

# Responsible Business

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## THE AMERICAN EXPERIENCE



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# A Proactive Strategic Approach To Sustainability in Higher Education

## Rafik Hariri University as a Good Model for Responsible Learning

By Dr. Jamil Hammoud\*

Events and developments over the past couple of decades, in our increasingly globalized world and in the international economy converge, one way or another, to heighten concern about the sustainability of our present ways of living, interacting with each other and dealing with our planet.

Indeed, phenomena like global warming, desertification and resources depletion had remained in our minds as abstract notions of hard to imagine bad things which will not happen anytime within the near future. Yet rapid advancements in technologies over recent years have made it possible for us to identify and accumulate evidence, that the threats are real and unfolding right before our eyes. Mountains of ice for instance, are actually melting in the North Pole. Moreover, unexpected and unpredictable weather patterns have become mainstream news in Europe, the Middle East and other parts of our world.

Knowing what we know and as

much as we know today, can we continue to burn as much fossil fuel as we have before, in spite of the damage that causes to the ozone layer? Is it possible to continue emitting as much greenhouse gases as we do, regardless of the measurable increase in the average temperature of the earth? Is it socially responsible to engage in a number of economic activities characterized by high social cost and externalities? It is these questions and similar ones that have made sustainability and social responsibility occupy center stage in our present daily lives all over the world.

Consequently, it is incumbent upon us all, individuals, groups and institutions, to reflect on our social and economic roles, in systematic efforts to become part of the solution. This is exactly the mindset that has been driving our actions, efforts and initiatives at Rafik Hariri University. Administration, faculty and other stakeholders concur that we want to go above and beyond the typi-

cal short-lived approach of holding a seminar here, or organizing a workshop there, to say we care about sustainability. Our strategic intent is to organically integrate teaching, learning and applying sustainable and socially responsible practices over the long term, so that they become part of the psychology and mentality of our students and stakeholders. Accordingly, being sustainable and socially responsible becomes common culture at our university, and that will hopefully extend gradually into society and the community.

### **Social Responsibility: A Hands-on Community Engagement Initiative**

Last year, the College of Business Administration at RHU integrated into its curriculum and programs a requirement entitled Community Engagement Experience. With this initiative in place, RHU becomes one of a very few universities undertaking similar



efforts. Under the auspices of this initiative, business students are required to complete no less than 40 hours of targeted and project based voluntary community service, at various nonprofit and/or none governmental organizations. At the end of the experience, students are systematically evaluated by assigned faculty advisors and by their supervisors from the organizations.

This past summer, 68 students completed their Community Engagement Experience at 32 different community organizations, spread geographically all over the country. A sample of par-

ticipating organizations included Friends of the Disabled Association, Beirutiyat, Ahlouna, Amal Ataaa Association and the Lebanese Red Cross. Aside from the Community Engagement Experience, the College of Business Administration revised its curricula and program requirements, to include coverage of sustainability and social responsibility in all areas of learning.

### **Sustainability: A Proactive Strategic Approach**

Translating good intentions into actions started at the highest level

of the university, with the formulation of the Sustainable Campus Initiative (SCI) and the establishment of the SCI Committee, in December of 2016. The aim of SCI is to transform RHU into a sustainable campus and culture, by undertaking and implementing university-wide transformative projects in all aspects of physical, environmental, educational and behavioral dimensions.

Meanwhile, an interdisciplinary committee was formed to direct, oversee and coordinate university sustainability projects and ensure appropriate and timely execution. The SCI Committee's first task

## Case Study

was to reflect upon and formulate a long term systematic approach. After all, sustainability is about the long term. Therefore, the committee devised and adopted a five-year strategic plan (2017-2022), which included specific objectives, actions and initiatives to carry out.

Since the launch of the SCI, the formation of the SCI Committee and the adoption of the strategic plan, a number of projects have been initiated, and work is underway to accomplish the desired results. Below is a progress briefing of current initiatives.

### **Solar Energy and the PV Plant**

The University installed a 100 kWp rated solar PV plant, on the roof of three of RHU buildings, namely, Blocks F, G & H, to substitute solar electricity for fossil fuel generated electricity.

The plant is a daytime plant – it does not need batteries to store energy for the night – it outputs during the day offsetting generator output. The plant output can now be followed live on RHU website. This in fact was the first PV plant to be installed and operated in a university in Lebanon.

Moreover, since its inauguration, the plant has reduced the university's reliance on the EDL grid and on Diesel-oil Generators, thereby reducing our usage of fossil fuel and emissions of harm-

ful gases into the environment. Meanwhile, plant's data is being used by faculty and students to enhance research and learning. An additional 100 kWp plant is planned to be installed by the end of the 2017-2018 academic year.

### **Installation of the Weather Station**

An up-to-date weather station was purchased and installed on RHU premises. Weather data is being collected and stored by the station and soon it will be feeding the data live on SCI website. Accumulation of data includes the amount of local rainfall, wind speed, humidity, temperature, pressure etc. The station is the first to be installed in the Middle East (except for one that is installed in the Golan Heights). RHU-Weather Station has become a part of global network of several hundred stations installed around the world.

### **Energy Conservation & Environmental Initiatives**

In order to estimate the amount of ground water extracted and consumed at RHU, water flow meters were installed on the Campus main pipes. Weekly/monthly readings from these meters are recorded to determine usage needs and ensure minimization of waste. Moreover, the SCI includes plans to capture rain water from RHU premises to reduce ground water consumption.

The SCI Committee has established a large composting pile, consisting of leftover carbon rich material collected from this year's pruning residues from the university trees and shrubs. A medium sized shredder was purchased and was used to shred all the pruning residues. Food remains, collected over several weeks, from the organic waste bins together with mowed grass clippings were used to initiate the composting process.

The resulting final compost product was used as a fertilizer for trees and green grass on RHU premises. More 6,000 Liters of compost were produced, so far on RHU premises.

This spring, work has already started to gradually develop an autonomous solid waste treatment system for all solid waste generated on campus. Sorting and recycling bins, already in place for many years now, have already been upgraded.

Moreover, a sorting site has been selected, where volunteering faculty, students and staff gather to sort collected solid waste into plastics, glass, paper and organic residues.

The SCI Committee takes measurements twice per week, in order to gauge usage and estimate quantities for purposes of developing a treatment model. The University's objective is to channel plastics, paper and glass to entities or firms which would

reuse them as input. Meanwhile, a composting site would be put in place to transform organic residues into fertilizers, in collaboration with the community organization Arc en Ciel. Finally, an important objective for this initiative is to showcase it as a model of a sustainable community-driven solid waste management system solution.

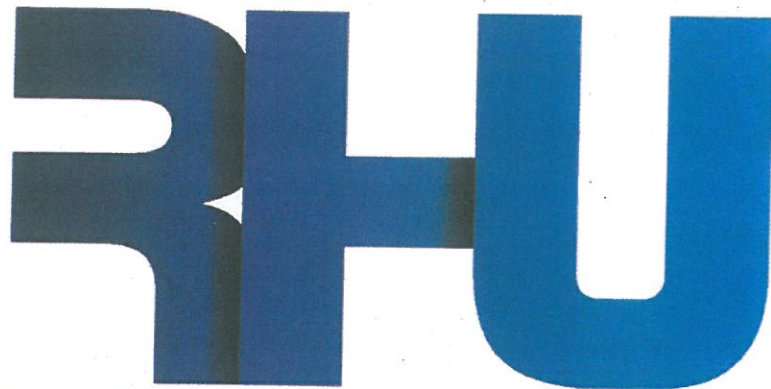
In order to transform the RHU campus into an environmentally friendly area, studies and plans are underway to turn as many university buildings as possible into green buildings.

In fact, Block E, which hosts most administrative functions and units, was selected to be the first green building on campus, and the current year should witness its completion. In addition, all buildings lights were changed to LED.

### **Future Plans: Energy Conservation Prospects**

Prospects for energy conservation are currently being considered for potential implementation in the long term. For instance, the University boosts parking premises amounting to about 2,200m<sup>2</sup>. Such significant space dedicated solely for parking vehicles, may be used to build water reservoirs to collect rain water from RHU premises.

The parking/reservoir space can be capped with a steel structure



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housing solar PV panels. This would have a triple advantage; it would serve as major rain water reservoirs; provide shading for the cars that get quite hot after several hours exposure to the sun and, would serve as a source of solar power.

Another possible long-term plan is the replacement of existing HVAC systems with central chillers. This can then be coupled with ground-source heat exchangers (geothermal energy). The latter source of energy alone has been shown elsewhere to reduce energy use by at least 32% for cooling and heating.

More information about Rafik Hariri University's sustainability initiatives and success stories can be found online at <https://www.rhu.edu.lb/sustainable-campus-initiative>.

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