



慈濟醫療志業

Tzu Chi Medicine Mission



Healthy Hospitals, Healthy Planet

By:

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CEO, Medical Mission

The Buddhist Tzu Chi Foundation



—— 尊重生命 人本醫療

Healthy Hospitals, Healthy Planet

Systemic Implementation of HPH

1. Energy efficiency
2. Green building design
3. Alternative energy generation
4. Transportation
5. Food
6. Waste
7. Water
8. Education





Systemic Implementation

Six Prong Approach



Committee for implementing HPH

Superintendent

Consultants

Secretariat

Environment

Staff

Patient

Community

Engineer Dpt.
General Affair
Environ. Safety

Human Res.
Worker Safety
Benefit Com.
Dormitory Com.

Nursing Dpt.
Planning Dpt.
Informatics
Billing
Patient Safety
Quality Assur.
Clinical Dept.

Community M.
Outpatient Dept.
Health Education
Public Relations
Social Workers
Volunteer Dept.
Cultural Affair



Strategy

- **Enterprise-wide implementation**
- **Mobilize the entire staff**
- **Put in the necessary resources**
- **Institution reengineering**



Value

Respect for Life

**Patient-centered
Medical Care**



Vision

Cornerstone for Guarding Health

Mission Statement

- ◆ Patient-centered Integrated Medical Care
- ◆ Regional Geriatric Center
- ◆ Community-based, Prevention oriented
- ◆ To Become *Health-promoting Hospital*



Declaration

December 20, 2006



Pledge

**To Become A
Model of
Health Promoting
Hospital
A Commitment of
The Entire Staff**





慈濟醫療志業

Tzu Chi Medicine Mission



International Consultations



—— 尊重生命 人本醫療

Professor Chu and Dr. Wang



WHO 15th Annual Convention and Summer School in Vienna

2007



**April 11-12, 2007 ,
Vienna Summer School**



**Topic
『 Evidence-based Health
Promotion-Hands on 』**

**Annual Convention
April 13-14, 2007
More than 500 people
from all over the world**





Get to know other Important Persons





慈濟醫療志業

Tzu Chi Medicine Mission



Organized HPH Seminar, 4/27-28, 2007 At Tzu Chi Hospital, Taipei



—— 尊重生命 人本醫療

Our efforts in incorporating into the accreditation process



We invited guests from Austria, Australia, Ireland, etc to discuss ways to implement HPH





慈濟醫療志業

Tzu Chi Medicine Mission



**We Invited
Oliver Grone
Author of WHO-HPH Standards
To visit Dalin Tzu Chi Hospital
5/5-5/6, 2007**



—— 尊重生命 人本醫療

Mr. Grone discuss the concept and implementation of HPH





2007 5 5

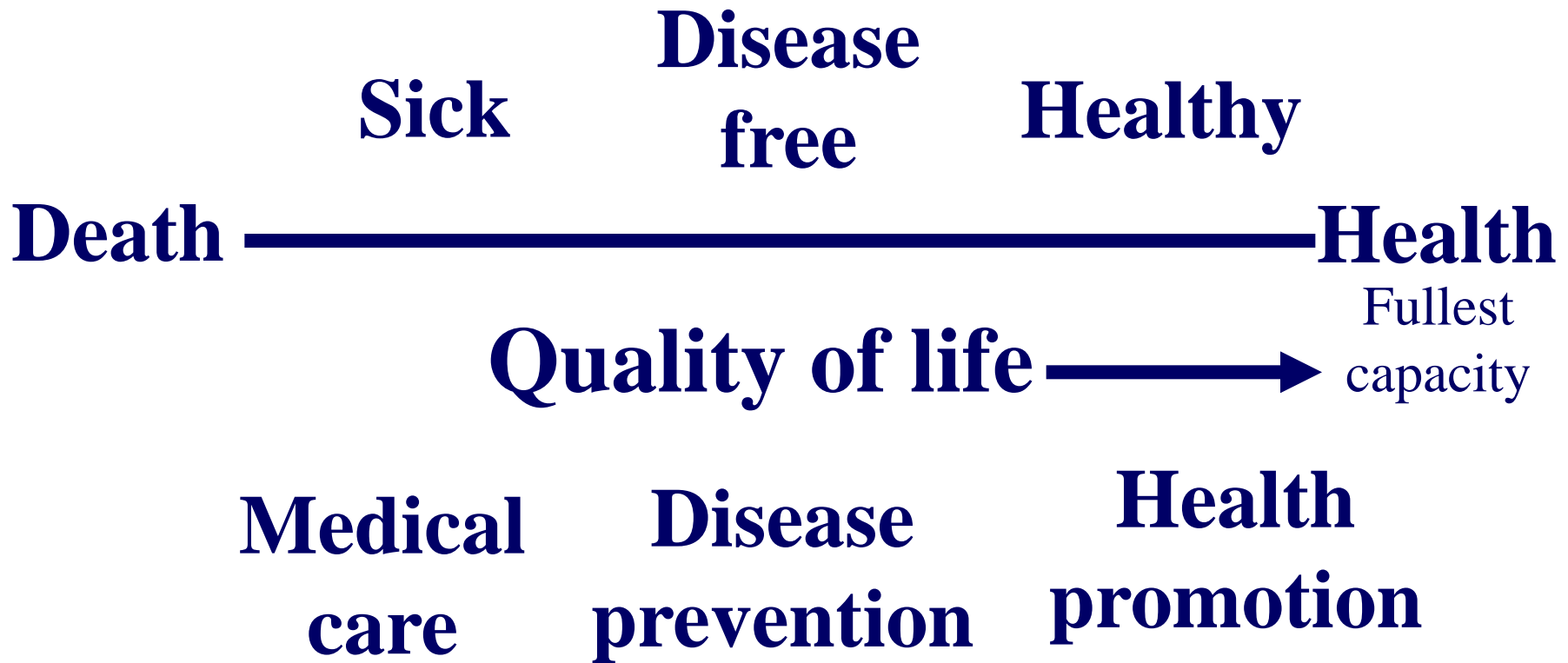
WHO HPH Secretary General Dr. Hanne Tonnesen to give a Lecture



**We require that all staff members attend
HPH lectures at least 2 hours annually**



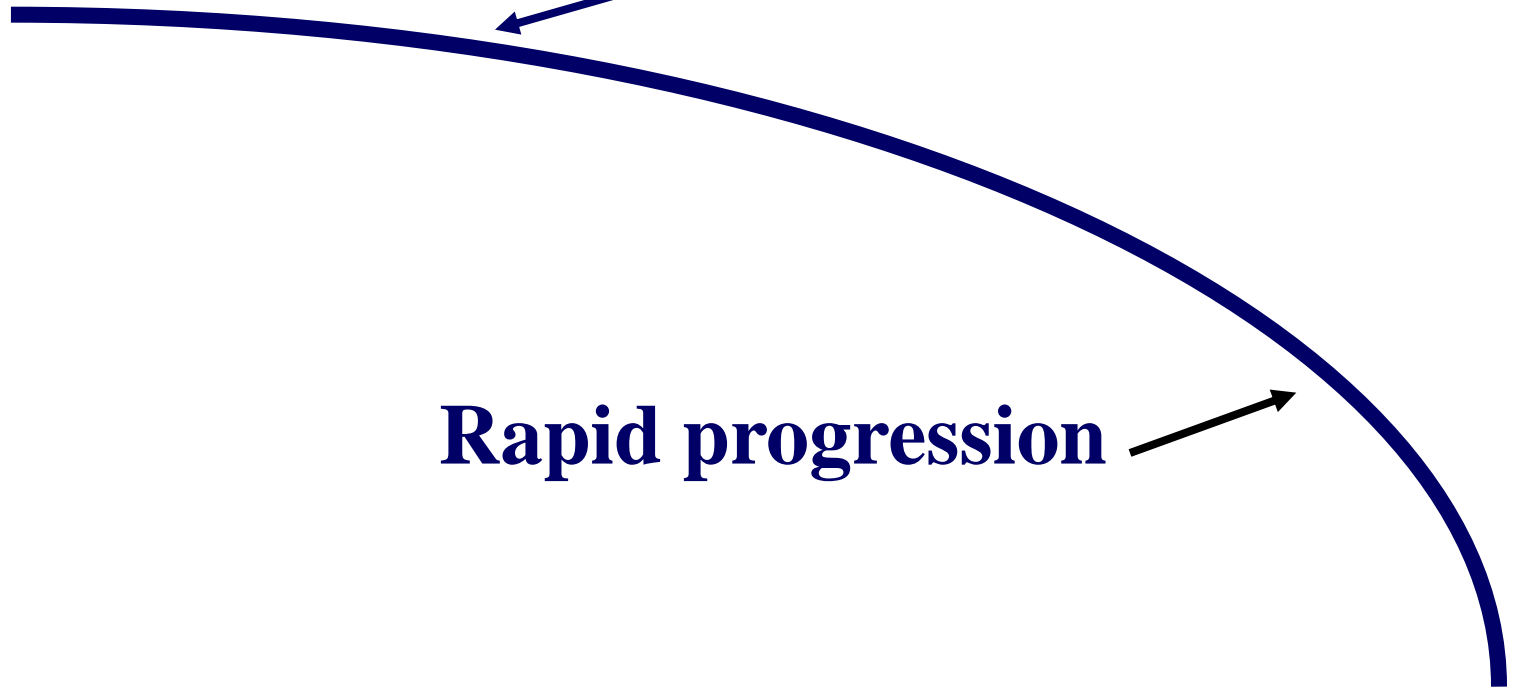
Illness and Health



Natural History of Diseases

Asymptomatic

Onset of symptoms



Rapid progression

Death



Establish Coordination

Monthly meeting to coordinate the activities and monitor the progress



HPH International membership



International Network of
Health Promotion Hospitals &
Health Services



HPH Membership Certificate 2007 - 2010

**Buddhist Dalin Tzu Chi
General Hospital**
Dalin Town, Chiayi County
Taiwan

For the International HPH Secretariat:

Date: August 15, 2007

Signature: H. Tessen
Hanne Tessen, Director of WHO-CC



WHO Collaborating Centre for Guidance and Health Promotion in Health Care
Clinical and research excellence



第一屆全國健康促進醫院研討會開創健康照護新價值
暨台灣健康醫院學會成立大會



世界衛生組織「健康促進醫院」授證記者會

臺灣健康促進醫院網絡

Taiwan Network of Health Promoting Hospitals
and Health



Health
Promoting
Hospitals



HPH annual Convention at Berlin, 5/15-16, 2008

Share the importance of implementation, not just planning



Hospital and Environment



Spiritual Health Promotion





WHO-CC Pelikan



Germany





企
業

業
環

獎
賽

總
獎

獎

NEE/WEISSBERG
WORLDWIDE
AWARD (2006)

中國
企業

GREEN HOSPITAL –Top Prize 3 years in a Row









Internet Health Education

大林慈院—民眾衛教專區 - Microsoft Internet Explorer

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)



慈濟醫療志業
Buddhist Tzu Chi General Hospital



大林慈院民眾
衛教專區



特殊檢查及手術知情同意專區 **NEW** | 一般外科 | 肝臟疾病類 |
心臟血管疾病類 | 骨科及復健類 | 腎臟及泌尿系統疾病 | 傳染性疾病
糖尿病與我 | 居家照護類 | 其他類 |

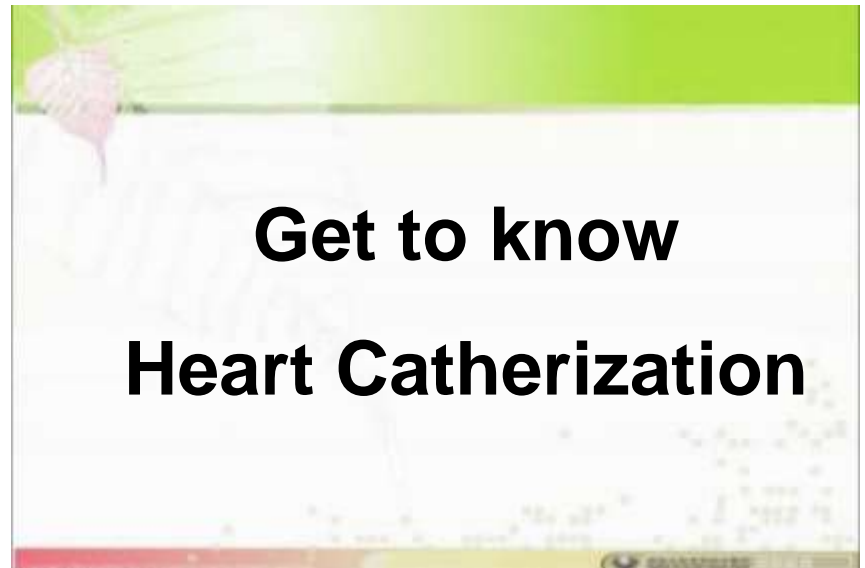
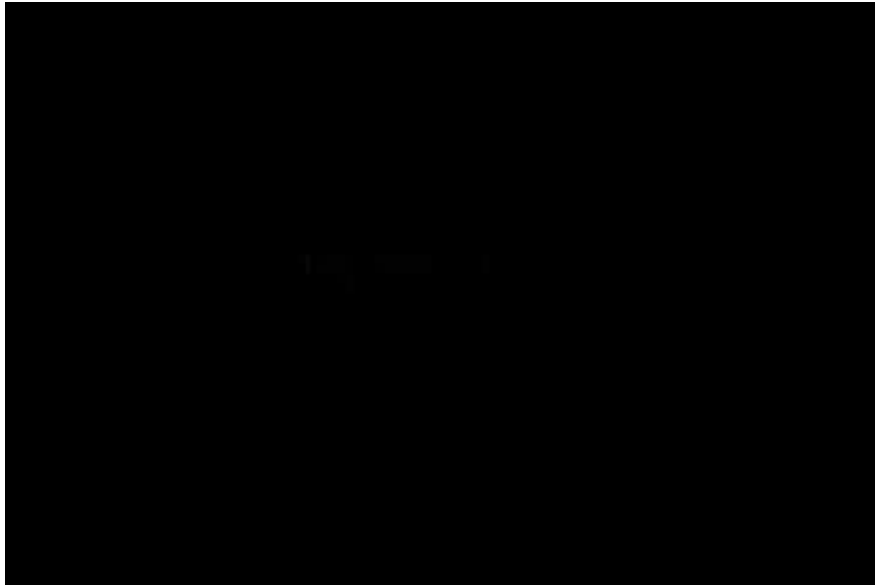
[特殊檢查及手術知情同意專區]

■ 心導管檢查	■ 退化性膝關節炎之關節鏡整形手術	■ 認識安全的麻醉
■ 白內障的手術治療	■ 認識腦波圖	■ 認識頸動脈超音波
■ 認識神經傳導檢查	■ 認識誘發電位	■ 認識肌電圖
■ 慢性鼻竇炎之手術治療	■ 正子造影檢查	■ 認識冠狀動脈繞道手術
■ 認識強度調控放射治療- IMRT(new)	■ 認識胃鏡檢查(new)	

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Internet









Annual fitness test for staff



Participation
over **95%**





Human Resources & Safety



10 members



Dietary Department

Aerobic exercises



10 members



Outpatient Department

Table Tennis



12 members



Radiation & Radiation Oncology



Badminton



16 members



Radiation

Swimming



8 members



Rehabilitation

Aerobics



12 Members



2007年友善聯助旗證典禮













慈濟醫療志業 Tzu Chi Medicine Mission

Anniversary Staff Celebration



愛大



Not “Oxford Vs. Cambridge”



Mobile e-Hospital







Fats and salt Don't eat Fats and salt Don't eat
One bowl of vegetables each meal It's really healthy



大林鎮社區

健康營造造成



Hospital & Environment

- 1. Energy efficiency**
- 2. Green building design**
- 3. Alternative energy generation**
- 4. Transportation**
- 5. Food**
- 6. Waste**
- 7. Water**



Extreme Weather Changes

敬天愛地 繫福緣
Respect Heaven and Love the Earth
To Accumulate Blessings

與地球共生息
Coexist with Earth

Global warming, Greenhouse effect

Global Warming

聖嬰現象造成歐洲遭到
熱浪侵襲和颶風等不正
常的氣候。

尼泊爾因喜馬拉雅山積
層雪而變成龐亞水災。
沙漠化嚴重且缺水，因
全球暖化而乾旱加劇。

過熱的氣候加強水
分的蒸發，非洲境
內沙漠化地區逐年
增加，旱災頻傳。

排水量巨大的印尼雅
加達近年嚴重水災。

內蒙古沙漠化造成大
陸華北、東亞國家沙
塵暴。

大陸甘肅嚴重缺水，
造成土地貧瘠。
大陸西南的暴大雨促
成重公河氾濫成災。

「桑迪、佛羅、羅切斯
特」颶風，屢次襲擊
東亞地區。

沙漠地帶占百分之七
十的澳洲連年乾旱造
成穀物和畜產減量。

美國中西部在2004年5
月底遭受一百多個颶
風襲捲。

2005年夏天，數百個美
國城市都締造史上最
高溫的紀錄。

現今地球就像是火宅，人類
破壞生態環境，使得地球溫
度升高，「溫室效應」導致
冰山融化、海水漲高，甚至
四季的天候紊亂，萬物失去
正常生長的規則。——陸農上人

Today's Earth is like a house on fire. The damage
mankind does to the planet has caused global
temperatures to rise, disrupting the harmonious order
of the four seasons and hindering the natural growth
of all things on Earth.——Master Cheng Yen

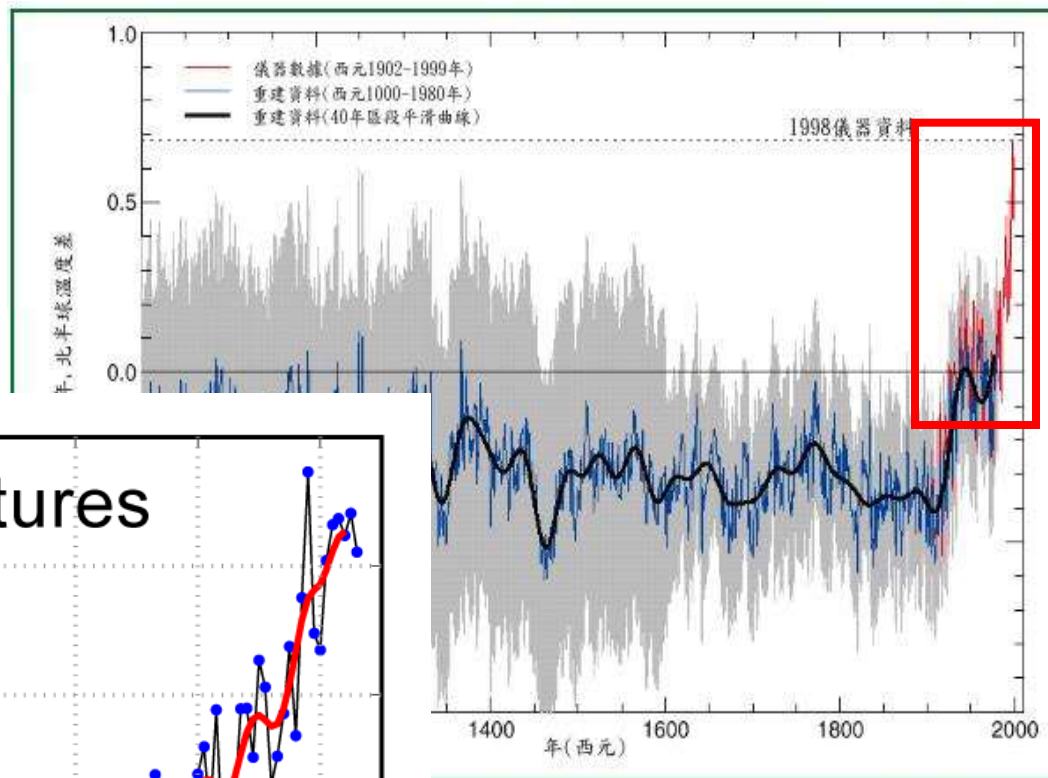
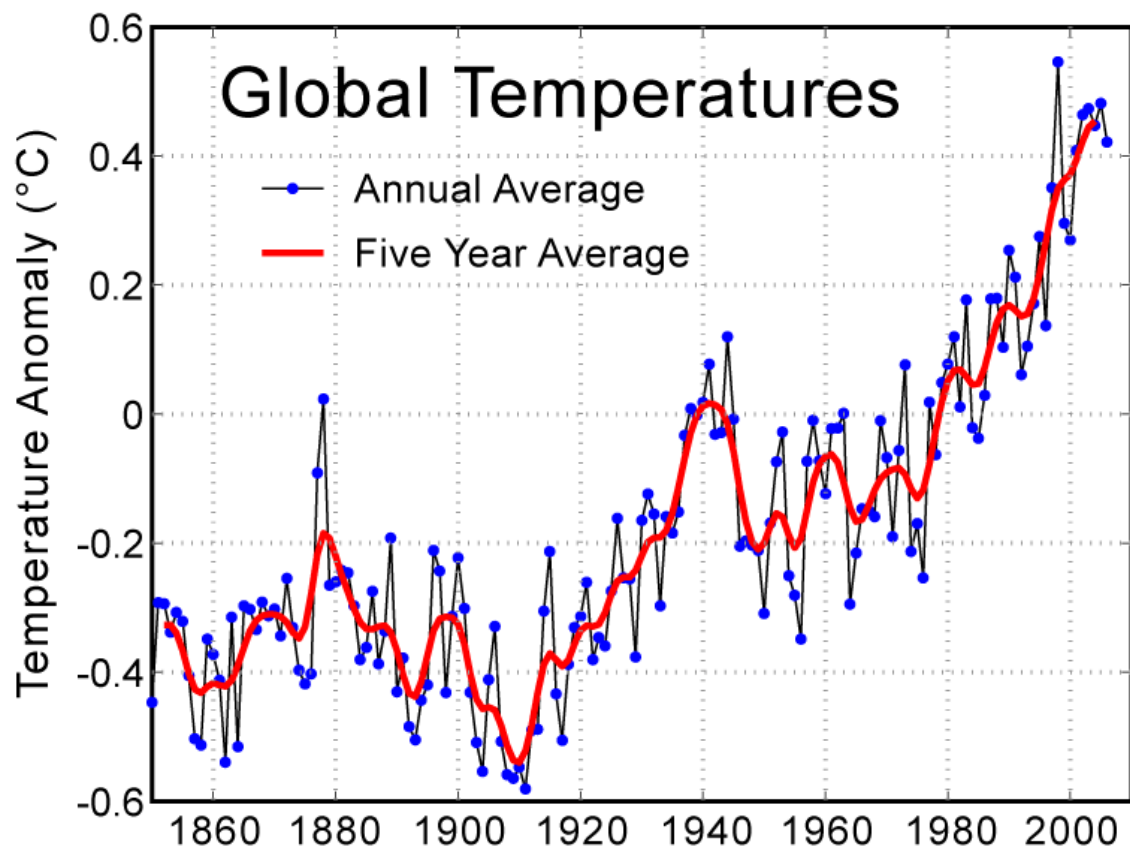
格陵蘭冰層因氣候暖化逐年
溶解。北極冰層預計於30年
內完全溶解消失。

2005年9月初卡崔颶風狂捲
美國南部墨西哥灣沿岸。

玻利維亞、委內瑞拉、阿根廷
異常暴用帶來土石流。

紐西和智利連
續發生強震。





1. Energy-efficient light fixture



**Solar
Energy**



**LED
Lighting**

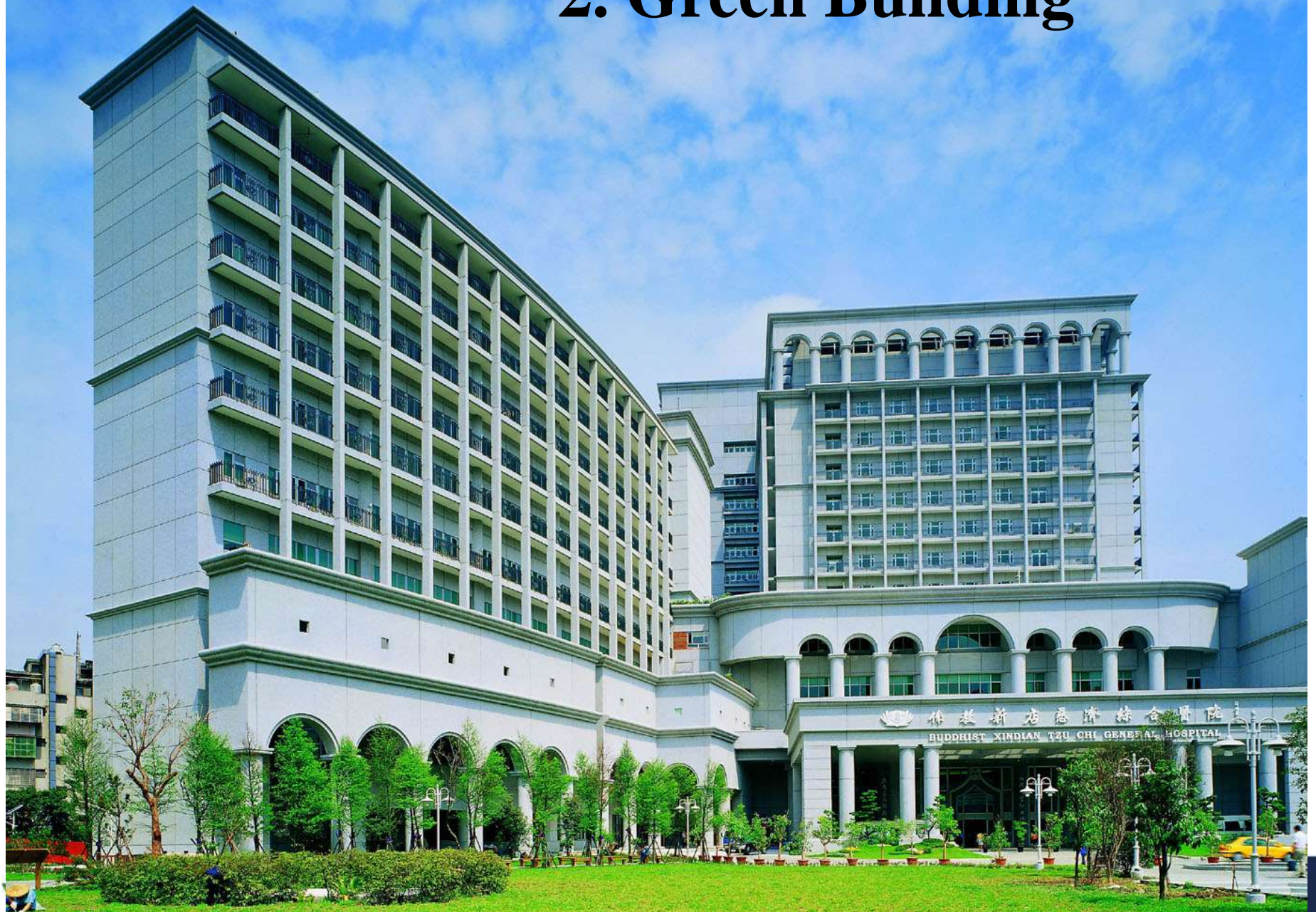


Strategy— Power Conservation

- **Natural lighting skylight, windows**
- **Solar energy road lamps**
- **Energy-efficient light fixture**
- **Waste heat recycling**
(to recycle the heat generate by the air-conditioning unit to heat hot water)



2. Green Building





Natural Lighting



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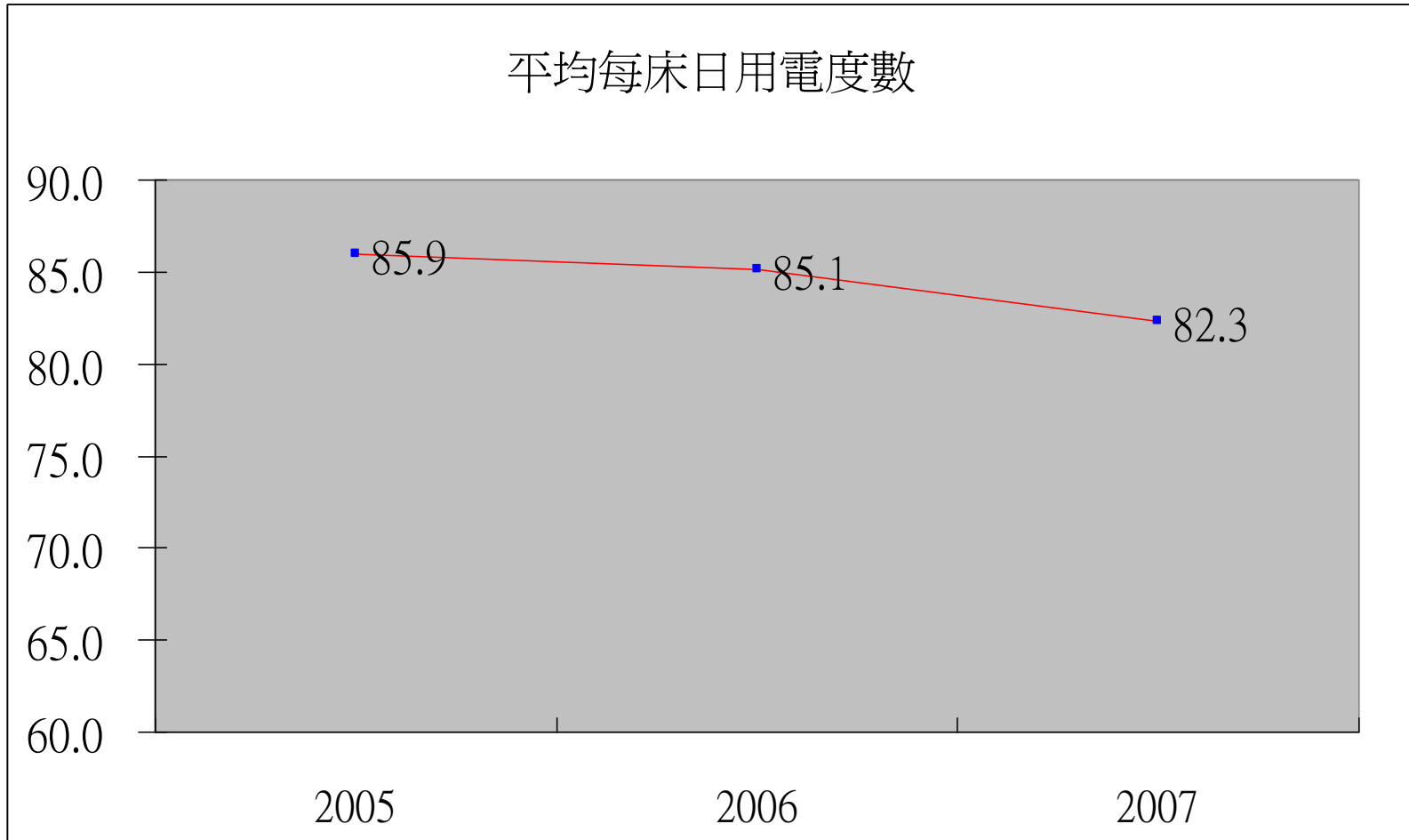


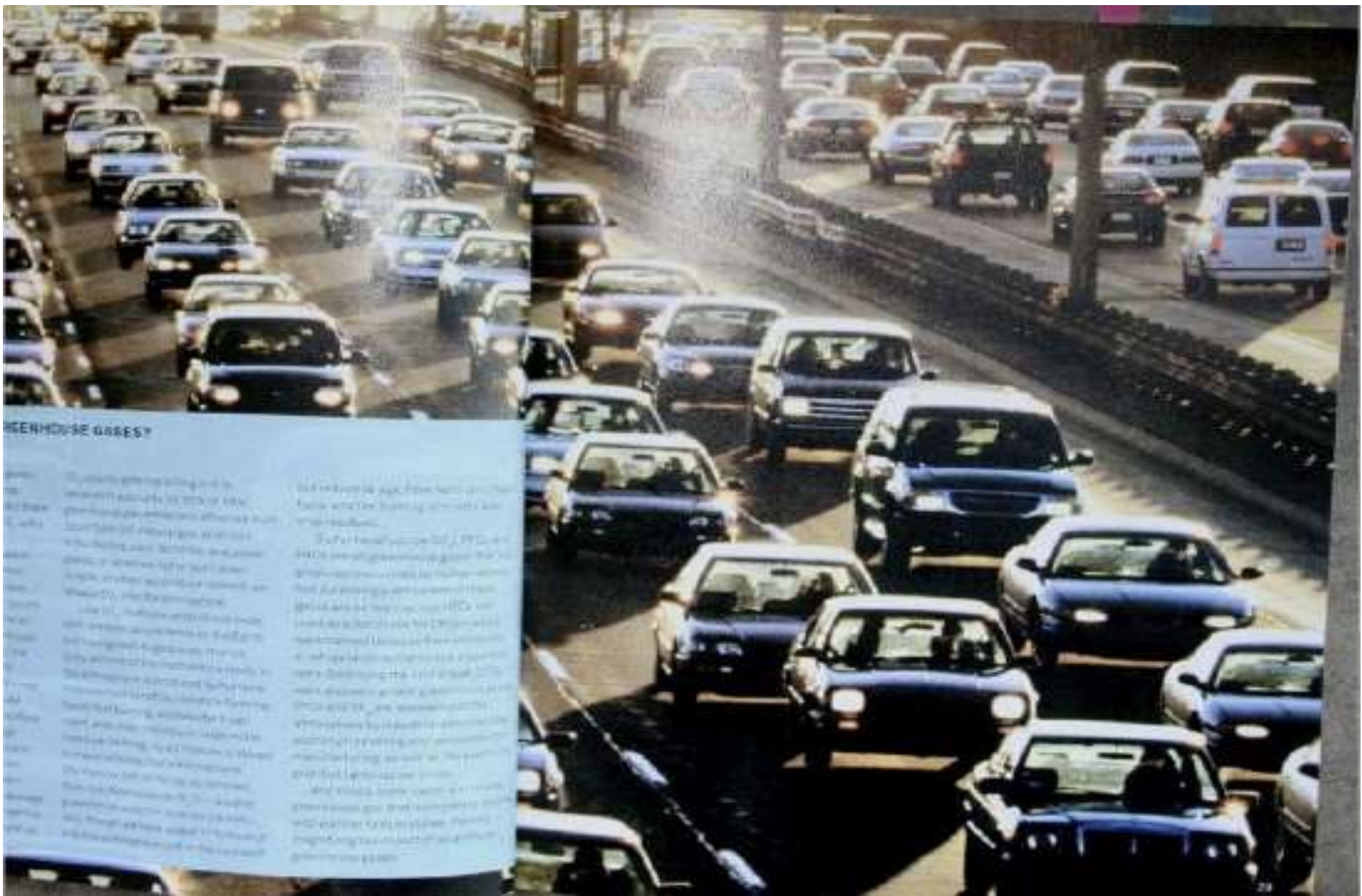


Solar energy road lamps



Power saving





GREENHOUSE GASES?

It is a common misconception that the greenhouse effect is a new phenomenon. In fact, it has been known since the 19th century. The greenhouse effect is a natural process that warms the Earth's surface. When the Sun's rays hit the Earth, they heat the land and water. The land and water then heat the air above them. The air then heats the ground and water, which in turn heat the air, creating a cycle. This cycle is what keeps the Earth warm enough to support life.

The greenhouse effect is a natural process that warms the Earth's surface. When the Sun's rays hit the Earth, they heat the land and water. The land and water then heat the air above them. The air then heats the ground and water, which in turn heat the air, creating a cycle. This cycle is what keeps the Earth warm enough to support life.

4. Transportation



4. Transportation (Stairs)



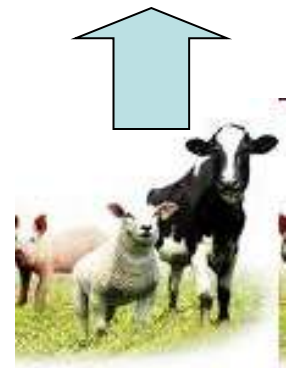
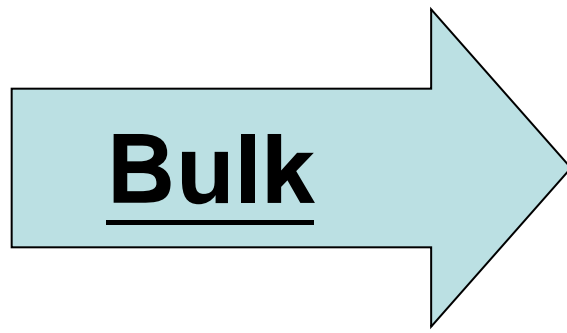
4. Transportation



大愛



5. Food



Consumption of Natural Resources

- Slaughtering
- Packaging
- Refrigeration
- Transportation



Vegetarian Diet

Omnivorous diet required 2.9 times more water, 2.5 times more primary energy, 13 times more fertilizer, and 1.4 times more pesticides.

Marlow HJ, Hayes WK, Soret S, Carter RL, Schwab ER, Sabate J. Diet and the environment: does what you eat matter? *Am J Clin Nutr.* May 2009;89(5):1699S-1703S.







A photograph of two black and white cows in a barn. The cow on the right is in the foreground, looking towards the camera. The cow on the left is slightly behind and to the side. Both cows are wearing metal chains around their necks. The barn has a metal structure with blue and red pipes. Two light blue speech bubbles are overlaid on the image. The first speech bubble, pointing to the cow on the left, contains the text "People love to eat me". The second speech bubble, pointing to the cow on the right, contains the text "I am innocent".

**People
love to eat
me**

**I am
innocent**



Livestock's Long Shadow

- FAO (2006):
- Livestock contributing to
- 18% GHG emission
- Land degradation
- Air pollution
- Water pollution
- Reduction in biodiversity



World Watch Institute

2009/Nov/Dec Issue



Uncounted, Overlooked, and Misallocated Livestock-related GHG Emissions

	Annual GHG emissions (CO ₂ e) million tons	Percentage of worldwide total
FAO estimate	7,516	11.8
Uncounted in current GHG inventories:		
1. Overlooked respiration by livestock	8,769	13.7
2. Overlooked land use	≥2,672	≥4.2
3. Undercounted methane	5,047	7.9
4. Other four categories (see text)	≥5,560	≥8.7
Subtotal	≥22,048	≥34.5
Misallocated in current GHG inventories:		
5. Three categories (see text)	≥3,000	≥4.7
Total GHGs attributable to livestock products	≥32,564	≥51.0



Soy bean curd with red and yellow pepper in tomato sauce

Stir-fry spinach

Tofu wrapped in veggie ham

Stir-fry bok choy and carrots



Rice with black sesame

Tofu and bean sprout soup

Fresh melon

Fresh fruits

Yogurt

Black wood ear
(fungus) with
sesame

Baked tomato
with cheese
and pesto

Sweet potato Rice

Broccoli



Stir fry egg plants

Asparagus with baby corn and sweet pepper

Broccoli and carrots with black mushrooms

Laver (seaweed) soup with gogi berries

Tofu wrapped in veggie ham

Noodles

Fresh fruit plate



Crispy tofu in plum sauce

Sweet potato leaves with gogi berries

Waterchestnuts with sweet peppers in soy sauce



Green beans and imitated crab meat

Mochi
(sweet rice dessert)

Veg Sushi



Soups and Snacks



大愛美食坊

大愛健康基金會，中心和大愛醫院
 攜手合作，共同推動社區
 健康發展，提升居民生活
 品質，共同營造健康、和諧、
 美好的生活環境。



 明德素食園	 怡生素食園	 自然素食坊	 天味素食	 淨慧素食坊	 國醫醫學	2F  1F 	<p>警衛了學</p> <ul style="list-style-type: none"> 1. 警衛了學 2. 警衛了學 3. 警衛了學 4. 警衛了學 5. 警衛了學
 伯朗咖啡	 怡生素食園	 一風堂	 京記素食	 春生素食坊	 環康素食坊	 全家 FamilyMart	

Vegan Buffet









Plant-based Diets

- **Healthy and nutritious**
- **We have been offering for many years at our hospitals**
- **The acceptance of patients, families and visitors have been very high**
- **Can be a very good educational experience**





Great Love Farm

**On empty land around the hospital,
we grow vegetable, rice.**

**As a rehabilitation program for our
patients**





09.03.2006











Food Mileage

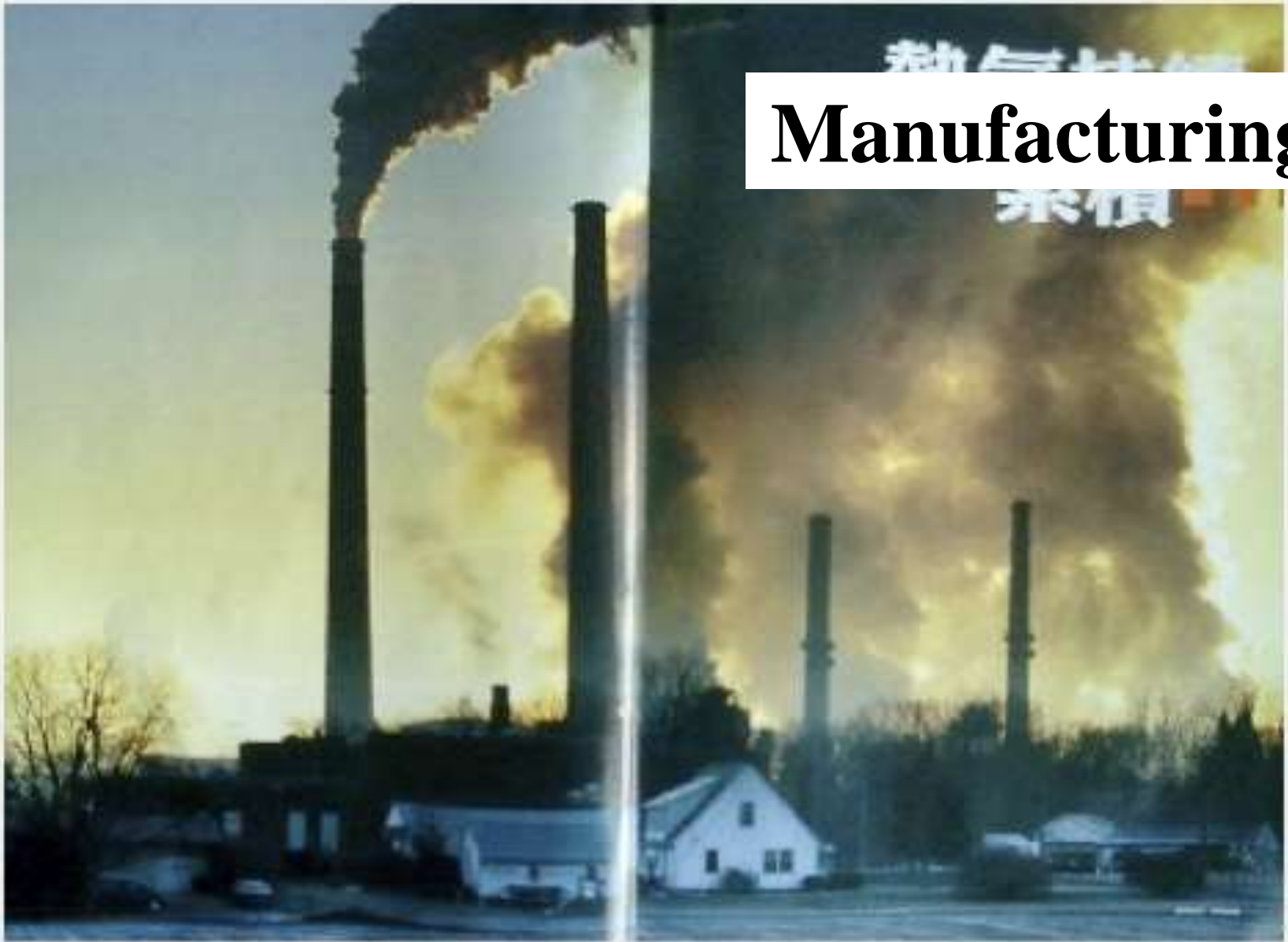
High

1. Processed
2. Imported
3. Animal Products

Low

1. Local
2. Fresh
3. Plant-based





Manufacturing



6. Waste Reduction

Strategy--Reduce, Reuse & Recycle

Refrain from using disposable items such as paper/ plastic plates, cups, bowls & chopsticks

Mandate the use of reusable items whenever feasible.

Classification of waste



Reduce

- Patients use reusable plates, bowls
- Reusable chopsticks, 3 million pairs in 7 years



Reduce



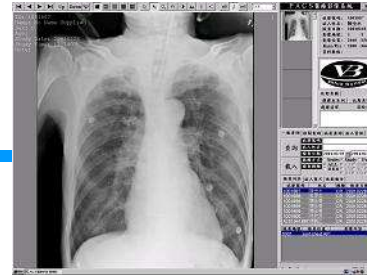
**We use reusable
utensils**



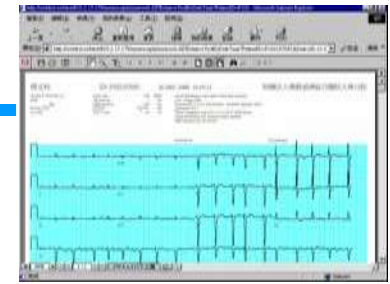
Waste Reduction

Filmless & Paperless

Integrated System



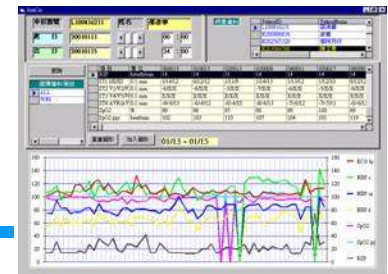
Images



ECG Waveform

Lab Data

Medical History, medication, orders



Patient Monitor

All data can be accessed through single line, single monitor

E-Hospital

整體醫療管理系統

簽到退網頁

Notes系統



E-Learning學習網站

建置「民眾衛教專區」



Waste Recycling



Recycled Material

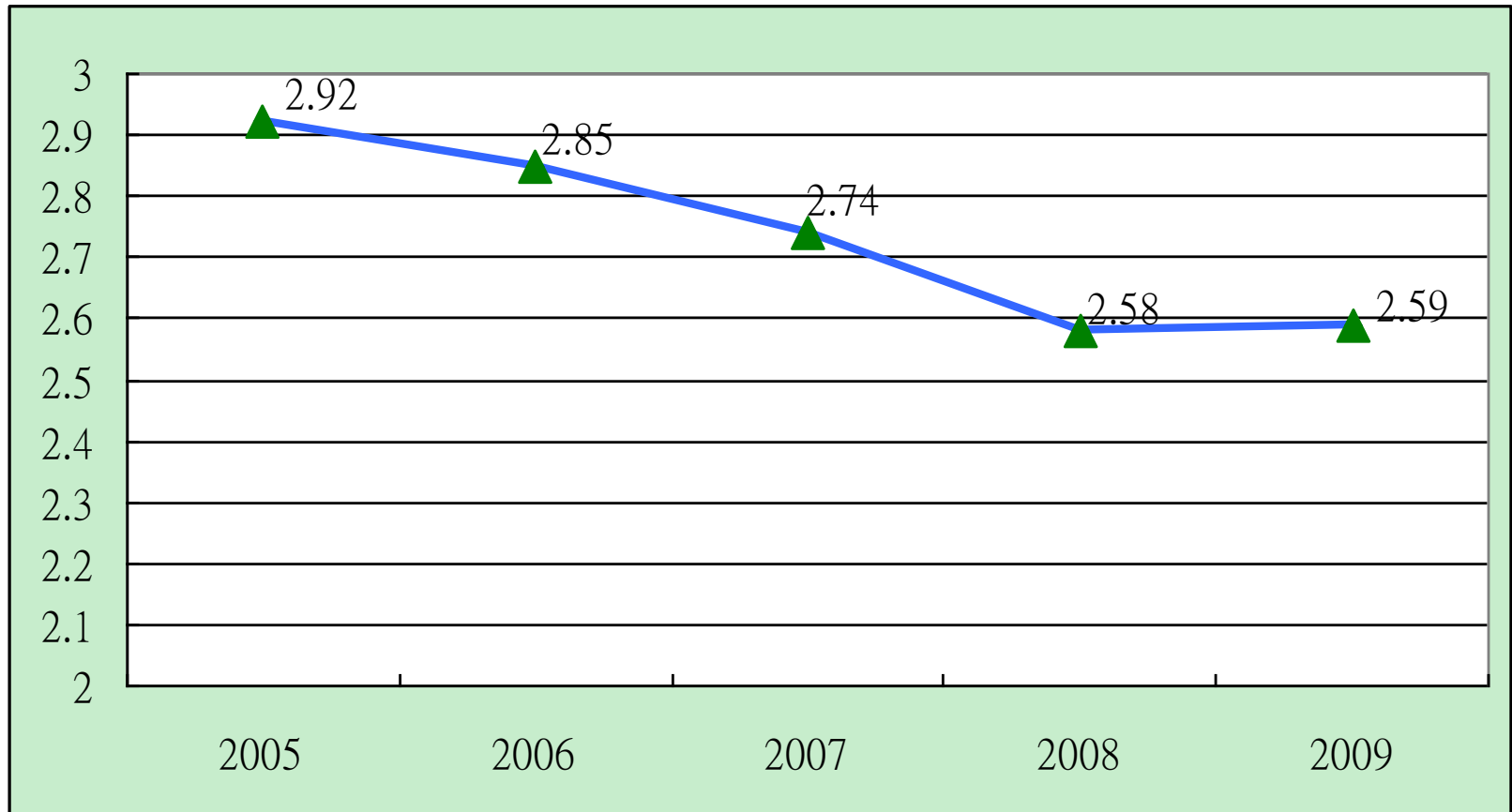
185,024 Kg.

•General : 1.59 Kg/bed/day

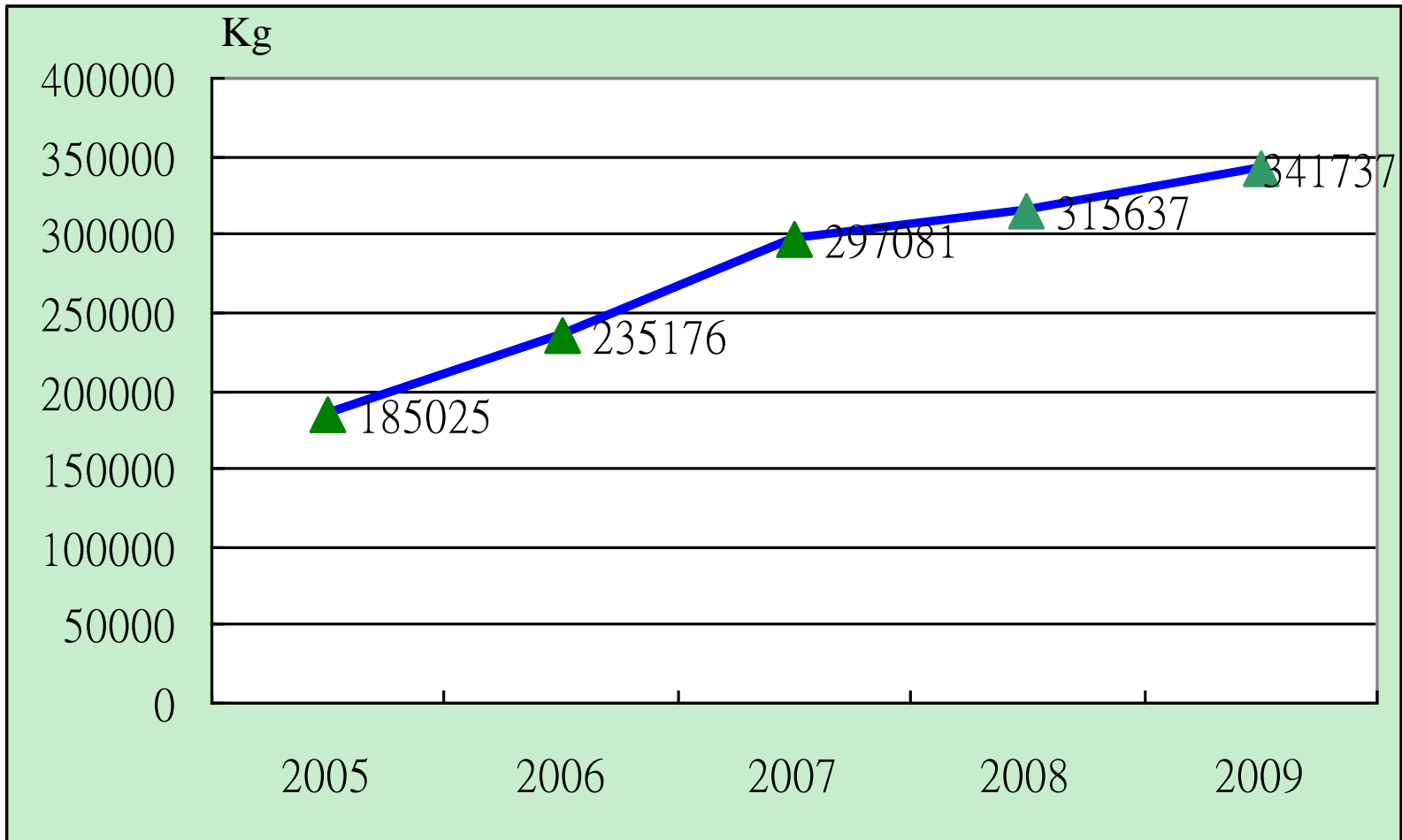
•Infective: 0.77 Kg/bed/day



Waste per hospital bed per day



The weight of Recycled Material





**PERFUMED
WASH LIQUID**
ED FORMULA
 5L
 5L e





Other Plastic Containers



coexist
with the earth







Transportation





White Flakes



Green Flakes





White Granules



Green Granules





Eco Blanket





Love

Education



Tzu Chi Today

Osmotic Brick around the hospital

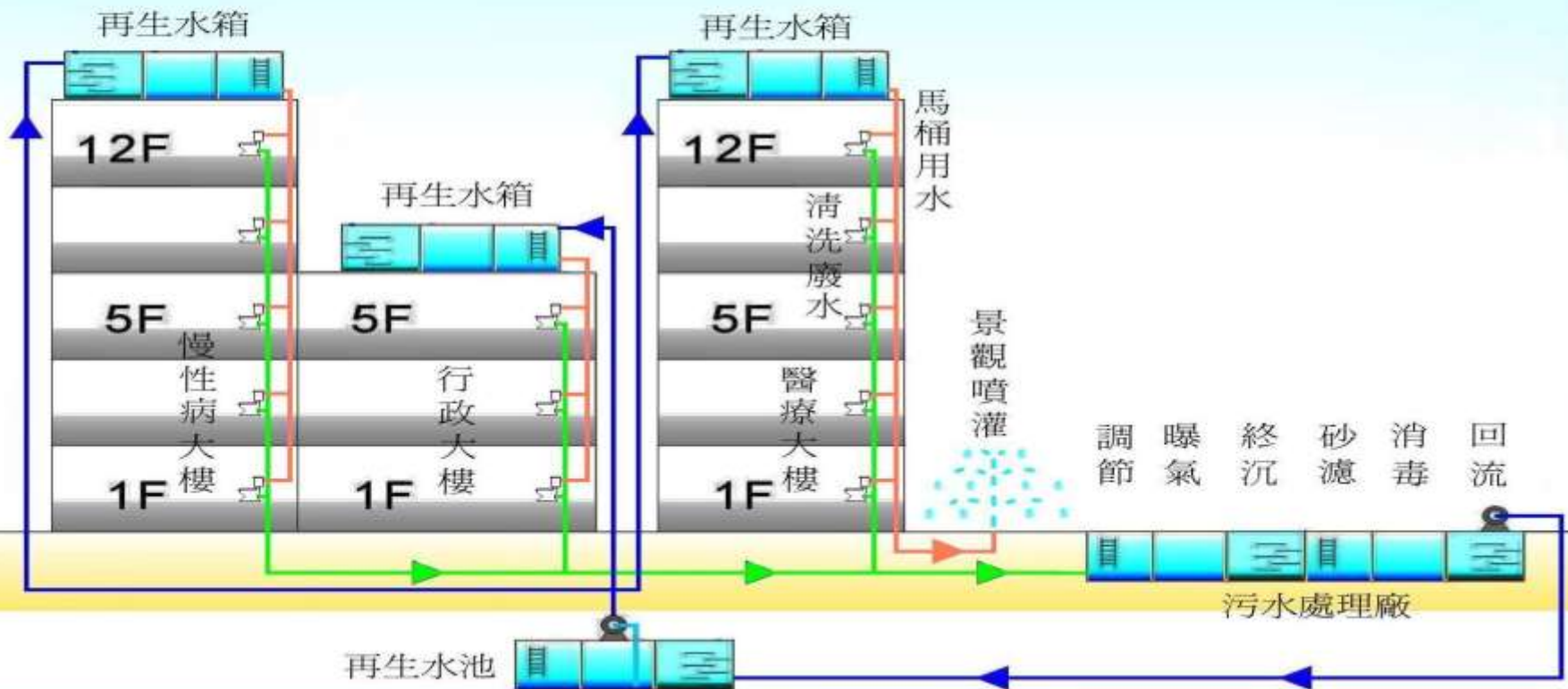


7. Water-----Water Conservation

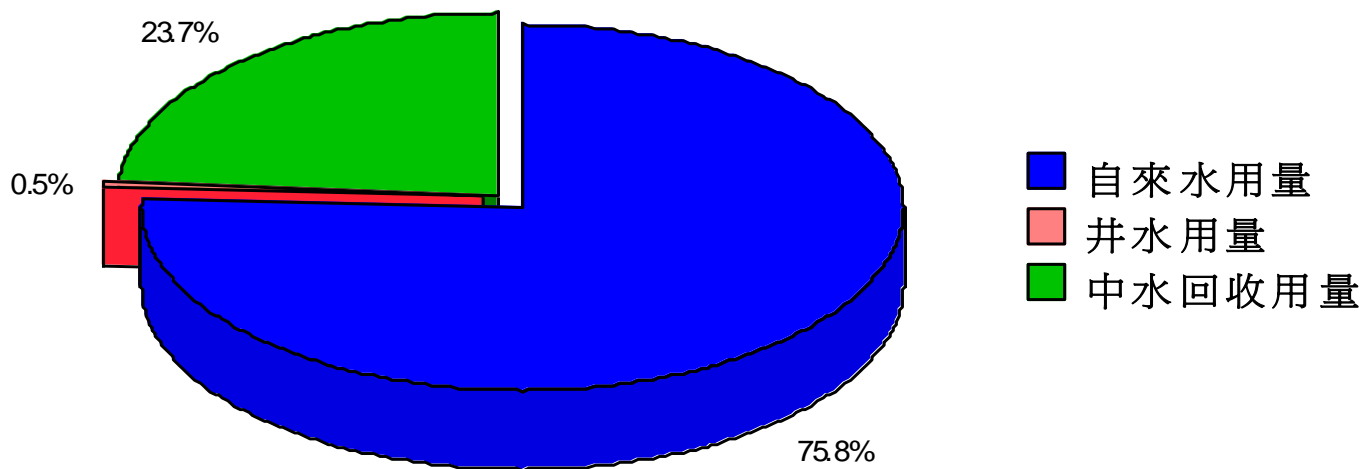


Wastewater recycling

Water recycling system



Percent of Recycles water, 23.7%



Strategy-Improvement environment



過去運動公園雜亂不堪，令民眾怯步

進行樹木植栽與環境綠美化

進行健康步道整建



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8. Education

- **All employees- Hospital-wide
In-service education**
- **Patients and families**
- **Community centers**
- **Recycling stations**



Education

Lecture

Poster

Workshop

Small group discussion

Demo



Education Exhibits



改用充電電池

原來如此

一粒鎳鎘電池可使
六百噸水無法飲用，
一粒鎳鎘電池埋
在泥土中，能破
一立方公尺的土壤
元素失去利用價值

病人每用一次自控式止痛機器，
就會消耗兩顆電池，那麼這
麼多廢電池.....



病人自控式止痛機器

賴裕榮 麻醉科主任



病人自控式止痛機器，麻醉科自93年起將非
充電式電池改為充電電池，每個月少了約
700顆廢電池，一年節省3600顆電池！小小
改變減少對環境可是大大的保護呢！

麻醉科的環保撇步

用行動愛地球

軟袋回收前減廢



相信一定會帶出自然的榮光
化作病人真心安頓的保障！



手術室廢棄物減量

大林慈院手術室總是看到醫師忙進忙出地，
但除了搶救病人的健康，
他們也正在默默守護大地的健康呢！
... 手術帽與鞋子，

Education

Field practice



Conclusion

- 1. Hospitals uses a lot of natural resources and produce a lot of waste, some dangerous, quite detrimental to the environment.**
- 2. Systemic implementation of HPH can do a lot**
- 3. Our efforts in waste reduction, power and water conservation can**
 - Save money**
 - Reduce GHG production and slow down the global warming**
 - Increases the staff's moral**
 - Educate the patient, family & set a model for the entire community**





慈濟醫療志業

Tzu Chi Medicine Mission



Healthy Hospital

Clean, Green and Lean



—— 尊重生命 人本醫療



Thank you

The End