصة نجاح مستمرة منذ 11 عاماً في عالم الإنتاج السينمائي والدارمي with Sadek Sabbah</li> <li>- العصر الآسيوي with Omar Slim</li> <li>- Older adult education: history, practices, and what lies ahead! with Hany Hachem</li> <li>- Sacred places: controversy or harmony! with Hassan Ramadan</li> <li>- Understanding the Lebanese uprising: insights from the social psychology of collective action with Rim Saab</li> <li>- Crisis management in Lebanon: a framework for helping the private sector with Constantin Salameh</li> <li>- Women leading in times of crises with Karma Ekmekji</li> <li>- Lebanese women’s political representation: The October revolution as a critical juncture with Carmen Geha</li> <li>- Music &amp; Arts</li> <li>- رواد النهضة بين حضور الدور وغياب التأثير with Sleiman Bakhti</li> <li>- The symphony is the star of the day - Part II with Ghassan Yammine</li> <li>- Wanderlust</li> <li>- From Zapata to Guevara, reading between the lines: An overview of history, immigration ,culture and tourism of Cuba! With Leila El Amad Bissat</li> <li>- Exploring Spain’s lesser-known destinations: Hidden gems in Spain with Noura El Sayed Rodriguez</li> </ul>

Event type	Events in 2020
<b>Facebook lives talks, videos and more</b>	<ul style="list-style-type: none"> <li>- فيروس كورونا المستجد وكبار السن with George Assaf</li> <li>- Laughter Yoga with Rim Tannir</li> <li>- Discover your unconscious behaviors and learn how to create good habits during confinement with Tarek Hammoud</li> <li>- Meditation with Nawal Fleihan</li> <li>- Your positive attitude with Sadika Kebbi</li> <li>- Story time using UFS members words with Nadine Touma, Sevine Ariss and Dar Onboz</li> <li>- التطور التاريخي لمنطقة الأهوار في جنوب العراق with Janan Alameddine</li> <li>- Camino de Santiago: a life changing experience with Rami El Zein</li> <li>- العزلة والابداع with Majd Ramadan</li> <li>- معرض العزلة والابداع with a number of UfS members supervised by Majd Ramadan</li> <li>- Beirut August 4th blast through the drawing of UFS members</li> </ul>

### 4.12. Women and Gender Studies

Launched in spring 2016, the initiative for Women & Gender Studies at AUB is committed to further the University’s liberal arts education by foregrounding gender as a site of intellectual inquiry, critical thinking, and creative exploration. Through a variety of courses and a newly-established Minor in Women & Gender Studies, students explore how different academic fields and disciplines view the operation of gender in the labor market, social movements, the family, healthcare, political systems, and cultural productions and representations.

The WGS initiative at AUB is envisioned as a stepping-stone towards the establishment of an interdisciplinary program that fosters teaching, research, and public programming on gender. In 2020-21, several lectures were provided and are planned. This includes Women and Writing series that include several lectures such as:

- Women in Wartime Beirut Reading Group with Dr Emilie Mansour Thomas, October 2021 [Nicely 204]

- The Urbigraphs Walk Series I: Exploring Beirut with Women Writers, October 2021
- Voice Workshop with Kathleen Mulligan cosponsored by the Alwaleed Center for American Studies and Research (CASAR), October 2021
- The Body Speaks Workshop with Norm Johnson cosponsored by the Alwaleed Center for American Studies and Research (CASAR), October 2021
- Panel on the Production cosponsored by the Alwaleed Center for American Studies and Research (CASAR), October 2021
- The Belle of Amherst Play cosponsored by the Alwaleed Center for American Studies and Research (CASAR), October 2021
- Evie Shockley Visit cosponsored by the Alwaleed Center for American Studies and Research (CASAR), October 2021

### 4.13. Student Clubs and Events

AUB has more than 11 student clubs whose mission statements revolve around sustainability. These are further described in the following table.

During the years 2020 and 2021, and due to the COVID-19 pandemic, campus closure to students, on-line teaching and the several lockdowns, little activities and events took place physically.

Club	Mission statement
<b>Students for Sustainable Energy for All (SSEA)</b>	Promote energy awareness by engaging peers on the current local, regional and global environmental and energy issues, by organizing campus-wide events and collaborating with other like-minded entities for various projects and events related to the UN SDGs. The club also aims to shed some light on issues such as the environment, the effects of climate change and energy security in hopes to start a discussion on campus and call for action.
<b>Evergreens Environmental Club</b>	Create an environmental friendly community at AUB and spread Zero-Waste thinking among students and faculty, and ultimately the Lebanese society.
<b>3D Club (Discuss, Debate and Discourse)</b>	Provide AUB students with a hands-on experience in the sociopolitical life and further enhance their relationship with the society by empowering them with skills that allow them to powerfully engage in social reform inclusively.
<b>AIESEC Club</b>	Activate youth leadership. The international platform pushes young people to discover and develop their potential while making a change in society through practical experiences in challenging environments, such as membership and/or volunteering/internship opportunities abroad.
<b>Beqaa Valley Club</b>	Spread cultural awareness among AUB students in order to emphasize the importance of Beqaa as one of the pillars of Lebanese heritage and history.
<b>Civic Welfare League</b>	Promote the idea of civil society by endorsing secularist concepts, such as civil marriage and non-sectarian interaction within society. The efforts also aim to preserve the region’s economic welfare and cultural heritage by organizing exhibitions, inviting knowledgeable speakers and sponsoring musical evenings.
<b>Communication Club</b>	Serve as a collective forum for intellectual discourse relevant to all social and academic topics of concern, with special focus on socio-economic issues. The club aims to provide opportunities for students to develop an innovative mindset and unleash their potential.
<b>Cultural Club of the South (CCS)</b>	Reflect and support the youth’s concerns on all national, intellectual, social, and environmental levels.
<b>Lebanese Heritage Club (LHC)</b>	Shed the light on every unique spot on our proud Lebanese Heritage. LHC aspires to revive the Lebanese heritage through numerous activities and projects that reinforce the convergence of different students from the various segments of Lebanese society.
<b>MMKN Club</b>	Build socially responsible citizens through education. MMKN Club aims at empowering public school students through organizing academic, social, and recreational events, both on-campus and in public schools.
<b>University Scholarship Program Club (USP)</b>	Promote students activism through conducting social events.



#### 4.14. Faculty Events and Lectures

During the FY 20-21, more than 84 lectures and events were organized by faculty on aspects related to sustainability. These are further described below.

Title	Date
IHME COVID-19 Model For The Eastern Mediterranean Region: Implications For Easing Mandates	July 1, 2020
COVID-19 Studio (Arabic)	July 7, 2020
DESIGN CHARETTE – Ideas generator workshop for better education!	August 4, 2020
The Effects of COVID-19 on Investors	August 13, 2020
The International Engagement in Lebanon Post-Beirut Blast: Directions and Objectives	August 17, 2020
WEFRAH Conference	August 26, 2020
Terrorism and Counterterrorism in the MENA Region: Trends and Prospects	August 27, 2020
The Growing Role of Civil Society in Lebanon after the Beirut Blast	September 8, 2020
Beyond the Blast: Rebuilding Healthcare in Lebanon	September 11, 2020
Housing and Financialization in a Moment of Crisis – Large Scale Urban Projects [4]	September 23, 2020
Together Against Corona: A multidisciplinary collaboration to develop Lebanon's COVID-19 Contact Tracing App	September 30, 2020
The Effects of COVID-19 on Investors	September 30, 2020
The Impact of the Economic Crisis on Refugees and Host Communities Working in the Informal Economy in Lebanon	September 30, 2020
Crisis and Risks Management for NGOs: Lessons Learnt from the Beirut Blast	October 1, 2020
Housing and Financialization in a Moment of Crisis: Case Studies from the Arab Middle East [5]	October 7, 2020
FED Talk Session 3: Food Security Challenges and Solutions in the MENA Region	October 15, 2020
Towards a strategic vision for the energy sector in Lebanon	October 21, 2020
Global Disaster Medicine: Challenges with defining health needs in disasters and providing triage based assistance	October 21, 2020
FED Talk Session 4: Nutrition in the Mediterranean Region: The Triple Burden	October 22, 2020
The road to reducing inequality in Lebanon	October 26, 2020
From black death to COVID-19: How pandemics shaped human history	November 4, 2020
ASHRAE 4th International Virtual Conference on Efficient Building Design—Materials and HVAC Equipment Technologies	November 5, 2020
Experiential Learning in time of COVID-19: Has it been working?	November 5, 2020
Preserving the environment protects human health	November 10, 2020

Title	Date
The Pivotal Role of Media and Academic Spaces post Beirut Blast: Between Responsibilities and Challenges	November 11, 2020
AUB's FED Talk Session 6: Greener Cities are Cooler Cities - Nature Based Solutions for urban climate mitigation	November 12, 2020
New realities, new visions for higher education	November 17, 2020
COVID19 talks series: Observing the Pandemic - in Dialogue with WHO	November 19, 2020
From Research Idea to Center: Building a Trajectory of Research with Social Impact	November 20, 2020
FAFS Online Seminar Series   Modeling the Water-Energy-Food Nexus: Bridging Science and Policy Making by Dr. Ali Karnib, PhD	November 24, 2020
Webinar on implementation research/infectious diseases of poverty and COVID-19	November 27, 2020
Workshop on Dissemination and Implementation Research in Health (WONDIRH)	November 30, 2020
Monitoring Functions for the COVID-19 Pandemics	December 1, 2020
COVID-19 Vaccines: Where Do We Stand Now?	December 1, 2020
Cell to Society: Efforts to enhance Genetic Healthcare in Lebanon and other regional countries	December 2, 2020
Community Engagement in Times of COVID-19: Is it Possible?	December 2, 2020
Oil Market Outlook and OPEC+ dynamics amid COVID-19	December 3, 2020
AUB's FED Talk Session 7: "Nutrition amidst multiple crises: How do we build healthier and more resilient communities?"	December 3, 2020
COVID-19 pandemic: The beginning of the end?	December 3, 2020
Nile Water Rights	December 8, 2020
Media Coverage of Lebanon's Water Crisis	December 14, 2020
Polling in the Time of Coronavirus: Results of the Arab Barometer - Lebanon	December 15, 2020
FAFS Online Seminar Series: "Looking Back, Looking Forward: Recurrent Crises and Resilience for Lebanon's Agro-Food Producers, Exporters, and Food Security"	December 16, 2020
Ethical Conundrums of COVID-19 Vaccine Allocations	December 16, 2020
FAFS Online Seminar Series – RISE2030 and ESDU "The Role of Circular Economy in Promoting Local Livelihoods"	December 17, 2020
Emergency Response to Beirut Port Explosion	December 17, 2020
The Current State of COVID-19 Vaccines	December 21, 2020
COVID-19 Vaccines: What We Need to Know	January 6, 2021
Ethics concerns in Covid-19 Vaccine Distribution	January 20, 2021
Feminist Mobilizations at the time of Covid-19; Experiences from the Middle East, Latin America and the Caribbean	January 27, 2021

Title	Date
Pandemics and Systemic Fragility: Why COVID-19 was not a Black Swan	February 2, 2021
COVID-19 and Pro-inflammatory Immune Responses: Lessons Learned from Infection with the Epstein-Barr Virus	February 3, 2021
The Other Side of COVID-19: Impact on Mental Health	February 3, 2021
Models for Tackling Lebanon's Electricity Crisis	February 4, 2021
Kawakeb: Social and Behavioral Perspectives on People's in(actions) to COVID-19 Precautions	February 10, 2021
Beirut Breast Cancer Conference (BBCC)	February 11, 2021
Development and Adaptation of Practice Guidelines in Health	February 15, 2021
Access to COVID-19 Vaccination Among Refugees and Forced Migrants: Ethical Questions	February 17, 2021
Lebanon Water Forum 2021 (LWF21)	February 23, 2021
Pediatric Ethical Issues During COVID-19 Pandemic	February 24, 2021
Digital Transformation in the Automobile and Transportation Industry	February 25, 2021
FAO Water-Energy-Food Nexus Webinar Series   A Water-Energy-Food Nexus approach for evaluating the sustainability of the Mediterranean Diet: The Case of Lebanon	March 2, 2021
AUB4Women - Celebrating 100 Years of Coeducation	March 6, 2021
Global Coalition For Community Climate Action	March 10, 2021
Couples and COVID-19: Challenges and Opportunities	March 11, 2021
Health Communication in the prevention of COVID-19: Insights from theory and on practice	March 17, 2021
COVID-19 Vaccines and Humanitarian Crises: Personal Responsibility and Global Justice	March 17, 2021
FAFS Online Seminar Series - Valuing Water for people: The rights to water and Sanitation by Raya Marina Stephan	March 22, 2021
Bioethics Amidst The COVID-19 Pandemic : Implications for Bioethics The Allocation of Scarce Medical Resources From Ventilator	March 24, 2021
Agro-Food Industry- Academia Partnership: Taking your product one step further	April 1, 2021
Time-Dependent and Post-Elevated Temperature Performance of Welded Steel Connections Subjected to Fire	April 6, 2021
How Has the COVID-19 Pandemic Changed Ethical Decision-Making for Older Patients?	April 7, 2021
Youth Facing Lack of Employment Opportunities, Favoritism, and Discrimination	April 15, 2021
COVID-19 vaccine inequity: a rising challenge for risk communication	April 21, 2021
Global Coalition For Community Climate Action	April 21, 2021
Gender, Conflict and Refugees: The Case of Syria	April 23, 2021
The Exile and Trauma of Syrian Refugee Women in Beirut	April 27, 2021

Title	Date
Archaeological Museums and Cultural Heritage: Meaning, Ownership, and Stewardship	May 7, 2021
Ralf Klingbeil Memorial Webinar   Water Challenges in the MENA REGION and BEYOND	May 20, 2021
HIV in the Time of COVID-19 Focus on the MENA	May 22, 2021
How has the discourse on gender-based violence been changing among Arab young activists?	June 2, 2021
Arabic Panel Discussion: Blanket Use of COVID Do Not Resuscitate Orders and Allocation of Ventilators	June 2, 2021
IWRA 2021 Online Conference	June 7, 2021
Finding a Way out of Lebanon's Economic Crisis	June 10, 2021
The Case of the Food and Beverages Sector in Lebanon	June 18, 2021
Replacing Monopoly Markups with Health Impact Rewards	June 23, 2021

# 5. SUSTAINABILITY IN CAMPUS OPERATIONS

## 5.1. Sustainable Buildings

The Facilities team at AUB provides the expertise to implement the university's policies and standards adopted to plan, design, construct, and renovate buildings and outdoor spaces of the university in collaboration with various AUB/AUBMC departments to create a safe, healthy, sustainable, historically rich yet modern distinctive campus. The Facilities team provides innovative, cost-effective, and sustainable solutions

that enhance the university's excellence in providing the best learning experience.

In 2017, AUB has developed a campus masterplan in which AUB Facilities team will strive to achieve a minimum LEED Gold certification in any new development or major renovation as a commitment to sustainability. Lately, Penrose Hall was renovated and was converted into a green dormitory building with LEED Gold certification. The table below presents a sample of recently built / renovated buildings at AUB along with targeted sustainability features in each.



	Waste Recycling	Building Envelope	Water Reuse	Water Efficiency	Energy Efficiency	Renewable Energy	Building Automation	Thermal Comfort
Hostler	✓	✓	✓	✓	✓	✓	✓	✓
OSB	✓	✓	✓	✓	✓		✓	✓
IOEC	✓	✓	✓	✓	✓	✓	✓	✓
IFI	✓	✓		✓	✓		✓	✓
Masri-Bechtel	✓	✓		✓	✓	✓	✓	✓
Penrose	✓	✓	✓	✓	✓	✓	✓	✓
Architecture	✓	✓		✓	✓	✓	✓	✓

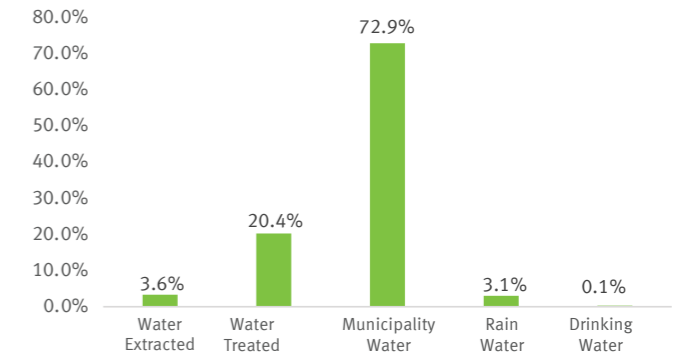
## 5.2. Water Management

Every two years, EHSRM prepares AUB's water footprint report that summarizes all the efforts that are done at the level of the university to reduce water consumption. The last report was produced in 2020 covering the FY 2019-20.

Due to the Covid 19 pandemic, the campus was partly closed to students and staff except for students living in dormitories and for essential staff. Due to online learning and work from home practices, a significant decrease in water consumption was observed during this period.

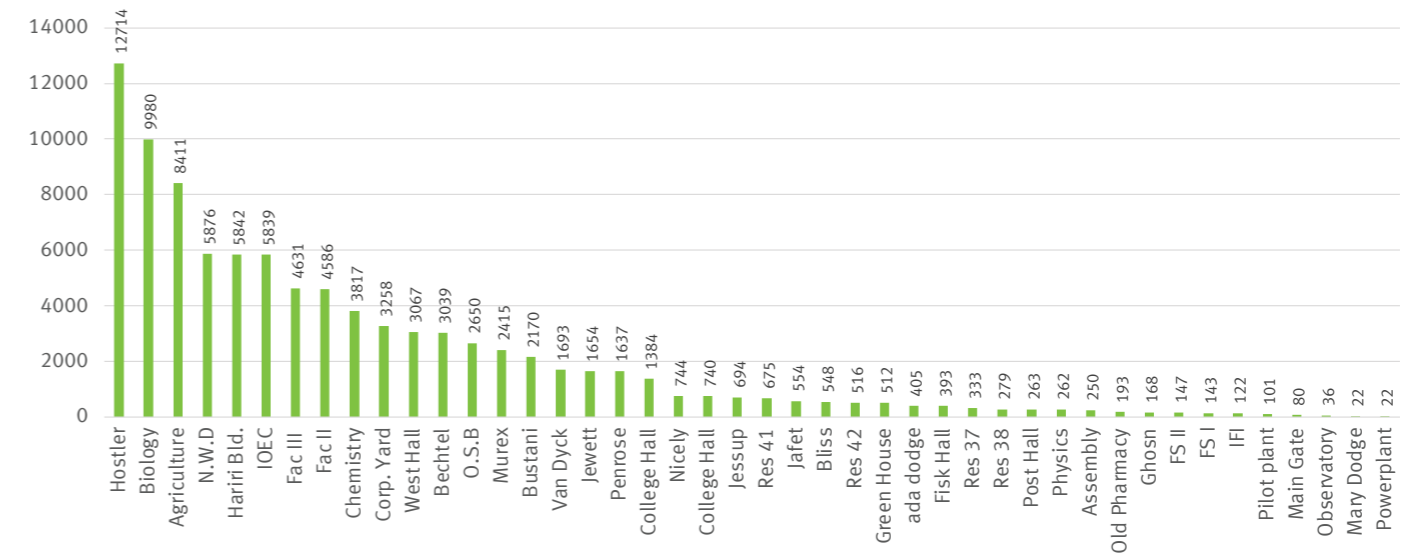
The main sources of water consumption at AUB include water extracted from groundwater wells on site, water treated through the RO plant, municipality water, collected rain water and water for drinking. The total annual water consumption during FY 2019-20 was 317,752 m3 with a drop of nearly 40 % from the previous reporting period (530,704 m3 during FY 2017-18). The main source of water remains from the municipality followed by water treated at the RO treatment plant.

The building with the highest monthly consumption of water was the Charles Hostler Student Center followed by the Biology and Agriculture buildings.



AUB's total consumption amounted to 317,752 m3 or 83,941 kilo gallons (kgal). The number of full-time students, instructional staff, and on-campus staff was 11,808 and as such, the water footprint per capita was calculated to be 7.1 kgal/capita. The annual water consumption per square footage of campus area was calculated to be 0.032 kgal/sq given that the campus area is 2,652,804 square feet. Both numbers show around 40 % reduction as compared to values computed in FY 2017-18.

Yearly water Consumption Building (m³)



Comparison of annual water consumption between FY 2017-18 and FY 2019-20

	FY 2017-18	FY 2019-20	Percent Difference
Annual Water Consumption (kgal)	140,197	83,941	-40 %
Annual Water Consumption (kgal/capita)	11.65	7.11	-39 %
Annual Water Consumption (kgal/sq. ft.)	0.053	0.032	-40 %

## 5.3. Waste Management

EHSRM is responsible for the waste management program at AUB. Throughout the years, EHSRM has developed several waste management initiatives. Below is a description of these initiatives along with the latest updates.

- Reverse Vending Machines (Boomerang): Project was initially started in September 2013 through an agreement with Servcorp for the installation of 3 machines for the recycling of plastic bottles and cans at Ada Dodge, CHSC and AUBMC cafeteria and providing gifts for recycling. In January 2016, 3 new machines were installed at OSB cafeteria, Boustani Hall and Penrose Hall with a new and

- more appealing redemption scheme. Eight more machines were added on consignment basis in October 2016. A donation agreement was signed in April 2017 with Atria to donate 17 REVA machines to AUB (worth 130,000 \$) after the end of their contract. The recyclable quantities are being recorded and the total number of bottles and cans collected for recycling since program initiation until June 2021 amounted to 1,241,296. The program is currently managed through a contract with Arcenciel.
- Red and Blue: Initiative started in February 2015 through an agreement with Sukleen. 760 indoor sets of Red and Blue recycling bins were distributed in campus buildings and 24 sets for outdoors. Each set is comprised of 2 bins: red for plastic, metal and glass and blue for paper and cardboard. The quantity of recyclable materials collected till June 2021 amounted to 90,916 kg. The program is also managed through a contract with Arcenciel.
  - Chemical waste management program: Hazardous chemical wastes from Campus and Medical Center laboratories (around 10 to 12 tons every 2 years) are collected by EHSRM, labeled and packaged and sent for proper disposal in Europe as per Basel convention regulation for the transboundary movement and disposal of Hazardous waste. During the first quarter of 2021, a contract was signed with POLYECO, a Greek Waste Management Company for the export of around 12 tons of hazardous chemical waste to Belgium.
  - Chemical waste recycling program: Chemicals are being recycled internally by other departments (mainly Chemistry) and externally through a local paint industry to recycle xylene waste.
  - Bio-hazardous waste management program: All bio-hazardous waste generated from the medical center and AUB labs (around 33 tons/month) are being separately collected in yellow bio-hazardous waste bags and sent for proper disposal by shredding and autoclaving at arcenciel treatment center. Efforts are being concentrated on reducing the waste generation rates. A biohazardous waste transport vehicle was procured for the safe transport of Biohazardous waste from campus to medical center.
  - Radioactive waste management: All radioactive waste generated from labs using radioactive material in research or from the hospital are separately collected and segregated into long-lived and short-lived and stored at AUB and AUBMC for decay and then they will be disposed of according to their categories.
  - Battery collection and recycling program: All type of batteries (AA, AAA, Lithium ion, etc) are being collected from buildings on campus and from the medical center at specific drop off points for their recycling through an agreement contract with Verdetch. Collection points are available at the entrance of most buildings on campus and spread out through most of the departments at the medical center (41 collection points on campus and 200 at the medical center).
  - Asbestos material disposal: Asbestos containing materials (vinyl tiles, sheets, pipes, etc.) are being removed under complete isolation, wet conditions, negative pressure, and filtration of the air through HEPA filters and disposed of in concrete blocks. In 2020, asbestos materials were removed from Kerr Hall and Physics department in accordance to the prepared guidelines and encapsulated in three concrete blocks (about 5 m<sup>3</sup> each).
  - Phasing out plastic on campus: AUB implemented several initiatives targeting plastic reduction on campus. Among them is the installation of reverse osmosis units to provide drinking water to students. So far, 4 out of 7 planned units were implemented and 60 new drinking water fountains out of 109 planned were distributed across served buildings. The total number of plastic water bottles saved until June 2021 amounted to 866,964 bottles. Moreover a plastic reduction campaign was initiated which included several events, banning single use plastics in cafeterias and distributing water gourdes to new AUB students.
  - Recycling/crushing of fluorescent lamps: AUB generates fluorescent lamps (containing mercury) on monthly basis from its operations and are usually collected for recycling after procuring a lamp crusher. The crusher reduces AUB's environmental damage by making the crushed glass a recyclable item and by capturing all the hazardous particulates and vapors. Around 22,627 fluorescent lamps were crushed and sent for recycling until June 2021.
  - Electronic waste recycling: E-waste items should not be disposed of in the normal trash due to their high concentration of toxic chemicals and heavy metals. AUB has deployed several e-waste collection bins on campus. AUB has signed an agreement with Verdetch, one of the few licensed Lebanese waste management companies, for collecting and properly managing electronic waste. Moreover, another part of the e-waste generated by the university is sent to the Materials Management Department for selling to external entities, if the conditions are suitable.
  - Green waste composting: Six wooden bins of capacity 1 m<sup>3</sup> each are available in several areas on campus. They are mainly used to compost green waste from tree clippings and gardening collected by the grounds keeping department on campus.
  - Food waste composting: Nine composters are available near faculty residence halls at AUB (4 next to Hariri Hall and 5 next to Faculty Apartment II). All the residents are trained on the proper organic waste disposal process. Compost is then used as a soil conditioner in AUB gardens.

## 5.4. Energy and climate change

AUB has been striving to be a leader of environmental responsibility by developing and implementing environmentally sound policies and practices that foster environmental sustainability. Throughout the years, AUB launched many sustainability related projects and initiatives to mitigate its impact on climate change and reduce its carbon emissions including:

- Installation of solar PV systems.
- Installation of solar water heating systems.
- Installation of low emissivity glazing and LED lights (in 70 % of the buildings).
- Installation of motion sensors to reduce the consumption of electricity in offices when not needed.
- Renovation of buildings with several sustainability features in the design. Green awards received for many renovated buildings include LEED Gold award and Agha Khan award.
- Procurement of energy/water efficient appliances.

In FY 2020-21, AUB's electrical consumption amounted to 19,079,372 Kwh with a drop of nearly 25 % as compared to electricity consumption in FY 2019-20 (25,147,623 Kwh). This reduction in electricity consumption is mainly attributed to the Covid-19 pandemic and the successive lockdowns to contain the spread of the virus.

In 2020, FAFS buildings witnessed the installation of a new system of solar panels that will generate useful energy to be used across campus. A new 100 kWp solar system was installed

to generate more than 160 MWh of useful energy. The energy produced by this solar system saved more than 53,000 liters of diesel fuel during the first year of operation. This system will add to the already existing 150 kWp photovoltaic solar panels installed on the roof of Bechtel and Scientific Research Buildings. With the renovation of the Architecture building in 2021, the roof of the historic building will host photovoltaic panels that will produce more than 200 MWh of electricity yearly.



## 5.5. Transportation

AUB has implemented several initiatives to reduce the use of cars on/to campus. These include:

- Shuttle/bus to bring staff to campus. A transportation task force was formed to propose solutions to the prevailing fuel crisis in the country and to work on a transportation initiative to support faculty, staff, and students in their commute to campus. Several bus options and routes were made available from all 5 Mohafazas to Beirut according to preset time schedules. Moreover, AUB has made agreements with on demand buses that are currently running between Batroun and Beirut (Hadeer) and between Tripoli and Beirut (Connexion) in modern buses, equipped with Wi-Fi, and have high standards in terms of hygiene, comfort, and safety.
- Carpooling: AUB members can self-organize into carpooling arrangements using their own cars, based on their areas of residence, routes to and from AUB, and their work schedules.
- Ridesharing using a dedicated taxi for AUB members (Allo Taxi, Uber): A taxi would pick up AUB members who live in proximity to each other (in Beirut) or who are along the same route to AUB and have similar schedules. Staff are requested to fill out an online form to enroll in ridesharing services and indicate the area of residence, schedules, and interest in one or both ridesharing options. Based on this database, AUB members would then be able to self-organize into ridesharing groups.
- Efficient use of parking spots by allocating the available spaces to 130 % of their capacity (ie. parking stickers given to cars exceed the number of parking spots by 30 %)
- Promoting the use of bicycles to commute to university. Bicycle parking ranks are available next to all entrances to the campus.
- AUB protection office reduced the daily vehicle trips inside the university from 82 trips/day to around 30 trips/day by restricting vehicle access to the university, coordinating and reducing the trips of several departments and by controlling 24/7 the gates of the university.
- AUB encourages walking. In fact, as stated in the parking and traffic policy, AUB considers that pedestrians have the right of way on campus.
- The Goods Receiving Area, which was inside the campus, was pushed, in 2019, to the periphery with access from outside the campus. This move has reduced drastically the number of delivery trucks needed to service the university from accessing the campus.
- AUB has procured several electrical cars to be used on campus.



# 6. SUSTAINABLE DEVELOPMENT GOALS (SDGs)

AUB, through FAFS leadership, formally joined the Sustainable Development Solutions Network. The Network promotes practical solutions for sustainable development, including the implementation of the Sustainable Development Goals (SDGs), by mobilizing global scientific and technological expertise (universities, research centers, and other knowledge-based institutions). The multidimensional global network provides an excellent platform for effectively translating expertise into action through participatory roles in global discussion and decision-making. AUB will share its own expertise in evidence-based problem solving related to the specific challenges particular to our region, i.e., refugee influx, primary resource scarcity, climate change, etc.

Since January 2019, FAFS led AUB in mapping completed and ongoing learning, research and outreach activities of the AUB faculties, centers, institutes, and other units in relation to one

or more of the 17 SDGs. Over 300 projects were identified across key thematic priority areas of the SDSN, including: The World in 2050, Humanitarian-Development Linkages, Gender, Human Rights, Social Inclusion, Education-Quality-and-Learning-for-All (EQUAL), Health for All, Sustainable Agriculture and Food Systems, Forests-Oceans-Biodiversity-and-Ecosystem Services, and Sustainable Cities: Inclusive-Resilient-and-Connected. Through engagement in SDSN's Thematic Networks, AUB will have new opportunities for teaching sustainable development to the next generation of systems thinkers in Lebanon and the region by bringing increased collaboration in education, research, outreach, and capacity building with other national, regional, and global institutions. The below table shows the distribution of the SDG projects and initiatives that were conducted since 2019 among AUB faculties and departments.

	SDGs																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>FAFS</b>	2	4	3	1		2	1	2	2	1	2	2	4		4		
<b>MSFEA</b>			1			1	1		1		2	2	1		1		
<b>OSB</b>				1	1			3	1	3	2	2	1			3	
<b>FAS</b>			1	5	5	3	1				1	1			1	7	3
<b>HSON</b>	1	1	2	3	2	1	1	1	1	2					1	2	2
<b>FHS</b>	2	1	11	5	3	1	1	1	1	9	1		1		1	3	1
<b>FM/AUBMC</b>			7														
<b>GHI</b>			13	9	10					2							12
<b>IFI</b>	3	1	3	2	2	3	2	5		6	2	1	2			5	
<b>CCECS</b>	4	3	6	6	8	2	1	3	4	5	5	1					
<b>NCC</b>			1	2		1	3	1			2	2	6	1	6		
<b>IT</b>			1	8			2	1	2	6	1		1		1		2
<b>PPD/FPDU</b>			1	2		2	2					5	1				
<b>EHSRM</b>			1			1	1	1	1		1	1					
<b>UL</b>	1	1	1	4	1	1			1	2	2			1	1	2	1
<b>NI</b>											15						
<b>Total</b>	<b>13</b>	<b>11</b>	<b>52</b>	<b>48</b>	<b>32</b>	<b>18</b>	<b>16</b>	<b>18</b>	<b>14</b>	<b>36</b>	<b>36</b>	<b>17</b>	<b>17</b>	<b>2</b>	<b>16</b>	<b>22</b>	<b>21</b>

**SDGs:**



# 7. MONITORING AND INDICATORS

In order to track the implementation of the greening initiatives at AUB, several indicators were adopted by the University. These indicators were derived from the UI GreenMetric initiative and cover all the components targeted in AUB long term sustainability plans. On a yearly basis, EHSRM collects data from the concerned department and does the necessary

calculation whenever needed. The results are then compared to previous years and whenever possible benchmarked with other academic institutions. These indicators help when setting up future plans and projects. The below table summarize the indicators adopted by AUB.

Category	Indicator	Values, benchmarks and comments
<b>General environment</b>	Total area on campus covered in forest vegetation (%)	35.0 %
	Total area on campus covered in planted vegetation (%)	10 %
	Total area on campus for water absorption besides forest and planted vegetation	31 %
	The total open space area divided by total campus population	14 m <sup>2</sup>
	Percentage of university budget for sustainability efforts within a year	11 %
<b>Energy Efficiency and Climate change</b>	Rate of energy efficient appliances used on campus	64.8 %
	Smart building implementation rate	100 %
	Number of renewable energy sources in campus	3 sources (solar heating, solar photovoltaic and cogeneration)
	The total electricity usage divided by total campus population (kWh per person)	1,496 kWh
	The ratio of renewable energy production divided by total energy usage per year	2.05 %
	The total carbon footprint divided by total campus population	1.20 (metric ton/person)

Category	Indicator	Values, benchmarks and comments
<b>Safety and well being</b>	Number of safety related events per year	4
	Overall result of the safety culture assessment	3.45/5
<b>Waste</b>	Weight of batteries collected per year (Kg)	2400
	Number of fluorescent lamps crushed per year	7,980
	Number of plastic bottles and cans collected through the reverse vending machine per year	14,808
	Weight of recyclables collected through the Red and Blue recycling system (kg/year)	23,250
	Weight of hazardous chemicals sent for treatment per year	6.5 tons
	Number of water bottles saved through the installed drinking water fountains per year	220,000
	Weight of compost produced per year	3,600 kg
<b>Water</b>	Number of water conservation program implemented per year	5
	Number of water recycling program implemented per year	2
	Rate of water efficient appliances used in the University	71.5 %
	Rate of treated water consumed compared to all water sources	20.4 %
<b>Social</b>	Number of social events linked to SDGs conducted per year	75
<b>Transportation</b>	Total number of vehicles divided by total campus population	0.0076
	Total number of zero emission vehicles	6
	Ratio of the parking area to total campus area	3.8 %
<b>Education</b>	Ratio of sustainability courses to total courses / subjects	27.2 %
	Ratio of sustainability research funding to total research funding	60 %
	Total number of scholarly publications on sustainability per year	910
	Total number of events related to sustainability per year	86
	Number of student organizations related to sustainability	11

# 8. PLAN FOR THE FUTURE

## 8.1. Short term plan

- Elaborate a university wide sustainability policy.
- Create a sustainability office or recruit a sustainability officer.
- Create a sustainability task force comprising staff and faculty.
- Initiate an awareness campaign on sustainability across AUB.
- Incorporate sustainability measures in all operations, construction and renovation projects.

## 8.2. Long term plan

- Work towards implementing all the sustainability measures enacted in the Campus Master Plan.
- Increase the share of renewable energy on campus.
- Elaborate and incorporate sustainability measures in all AUB's operations.



# Appendix 1

## Contribution of AUB Faculties, Centers, Institutes, and Units to the SDGs through Education, Research and Outreach

AUB Faculties, Centers, Institutes and Units	Research	Disciplines	Programs	Centers and Initiatives	Other
<b>FAFS</b>	<p><b>Water, Agriculture, Ecosystem and Remote Sensing</b> (SDGs 6, 7, 9, 11, 13, 15)</p> <p><b>Diet, obesity, physical activity, non-communicable diseases and food security</b> (SDGs 2, 3, 4)</p> <p><b>Landscape for culture and socio-ecological health</b> (SDGs 9, 11, 13, 15)</p> <p><b>Plant and Animal Sciences</b> (SDGs 2, 12, 13, 15)</p> <p><b>Sustainable Food Systems</b> (SDGs 1, 2, 3, 6, 8, 12, 13, 15)</p> <p><b>Food Applications and Consumer Research</b> (SDGs 1, 2, 3, 8, 10)</p>	<p>Agriculture</p> <p>Nutrition and Dietetics</p> <p>Food Science and Technology</p> <p>Landscape Architecture</p>	<p>Agribusiness</p> <p>Food Security</p> <p>Public Health Nutrition</p> <p>Food Safety</p> <p>Ecosystem Management</p> <p>Rural and Community Development</p> <p>Food Security Program</p>	<p>Advancing Research Enabling Communities Center (AREC)</p> <p>Environment and Sustainable Development Unit (ESDU)</p> <p>Water-Energy-Food-Health Nexus Renewable Resources Initiative (WEFRAH)</p>	
<b>MSFEA</b>	<p><b>Environment and energy</b> (SDGs 6,7,13)</p> <p><b>Buildings and structures</b> (SDGs 11,15)</p> <p><b>Urban challenges</b> (SDGs 11,12)</p> <p><b>Health</b> (SDGs 3,12)</p> <p><b>Electrical and computer engineering</b> (SDG 9)</p>	<p>Architecture and Design</p> <p>Civil and Environmental Engineering</p> <p>Electrical and Computer Engineering</p> <p>Chemical and Petroleum Engineering</p> <p>Mechanical Engineering</p> <p>Industrial Engineering and Management</p>	<p>Applied Energy (ME)</p> <p>Energy Studies (MSc)</p> <p>ProGreen Diploma, with energy, buildings and water specialization</p> <p>Urban Planning and Policy (MUPP)</p> <p>Biomedical Engineering (ME &amp; PhD)</p> <p>Environmental and Water Resources Engineering (EWRE, ME and PhD)</p>	<p>Aerosol Research Lab</p> <p>Be Public</p> <p>Biomedical Engineering Lab</p> <p>Climate Design Lab</p> <p>Chemical Reaction Engineering and Catalysis</p> <p>Comfort, Health, and Productivity in Built-in and Outdoor Environments</p> <p>Design Impact Lab</p> <p>Experimental Fluid Mechanics Lab</p> <p>Ergonomics Lab</p> <p>Process Intensification Group</p> <p>Urban Lab</p>	

AUB Faculties, Centers, Institutes and Units	Research	Disciplines	Programs	Centers and Initiatives	Other
<b>OSB</b>	<p><b>Women And Careers   Pay Equity   Women's Work Experiences</b> (SDG 5, 8, 10)</p> <p><b>Corporate Governance   Transparent Financial Reporting</b> (SDG 10, 16)</p> <p><b>Business Ethics   Corporate Social Responsibility   Corruption and economic security   Nepotism  </b> (SDG 8, 10)</p> <p><b>Fair Marketing and Advertising   TV Consumption Patterns</b> (SDG 12)</p> <p><b>Financial Institutions and Development   Social Enterprises   Entrepreneurial Development   Business Strategies For Environmental Sustainability</b> (SDG 11, 13, 16)</p> <p><b>Sustainable Shared Value   Sustainable Production</b> (SDG 8, 11, 12)</p> <p><b>E-government</b> (SDG 9, 16)</p> <p><b>Business Ethics Education In Lebanon and Developing Nations   Sustainability Cases</b> (SDG 4)</p>	<p>Business Information Decision Systems</p> <p>Finance, Accounting and Managerial Economics</p> <p>Management, Marketing and Entrepreneurships</p>	<p>BBA</p> <p>MBA</p> <p>MFIN</p> <p>MHRM</p> <p>MSBA</p> <p>EMBA</p> <p>Executive Education</p>	<p>Darwazah Center for innovation system and entrepreneurship</p> <p>Rami Fouad Makhzoumi Initiative in Corporate Governance</p> <p>Corporate Social Responsibility initiative</p>	
<b>FAS</b>	<p>Air pollution-related mortality (SDG3)</p> <p>Access to clean energy in homes (SDG7)</p> <p>Air quality in cities (SDG11)</p> <p>Ensure the sustainability of the ecosystem (SDG15)</p> <p>Waste management (SDG12)</p> <p>Characterization of groundwater flow and transport on KARST aquifers (SDG6)</p> <p>Improve teaching and learning in K-12 school settings (addressing specific subject areas, special learning needs, psychosocial wellbeing, school leadership) (SDG4)</p>	<p>Chemistry</p> <p>Geology</p> <p>Psychology</p> <p>Computer Science</p> <p>Education</p>	<p>Anis Makdisi Program in Literature</p> <p>University</p> <p>Preparatory Program (UPP)</p>	<p>Writing Center</p> <p>Science and Match Education Center (SMEC)</p> <p>Institute of Financial Economics</p> <p>Women and Gender Studies Initiative</p> <p>Center for American Studies and Research (CASAR)</p>	
<b>HSON</b>	<p><b>Non-Communicable Diseases Research; symptom management, mental health, cardiovascular health, aging, cognitive performance, substance use</b> (SDGs 2, 3, 4, 5, 10)</p> <p><b>Health Systems Research; work environment, quality of care, human resources, continuing education, rationing of care, refugee crisis</b> (SDG 3, 4, 8, 9, 10, 16, 17)</p> <p><b>Education Research; capacity building, teaching modalities, novice and expert</b> (SDG4)</p> <p><b>Community Health Nursing Research; health promotion, disease prevention, primary health care, capacity building,</b> (SDGs 1, 5, 6, 7, 15, 16, 17)</p>	<p>Nursing</p>	<p>BSN</p> <p>(TS-BSN, BA/BS-BSN, TS-BSN under discussion)</p> <p>MSN</p> <p>(Adult Care &amp; Gerontology Clinical Nurse Specialist, Psych Mental Health Clinical Nurse Specialist, Community and Public Health Nursing, Nursing Administration and Management)</p> <p>Hybrid MSN programs in Nursing Administration and Nursing Education (under discussion)</p> <p>PhD</p>	<p>Center for Nursing Research (CNR)</p> <p>REP projects</p>	

AUB Faculties, Centers, Institutes and Units	Research	Disciplines	Programs	Centers and Initiatives	Other
<p><b>FHS</b></p>	<p><b>Water Quality, Waste Management, Toxicology, Environmental Management, Environmental Health</b> (SDGs 3, 6, 7, 9, 11, 13, 15)</p> <p><b>Occupational Health, Child labor, Decent work</b> (SDGs 1, 3, 4, 5, 8, 10)</p> <p><b>Nutrition, Obesity, Food Security</b> (SDGs 2, 3, 10)</p> <p><b>Health of Disadvantaged Communities including migrants, displaced, and refugees</b> (SDGs 1, 3, 4, 5, 10, 16)</p> <p><b>Conflict &amp; Health</b> (SDGs 3, 10, 16, 17)</p> <p><b>Sexual and Reproductive Health, Women’s Health</b> (SDGs 3, 5, 10)</p> <p><b>Mental Health</b> (SDG 3)</p> <p><b>Communicable and Non-Communicable Diseases, Injury control, Tobacco control, Substance use, Hearing Loss, Radiation</b> (SDG 3, 4, 10)</p> <p><b>Youth Wellbeing, Aging</b> (SDG 3, 10)</p> <p><b>Ethics in Research, Human Rights</b> (SDG 3, 4, 10, 16)</p> <p><b>Health Systems Management, Access to Quality Care, Human Resources in Health Systems</b> (SDG 3, 4, 10)</p>	<p>Public Health</p> <p>Environmental Health</p> <p>Health Promotion</p> <p>Epidemiology</p> <p>Biostatistics</p> <p>Toxicology</p> <p>Health Management and Policy</p>	<p>Public Health Epidemiology</p> <p>Clinical Research</p> <p>Public Health Nutrition</p> <p>Healthcare Leadership</p> <p>Environmental Health</p> <p>Health Communication</p> <p>Medical Laboratory</p> <p>Medical Imaging</p> <p>Medical Audiology</p>	<p>Public Health Practice (CPHP)</p> <p>Knowledge to Policy (K2P)</p> <p>Research on Population &amp; Health (CRPH)</p>	
<p><b>AUBMC/FM</b></p>					<p>SDG3:</p> <p>AUB Mobile Clinic to provide health services to Syrian refugees in informal tented settlements</p> <p>Partnerships with NGOs to address war injuries, burns, spinal injuries, and others</p> <p>Partnership with Yaduna to establish Women’s Heart Health Center for Lebanese and Arab women</p> <p>Establishment of Urgent Care Centers to support displaced Syrian patients (&gt;30,000 to date)</p> <p>Needy patient funds amounting to \$10M/year (&gt; 40 funds)</p> <p>Adopting technologies to provide patients in rural or difficult areas with access to specialized care</p> <p>Specialized programs with funds to support congenital deformities</p> <ul style="list-style-type: none"> <li>- Cardiac</li> <li>- Cleft</li> <li>- Others</li> </ul>

AUB Faculties, Centers, Institutes and Units	Research	Disciplines	Programs	Centers and Initiatives	Other
<p><b>Global Health Institute (GHI)</b></p>	<p>Research Capacity Building for Health in Conflict (R4HC) MENA (SDGs 3,4,5,17)</p> <p>Research on Trauma Post Conflict (PrOTeCT) (SDGs 3,4,5,17)</p> <p>Antimicrobial Resistance in Conflict(SDGs 3,4,5,17)</p> <p>National Institute for Health Research (NIHR) Research Unit on Health in Situations of Fragility (SDGs 3, 17)</p> <p>SEEK Trial: The effect of increased Self-Efficacy and Knowledge on improved sexual and reproductive health service use(SDGs 3,5,17)</p> <p>Do unregistered and registered Syrian refugees adopt different informal adaptive mechanisms for resilient livelihoods? A case study from the Bekaa Valley region in Lebanon (SDG10)</p>		<p>Mobile University for Health(SDGs 3,4,5,17)</p> <p>Global Health Learning and Development Platform (in-person and online trainings) (SDGs 3,4,5,17)</p> <p>MOOC on Refugee Health in the Middle East(SDGs 3,4)</p>	<p>Center for Research and Education in the Ecology of War(SDGs 3,4,5,17)</p> <p>Global Health Forum(SDGs 3,4,5,17)</p> <p>Sijilli: Personal Electronic Health Records for Refugees(SDGs 3,5,17)</p> <p>Health Initiative Map(SDG3)</p> <p>Middle Eastern Center for Humanitarian Advancement (MECHA) (SDG 4,17)</p> <p>Employing eHealth to Enhance Equity, Access &amp; Quality of Chronic Care Services in Primary Health Care in Lebanon(SDGs 3,5,10,17)</p>	
<p><b>IFI</b></p>	<p><b>Civil Society, Gender and Policy</b> (SDG 5, 10,16)</p> <p><b>Climate Change Adaptation and Water-Energy-Food Nexus</b> (SDGs 2,6,7,12, 13, 16)</p> <p><b>Cities</b> (SDGs 6,8, 10, 11, 13, 16)</p> <p><b>Education and youth</b> (SDGs 3,4,6,10, 16)</p> <p><b>Refugees and Policy</b> (SDG 1, 3, 8,10)</p> <p><b>Informal Systems</b> (SDGs 1,6,7,8,10,11)</p> <p><b>Implementing Agenda 2030</b> (SDGs 1,3,4,5,8,10,16)</p>		<p>Civil Society Actors and Policymaking</p> <p>Climate Change and the Environment</p> <p>Education and Youth</p> <p>Policy in the Arab World</p> <p>Energy Policy and Security in the Middle East</p> <p>Arab and International Affairs</p> <p>Refugee Research and Policy in the Arab World</p> <p>Social Justice and the City</p>		

AUB Faculties, Centers, Institutes and Units	Research	Disciplines	Programs	Centers and Initiatives	Other
<b>CCECS</b>					<p>GHATA: Bringing Education to Refugees Settlements (SDGs: 2-3-4-5)</p> <p>Digital Skills Training (SDGs:1-2-4-5-8-9)</p> <p>PADILEIA/University Bridge Program (SDGs: 4-5-9)</p> <p>Science Education: A Key to University Access for Refugee Girls (SDGs: 4-5)</p> <p>Higher Education English Access Program + Language Exchange Program (SDGs: 4)</p> <p>Safe and Sound Psychosocial Support (SDGs: 3-5)</p> <p>Upgrading Urban Markets - Suq Sabra (SDGs: 3-6-11)</p> <p>Urban Agriculture: Ein el Helwe Refugee Camp (SDGs: 1-5-8-11)</p> <p>Animated Public Trail – Karm El-Zeytoun (SDGs: 11)</p> <p>Jeanne d’Arc: a Pedestrian Friendly</p> <p>Model for all Beirut (SDGs: 11)</p> <p>The Child-Friendly Shabriha Challenge (SDGs: 10)</p> <p>Community Kitchens (SDGs: 1-2-3-5-8)</p> <p>Economic Empowerment of Underprivileged Women in Batloun (SDGs: 1-9-10)</p> <p>Pre-Post Natal Health 101 (SDGs:3)</p> <p>After-school Support in Tebnine Orphanage (SDGs: 4-10)</p> <p>Sports for Change: Empowering Girls and Boosting Social Cohesion (SDGs: 3-5-10)</p> <p>Protecting the Assi River (SDGs: 6)</p> <p>Alternative Energy in Bint Jbeil High School (SDGs: 7)</p> <p>Matn Road Safety Initiative (SDGs: 9)</p> <p>After-school Support in Tebnine Orphanage (SDGs:10)</p> <p>Environmental Sustainability in Public Schools (SDGs: 11)</p> <p>Compost Barja (SDGs: 12)</p>
<b>NCC</b>					<p>NCC activities are at the intersection of Research, Education and Community Outreach and cover SDGs 3, 4, 6, 7, 8, 11, 12, 13, 14, and 15 through its 5 main programs: (1) Addressing pollution together, (2) Community driven development, (3) Enabling environmental leaders, (4) Addressing ecological and cultural challenges and (5) Discovering medicinal plants</p>



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IT			<p>Design of an online journalism diploma. (SDG 4,10)</p> <p>Development of free online courses in partnership with GHI on sustainable development topics (SDG 3, 4, 10, 17)</p> <p>Development of an online diploma on renewable energy (PROGREEN) (SDG 4,7)</p> <p>Partnership with RIPE NCC to offer an integrative course. (SDG 9)</p> <p>Partnership with CECCS to offer e-learning modules for the refugees in Lebanon (SDG 4,10)</p> <p>Partnership with Al-GHURAIR foundation. (SDG 4, 10)</p>		<p><b>PLATFORMS:</b></p> <p><b>Developing High Performance Computing capabilities to serve AUB and the region. (SDG 9)</b></p> <p><b>ABLE - Leading national efforts in accessibility and assistive technologies. (SDG 4,10)</b></p> <p><b>Transforming infrastructure to utilize cloud and managed services. (SDG 7)</b></p> <p><b>Establishment of open and online learning platform. (SDG 4,10)</b></p> <p><b>Implement enterprise systems to automate and stream line administrative processes. (SDG 4, 11, 13,15)</b></p> <p><b>Create center of excellence in partnership with industry. (SDG 8, 17)</b></p>
PPD & FPDU					<p>Installation of Solar Heating Panels – Energy Efficiency LED Lights in all renovated areas and the CHSC.</p> <p>Encouraging staff to quit smoking and participate in the AUB Smoking Cessation Plan.</p> <p>Registering PPD staff in English and Computer courses.</p> <p>Enhancing the drinking water quality – Use of safe cleaning detergents, pesticides and rodent bates for indoor and outdoor use. Installation of drinking water RO’s across the campus. Installation of 2-200 m3 RO’s to convert brackish water to domestic</p> <p>Install efficient electric motors for pumps, elevators and air compressors. Use of Brackish water in bathrooms toilet seats – Use of Sea water for the Heat Exchanger of the Central/Cooling Plant – Mixing brackish and domestic water for irrigation – Insulation of all underground and above ground service pipes to reduce energy loss.</p> <p>Introduce catalytic converters on all Diesel Generators at the Power Plant to minimize pollution.</p>
EHSRM				<p><b>CONCERNED UNITS:</b></p> <p>Environmental &amp; Chemical Safety</p> <p>Biosafety &amp; Sanitation</p> <p>Occupational Health &amp; Safety</p> <p>Risk Management</p>	<p><b>ACTIVITIES:</b></p> <p><b>Control the spread of infectious diseases (SDG 3)</b></p> <p><b>Ensure access to safe and affordable drinking water for all, safely managed sanitation services and increase water-use efficiency (SDG 6)</b></p> <p><b>Increase the share of renewable energy of the total energy use (SDG 7)</b></p> <p><b>Promote safe and secure working environments for all workers (SDG 8)</b></p> <p><b>Make sure infrastructure and retrofits are more sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and processes (SDG 9)</b></p> <p><b>Environmentally sound management of food, chemical and all waste (SDGs 11 &amp; 12)</b></p>

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AUB Libraries					<p><b>RESOURCES</b></p> <p>Informed decision-making by providing equitable quality access to information and resources in all fields including but not limited to medical, agricultural, social and environmental research. <b>SDGs: 1, 2, 3, 4, 6, 10 &amp; 16.</b></p> <p>Neutral, welcoming, safe and inclusive spaces that make learning accessible to all. <b>SDGs: 4, 5, 9 &amp; 10.</b></p> <p>Open Access to research materials: AUB Scholar works and AUB databank. <b>SDGs: 14, 15, 16.</b></p> <p><b>PROJECTS:</b></p> <p>Promoting cultural inclusion and understanding. <b>SDG 11</b></p> <p>Documentation and preservation of cultural heritage for future generations. <b>SDG 11</b></p> <p>AUB Libraries partner with local, regional and national civil society institutions, governments and organizations from private sectors to offer community based programs and services that engage and empower citizens, in turn, strengthening societies. <b>SGD 17</b></p> <p>Some digital projects: Palestinian Oral History, Al-Adab magazine, Arabic Collection Online and more.</p> <p><b>SERVICES:</b></p> <p>AUB Libraries support literacy programs. <b>SDG 4</b></p> <p>AUB Libraries support researchers to access, apply and reuse research and data to create new knowledge. <b>SDG 4</b></p> <p><b>Monthly Sessions related to:</b></p> <ul style="list-style-type: none"> <li>- Information Literacy</li> <li>- Data Literacy</li> </ul> <p><b>Online support:</b></p> <ul style="list-style-type: none"> <li>- Libguides</li> <li>- Online chat</li> </ul> <p><b>One-on-One</b></p> <ul style="list-style-type: none"> <li>- Research assistance sessions</li> </ul>
Neighborhood Initiative (NI)		<p>Agriculture</p> <p>Anthropology</p> <p>Public Health</p> <p>Engineering and Transportation</p> <p>Architecture</p> <p>Urban Design and Planning</p> <p>Landscape Architecture</p>			<p><b>SDG11:</b></p> <p>Pedestrian Friendly Streets</p> <p>Ras Beirut Congestion Studies</p> <p>Green Mobility</p> <p>Supporting the Dalieh of Raouche</p> <p>Preservation campaign</p> <p>Oral History of Ras Beirut</p> <p>Oral History of Fishermen in Ras Beirut</p> <p>Beirut Design Week 2018</p> <p>Solid waste management and reduction of waste</p> <p>Increasing green cover footprint in the city</p> <p>Curating public performances and events to activate public spaces in the neighborhood with local NGOs</p>



**Environmental Health, Safety,  
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