

Going Green Initiatives in the Hospital

**Internship Training
at
Burjeel Hospital for Advanced Surgery
Dubai, UAE**

**By
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**Under the guidance of
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**Post Graduate Diploma in Hospital & Health Management
2012–14**


**Institute of Health Management Research
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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Arpita Aggarwal** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone dissertation at **Burjeel Hospital of Advanced Surgery, Dubai** from **16th February 2014 to 20th May 2014.**

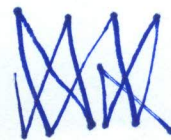
The candidate has successfully carried out the study designated to her during dissertation and her approach to the study has been sincere, scientific and analytical.

The internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.



Dr. Ashok Kaushik
Dean, Academics and Student Affairs
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Dr. Alok Mathur
Professor
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This certificate is awarded to

Dr. Arpita Aggarwal

In Recognition of having successfully completed her Internship in the department of Quality

And has successfully completed her Project on

GOING GREEN INITIATIVES IN THE HOSPITAL

From 16th February 2014 – 16th May 2014

At Burjeel Hospital for Advanced Surgery, Dubai, U.A.E.

She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.

We wish her all the best for future endeavors.

Dr. Oussama Kayali
Director Operations
Burjeel Hospital for Advanced Surgery
Dubai

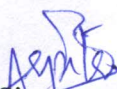
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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "Going green initiatives in the Hospital" by Dr. Arpita Agarwal Enrollment No..... under the supervision of... Dr. Alok Mathur for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 15th February 2014 to 20th May 2014 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.


Signature

1.3 ABSTRACT

So after all I found that being in Dubai means you have no other option than being creative, up to date, dissolved in the culture of saving, loving, caring and having your thumbprint onto the community.

It's each and every one's responsibility to be accountable towards the environment-for us, for our children and our beloved ones. That's why the government of Dubai held this responsibility on its own organizations to educate, aware and monitors the overall performance of being friendly to our mother earth.

BHAS took its share in this Nobel vision and I was honored to lead the program of going green in such prestigious setting. The way we all interacted to brainstorm all the initiatives to go green, the way we all joined hands and efforts to translate those initiatives into practice and the outcome after all the education, awareness, fun parties and campaign was worth it to come across leaving my beloved home country

The way this project was designed was a real inspiration to me in my personal life, it taught me how to be systematic, focused, think out of the box and stop at each step in any process and ask one question "what are the values it adds? and, it depends on the answer, which guides us to either proceed further or think again of alternatives.

This whole study showed that the management of non-medical wastes in the hospital and its environment to create Green Hospital is really needed by the consumers as well the givers of health industries. The objective was to see the correlation between, inculcating green hospital concept and benefits to the hospital as well as to the patients. The result showed that the management of the hospital's environment in creating green hospital concept gives a positive influence, increased awareness amongst the employees as well as patients which helped in decreasing the harmful impact

on the environment and long term financial benefits for the hospital. Ultimately from this study it is understood that the health industry should remain unwavering to the commitment of developing world class healthcare facilities that are in compliance with green building standards, which has become a vital principle in the policies-because we believe that the future generations deserve to inherit a clean and safe world to live in."

1.4 Acknowledgement

I, Arpita Aggarwal, a student of PGDHM 17 at IIHMR Jaipur, would like to sincerely express my heartfelt gratitude to:

- Dr. Shajir Gaffar, Chief Executive Officer for selecting me and giving me a chance to be a part of such a prestigious organization.
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- Dr. Alok Mathur, my guide at IIHMR Jaipur, Dr. Ashok Kaushik, Dean, Academic and Student Affairs, Dr. Santosh Kumar, Associate Professor, Dr. Vijay Pratap Raghuvanshi, Assistant Professor, Mr. Dalbir Singh, Placement Officer for their constant support throughout my dissertation.
- Lastly, I would like to thank my college, IIHMR Jaipur, for providing me with an opportunity to learn from and work with the best personnel in the Hospital Industry, and for helping me gain an appreciation of where I currently stand as an administrator and how much work I would need in order to meet the quality specifications that the hospital industry seeks.

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1.8List of Symbols and Abbreviations

HR	Human Resource
BHAS	Burjeel Hospital for Advanced Surgery
Dept.	Department
OPD	Outpatient Department
IP	Inpatient Department
MRD	Medical Record Department
DEWA	Dubai Electricity and Water Authority
Approx.	Approximate
I.T.	Information Technology
SAP	System, Application and Product

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2.1 INTRODUCTION

We know that climate change has the capacity to produce severe consequences for human health. We also know that the health sector can play a pivotal role in helping nations across the globe adapt to these serious consequences.

"Going green" means to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which can help protect the environment and sustain its natural resources for current and future generations.

Hospitals are energy- and resource-intensive enterprises that, as they operate today, contribute substantially to climate change while inadvertently contributing to respiratory and other illnesses. Procurement, resource use, transportation and other policies and practices contribute to the health sector's significant climate footprint. By reducing this footprint and moving toward carbon neutrality, the health sector can demonstrate the path forward in response to climate change, thereby playing a leadership role in advocating for a healthy and sustainable future.

The same practices that contribute to climate change and undermine public health can also have a serious impact on the budget of a hospital. This is true both in well-resourced contexts, where in some cases bloated health systems have become an overwhelming financial burden on a nation's economy, as well as in countries where health systems have very limited resources.

These collective problems of global warming emissions, local pollution and financial strain are something that most health systems around the world experience in one form or another. Yet the health sector can take steps to address all of these problems simultaneously; it can work to mitigate climate change, contribute to public health and save money all at the same time.

To honor its commitment to first, do no harm, the health sector has a responsibility to put its own house in order so that its practices, the products it consumes and the buildings it operates do not harm human health and the environment. To achieve this, there are basic steps the health sector can take – from improving hospital design to reducing and sustainably managing waste, using safer chemicals, sustainably using resources such as water and energy, and purchasing environmentally-friendly products.

Now it is time for the health sector to respond to the reality of climate change by taking a moral and tangible leadership role in mitigation efforts around the globe, beginning with its own policies and practices.

The health sector is one of the most trusted and respected sections of society and it are also one of the largest employers and consumers of energy. This presents both a responsibility and an opportunity to be an ‘early mover’ to achieve climate-neutrality in its own operations, and to demonstrate that this can go hand-in-hand with improved effectiveness and cost savings.

The potential economic benefits of improving the health sector’s climate footprint are significant. In recent years, health systems around the world have seen their budgets shaken by volatile energy prices. The cost of fossil fuels promises to increase further in the years to come, so conservation, efficiency and alternative energy measures will carry long-term financial benefits. By installing onsite, renewable, clean energy technologies, hospitals gain the advantage of being less vulnerable to disruption in the case of a natural disaster than when using traditional energy sources – thus providing the co-benefit of increasing a health-care facility’s resilience and disaster preparedness.

2.6 LITERATURE REVIEW

Many studies have been conducted all over the world in the field of Importance of Green Hospital Concept:

Dr Alexander Kuruvilla (2009): The concept of green buildings envisages saving water, energy and material resources in construction and maintenance of buildings that can reduce or eliminate the adverse impact on the environment and occupants. It can result in reduction of carbon emissions usage by 35 per cent, water usage by 40 percent, energy usage by 50 per cent and solid waste by 70 percent. To quote, green buildings may: Use building materials and products that contain post-consumer recycled content. Utilize rapidly renewable materials such as bamboo flooring or genuine linoleum flooring. Have a STP (Sewage water Treatment Plant) and Rain water Harvesting treated and reused for either gardening, toilet flushes or cooling towers of air-conditioning.

Wissenschaftszentrum Umwelt, University Augsburg, Germany (2011): Healthcare facilities across the globe are rising to this challenge by identifying and reducing the negative environmental impact of their operations. In particular, hospitals, clinics, and doctors' offices are adopting formal environmental management systems and sharing best practices that have been successfully used by other organizations in the healthcare sector.

According to a survey by Colleen Cancio (2012)...It says...Ironically, while hospitals are dedicated to healing, they can also have a negative impact on the patients and communities they serve. Healthcare is a highly energy-intensive business. The environmental implications are staggering. One response to these challenges is for hospitals to commit to "going green."

There are so many ways a hospital can go green, ranging from the elimination of Styrofoam in their food service operations to the construction of new buildings with the latest sustainable features. Hospitals are increasingly aware of their environmental impact on patients as well as the surrounding community. According to the 2011 Hospital Management Survey, nearly one in five healthcare facilities are using LEED requirements in new construction and many more are following LEED guidelines without pursuing certification.

Generally speaking, green initiatives save time and money and they foster a deeper sense of connectedness to patients among the hospital staff. It seems logical that this could lead to better patient outcomes. Any institution that is dedicated to healing has a responsibility to maintain a healthy environment that supports patients and is well integrated with its community.

2.7 ENVIRONMENTAL SCANNING

We can analyze various industries and different branches of science to find out new and innovative ways to install some never done before go green approaches in healthcare industry.

Many new technological advances are being introduced to healthcare with the sole purpose of providing clean and qualitative care to patients.

In following few paragraphs we will learn about some new go green approaches which can be utilized in hospitals.

1. Ministry of Railways, USA is being using plastics bottles and other thrown away plastics in train and around station to make horizontal columns to support railway tracks.

Borrowed Concept: Wastage of one department can be useful to other department.

Applications in Healthcare: Water used for cleaning of vegetable and other things could be used for gardening.

There is high consumption of paper in HRD for printing, so all the 1 sided spoiled printed sheets could be taken from them and used for printing or notes by other departments.

2. National library, USA is using a high speed barcode system to read and mark different books with their authors, shelf number and other details so that they can be easily traced and dispensed. This is helping them to save a lot of paper and more importantly plastic which they would have required to tag the books and to add titles to them.

Borrowed Concept: Usage of plastics can be minimized by introduction of technology.

Applications in Healthcare: Mobile Saline dispensing pumps are newly introduced by 3M which help to store and administrate saline and other IV fluids to patients, saving a good amount of plastic which is being utilized to make saline and other IV fluid bottles.

3. Burj khalifa, Dubai: The architecture of building is so that electricity utilization during day light is considerably reduced plus the quality of glass they utilized is helping them to keep heat outside, helping by reduction or wastage of resources on air conditioning.

Applications in Healthcare: Direct (In construction).

2.8 METHODOLOGY

Research Question

What all measures could be taken to incorporate green culture in the hospital and be a part of going green, Eco friendly organization?

The questions which actually provoked and encouraged me to undertake this study are:

In ten years will my kids be having enough clean water to drink? Will we be able to enjoy the same resources we are currently having few years down the line?.....etc.

OBJECTIVE OF THE STUDY:

To conduct a baseline assessment for the hospital as kind of gap analysis to plan for smoothly shifting BHAS into green building and environmental friendly hospital based on the ISO 4001 standards

Benefits of ISO Standard- 14001:

- Reduced cost of waste management
- Savings in consumption of energy and materials
- Improved corporate image among regulators, customers and the public

RESEARCH DESIGN

STUDY DESIGN & METHODS

1. Type of study- Descriptive study
2. Location of study-Burjeel Hospital for Advanced Surgery, Dubai

Descriptive study

It is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred; rather it addresses the "what" question.

Primary Data:

Primary data is a type of information that is obtained directly from first-hand sources by means of surveys, observation or experimentation. It is data that has not been previously published and is derived from a new or original research study and collected at the source such as in marketing.

- For this study primary source of data by conducting interviews with representatives of various departments. Through the interviews the general level of awareness can be assessed.
- Tool – Technique
 - Questionnaire- Self filled
 - Brainstorming sessions

Secondary Data:

Secondary data is all the information collected for purposes other than the completion of a research project and it's used to gain initial insight into the research problem. It is classified in terms of its source – either internal or external.

Internally: a) Multi voting

b) Affinity diagram

After brainstorming, in multi voting many points were agreed by the management to be implemented and followed.

RESEARCH PROCEDURE ADOPTED

Method:

An Awareness Campaign was thus proposed where:

Initially a situational analysis was conducted.

- Where level of staff awareness was assessed
- Energy, water, paper & cartridge consumption was noted

Objectives of the awareness campaign were described as follows:

- To highlight the true benefits of incorporating green measures.(Environmental, Financial &Health benefits)
- To enlighten the ways in which these measures can be followed.
- To promote & strengthen the concept by actively encouraging employees to work together through the ‘Go Green’ activities.
- To motivate active participation of employees by exchanging ideas & individual perspectives about environmental sustainability to build a better workplace.

TARGET AUDIENCE FOR THE AWARENESS CAMPAIGN WAS AS FOLLOWS:

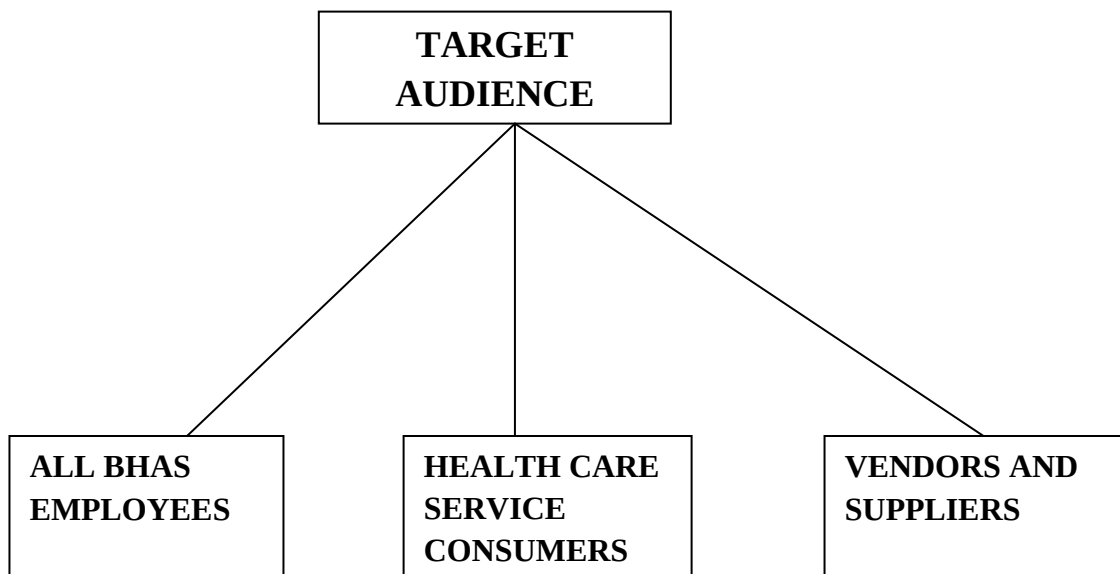


Figure-2.4.1(Target audience)

METHOD FOLLOWED IN THE AWARENESS PROCESS:

- The questionnaire was circulated and filled by most of the staff members and a general level of awareness was assessed by it.
- The electricity and water bills being paid, paper, cartridges and tissues being used were taken from the accounts department and assessed.
- It was realized that the amount is high and there is a need of awareness and by few initiatives or steps it could be decreased by a significant amount.
- A brainstorming session was organized to come up with maximum possible ideas of different green initiatives which could be taken up by the hospital and could be beneficial to the hospital as well the environment and the patients.
- All the points were noted down and found to be very helpful upon doing the affinity diagram analysis

- Then a meeting of all the high authorities or important personnel in the hospital was called and all the jotted down points were taken up one by one and discussed. The relevance of all the points was assessed and the pros and cons of each, was also judged.
- After this multi voting was done for the shortlisted points and in this all the initiatives were being selected as according to everybody's view point these small steps could bring a good benefit in the long run. So it was decided to incorporate and consider all the initiatives.

LIST OF ALL THE POINTS WHICH WERE AGREED UPON:

- To get the hospital registered with DEWA (Dubai electricity and Water authority) to come and conduct a survey and give a clear picture of the loop holes and guide to reduce the electricity and water consumption as much as possible.
- Appoint a night guard for inspecting the whole hospital for any unused taps left open and switch off all the unnecessary lights and geysers as well as refrigerators of the unoccupied Inpatient rooms.
- To have **solar lights** in the valet parking area, in front of the hospital instead of big flash lights as they were consuming a lot of electricity.
- To order recycling bins for paper, plastics and cans.
- To add to the criteria of selecting star of the month, a green initiative by that staff to encourage the culture of going green in very creative way and it was very interesting the way staff reacted with this point specifically comparing to “punch on time 😊)
- A recent study has shown that anywhere from 1% to 3% of an average corporation's annual revenues are devoted to covering printing costs alone. So printing should be reduced as much as possible and use of Century Gothic font style for printing whenever required. (As this font

style consumes less amount of ink as compared to other font styles. When it comes to ink and toner, Century Gothic is justifiably one of the most economical fonts).**Switching from other font styles to Century Gothic will save 31% in overall printing costs.**

- To order for the software, this will reduce the usage of the ink during printing. Thus helping in saving the cartridge consumption. The name of this software is “**Eco font**”. This cutting edge software actually inserts tiny holes in the digitized printing instructions so that less ink is required. These Eco font “holes” are too small for the human eye to detect, but cut down on the amount of ink used and your overall printing costs by up to 25%, a large percentage that won't affect the look, layout, and design of your documents. Hospital bags to be recycled once not the plastic once
- Paperless Procedures to be followed maximum possible.
- No Single-Use Plastic Water Bottles to be Sold in the hospital
- E-mail signature encourage not to print
- Use the printed papers for taking down notes instead of copies or new sheets.

Water

- Re use of water for some areas
- Micro-mops to be used for cleaning purposes
- Water Saving Fixtures to be used in various areas like toilets and shower heads.
- Faucet-aerators to be used to eject the water with pressure which will lead to less consumption of water in the long run.

Energy Management

- Stickers on all lights, elevators, computer machines (like switch me off please, enjoy sunlight, take the stairs and get in shape, all those we got from DEWA upon having our first awareness campaign).
- Energy Efficient Lighting (CFL's, LED's, Sodium-Vapor, etc.)
- Automatic Lights (Motion Detectors, Timers, etc.) all the emergency light we call at BHAS were working with detector
- Energy Efficient Heating and Cooling systems. This responsibility was handed over to the biomedical department head.
- Unplug all unused equipment after work. The responsibility was given to the facility department to check all the departments after the evening shift is finished.

Transportation

- Hospital Transportation/metro/public transportation/car share to be promoted. This will help to decrease the number of vehicles on the road, decreasing the air pollution and thus a step towards saving our 'Mother Earth'.

3.1 RESULTS:

All the green initiatives were incorporated and followed by the staff members.

- All the staff members are using double side printing all the times possible.
- A line has been incorporated under the entire employee's signature (to avoid printing and go green) to encourage and remind them about the going green initiatives all the time.
- There is minimum use of escalators as well as elevators by the employees as they use stairs the maximum, until or unless required.
- Stickers have been stuck everywhere, on the computers, AC regulators, switches, indicating to turn off all the unused lights and computers and to set the AC temperature at 24 degree Celsius as it is good for us as well as environment.
- Mobile application software of DEWA is downloaded to avoid printing and paying of all the bills online.
- Solar lights were installed in the parking area in front of the hospital and the timings were set for them from 6:00 PM to 6:00 AM.
- The **3 R's** have been efficiently used all and an affinity diagram was made to list all the points according to their relevance;

RE-DUCER- RE-USER- RE-CYCLE

AFFINITY DIAGRAM:

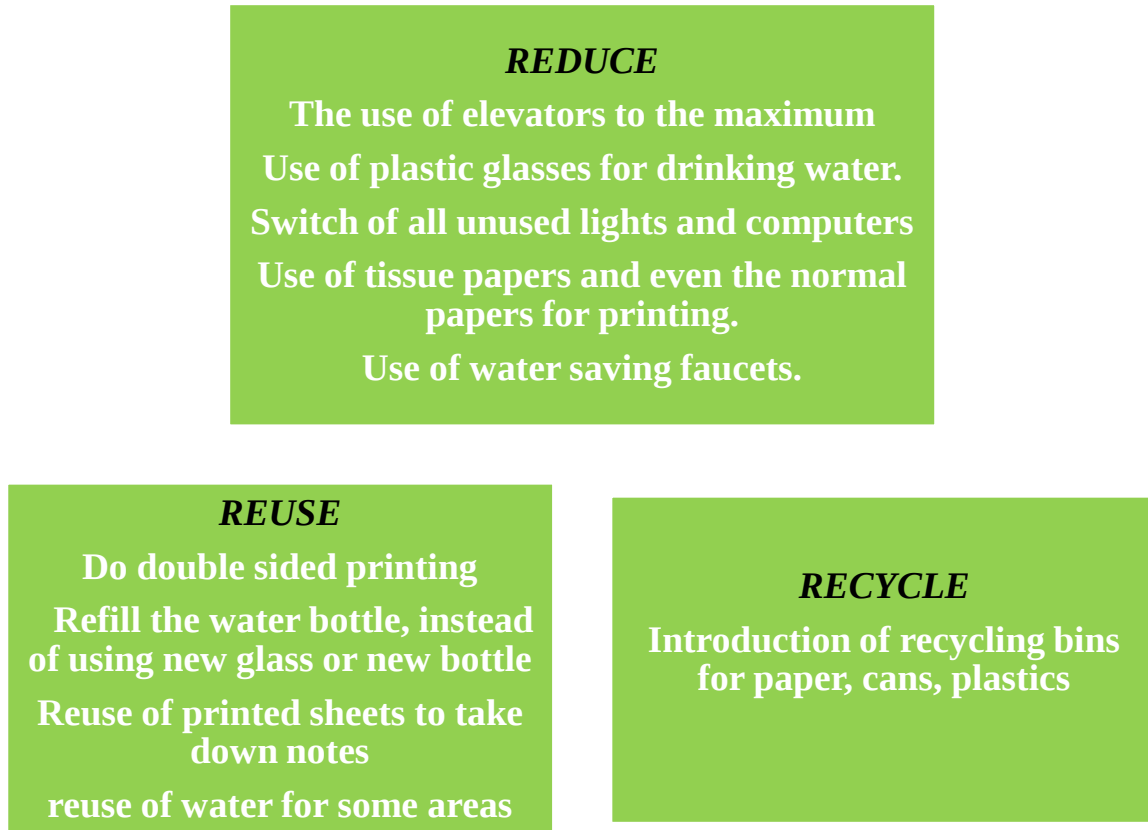


Figure-3.1.1 (Affinity Diagram)

3.2 DISCUSSION:

The results were assessed on the following 2 criteria:

1. The percentage of staff covered in all the 3 events was noted down.

Table-3.2.1 (Attendance number for the

	ATTENDANCE LIST
	No. Of Employees attended
DEWA Campaign	62
Earth Hour	50
Earth Day	76
TOTAL NUMBER	187

Table-3.2.2 (Percentage of the employees covered)

Total No. of Employees	Covered	Percentage
187	62	33%
187	59	31%
187	104	56%

So it was found that a lot of staff was covered by the 3 campaigns. Thus proving that the message of importance of going green is conveyed to all the employees and everybody is aware of the green initiatives taken by the hospital.

(The attendance list of all the employees of DEWA Campaign is attached as an example in Annexure)

2. The electricity bills, cartridge, paper, plastic and foam cups and tissues consumptions for the months of February, March and April were compared

There was a difference in the form of reduction in the consumption pattern was noticed which is shown below:

Table-3.2.3 (Consumption of tissues in February)

	FEBRUARY
	No. of Tissue Boxes used
Folded	42
Toilet	9
Big Roll	21

Table-3.2.4 (Consumption of tissues in March)

	MARCH
	No. of Tissue Boxes used
Folded	40
Toilet	7
Big Roll	20

Table-3.2.5 (Consumption of Tissues in April)

	APRIL
	No. of Tissue Boxes used
Folded	35
Toilet	6
Big Roll	16

Table-3.2.6 (Consumption of Plastic cups)

	No. of Plastic cups (Box)
FEBRUARY	17
MARCH	14
APRIL	13

Table-3.2.7 (Consumption of Foam cups)

	No. of Foam cups (Box)
FEBRUARY	19
MARCH	12
APRIL	9

IN TOTAL: The consumption pattern in different months is as follows:

Table-3.2.8 (Tissue consumption in 3 months)

	Folded Tissue Box	Toilet Tissue box	Big Roll Tissue Box
FEBRUARY	42	9	21
MARCH	40	7	20
APRIL	35	6	16

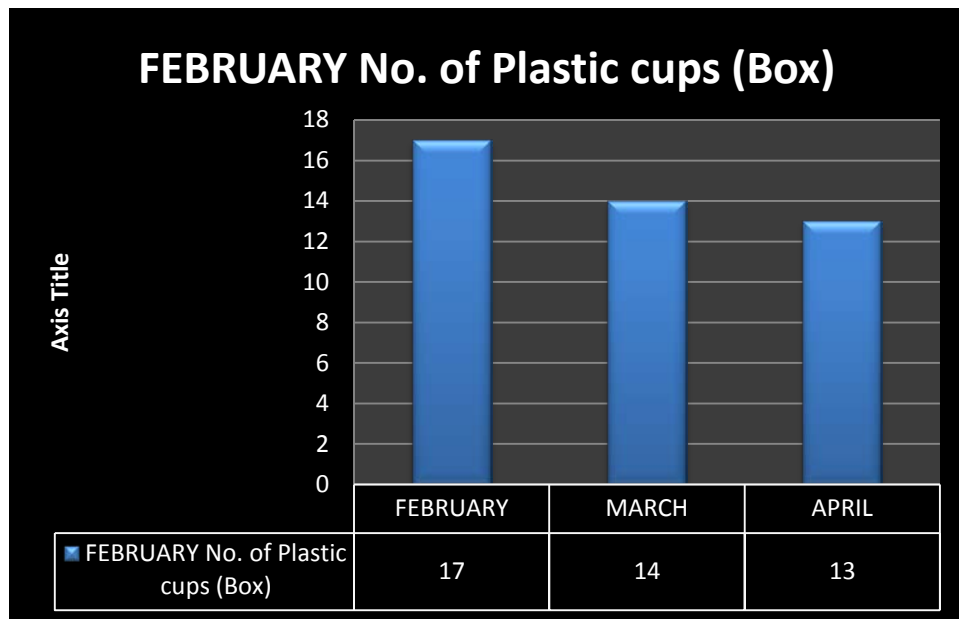


Figure-3.2.2 (Graph of Plastic cups consumption)

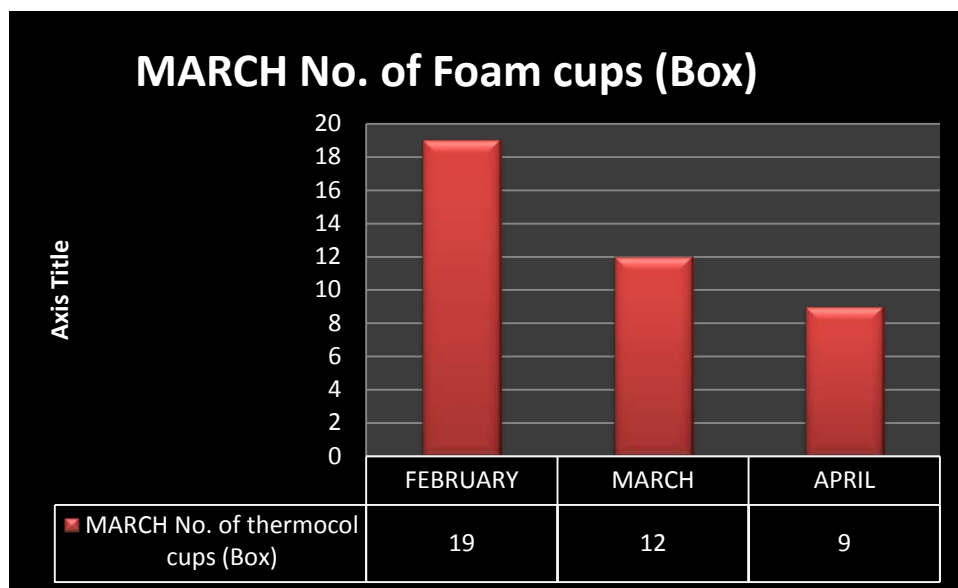


Figure-3.2.3 (Graph of Foam cups consumption)

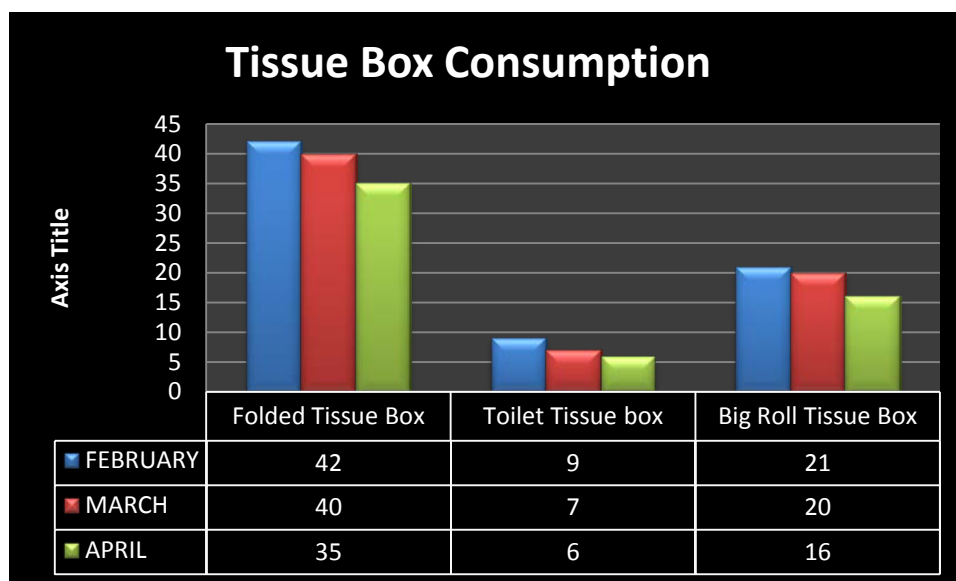


Figure-3.2.4 (Graph for different tissues consumption)

Table-3.2.9 (Decreased consumption of Electricity)

	Electricity Consumption Pattern
Months	Amount Paid
January	52889
February	53703
March	53641
April	53211

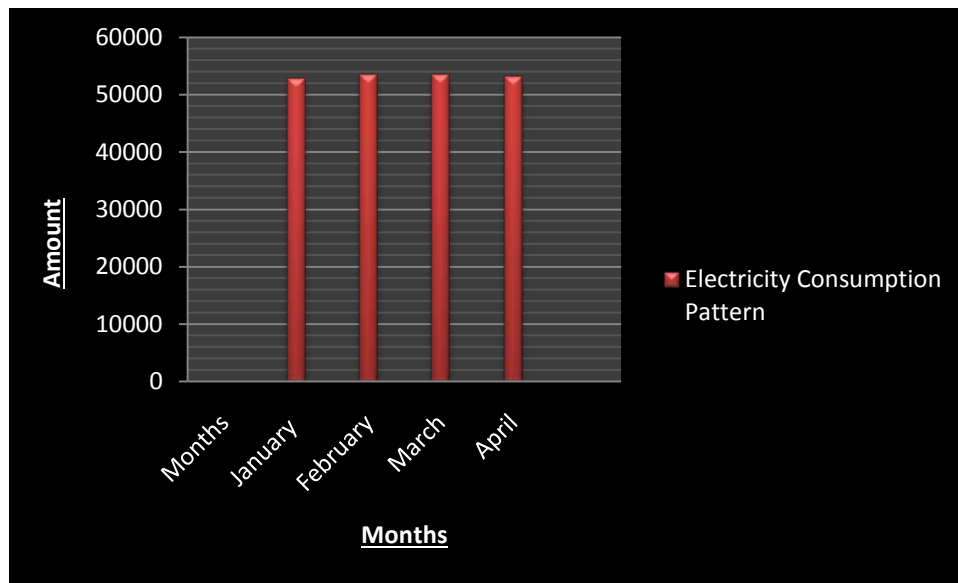


Figure-3.2.5 (Electricity consumption pattern)

The graph and the table clearly show that from the month of January to February there is an increase in the amount of electricity consumption, but after that a decrease in the pattern can be seen. I feel glad to say that the awareness campaigns and the events have started showing their effect. No doubts the decrease is not very sharp or significant one but as it is rightly said “**every drop makes an ocean**”, so these small contributions from everybody’s side is what is required today.

Table-2.3.10 (Monthly Paper Ream consumption & Total Cost)

	Paper Consumption		
Months	No. of Reams	Cost per Ream in AED	Total Cost
January	75	9.15	686.25
February	70	9.15	640.50
March	64	9.15	585.60
April	61	9.15	558.15

1

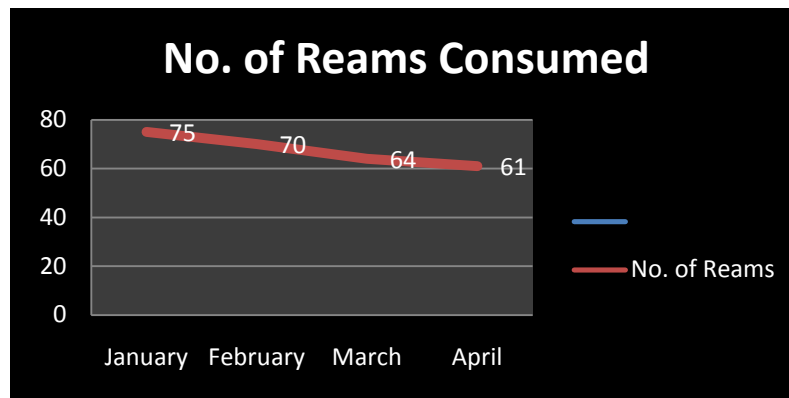


Figure-2.3.6 (Reduced Monthly Consumption of Reams)

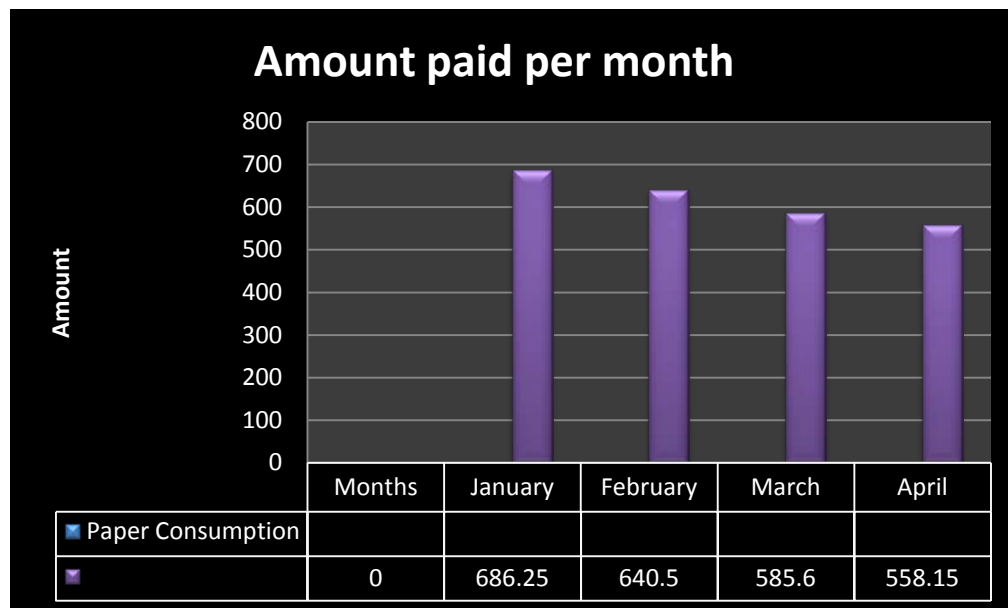


Figure-2.3.7 (Monthly Reduced Amount of Paper Consumption)

So, from here it is clearly visible that even the paper consumption has decreased over the past 3 months and if not much, I am glad or rather proud to say that at least I am able to save few trees... (Love you Mother Earth) as well as little cost cutting of the organization... ☺

4 MAJOR CELEBRATIONS WERE ORGANIZED AS A PART OF THE AWARENESS CAMPAIGN ON GO GREEN HOSPITAL:

1. DEWA CAMP:



Figure-3.2.8 (Picture of DEWA Campaign)

To kick off the “Go Green” initiatives DEWA campaign was held on 10Th March 2014.

With DEWA campaign here, where the entire story starts by having the top authority in Dubai to come physically and talk to the staff and educate them, spreading the awareness of necessity to be an environmental friendly hospital and persons. The day started by setting up the roll ups and arranging a very nice give away “green set”.

We integrated with Dubai Electricity and Water Authority (DEWA) to develop and identify innovative and efficient ways to spread awareness.

DEWA people organized the following things:

- Kindle discussions on energy policy
- Inspiring and innovative speech on energy production and energy use
- Highlight importance of energy and the environment among our staff by organizing a quiz on the same at BHAS, thus accentuating the Go Green initiatives.

This whole helped in educating consumers on the need for prudent use of water and electricity through highlighting best practices in the areas of reserving natural resources. The DEWA personnel provided interactive practical, yet simple tips on conserving energy and improving efficiency based on international best practices, which create real tangible improvements.

So the entire campaign consisted of:

- Putting up posters on walls,
- Stickers on electrical devices,
- Distributing free samples of water-saving devices and brochures to employees, putting up rollups
- Dispensing literature on the same.
- Give away which were targeting to change the life style of our staff and visitors. So it was kind of a souvenir reminding them even at their houses how to reuse ,reduce and recycle
- This campaign raised awareness on best conservation practices.

We ended up by celebrating one of the DEWA personnel's birthday, who showing her dedication came for the campaign forgetting everything, by cutting a beautiful cake and giving her a nice indoor plant as a gift (best suitable according to the occasion and situation).

2. EARTH HOUR:



Figure-3.2.9 (Patients and Staff celebrating Earth Hour)

We joined more than 7000 cities in 160 countries across the world on Saturday night (29th March, 2014) in celebrating the Earth Hour - a worldwide movement for the planet organized by the World Wide Fund for Nature (WWF) that engages a massive mainstream community on a broad range of environmental issues.

The initiatives taken on the Earth Hour:

- In a symbolic gesture to conserve energy, lights were switched-off across the entire hospital as Earth Hour Blue instigated its journey around the globe. The shutdown was scheduled at 8:30 PM local time and lasted for 60 minutes until 9:30 PM (as instructed by Sheikh Hamdan Bin Mohammed Bin Rashid)
- Our entire staff, along with our ardent patients actively engaged in the event by dimming lights in patient rooms and hosting energy-saving activity by lighting candles, which were given to the patients with a message to take back home and turn off all the unnecessary lights always.
- Special leaflets were designed with motivational go green wordings on them and distributed in all the departments to be displayed for the employees as well as patients encouragement towards going green.
- Balloons and lanterns were released in the air by some staff members and some patients with a pledge to conserve environment and natural treasures.
- This move demonstrates BHAS unremitting commitment to the planet and the preservation of its natural resources by increasing awareness among staff, patients and the communities, of the work hospitals are accomplishing to diminish their environmental footprint.
- Even the Director General of the hospital, Dr. Samih Tarabichi commended the ingenuities and stated “Earth Hour is a reconvening call for all to consider the environment as something we all need to preserve. It is not just about turning extra lights off. It’s about changing lifestyles and consumption patterns, to be more aware about how we use our planet’s finite resources.

3. GREEN WEEK:

The entire week prior to the Earth day was celebrated as Green Week.

It started with me sending an invitation as well as an encouraging mail as a part of going Green initiative to all.

The content of the mail is as below:

U all might be aware that it's green week going on as we have Earth Day approaching on 22nd of April. DEWA is celebrating green week from 14-20th of April in Dubai International Convention and Exhibition Center. I would request u all to join this campaign of "Going Green" and "SAVING OUR MOTHER EARTH".

We all will choose some daily green practices and will pledge to abide by them all the yearlong.

- I would request u all, either come by public transport or use companies transport at the max u can.
- All the people staying in nearby areas are encouraged to come together in 1 car, instead of travelling on their personal vehicles daily (this will also give u an interactive time with your colleagues and will make your journey beautiful.)
- I would request all the staff members to use stairs instead of lifts as much as u can.(Stay Fit, Stay Healthy).

Ideas to reduce the consumption of water and electricity from you all will be welcomed. The one giving the best and implementable idea in the hospital and the one following the green practices daily in the hospital, according to our panel which will be an executive committee, will receive a nice surprise.

So get into it...start thinking and working on it...u have 6more days to go.....

Waiting for your brilliant ideas...



Figure-3.2.10 (Different ways of Going Green)

- In this green initiatives from all the employees were invited as a competition. The one following the best go green methods or the one giving the best idea of going green which could be helpful for the hospital also was to be declared the winner. “the winner for this on earth day for the best green initiative was Ms Hamryia and the practices which she is following and shared in the form of E-mail is as under:

At work:

A greener workplace can mean a lighter ecological footprint and therefore a healthier and more productive place to work. The office is an ideal place to join forces and make a larger contribution to green issues

- I always ensure to opt for the double-sided printing and make use of discarded papers for the purpose.

- I switch off my monitor while leaving the office for meetings or breaks.
- I frequently utilize the staircases to commute to and fro the different floors.
- I use a reusable water bottle to fill up regularly and quench my thirst.
- I would like to have a potted plant placed next to my desk as it not only will create a cozy work environment but I shall also be breathing cleaner air thus making my work day a more ‘green’ efficient day!

At home:

- The thing I love most about practicing green alternatives in my home is that nine times out of ten, they are the more frugal option. And I love being frugal. Being environmentally-friendly is just good economics—in our home and budget, and with the earth God gave us.
- I ensure to use energy saving bulbs in all rooms
- I use pressure cooker where possible to save on cooking gas.
- I switched to using cloth napkins in the kitchen from paper towels; except in inevitable circumstances.
- I ensure that all electrical appliances and gadgets are switched off when not in use.
- I always carry jute bags whenever possible while shopping; thus **reducing** plastic waste.
- I encourage my children to collect plastic bottles and cans and donate it to the **recycling** campaign at their school. In the process, my elder son has been holding the record for the Green Student of the term for two successive years.
- Similarly, I have advocated the value and importance of **reusing** by encouraging them to donate their old toys, story books, unwanted gifts, clothing and electronic gadgets to the lesser privileged and needy children.

- While using the washing machine I ensure to use it when it reaches the maximum capacity and also ensure to use the clothesline or drying rack to save energy without opting for machine drying
- I strongly believe that starting a garden is one of the greenest things you can do. I utilize the waste water collected from washing vegetable and fruits by storing them in buckets and watering my garden; alongside the municipality water pipes that run among the garden – which also utilizes waste water from residential buildings in the vicinity.
- I reduce the amount of waste in my household by kitchen composting – instead of tossing the vegetable scraps, fruit peels and seeds, egg shells and tea bags I use them to produce nutrient-rich compost to feed my humble garden. In the process, several seeds (papaya, mango, bitter gourds, tomatoes, pumpkins) sprout and thus, I am able to grow seasonal plants. The go green process has also invited ‘new members’ whereby, a certain breed of hen made way to the garden due to the forage and foliage it provided and made it their humble abode to lay eggs! J

Going Green is the way of the future, and we must be doing it now! Every little bit counts, for our health, our families’ safety, and our planet.

- Likewise the whole hospital employees participated enthusiastically.
- All the employees were supposed to use public transport or hospital bus or they were asked to come together in 1 car instead of everyone coming by his or her own.
- Green contract was made which was signed by all the staff members and most of the patients by writing their pledge they would like to take as a go green initiative from their side and which they will abide by always.

- The activities for Green Week included a series of social, education and entertainment activities, including workshops, and presentations to raise awareness about the conservation of electricity and water.
- Green Ribbon sustainability pledge campaign to disseminate a culture of conservation was done by distributing green ribbons to all the employees to be put on their uniforms week long.
- Participants were requested to choose some daily green practices and will pledge to abide by them all year long.

4. EARTH DAY:

Finally the Green Week ended by celebrating World Earth Day celebration on 22nd April 2014 with an array of greenery adornments and poignant messages on conserving Mother Nature.

- All the offices were targeted to make an extra impetus at recycling for curbing the Hospital's carbon footprint. Also a message of environmental preservation, protection and recycling was spread in the entire hospital.
- An exquisite decoration was done in the lobby of the hospital in which a message that "Every day is Earth Day" was being conveyed to all the patients and visitors.
- Fascinating cards with a dual purpose of invitation as well as a source to convey a message of always following the going green practices were made and distributed.
- Beautiful inspirational quotations were written on the original Banana leaves and stuck all around the facility conveying a message of the importance of conserving Mother Earth.
- Potted indoor plants were distributed to be kept in the offices for a refreshing view and environment and as a source of an encouragement to follow green initiatives always.

- Special customized mugs with Burjeel logo were distributed to all the staff members to discourage the use of plastic cups for drinking water as well as tea/coffee
- An Earth Day themed cake depicting the message of 3R's (Reduce, Reuse and Recycle) was cut by our Director General, Dr. Samih Tarabichi, commemorating the event; while Dr. Shajir Gaffar – CEO, Dr. Marwan Hawari – Medical Director, Dr. Oussama Kayali – Operations Director and other faculties enthusiastically took part in the event by their contribution of green messages, ideas and themes –thus stressing the necessity of ensuring that earth Day is observed every day rather than curtailing it to a single day of celebration.



Figure-3.2.11 (Picture of Earth Day Celebrations)



3.3 CONCLUSION:

There are many pain points in the health care industry which are very well known and very much common among all organizations across the world like waiting time, medical records documentation, admission discharge delays, emergency codes plan and response, improve the utilization management plan.....etc.

When I met the BHAS leaders first time, I came to know that there are several chances for improvement that I may utilize as my graduation project and as I wanted to think out of the box and go wider covering something which maybe not much students will really prefer to talk about as its less common

“Going Green” was one of the most interesting topics for me as a person because I have that feeling of accountability and responsibility towards the coming generation.

In Dubai, DEWA (Dubai Electricity and Water Authority), ARE JUST DOING AN EXCELLENT JOB IN THE AWARENESS PART.

For an organization to have a quality culture embedded in the system there will always be a queue or pipe line of quality improvement projects to ensure that it's a continuous improvement journey. The “Going Green initiatives” is one of the most important improvement projects in the present scenario which is boggling hundreds of intelligent brains in the hospitals.

This ‘Go Green’ project has demonstrated that an initiative does not require a huge sum of money in order to be successful, and that a well-established strategy and process is the key, to a long-lasting impact. It also demonstrated that time is a precious commodity and because it is so precious, donating time to further a charitable cause, can be a tremendously valuable contribution, one that is much more valuable than the one that could be made through traditional philanthropy

A good reputation is more valuable than money. Specifically in a place like Dubai to be registered as Green Organization with DEWA and being honored by it, is a big success.

Hospitals can become trend setters by building and operating energy efficient buildings and we can proclaim our commitment to promote health without damaging ecosystems. By creating and adopting green building standards, hospitals and healthcare providers can make a clear and bold statement that- They Really Care!

So, in the end I would just say that it was an awesome learning experience and worth doing it as it has just not added value to the organization in terms of electricity or water or paper consumption bills but has also refined me as a person who has some responsibilities towards Mother Earth. This also helped in increasing patient as well as staff satisfaction along with mine...☺, as they were also involved in the events rather were active participants in them.

The best example is my CEO...who is doing a dual benefit...has started putting the wrist band which shows the amount of calories burnt every time he uses stairs...Going Green and Staying Healthy...2 in 1... Smart person...☺

SO... HE Understood... Did u???????

4.1INSTRUMENTATION:

The questionnaire used to assess the awareness among the staff members is as follows:

GO Green...!!!

Department:

Question) What do you mean by green hospital?

- a) A hospital with green building.
- b) A hospital which saves and conserves energy resources.
- c) A hospital with lots of greenery inside and outside.

Answer)

Question) Do you think hospitals generate waste which could be dangerous for the environment?

- a) Yes
- b) No

Answer)

Question) Why do you recycle?

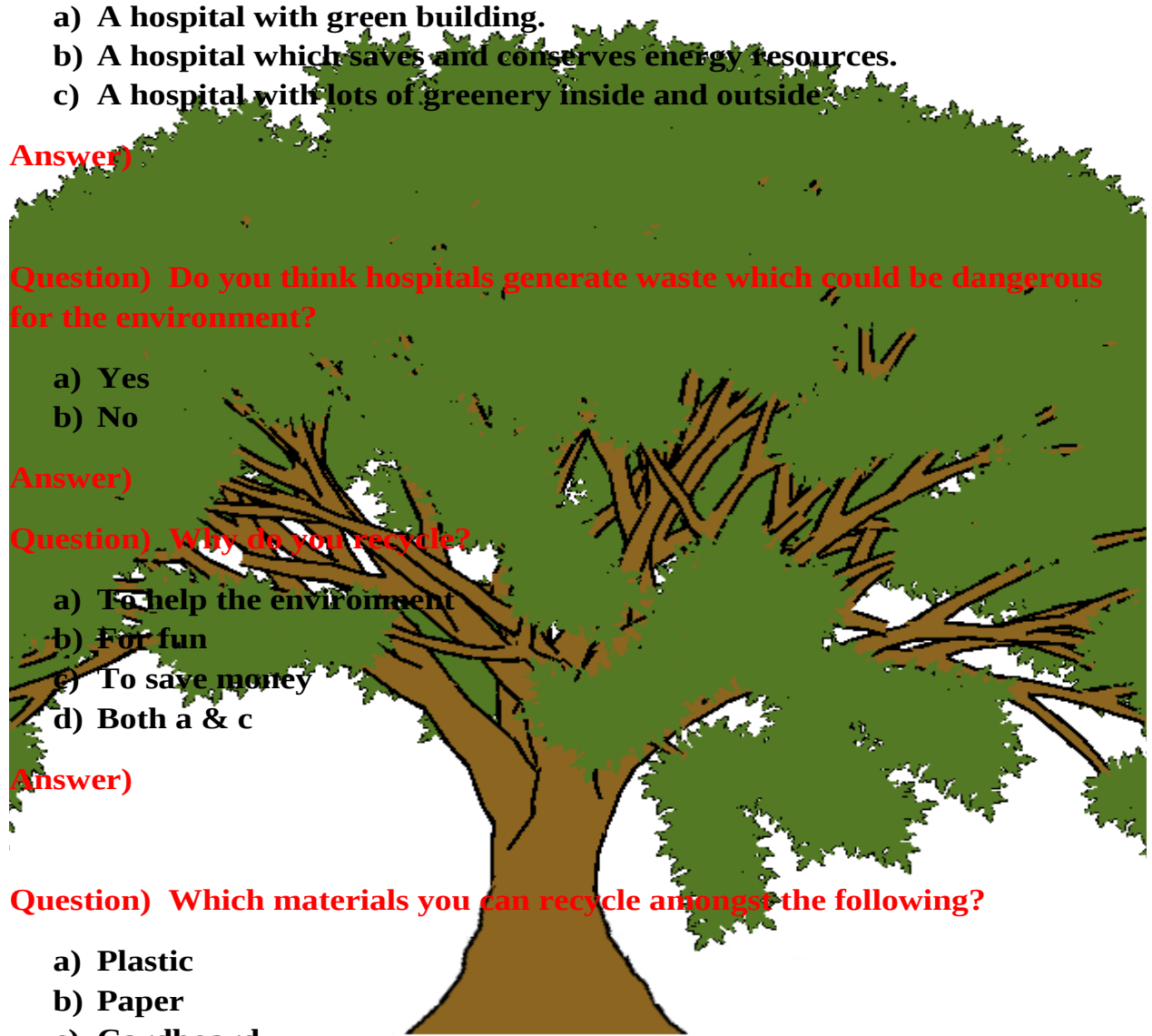
- a) To help the environment
- b) For fun
- c) To save money
- d) Both a & c

Answer)

Question) Which materials you can recycle amongst the following?

- a) Plastic
- b) Paper
- c) Cardboard
- d) Cans
- e) Bottles
- f) All

Answer)



Question) Should we have paperless hospitals?

- a) Yes
- b) No

Answer)

Question) Do we have recycling bins in our hospitals?

- a) Yes
- b) No

Answer)

Question) What should you do with paper that is printed on one side?

- a) Use the other side then recycle it
- b) Throw it in the rubbish bin
- c) Recycle it

Answer)

Question) The 3 R's required the most for going green stand for?

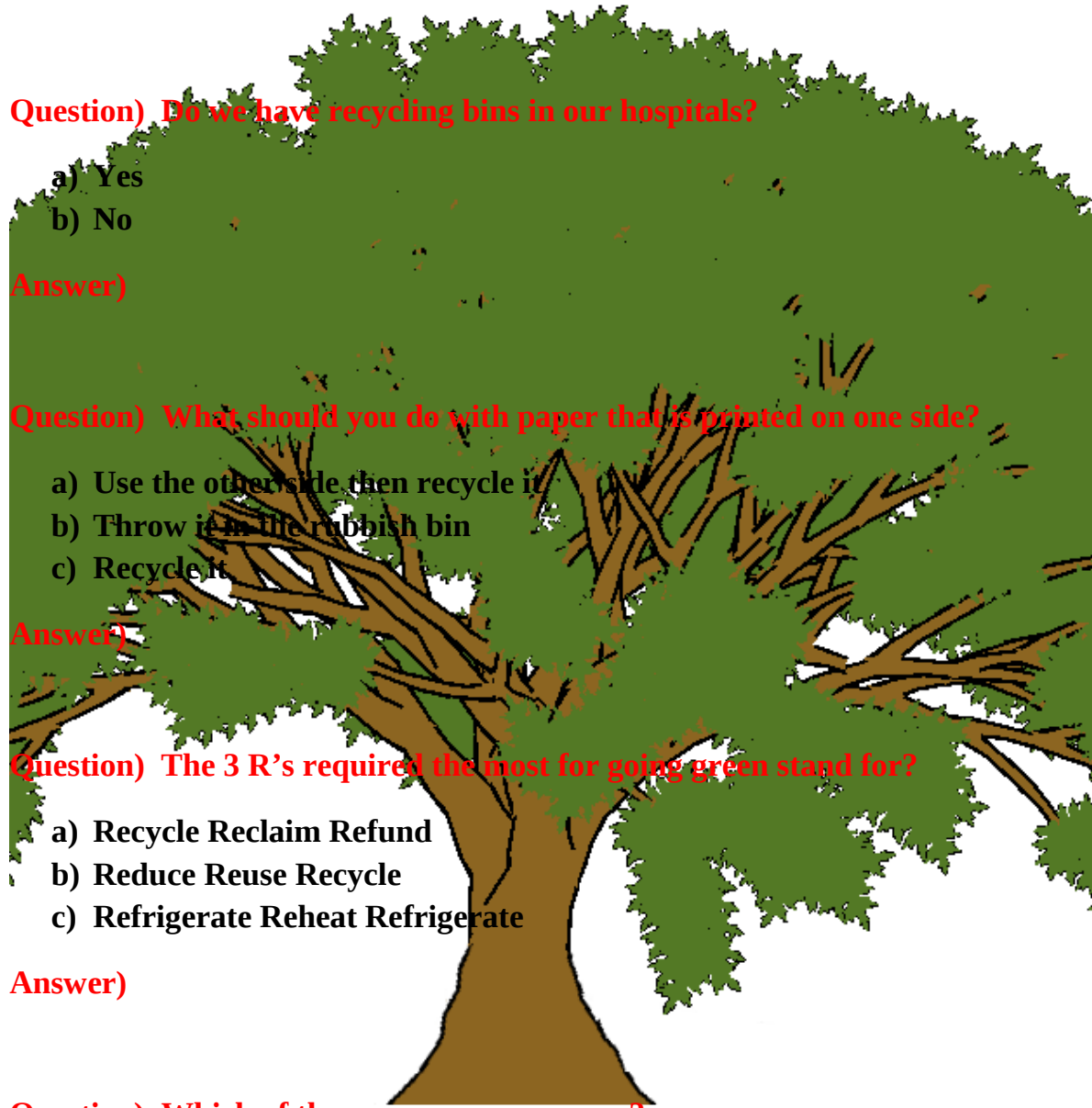
- a) Recycle Reclaim Refund
- b) Reduce Reuse Recycle
- c) Refrigerate Reheat Refrigerate

Answer)

Question) Which of these saves more energy?

- a) Turning the computer OFF at night
- b) Putting computer on SLEEP mode

Answer)



Question) Which of these are examples of reducing?

- a) Turning off the lights that you're not using
- b) Bringing your own bags to grocery store
- c) Printing the paper on both sides
- d) All of the above

Answer)

Question) Which of the following is a greener option

- a) Buying a new bottle of drinking water each time
- b) Filling a reusable bottle of drinking water

Answer)



4.2 APPENDIX:

4.2.1- GUIDELINES FOR THE SHINING STAR OF THE MONTH

To recognize employees for going above and beyond their job description, demonstrating excellence in their work and addressing needs to achieve hospital vision “Leading center of orthopedic and joint care in the region”

The following criteria will be used in selecting the Shining Star of the Month recipient:

1. Unique Situations

A specific example must be included in the nomination form which demonstrates at least **one** (1) of the following:

a. Job Performance – A situation where the employee went above and beyond their required job duties to meet a deadline or goal.

b. Customer Relationship Management (CRM) – A situation where the employee demonstrated outstanding customer service to either an external or internal customer.

c. Safety Hazards – A situation where the employee created a procedure or introduced an idea to help reduce accidents/incidents and/or saved a fellow coworker or constituent from a dangerous situation.

d. Operational – A situation where the employee created a procedure or introduced an idea to facilitate an organizational work process which resulted in a cost savings.

e. Environmental – A situation where the employee went above and beyond to conserve natural resources, recycling or reduce pollution and waste.

f. Greenish Situation – Any unique situation in which the employee demonstrated to be “green” will be thoroughly evaluated for consideration.

g. Other “Unique Situation” – Any unique situation in which the employee “shined” will be thoroughly evaluated for consideration.

2. Attitude

Employee must demonstrate a positive and dedicated attitude.

3. Leadership/Initiative

Employee must possess leadership/initiative qualities and a specific example must be included in nomination form.

4. Team Member

Employee must demonstrate being a team-player with at least one specific example included in nomination form.

5. Dependability/Punctuality

Employee nominated must be in good standing in regards to punctuality, attendance and dependability.

6. Time Limitation

Employee must have been employed at BHAS for more than ninety (90) days and must not have been the recipient of the award within the previous twelve (12) months.

Each month Two (2) employee (Clinical and non-clinical) with BHAS will be honored and receive the following:

1. A personalized certificate of congratulations from the CEO (a copy will be placed in the personnel file)
2. Gift Voucher
3. An article and photograph of employee will be displayed on the BHAS newsletter

All BHAS staff will have the opportunity to nominate an employee, on a monthly basis through the line manager/HOD who will be by completing a nomination form available at HR share folder and submit to HRD@BURJEELSPECIALTY.COM

DEADLINE:

All nomination forms are **due on the 10th of the month** for previous month (e.g., if submitting a nomination form for March, it is due April 10).

SELECTION PROCESS:

The HR Internal Committee will review all nominations and submit recommendations to the Executive Committee for final approval.

ANNOUNCEMENT:

The Executive Committee will announce the recipients of the awards at the monthly All Staff meetings or via email from CEO office.

4.2.2 LOGO NOW BEING USED BY THE ENTIRE STAFF OF BHAS IS AS FOLLOWS:



PRINT ONLY WHEN NECESSARY | SWITCH OFF AS YOU GO | RECYCLE ALWAYS ü

4.2.3 ELECTRICITY BILLS OF MONTHS OF FEBRUARY, MARCH AND APRIL ARE AS SHOWN BELOW:



GOVERNMENT OF DUBAI



هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority

EXPO 2020
DUBAI, UNITED ARAB EMIRATES

إكسبو 2020
دبي، الإمارات العربية المتحدة

BURJEEL HOSPITAL FOR ADVANCED SURGERY
ABDULLA DARWISH ALI ALEMADI
LAND LORD SERVICE
364-AL QUOZ IND. FIRST
POST BOX : 114448, Dubai

الفاتورة عن شهر Invoice for the Month of	Feb-14 16.01.2014 to 15.02.2014
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Electricity الكهرباء (kWh)	Water المياه (IG)
رقم العداد Meter No	2540149
القراءة السابقة Previous reading	2782
القراءة الحالية Current reading	3109
الاستهلاك Consumption	106209

MF	324.8000000	0.000000000
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Previous Month's Summary بيانات الشهر السابق

الخدمة Service	الترصيدات السابقة Previous Invoice Balance	المدفوعات حتى Payment Accounted Upto 11.02.2014	التعديلات Adjustments	التأخرات Arrears
Electricity الكهرباء	52889.09	51889.09	0.00	1000.00
Water المياه	0.00	0.00	0.00	0.00
Sewerage الصرف الصحي	0.00	0.00	0.00	0.00
Cooling التبريد	0.00	0.00	0.00	0.00
Housing Fee رسم السكن	0.00	0.00	0.00	0.00
Advances المدفوعات المقدمة				0.00
TOTAL المجموع	52889.09	51889.09	0.00	1000.00

Current Month Charges رسوم الشهر الحالي

الخدمة Service	شريحة الاستهلاك Slab	الاستهلاك Consumption	التمرفة Rate	المبلغ AED
Electricity الكهرباء	G	2000	23	460.00
	Y	2000	28	560.00
	O	2000	32	640.00
	R	110735	38	42079.65
		152363	6.5	9903.62
Fuel Surcharge رسم الوقود				60.00
Meter Charge رسم العداد				0.00
Other Charges رسوم أخرى				0.00
Total المجموع		106209		53703.27

Water المياه	Slab	Consumption	Rate	AED
	G	0	0	0.00
	Y	0	0	0.00
	O	0	0	0.00
Fuel Surcharge رسم الوقود				0.00
Meter Charge رسم العداد				0.00
Other Charges رسوم أخرى				0.00
Total المجموع		0		0.00

Sewerage Fee رسم الصرف الصحي	0.00
Housing Fee رسم السكن	0.00
Cooling Charge رسم التبريد	0.00
Total المجموع	0

Total Current Month Charges رسوم الشهر الحالي **53703.27**

Total Amount Due اجمالي المبلغ المستحق **54,703.27**

Notice: Payment on due date will ensure service continuity تنبيه: إلتزامكم بالسداد وفق تاريخ الاستحقاق يضمن لكم استمرارية الخدمة

BURJEEL HOSPITAL FOR ADVANCED SURGERY

رقم الحساب
Contract Account No

2020632845

تاريخ الفاتورة
Invoice date

19-Feb-14

رقم الفاتورة
Invoice number

100093622686

اجمالي المبلغ المستحق
Total Amount Due

54,703.27

تاريخ الاستحقاق
Due Date

05-Mar-14

you can pay your invoice through internet www.dewa.gov.ae

يمكنكم دفع فواتيركم من طريق الانترنت www.dewa.gov.ae

34067



EXPO 2020
DUBAI, UNITED ARAB EMIRATES



إكسبو 2020
دبي، الإمارات العربية المتحدة

هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority



الفاتورة عن شهر Invoice for the Month of	Apr-14 17.03.2014 to 15.04.2014
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Electricity الكهرباء (kWh)	Water المياه (IG)
رقم العداد Meter No	2540149
القياس السابقة Previous reading	3484
القياس الحالية Current reading	3859
الاستهلاك Consumption	121800

MF 324.8000000 0.000000000

BURJEEL HOSPITAL FOR ADVANCED SURGERY
ABDULLA DARWISH ALI ALEMADI
LAND LORD SERVICE
364-AL QUOZ IND. FIRST
POST BOX : 114448 Dubai

B28 B2830 76.17 Commercial

Previous Month's Summary

الخدمة Service	الترصيدات السابقة Previous Invoice Balance	المدفوعات حتى Payment Accounted Upto 20.04.2014	التعديلات Adjustments	التأخرات Arrears
Electricity الكهرباء	53641.00	0.00	0.00	53641.00
Water المياه	0.00	0.00	0.00	0.00
Sewerage الصرف الصحي	0.00	0.00	0.00	0.00
Cooling التبريد	0.00	0.00	0.00	0.00
Housing Fee رسوم السكن	0.00	0.00	0.00	0.00
Advance المدفوعات المقدمة				0.00
TOTAL المجموع	53641.00	0.00	0.00	53641.00

رقم الحساب

Contract Account No: 2020632845

رقم التعامل Business Partner No.: 10817546

رقم العقار Premise No.: 364992794

رقم الفاتورة Invoice No.: 100063958153

تاريخ الفاتورة Invoice Date 22-Apr-14

Current Month Charges

رسوم الشهر الحالي

الخدمة Service	شريحة الاستهلاك Slab	الاستهلاك Consumption	التعرفة Rate	المبلغ AED
Electricity الكهرباء	G	2000	23	460.00
	Y	2000	28	560.00
	O	2000	32	640.00
	R	115194	38	43774.00
		118700	6.5	7917.00
Fuel Surcharge رسم الوقود				60.00
Meter Charge رسم العداد				0.00
Other Charges رسوم أخرى				0.00
Total المجموع		121800		53211.00

Water المياه	G	0	0	0.00
	Y	0	0	0.00
	O	0	0	0.00
		0		0.00
Fuel Surcharge رسم الوقود				0.00
Meter Charge رسم العداد				0.00
Other Charges رسوم أخرى				0.00
Total المجموع		0		0.00

Sewerage Fee رسم الصرف الصحي				0.00
Housing Fee رسم السكن				0.00
Cooling Charge رسم التبريد				0.00
Total المجموع				0

Total Current Month Charges رسوم الشهر الحالي 53211.00

Total Amount Due إجمالي المبلغ المستحق 106,852.00

عزيزي المتعامل
البصمة الكربونية لاستهلاكك هذا الشهر
تعاادل 60900 كغم من انبعاثات غاز
ثاني أكسيد الكربون.
Dear valued customer
The carbon footprint for this
month's consumption is 60900
kg CO₂ emissions.

Kg CO₂e

0-500
501-1250
1251-2000
2001<



خطوة خضراء
لنحسب مساهمة
ساحم منا للتكيف من التغيرات الجارية بالتقابل
من استهلاك الكهرباء والمياه. لمعرفة المزيد يرجى
زيارة الموقع التالي:

A GREEN STEP TOWARDS
A SUSTAINABLE TOMORROW
Help us fight global warming by reducing your
Electricity & Water consumption. To find out
how, please visit

www.dewa.gov.ae

تنبيه: إلتزامكم بالسداد وفق تاريخ الاستحقاق يضمن لكم استمرارية الخدمة Notice: Payment on due date will ensure service continuity

Please submit this Remittance Advice with your payment يرجى إحضار هذا الإشعار عند الدفع

Commercial

الفاتورة عن شهر Invoice for the Month of	Apr-14 17.03.2014 to 15.04.2014
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BURJEEL HOSPITAL FOR ADVANCED SURGERY

رقم الحساب Contract Account No	تاريخ الفاتورة Invoice date	رقم الفاتورة Invoice number	إجمالي المبلغ المستحق Total Amount Due	تاريخ الاستحقاق Due Date
2020632845	22-Apr-14	100063958153	106,852.00	06-May-14

you can pay your invoice through internet

www.dewa.gov.ae

يمكنكم دفع فواتيركم عن طريق الانترنت

33717

4.2.4 LIST OF THE STAFF MEMBERS- ATTENDED DEWA CAMPAIGN:

DEWA Campaign Attendance List 10/03/2014

SL	NAME	Department
1	Dr. Shajir Gaffar	Management
2	Dr. Oussama Kayali	
3	Dr. Marwan Hawari	
4	Mr. Said Ismail Mizyan	
5	Mr. Jo Varghese	ADMINISTRATION
6	Mr. Josan Joe	
7	Ms. Obaida Qatuni	
8	Mr. Mohammad Asad	
9	Mr. Nimesh Balakrishnan	Doctors
10	Dr. Usama Hassan	
11	Ms. Elizabeth Benny	HR
12	Mr. Azeem Muhammad	
13	Mr. Fuhad CK	ACCOUNTS
14	Ms. Majedeh Jafarian	
15	Ms. Moly Bijo	OPD
16	Mr. Younes Mansoor	
17	Mr. Ghaith Ahmad	OR
18	Mr. Ragid Saleh	
19	Mr Salaymeh	IP/ICU
20	Ms Jisha john	
21	ms florance george	
22	Ms Maribel magbanua	
23	Ms. Rowena Bisagas	
24	Ms. Marivic Pagulayan	
25	Mr. Laith Mohammad Saleh	Anesthesia
26	Ms. Sabeeha Damaz	Front Office
27	Ms. Shaair Rasem	
28	Ikram	
29	Mr. Omar Adi	
30	Ms. Hamriya Abdulrahman	Secretarial
31	Tony Joseph	Biomedical
32	Mr. RC Reddy	
33	Mr. Balaji Kumar	Medical Records
34	Dr Mohammad Helaly	Radiology
35	Mr. Imthehas Rasaludeen	
36	Mr. Sajid Kaldane	CSSD
37	Mr. Mujawar Waseem	
38	Ms. Zaha Jabril	Physiotherapy
39	Duaa Nabil	
40	Ms. Ayana K	
41	Mr. Suthakaran Pothirajan	Pharmacy
42	Ms. Tasneem Elwaleed	
43	Mr. Harish Ravindran	MMD
44	Mr. Satheesh T U	
45	Mr. Dijesh Narayan	
46	Mr. Ahmad Helwani	insurance
47	Mr. Aju Alias	Support Services
48	Mr. Afsal K.P	
49	Mr. Mohammad Haneefa	
50	Mr. Shaheem Abdulla	IT
51	Dr Hamzah Tarabeshi	Laboratory

Patients	6
Visitors	2
partners/SAP,,	3

Total	62
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10/03/2014



P.O.Box 26282
Dubai, U.A.E.
Tel: +971-4-2594942
Fax: +971-4-2594484
Email: enquiry@topline.ae
Website: www.topline.ae

PRICE QUOTATION

Date: December 14, 2013
To: BURJEEL HOSPITAL
Address: Dubai, UAE
ATTN: Mr. Aju
supportservices@burjeelspecialty.com

Ref: TT8HP00613-1 (rev)

Please find below our quotations for the following product:

Code	Image	Description	Qty	Unit Price (in AED)	Disc. Price (in AED)	Amount (in AED)
1	       	1) LED Light 40W/12V, USA Bridgelux LED chip -1Pc 2) Solar panel 1*135 W/18V, poly silicon-1Pc 3) Gel battery, sealed free maintenance 120Ah/DC12V-1Pc 4) Solar Controller-1Pc 5) Pole 5 meter -1Pc 6) Battery box 7) Cable, screw 8) Installation Charges	3 set	12,500.00	11,500.00	34,500.00
Total in AED		Thirty Four Thousand Five Hundred Only.				34,500.00

Brand: 

Terms & Conditions

Payment: 50% advance and balance upon delivery.

Delivery: Shall be confirmed upon receipt of official LPO.

Validity: Offer is valid two (2) weeks from date of this Quotation.

Remarks: *Prices offered are discounted prices based on the order quantity and payment terms abovementioned. Any changes thereof shall result to change in price accordingly.
 * Above quotation is only for product and light and does not include graphics.
 * All products selected should be confirmed and tested prior to order confirmation by individual units (hotels). Any changes will not be accommodated after confirmation.
 * Return of faulty units are as per Topline warranty procedure. It is advised to order additional spares to the order for future replacement while faulty units are being tested.



DID YOU KNOW

Lighting an office overnight wastes enough energy to heat water for 1,000 cups of tea.

HOT AND BOTHERED

Overheating your building by 1°C adds up to 8% to your heating costs.

COOL FAST

A room will heat up at the same rate, whether the thermostat is set to 20°C or 25°C. If the thermostat is set above the temperature required, energy will be wasted once that temperature is achieved.

SWITCH OFF!

Effective management of office equipment can reduce its energy consumption by up to 70%.

WHAT A WASTE!

Air conditioning an office for one extra hour a day uses enough energy in a month to power a TV continuously for over a year.

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