SUSTAINABILITY AT LAU

EXECUTIVE SUMMARY

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A. Strategic Objective

The strategic objective of this sustainability plan is to "***Turn LAU into a Landmark in Sustainability***" and this, by adopting a partnership-based approach with the LAU community

We aim at reducing our environmental impact, minimizing our use of natural resources, lowering our operating costs and encouraging environmentally responsible behavior among our community
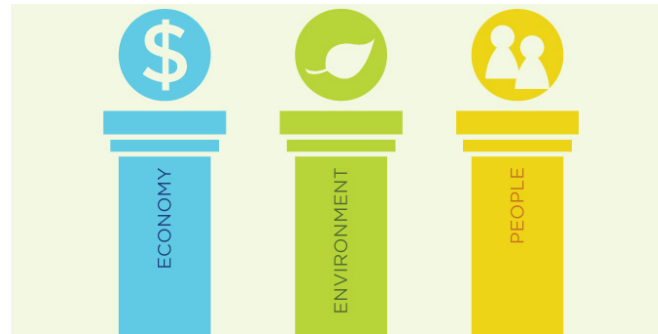
Since no development is sustainable unless it balances between the society, the environment and the economy, the implementation of our sustainability plan will only involve those initiatives that are beneficial to the environment, socially acceptable and economically profitable. *Hence any project necessitating investment will first undergo a financial feasibility study to prove its - High Rate of Return - Positive Net Present Value & - Short Payback period*

B. The Green Pillars

Our plan to achieve this ambitious strategic objective is founded on a comprehensive set of six Green Pillars as follows:
  - I.   Energy Saving & Water Conservation
  - II.   Sustainable Living
  - III.   Sustainable Design & Construction
  - IV.   Environmental Protection
  - V.   Recycling & Waste Management
  - VI.   Sustainable Purchasing

A key factor of success towards having a Sustainable University lies in the progressive and balanced implementation of the initiatives under these pillars, by raising awareness on the one hand and leading projects implementation on the other.

C. Strategic Initiatives: Objectives, Timeline and Status

Under the six Green pillars, we have identified to-date 17 global initiatives which involve a combination of:
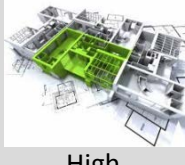1. zero to low cost / immediate payback measures
2. medium cost / medium payback measures
3. large investment / long payback measures

The objective behind each initiative, its current status and progress timeline are summarized in the following table; 8 out of the 17 initiatives have been selected as a priority for launching this plan and most of them fall under the zero to low cost / immediate payback category. The priority initiatives are identified by a grey shade for quick recognition

Initiative	Objective	Timeline				Status
		Initiation	Concept Design	Pilot Project	Univ. wide execution	
I. Energy And Water Conservation						
Awareness	Sensitize the LAU community about the importance of energy and water resources and their conservation and actively engage the community in this endeavor	✓	✓	✓	2015-2016	Pilot Project: a campaign on water conservation tips has been prepared for the campuses and the residence halls and will be launched after the beginning of the fall semester, including visual messages on the TV screens, posters at the water consumption areas, email message to the community, posting on the website. In the meantime, a short awareness movie will be prepared in collaboration with the Arts students. Previously, awareness messages have been already sent to the community and articles posted on the website
Metering	"Measure it to manage it". Meter energy and water consumption throughout the university and establish benchmarks and KPIs for continuous resource monitoring and management, in order to reduce consumption and expenditures	✓	2015-2016	2015-2016	2016-2018	Determined the current situation, per building / ground / function regarding the availability of meters and their types (mechanical, digital, centrally monitored, etc.). Pilot projects under consideration are the CHSC & the Tohme Rizk Buildings in Byblos and the Business School & LRC Buildings in Beirut

Building Performance Dashboards	Visualize energy & water consumption historic and current trends; facilitate analysis and control; Provide user friendly graphics & decision support tools and engage the community in activities / competitions that serve our resource conservation strategies	✓	2015-2016	2016-2017	2017-2018	Energy & water consumption data collected per building, where available; dashboard design is underway. Potential centralized resource monitoring & management systems are under consideration
Energy Audits	Measure energy, establish consumption distribution charts for buildings and determine short, medium and long term energy conservation measures	2017-2018			2018 & onward	Will follow the metering initiative to proceed by priority with the most energy consuming buildings
Energy Efficiency & Renewables	Implement projects / introduce features that reduce energy consumption and generate energy from renewables	✓	✓	2016-2017	2017 & onward	Power generation & hot water generation from the Sun is featured at the Byblos Library & CA project. Solar water heating system in place at Beirut's WKSC Studies underway for solar water heating at Beirut's indoor pool and Byblos dorms. On-going retrofitting of low consumption lighting fixtures, etc.
Water Efficiency & re-use	Implement projects / introduce features that reduce water consumption, harvest rain water and recycle water for irrigation	✓	✓	2014-2015	2015 & onward	In Byblos, wastewater treatment plants are in place and treated water is being re-used for irrigation; this will be emphasized with the Byblos infrastructure project. Rain water harvesting & re-use is featured at the Library & CA project. We tested water saving devices in offices and dorms, surveyed users for their feedback and obtained a very encouraging outcome; we surveyed all the water fixtures on Byblos campus and we're currently drafting a master plan showing the possible saving measures per application.
Certify your Office	Encourage university offices to implement sustainable practices in their day to day operations; Motivate and engage the participating staff to lower their waste and consumption habits and improve their overall environmental performance while saving energy and water and reducing expenditure;	✓	✓	2015-2016	2016 & onward	Defined the main components of an in-house green office certification tool, being waste reduction, energy efficiency & water conservation; listed the possible criteria to be used in the rating. The next steps would be the allocation of points against each criteria, the design of the assessment tool, the determination of the assessment & certification process and the

	recognize their work by certification. Next step would be "Certify your Bedroom" for dorm residents					introduction to the community

II. Sustainable Living						
Tips for Green living	Provide our community with practical green tips for every day, in order to help them lead a sustainable life style and join us in turning the University into a green facility	✓	✓	2015-2016	2016	Underway; water conservation tips have been prepared for the campuses and the residence halls
Take the Green Pledge	Engage the community to commit to sustainable attitude and behavior by signing "The Green Pledge.	✓	✓	2015-2016	2016	Will be initiated with the progress of the green living tips imitative
Carbon Footprint Calculator	Provide a user friendly tool for students, faculty and staff to input their" way of living" parameters and obtain in return their carbon footprint, in comparison with the world population average and with LAU community average. This is to encourage lag users to improve their living practices and will motivate sustainability champions through recognition and possibly incentives, ...	2016-2017			2017-2018	Will be initiated in 2016
The Green Calendar	Identify green international days throughout the year and link them to LAU activities that would engage the community with us in going green.	✓	✓	✓	2016 & onward	Ongoing; the "Earth Hour 2015" example has been executed in March 28, 2015 with great success and the event video footage scored around 10,000 views on LAU Facebook page. One anchor green day per semester will be selected to develop an LAU activity around it

III. Sustainable Design & Construction						

Green Building Certification	Develop sustainable buildings that reduce resource consumption, while protecting the environment and providing a high indoor environmental quality; follow a recognized rating system and obtain recognition / create awareness by doing so	✓	✓	✓	2015 onward	On Byblos campus, 2 buildings have already followed this path: . USGBC's LEED gold certification targeted for Library & CA building (in progress); . World Bank's EDGE certification obtained for the Tohme Rizk building (1st EDGE certified office building in Lebanon)
High Performance Renovations	Transform the campuses into high performance facilities, one project at a time, without necessitating large budgets for the retrofitting or replacement of inefficient installations	✓	✓	2015-2016	2016 onward	Pilot Project: . Byblos' Architecture L1 renovation has been designed and is being executed with energy conservation features (efficient lighting, occupancy sensors for AC and lighting control, single switch for power cut-off at exit, ...) . Beirut's WKSC renovation has been designed and executed with energy & conservation features (sensor operated faucets, timer controlled shower heads with pre-set mixing temperature, storm water & condensate drain collection for re-use in irrigation, efficient lighting, daylight sensors, occupancy sensors for AC and lighting control, energy metering, energy recovery)
Green Design Guidelines	Establish guidelines for green criteria / systems to be adopted in our designs; these would consist of the solutions that are the most relevant to our culture and to our university's context, the most technically appropriate to each building type and the most financially feasible.	✓	2016-2017	_	2017 onward	Various systems / features are being identified and the initiative will be launched in 2016
IV. Environmental Protection						
	Ensure that the University practices do not cause harm to the environment.	2016-2017			2017 onward	Plan for this pillar has not been initiated yet; Pilot initiative identified being the phasing out of ozone depleting refrigerants; current use of such refrigerants has been determined at the Byblos Campus and a phasing out plan is under consideration
V. Recycling & Waste Management (covered under the Recycling executive summary. Also addressed here above under the "certify your office initiative)						
VI. Sustainable Purchasing						

	Reduce the University's environmental impact through the products and services it procures.	2017-2018	2018 onward	The plan for this pillar has not been initiated yet

D. Required Resources:

The LAU is a leading institution in many senses; becoming a landmark in sustainability and an example to follow by the entire society requires vision and commitment, as well stated in LAU's strategic plan under pillar 5, Action 5.2.3.: "Implement sustainability and environmentally responsible measures across LAU campuses"

This includes the allocation of the needed human and financial resources. Currently, a sustainability unit is configured under Facilities Management – Physical Plant organization chart. The present plan has been set and its execution is being carried out by a sustainability committee within the said department; it has become now critical to recruit the required people for this unit and to allocate for it a dedicated budget. The requirements are as follows:

		Required Resources				
		2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Human Resources		1 Sustainability Engineer (SE); central	2 SEs; 1 per campus			4 SEs; 2 per campus
Budget	Expenditures except on human resources & projects	Low cost initiatives from current Physical Plant Budget	USD 100,000	USD 120,000	USD 135,000	USD 135,000
	For Projects	Each project presented will have a feasibility study showing initial investment, anticipated savings, ROI & payback period and will be evaluated at the time				
	For sustainable purchasing	The sustainable purchasing plan is critical as it affects several budgets; it will have to be implemented carefully and very progressively; Initially, it shall only specify items that either do not bare an additional cost or that allow very short payback				