

NOVEMBER 2019

# GREEN INITIATIVE FOR PLASTIC REDUCTION

## WATER FOUNTAIN PROPOSAL

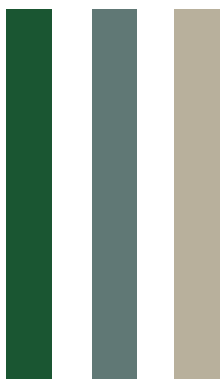
Prepared by: AUI's Student Government,  
Green House Club, and Presidential Interns

جامعة الأخوين

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AL AKHAWAYN

UNIVERSITY



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## PROJECT GOALS:

The amount of plastic that is being produced by Al Akhawayn University from single-use water bottles has become a major environmental concern to the AUI community. Students, faculty, and staff use these water bottles because they are the easiest, most accessible form of clean drinking water on campus. Nevertheless, this habit comes at a great cost to our environment, and we must reduce the amount of single-use plastics on campus in order to minimize our detrimental impact on the environment. In purchasing single-use water bottles, we become complicit in a major source of waste. In order to keep up with other American-style universities and uphold our position as a model for sustainability in Morocco, we must provide a viable, alternative solution to the purchasing and use of plastic water bottles on campus. In an effort to resolve this major issue, the Student Government Association, the Green House Club, and the Presidential Interns would like to formally submit our proposal for the installation of water fountains in various locations on campus to provide easy access to clean drinking water that will not come at a cost to the environment.

Single-use plastic water bottles have a detrimental impact on the environment and are rarely recycled. According to statistics from the UN Environment Program, “Only 9% of all plastic waste ever produced has been recycled. About 12% has been incinerated, while the rest – 79% – has accumulated in landfills, dumps or the natural environment.” The situation is dire, as the UN Environment Program further states, “If current trends continue, our oceans could contain more plastic than fish by 2050.” However, the use of plastic water bottles is not without a solution. Reusable water bottles are prevalent around the world, and when there is a source of clean drinking water readily available, people have no need to buy single-use plastic water bottles. We believe that the first step in combating this grave, environmental issue is the installation of water fountains on campus at AUI.

# IMPORTANCE OF WATER FOUNTAINS:

## BENEFITS OF ACCESS TO FILTERED WATER

A more green and sustainable campus is one of the essential objectives as outlined under the Al Akhawayn's fourth strategic priority, Advancement for Growth and Sustainability, section 4.4.3 "Developing AUI as a Green Campus" as stated in the university's Strategic Plan for 2015-2020. As a university that constantly strives for excellence in all of its endeavors, water fountains represent a pillar of sustainability and environmental awareness. Having access to these stations will push people to invest in reusable water bottles and considerably reduce their single-use plastic consumption. Thus, these stations are a solution to this major issue, and they provide an eco-friendly alternative that the university should consider investing in.

Easy access to water is a basic need of the entire AUI community. Currently, students, faculty, and staff resort to purchasing water, which is unnecessarily expensive and only found in one location on campus. Water fountains that are strategically placed around campus make drinking water easily accessible. Moreover, it's important to provide water to the AUI community free of charge, and water fountains eliminate this cost barrier. Hydration has countless health benefits, including improving memory and attention span. Because of this, hydration is something the university should promote with the utmost sincerity and dedication. In addition, these stations are equipped with cooling systems that provide fresh, cold water, and filters that prevent contamination by removing chemical elements such as chlorine, lead, and especially limestone, which is a sediment that represents a high percentage of the water in Ifrane. Finally, water fountains help create a more environmentally conscious community and provide a daily reminder of how we can work to reduce our unnecessary waste and pollution. It supports student engagement in the environmental mission of the university and helps create a positive habit for the student body as well as the greater community here at Al Akhawayn University.

## TESTIMONIES OF STUDENTS ON EXCHANGE

Students on the AUI campus are not the only ones supporting this proposal, AUlers on exchange also would love to see water fountains back home.

Othmane Belhoussine and Nada Boukhari (below) are AUlers in an exchange program at Western Washington University. Othmane states: “One of the main differences that I noticed between the two universities is that there are plenty of water fountains in every building, which come in handy when students, like myself, need to refill their water bottles or get hydrated after long hours of studying. I personally think that these water fountains are a very useful investment to provide students with comfort and water proximity, as one does not need to go back to their dorms or go buy a water bottle when thirsty.”



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Salma Charad, an AUler on exchange in the University of Central Missouri



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Nada says: "My host university strives continuously to limit its impact on the environment, and so in an effort to crack down on the consumption of single use plastic, WWU has initiated a campus-wide ban on bottled water, one of the major sources of single use plastic, and has instead installed water fountains in the busiest areas on campus such as the library, the gymnasium, the dining halls as well large academic buildings. These water fountains feature a fountain faucet for drinking straight from the tap, and a bottle filling station, which I have personally found to be tremendously useful. Due to the ban on bottled water, I bought a reusable water bottle at the beginning of the quarter, and I have not bought a single plastic water bottle since. Furthermore, some of these water fountains are equipped with a little screen that tallies the number of 600ml plastic water bottles saved thanks to the use of refillable bottles, so you can see the impact you have made for yourself. For example, the water fountain in the gymnasium shows that waste from roughly 1 million plastic water bottles was saved since its installation in 2012. I believe that Green House goal is well aligned with AUI's vision of a green and sustainable campus, and I trust that eliminating plastic waste and installing water fountains will show that AUI is truly committed to the environment and its wellbeing"

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## EXCHANGE TESTIMONY:

Elliese Wright is an exchange student in AUJ, she studies environmental science and has been supporting our club's cause since her arrival in Morocco. Elliese says:

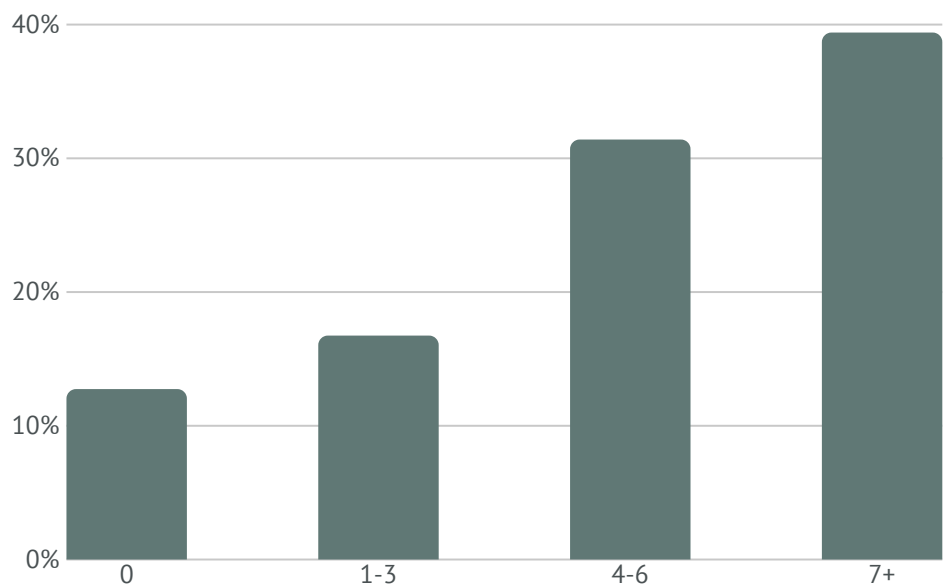
*“My university takes pride in leading the way in environmental initiatives, and so there are water fountains and water bottle filling stations all over campus. We are constantly encouraged to use refillable water bottle to reduce the use of plastic on campus, and the sale of single use plastic water bottles on campus is banned. Since being on this campus, I have been mostly drinking out of single use plastic bottles. I brought my reusable water bottle to Morocco, but I have not really been using it because of the lack of water fountains. To me, if Al Akhawayn were to install water fountains, it would show a commitment to progressing in sustainability. As an exchange student, having water fountains and water bottle filling stations accessible around campus shows an awareness of issues regarding sustainability.”*



## STUDENT SURVEY RESULTS:

A survey was conducted by the team in order to receive feedback on the matter of plastic water bottle usage and water fountains. Responses were gathered from over 300 students, with the results being presented below.

Figure 1: How many water bottles do you buy every week?



GREEN INITIATIVE

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1632

PLASTIC BOTTLES USED EACH WEEK

60.3 KG

OF PLASTIC WASTE PRODUCED WEEKLY

Figure 2: Do you think AUI should install water fountains/bottle fillers?



Figure 3: Would you use water fountains/bottle fillers if installed on campus?



Figure 4: Would you start using a reusable water bottle after the installation of fountains?



## SURVEY ANALYSIS

Almost 40% of the participants say that they buy more than 7 bottles of water a week, 48% have a consumption of 1 to 6 bottles on a weekly basis and only 12.67% do not buy bottled water. When asking if AUI should install water fountains where students can drink directly and refill their bottles, 96.66% said yes and 95.67% assured that they were going to use the new facilities. Having these new amenities will certainly shift the way of consumption of students. Indeed, once the fountains are installed, students will favor reusable water bottles as put forward by 91.67% of the respondents.

To put matters into perspective, If we estimate how many water bottles are used by our 300 participants, we will find approximately 1632 bottles of water per week. We assume that an empty bottle of water of 1.5L weighs 37g; therefore, throughout the week our sample of students generates 60384g, which represents 60.3 kg of plastic waste. One bottle of water on average costs 5dhs, so for students who buy 5 bottles a week, they pay 25dhs, which is the equivalent of one full meal.

## SPECIFIC WATER FOUNTAIN OPTIONS

Simply stated, water fountains are a straightforward solution to the overuse of plastic bottles. Fountains ensure water is filtered in a standard manner and students have access to free, clean, and fresh water while they are studying, working out, or just spending time around campus. The up-to-date water fountains proposed below include a fountain stream usable without a bottle, along with an easy bottle refill station. These stations track the number of bottles students refill instead of buying plastic bottles and are a convenient solution to students' need for reliable, filtered water in a manner that adheres to Al Akhawayn University's commitment to the environment.



## OASIS

### **Versacooler II Bottle Filling Station**

Cost analysis: The cost of one unit is \$795.00 USD x 6 units + 30 (USD Filter Media)+ [530\$] shipping cost = [5330] total cost before tax.

Installation and Upkeep: Filter needs to be purchased every year. A certified plumber can ultimately do the water connections and installation. There are very simple and formal instructions provided

## ELKAY

### **Elkay EZH2O Bottle Filling Station**

Cost Analysis: The cost of an individual station is \$796.00, with six fountains totaling \$4,776.00. Shipping to Casablanca is estimated at \$1,697.35. Thus, the total for the product and shipment to Morocco will be approximately \$6,473.35 before tax.

Installation and Upkeep: Any plumber or MEP contractor can install the filling station with the help of an Elkay manual and instructional videos. The visual filter monitor on the product alerts users when a filter change is necessary. The filter should be replaced every 3,000 gallons, about 24,000 16-ounce bottles, or at least once a year.

## MURDOCK

### **A171408S-U-VR+ BF 11**

Cost Analysis: The cost of a water fountain with a bottle filler is \$1,287 per unit, if six units are purchased the total cost would be \$7,722. The shipping cost is \$480 per unit, totaling to approximately \$2,880 for shipping from Poland to Morocco. The overall total is approximately \$10,602. The does not include customs duty. A second option would be to purchase water bottle filling stations which range from \$416 to \$642 per unit.

Installation and Upkeep: A plumber or contractor can install the fountains.

## IMPLEMENTATION OF WATER FOUNTAINS

We have been studying a variety of possible locations where water fountains could potentially have the best benefit for everyone on campus. We feel that fountains are necessary around the building 3 area, where most people go for food or drinks and such. This is where most plastic water bottles are purchased. We also believe that water fountains in the academic area are necessary, as the current state forces students to go to either to the Campus Shop or the Cafeteria to fulfill one of their simple natural needs. Furthermore, as athletic activities are a vital part of students' success, we found that water fountains near the fitness center and soccer field would provide an efficient way to supply students with water which is a crucial component of healthy athletic activity.

## CONCLUSION

For Al Akhawayn University, an important aspect of being a sustainable institution is adhering to a social responsibility and the drive to reduce the carbon footprint. Through the Green Initiative, the university has taken a stand to become a model university of sustainability. However, there are basic aspects of being an environmentally-friendly university that have not yet been met.

The vision of the Student Government Association, GreenHouse Club and Presidential interns is that the installation of water fountains on campus will lead to the continuous improvement of campus and academic life by inspiring others to take part in changing their habits and becoming environmentally conscious. This project is an opportunity for the university along with the students and AUI community to invest in a worthy and crucial cause.