

Proposal
for
Evolving into a Green Non-Government Organization

Submitted to
Environment and Conservation Fund

Yan Chai Hospital Board

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1. Introduction

Yan Chai Hospital (YCH), with the mission of “Serving the Community in the Spirit of Compassion”, has been proactively providing multi-faceted and quality medical, education, social welfare and emergency relief services to the Hong Kong community. Our concerted effort has gained wide recognition from the community. We are currently operating 2 charitable funding schemes and 66 service units which include 23 education units, 11 medical and health service units and 32 social service units.

Besides the devotion in serving the community, we have also committed ourselves to improving the environment and contributing to sustainable development. Some of the service units have already implemented green initiatives by applying for different types of funds. Aiming to become a green NGO, YCH is now proposing to the Environment and Conservation Fund (ECF) for implementing another 110 green projects to continuously pursue our environmental commitment.

2. Yan Chai Hospital’s Green Commitment

YCH is committed to conserving the environment and promoting environmental awareness, with the ultimate goal to become a green organization. By incorporating environmental initiatives in YCH’s governance and operations, YCH not only contributes to the sustainable development of the community but also helps promulgate environmental consciousness to our large group of service users and eventually influences the community in different strata to step further in protecting our environment. We have committed to:

- 1) Become a Green Non-Government Organization (NGO)
- 2) Minimize impact to the environment
- 3) Reduce carbon footprint and contribute to alleviating climate change
- 4) Pursue better resource conservation
- 5) Cultivate green culture among the community

3. Yan Chai Hospital’s Green Strategies

YCH has formulated the following strategies to effectively implement the environmental initiatives:

- 1) Green Governance
- 2) Total Environmental Management
- 3) Energy efficiency and reduction of carbon footprint
- 4) Pollution prevention
- 5) Resource management
- 6) Green procurement
- 7) Use of Electric Vehicles with Zero Emissions
- 8) Green Education and Promotion

3.1 Green Strategy 1 - Green Governance

Green Governance is the most critical strategy to help YCH drive towards sustainability. We have established our own Steering Committee to conduct detailed planning and to implement the green projects. The Steering Committee comprises of core members of the YCH Board and will be led by the Chairman of YCH. A representative from ECF and an external professional will also be invited as the members of the Steering Committee to give independent advice.

The Steering Committee will be composed of:

- Chairman of YCH
- Chief Executive Officer of YCH
- Other core members of YCH Board
- Representative from ECF Committee
- External Professional

The Steering Committee will be responsible for

- Formulating environmental strategies and awareness programme
- Developing the sustainable development framework
- Integrating and reconciling social, economical and environmental elements into decision-making processes and corporate operations
- Overseeing the implementation of green initiatives including proposed green projects and other environmental measures
- Managing resources in planning and implementing green initiatives
- Monitoring work progress
- Ensuring the green initiatives are completed within budget and meet the expected quality
- Reviewing the performance of the green initiatives
- Assessing the progress and effectiveness of the green projects
- Compiling and disseminating environmental performance in different channels such as YCH's website, annual report, corporate circular and the newsletter "YCH Today"

We will appoint the senior officials from different service departments of YCH as the Green Managers. They will assist the Steering Committee in managing and monitoring the projects at the project implementation stage; and will also be responsible for compiling progress reports and related documents to ECF Committee.

3.2 Green Strategy 2 - Total Environmental Management

The concept of Total Environmental Management will be adopted as a holistic approach to plan and implement green initiatives. It ensures different aspects of environmental considerations are taken in every stage of the project life-cycle and avoids transferring a green problem from one aspect to another.

The following environmental aspects will be considered at the project life-cycle:

- Reduction of carbon footprint
- Pollution prevention
- Waste management
- Resources management
- Green procurement

3.3 *Green Strategy 3 - Energy Efficiency and Reduction of Carbon Footprint*

Climate change is threatening everyone on the globe as it leads to global warming and extreme weather and may eventually bring detrimental disasters. The major culprit of climate change is the green house gases (the major component is carbon dioxide) which are emitted from various human activities. Hence, the most effective solution to combat climate change is to reduce one's carbon footprint by enhancing energy efficiency and implementing carbon reduction measures.

Reducing electricity consumption not only helps bring down the carbon footprint of the building operations and improves the regional air quality, but also saves operational cost and eventually improve productivity. Realizing the multiple benefits brought by energy saving, we have been proactively introducing energy saving measures for our staff to follow.

We are going to introduce more energy saving practices and encourage our staff to implement them. A "green and saving" culture will be promulgated among our staff so that the energy saving practices can be continuously implemented.

Besides implementing energy saving practices, YCH also proposes to install energy saving equipment and renewable energy equipment at the premises of service units. Such installations not only help reduce energy consumption but also serve as green education to the target users of the service units such as students who could further disseminate the green messages to their family and community. The benefits of the installations are substantial and can reach multiple groups of the community including staff, target service users (e.g. students and their family) as well as general public.

Having conducted some preliminary study on the applicability and cost-effectiveness of different energy saving and renewable energy equipment, we have identified the following projects for some of our service units:

- Replacing old and energy inefficient lights by energy efficient types: T5 florescent lamp, LED wall lamp, LED exit sign lamp, induction lamp (無極燈)
- Replacing the old and energy inefficient air conditioners by models with energy efficiency labels
- Other energy saving installations: motion sensor, solar film, re-zoning of lighting/air conditioning
- Renewable energy equipment including solar panels, wind turbines, solar water heaters, solar lamps, kinetic-energy bicycle (動能單車)
- Energy-cum-carbon audit: to assess the current energy use and carbon emissions so as to identify areas of improving energy efficiency and reducing carbon footprint
- Green roof: to reduce "urban heat island effect" and reduce the temperature of the premise underneath the green roof

Green roof is a green technology that brings direct and immediate benefits to the community outside YCH's service network. Green roof not only lowers the temperature of the premise underneath but also reduce "urban heat island effect" and serve as a landscaping feature for the community nearby. Also the service units can organize environmental education and social activities for the green roof, such as proper maintenance measures, gathering functions, etc.

It is paramount that the service users, staff and related stakeholders understand the implications behind these installations. The service units will disseminate the information and benefits of these installations via YCH's website, publications, circular and/or service units' notice board, activities, etc. Models of the renewable energy installations are instrumental to illustrate the merits of renewable energy to the service users (e.g. students and parents) and general public. For instance, students can be motivated to study the status of energy generation in the solar/wind power equipment and the carbon footprint reduced. The study results can be published on notice board such that all the staff and target users would appreciate the benefits brought by the green installations.

Most importantly, the stakeholders would understand that it is their attitude and lifestyle to change the impact to the environment and drive the development of green culture. We are committed to reducing our carbon footprint and to promulgating the important message of energy saving and carbon reduction, with a view to taking lead in conserving the environment.

3.4 *Green Strategy 4 - Pollution Prevention*

YCH is operating community services embracing i) rehabilitation services and elderly centres, ii) medical and health services, iii) education services, and iv) hostels and workshop, which do not generate significant pollution. The major pollution sources are wastewater and solid waste. While we will ensure the compliance of legal discharge standard on our service units' discharged wastewater, we will focus on the handling of solid waste in this proposal, which is an imminent environmental problem for Hong Kong.

Being dedicated in reducing environmental impact, we will formulate waste reduction plan for our service units. According to the waste management hierarchy of the HKSAR Government, waste prevention and reduction is one of the highest priorities in Hong Kong. In supporting the government's waste prevention and reduction initiatives, we intend to establish waste prevention guidelines for staff and service users to reduce waste at source, manage resources in a better way and procure in a greener way. We propose to set up the following waste reduction system and equipment:

- *Green Lunch*
Regarding the considerable amount of food waste generated from schools every day, it is proposed to implement on-site meal portioning in selected schools.
- *Food Waste Composter*
For those waste which can hardly be avoided, the waste can be treated and diverted from dumping at landfill. While on-site meal portioning is a measure to reduce waste at source, composting food waste is taken as after-treatment measure. In light of the residue value of food waste, it is proposed to install food waste composters at four education units. The composter serves as a green education model and students can participate in the operation of the composter.

The food waste generated on site can be converted to fertilizer which can then be used on the same site and/or distributed to other service units. YCH will coordinate among the service units which need the fertilizer.

- *Waste Prevention Measures*
Waste prevention measures can be implemented via better resources management and green procurement processes which are covered in section 3.5 and 3.6. Materials (like

paper envelop, plastic bag, etc.) are reused as many times as possible. Measures have already been adopted in YCH's Traditional Chinese Medicine clinics to discourage the use of plastic bags through imposing a surcharge on their provision. This measure has proven to be effective as the usage of plastic bags has been reduced significantly but the amount of fund collected is rather insignificant. Currently the surcharge is put into the Chinese Medical Charity Fund (贈醫施藥基金) to help the poor.

- *Waste Separation and Recycling*

Some of YCH service units have already implemented waste separation. YCH will reinforce waste management measures and encourage staff and service users to participate in waste prevention, separation and recycling. Besides paper, plastics and metal, the service units are encouraged to coordinate and recycle more items such as toner cartridges and batteries.

3.5 *Green Strategy 5 – Resource Management*

Through better resource management, YCH can not only minimize the amount of waste generated, but also conserve natural resources and increase productivity. YCH has already imposed some resources saving practices. YCH will further promote resource conservation concept among staff, students and service users via the demonstration of installations and establishment of internal operation guidelines and education programmes.

Paper Saving Measures

- Using electronic copies and avoid printing hard copies as far as possible (including the Board's annual report and papers for presentation to the Board's Committees)
- Using both sides of paper
- Avoid using paper cups
- Reusing paper envelopes, bags, folders, etc.
- Reminding staff and service users "Check and think before print" to avoid unnecessary printing
- Installing a system on photocopier/printer to monitor and control paper usage

Water Saving Measures

- Installing water saving device: We propose to replace the old water taps, which do not allow automatic shut-off, with infra-red sensing water saving taps. The non-touch water taps are important in the respects of water saving (in comparison to other automatic/manual water taps), education and hygiene (especially for health care centre and elderly centre). Some stickers can be posted at appropriate locations to explain the features of the water-saving taps and the intentions behind such installation.
- Installing rainwater recycling system: Rainwater is collected for secondary process use (e.g. for cleaning and irrigation). There will be filtration system for cleansing the rainwater collected for health and safety reason.

3.6 *Green Strategy 6 - Green Procurement*

YCH will take the lead in pursuing green procurement in order to minimize the environmental impact brought from the supply chain.

Green procurement guidelines will be established for staff:

- Impose green requirements when sourcing products/services

- Purchase reusable containers and avoid products with excessive packaging
- Purchase durable materials/equipment
- Use recycled products (e.g. recycled paper) as far as possible
- Purchase products and services that are more environmentally friendly (e.g. environmentally friendly cleaning agents/chemicals, water-based paints, etc.)

3.7 *Green Strategy 7 – Use of Electric Vehicles with Zero Emissions*

As a commitment to protecting the environment, YCH will adopt a programme of replacing its existing fleet of vehicles using petrol engines, wherever practicable by electric cars with zero roadside emissions.

To support a new, cleaner and greener way of moving around, YCH will install charge sockets at the car parks of its various service units including clinics, schools, elderly homes, rehabilitation/youth centres etc. so that its line-up of electric cars in the future can have sufficient travel range between charges. We have confirmed the procurement of one electric vehicle for Board Office's usage in this financial year and will install basic charging facility. We will further explore the possibility for replacing existing petrol-engine vehicles among Board Office and Directors' companies with electric vehicles; and installing more sophisticated charging facilities.

3.8 *Green Strategy 8 – Green Education and Promotion*

The aforementioned green initiatives certainly can help YCH to be more "green". The sustainability of the green initiatives depends on the awareness and sense of responsibility of staff and service users, who will further influence others and eventually the community. The ultimate goal of YCH is to develop the sense of responsibility of the community so that green elements become part of our life.

Realizing the magnificent effect of awareness promotion, we are committed in raising environmental consciousness of the community by setting up ourselves as a role model and mobilizing our staff, service users, business partners and finally influencing the general public to take the responsibility to conserve our environment and combat climate change.

The green installations mentioned in the previous sections (e.g. green roof, solar lamps, wind turbines, food waste composters, etc.) are vivid education models. YCH will promote the benefits of these installations to their staff and service users via publications and demonstration. For some installations, such as the solar power system and the food waste composter, we will motivate them to participate actively in the operation, monitoring or compilation of the beneficial data (e.g. energy saved and waste reduced). The beneficial data can be disseminated to all stakeholders and general public via email circular, notice board, publications and website of YCH, etc.

In order to reinforce the environmental consciousness and obligations of students, staff, service users and eventually the whole community, we propose to launch a series of activities and programmes:

- Organize a ceremony for launching the implementation of the green projects and for promoting the upcoming projects and activities.
- Promote green living practices and activities; and publicize YCH's achievements in improving the environment via the existing platform such as regular

- activities/seminars, notice board, annual report, publications (i.e. Yan Chai Today), Yan Chai's homepage, pamphlets, email, etc.
- Incorporate "green" themes in school curriculum (e.g. moral and civic), activities, events, fund-raising programmes, seminars and competitions, etc.
 - Organize some signature functions to publicize the achievements of the green projects and promulgate the environmental obligations to all Yan Chai's service users, staff and even the general public. Example functions are:
 - Carnivals/exhibitions for promulgating environmental obligations and disseminating the benefits of the green projects
 - Collaborating with other parties to organize talks, workshops, outings and visits, etc., to enhance environmental knowledge and obligations of students, staff and service users
 - Waste Reduction Programme (e.g. organizing events for exchanging second-hand books and school uniforms, recycling waste electrical and electronic equipment, etc.)
 - Production of leaflets/brochures/stickers for raising the environmental consciousness of students, staff and service users (e.g. stickers with energy saving tips putting beside the switches of electrical appliances and elevators, stickers with water saving message putting at lavatory, etc.)
 - Establish green corners where information, news and experiences about environmental conservation are disseminated and shared

In light of the impact of our next generation in sustainable development, education units are the foci of green education. We target to advocate students' care to sustainable development and expect students can promulgate green messages to their family and finally spread the messages to the whole community. In addition to the proposed approaches above, we will consider incorporating green elements in daily school duties, curriculum and extra-curricular activities to cultivate green culture in campus. We will also encourage our schools to implement the Student Environmental Protection Ambassador Scheme which aims to enhance student's environmental consciousness and develop their sense of responsibility. Students and teachers will acquire relevant knowledge and skills via organizing and participating in different workshops, seminars and green activities. Some of our schools have obtained various kinds of environmental awards and we will encourage other schools to do better by setting the front runners as role models. For example, Yan Chai Hospital No. 2 Secondary School won the "Gold Award" in the "2009 Hong Kong Awards for Environmental Excellence – Sectoral Awards" and some other awards while the Yan Chai Hospital Wong Wha San Secondary School has won awards in various kinds of environmental competitions. These front runners can share their experience and ideas in implementing green projects/activities with other service units. We also plan for signature green installations in some of our selected schools, such as the solar energy installation for 靚次伯紀念中學 and green roofs for 陳耀星小學. These type of larger scale installations can act as signature demonstration sites within our group for different service units, and we can also open them up for other groups for visit and experience sharing.

Starting from the school year 2007-08, we have established eight Elder Academies (長者學苑) in our affiliated secondary and primary schools. The Academies use the schools' existing resources of schools and basic facilities (such as students, teachers, halls and special facilities such as computer room and library, etc.) required for conducting learning programmes. The Academies provide not only compulsory healthy courses, but also various interest class, such as computer application, English language, Mandarin, calligraphy, harmonica playing, Tai-chi, Chinese opera, bakery and etc. Chan Iu Seng

Primary School is one of the pioneer affiliated schools where Elderly Academies have been established. Initiative in installing green roof and related seminars/activities could form part of the education on environmental protection to both the students and elderly.

Besides the promotion programme organized for education units, seminars will be organized for the social services units (e.g. elderly centres, clinics) to raise their awareness in improving energy efficiency and resources conservation. After the completion of energy-cum-carbon audit in some service units, the findings will be shared among all other service units.

With a wide and effective publicity programme, we anticipate the merits and benefits of these environmental initiatives will be well recognized by the public which also provides a driving force to our counterparts and even the whole society to contribute in improving the environment.

4. Benefits to the Community

YCH is serving a large group of stakeholders in the community covering different types of service users ranging from students, youth, elderly to the physically disabled, the mentally retarded and patients, etc. We have also employed a large group of staff and have developed our extensive network in the community. Over 2,000 employees and over 180,000 members of the public are currently using our services. The following table shows the breakdown on our current number of staff together with our service recipients.

No. of staff (Social services)	1,154	No. of service recipients (Social services)	13,627 (Including residential, day unit and walk-in members)
No. of staff (Schools)	1,014	No. of students	9,373
No. of staff (Medical services)	93	No. of service recipients	129,832 (Including Chinese Traditional Medicine, dental, ophthalmology, minor surgery and MRI services)
No. of staff (Board Office)	36	Service recipients under Yan Chai Emergency Relief and Tetraplegic Fund	Over 558
		Participants in various publications and fund-raising	30,250

		events/activities organized by the Board	
TOTAL NUMBER OF YCH STAFF	2,297	TOTAL NUMBER OF DIRECT USER	183,640

With the senior management officials taking the lead to formulate the environmental policy, implement the green initiatives/measures, and develop education and publicity programmes; it is anticipated that while the service units of YCH will obtain the immediate benefits, the whole community in Hong Kong will also take the reciprocal advantage from the devotion of more parties in the society to green initiatives.

5. Budget Estimation and Action Plan

YCH proposes to seek a funding support of HK\$17,991,920 from ECF, of which HK\$1,200,000 is the fee for commissioning an environmental consultant and HK\$887,000 is the cost for organizing education and promotion programmes (see Appendix for the Budget Summary). On top of the funding request from ECF, we will also devote our own resources in other areas so as to maximize the effect of the green programmes, such as but not limited to develop the education and promotion programmes, adopt electric vehicles and the charger, formulate waste reduction programme, etc.

Many of the green projects proposed are of large-scale and complicated. Expertise input is of paramount importance to the successful implementation of the projects. Lacking the relevant expertise, YCH proposes to commission a competent environmental consultant to provide expertise services in overseeing all the green projects, providing technical advice, assisting in the selection the cost-effective products/services, assisting in the preparation of tender and contract documents for selecting the best contractors, etc. Hence, YCH proposes to seek the funding support of HK\$1,200,000 from ECF for commissioning an environmental consultant to provide consultancy services for the 3-year project period. Proper tendering procedures will be in place to select competent consultant for the service.

53 services units of YCH are applying for funding to implement about 110 green projects. For the sake of best resource management, we propose that these green projects are implemented by phases within three years:

Year 1

- Install energy saving lights and air conditioners
- Install other energy saving features (i.e. motion sensor, solar film, re-zoning of lighting/air conditioning)
- Install rainwater recycling systems
- Install water-saving taps
- Carry out energy-cum-carbon audit for all the funded units

Year 2

- Install green roofs for some of the requesting schools
- Implement renewable energy projects (solar panels, solar water heaters, wind turbines, solar/wind lamps) for some selected schools

- Install food waste composters for all requested units
- Implement green lunch projects
- Install other green projects: meteorology centre, kinetic-energy bicycle, paper saving system

Year 3

- Install green roofs for the remaining schools
- Implement renewable energy projects (solar panels, solar water heaters, wind turbines, solar/wind lamps) for the remaining schools

Since there are considerable numbers of minor works at schools, the works will be carried out during long vacation such as Christmas, Easter and summer holidays as far as possible in order to reduce the impact to normal school activities. So the above action plan is only tentative and subject to change in order not to affect the daily operation of YCH's service units. Tendering and other procedures will be streamlined to achieve better cost effectiveness.

Some of the projects, e.g. green roof and renewable energy projects, will be carried out at some selected units first rather than at all units at one time. In such a way, the experience gained (including preparation of tender documents, selection of contractors and the actual performance of the installed systems) by the units undertaking the projects first can serve as good references for other units.

Project management is essential to ensure timely completion of projects and control budget. YCH will form project management teams for individual units to plan, implement and monitor the projects effectively and to communicate with the environmental consultant.

6. Conclusions and the Way Forward

YCH is committed to protecting the environment and promulgating environmental consciousness across the territory. Being one of the major social, health-care and educational service providers in Hong Kong, YCH will endeavor to promote green lifestyle and act positively to reduce adverse environmental impact to the community.

Although the proposed green projects are expected to complete within 3 years, this does not mean this is the end of YCH's green commitment. After the 3-year project period, we will continue to maintain and operate the green installations, to implement our environmental policy and publicity programmes, with a view to continuously contributing to sustainable development and taking a leading role in influencing the community to conserve the environment.

Appendix

Yan Chai Hospital Board – Evolving into a Green Non-Government Organization**Budget Summary**

Green Initiatives	Estimated Budget
1 Green Roof <ul style="list-style-type: none"> • 2 secondary schools, 1 primary school 	\$2,348,550
2 Energy Efficient Installations – lighting <ul style="list-style-type: none"> • Lighting retrofit (T5) for 5 secondary schools, 3 primary schools, 9 kindergartens; • Lighting retrofit (T5) for Yan Chai Headquarter, Central Adm. Office, 4 dental clinics, 6 community services centres, 5 Chinese Medicine Clinics, 12 elderly centres. 	\$4,512,760
3 Energy Efficient Installations – air conditioning <ul style="list-style-type: none"> • Energy efficient room coolers for 5 secondary schools, 1 primary school, 8 kindergartens; • Energy efficiency room coolers for the Yan Chai Central Adm. Office, 3 dental clinics, 5 elderly centres, 6 community services centres, 2 Chinese Medicine Clinics. 	\$1,791,500
4 Energy Efficient Installations – others <ul style="list-style-type: none"> • Solar films for 1 primary school; • Motion sensors for 1 secondary school; • Re-zoning of lighting/air conditioning for 1 kindergarten. 	\$391,110
5 Renewable Energy Installations <ul style="list-style-type: none"> • Solar water heater for 1 secondary school, 1 elderly centre; • Solar panels for 2 secondary schools, 4 primary schools; • Solar lamps for 5 secondary schools, 2 primary schools; • Wind turbines for 1 secondary school, 1 primary school; • Kinetic-energy bicycle for 1 secondary school 	\$4,223,000
6 Energy-cum-carbon audit <ul style="list-style-type: none"> • For 3 community services centres 	\$240,000

Green Initiatives	Estimated Budget
7 Waste Reduction <ul style="list-style-type: none"> • On-site meal portioning for 1 secondary school • Composting machine for 1 secondary school, 1 primary schools, and 2 nurseries • Paper usage monitoring system for 1 secondary school 	\$2,048,000
8 Green Education <ul style="list-style-type: none"> • Meteorology Centre • Rainwater recycling system • Educational programmes - producing web pages, environmental-friendly printing of leaflets/brochures, publicity programmes, carnivals/exhibitions, etc. 	\$50,000 \$300,000 \$887,000
9 Engaging an environmental consultancy for 3 years	\$1,200,000
Total:	\$17,991,920