

GREEN HOSPITAL



Dr.dr.Sutoto, MKes
Direktur Utama RS. Kanker “Dharmais”

- Misi utama pelayanan kesehatan adalah “first do no harm”
- RS sebagai sarana pelayanan kesehatan tempat berkumpulnya orang sakit maupun orang sehat dapat menjadi tempat penularan penyakit, pencemaran lingkungan, gangguan kesehatan lain
- Isu pemanasan global saat ini tidak terlepas dari kontribusi RS dalam hal penggunaan listrik, air, kertas, bahan bakar fosil, dan penghasil limbah



Latar Belakang

Hippocratic Oath



From the modern version:

“I will prevent disease whenever I can, for prevention is preferable to cure.”

Health care's foundation - a guiding principle of prevention should be reflected in all aspects of health care. Note importance of prevention & precaution to the implementation of the Hippocratic Oath

1998 American Hospital Association & U.S. EPA Memorandum of Understanding

1 Virtual elimination of mercury-containing waste from healthcare facilities waste streams by 2005;

2 Reduce total waste volume by 33% by 2005, and by 50% by 2010;

3 Identify hazardous substances for pollution prevention and waste reduction opportunities, including hazardous chemicals & persistent, bioaccumulative, and toxic pollutants.





Hospitals for a Healthy Environment (H2E)

(now forming part of Practice Greenhealth)

Founded in 1998, H2E is a voluntary program that educates health care professionals about pollution prevention opportunities in hospitals & healthcare systems, noting environmental & public health benefits in addition to reducing costs associated with waste disposal.

Successes to Date

97% of hospitals have implemented mercury reduction/elimination programs

72% of hospitals have inventoried and replaced mercury-containing devices

80% of hospitals have implemented a waste reduction policy for all waste types

source: 2005 AHA/H2E Survey

(Note: percentages refer to survey respondents)

Sumber : Green Guide for Health Care (GGHC) 2008



Penerapan Green Hospital di Negara Maju

- 2006 : 45 hospital
- 2008 : 148 hospital
- Top ten countries



- | | |
|-------------------|-----------------|
| 1. Canada | 6. Malaysia |
| 2. Australia | 7. Argentina |
| 3. United Kingdom | 8. Brazil |
| 4. India | 9. South Africa |
| 5. France | 10. Portugal |

Sumber : Green Guide for
Health Care (GGHC) 2008

10 Green Hospital in the U.S.2006

1. **Boulder Community Hospital Foothills Campus** (Boulder, CO)
2. **Bronson Methodist Hospital** (Kalamazoo, MI)
3. **Kaiser Permanente** (headquarters in Oakland, CA)
4. **Laguna Honda Replacement Hospital and Rehabilitation Center** (San Francisco, CA)
5. **Legacy Health System Salmon Creek Hospital** (Vancouver, WA)
6. **Mount Sinai Medical Center's Lauder Center for Maternity Care** (New York, NY)
7. **Patrick H. Dollard Discovery Health Center** (Harris, NY)
8. **Providence Newberg Hospital** (Newberg, OR)
9. **Sarkis Gabrellian Women's and Children's Pavilion at Hackensack University Medical Center** (Hackensack, NJ)
10. **Emory University's Winship Cancer Institute** (Atlanta, GA)

Runners up

For waste reduction, recycling and re-use:

- **Dartmouth-Hitchcock Medical Center** (Lebanon, NH)
- **Sparrow Health System** (Lansing, MI)
- **University of Michigan Hospital and Health Centers** (Ann Arbor, MI)

For green building:

- **Children's Hospital of Pittsburgh** (Pittsburgh, PA)
- **Concord Hospital** (Concord, NH)
- **Mercy Suburban Hospital** (Norristown, PA)

For fresh, local and organic hospital food:

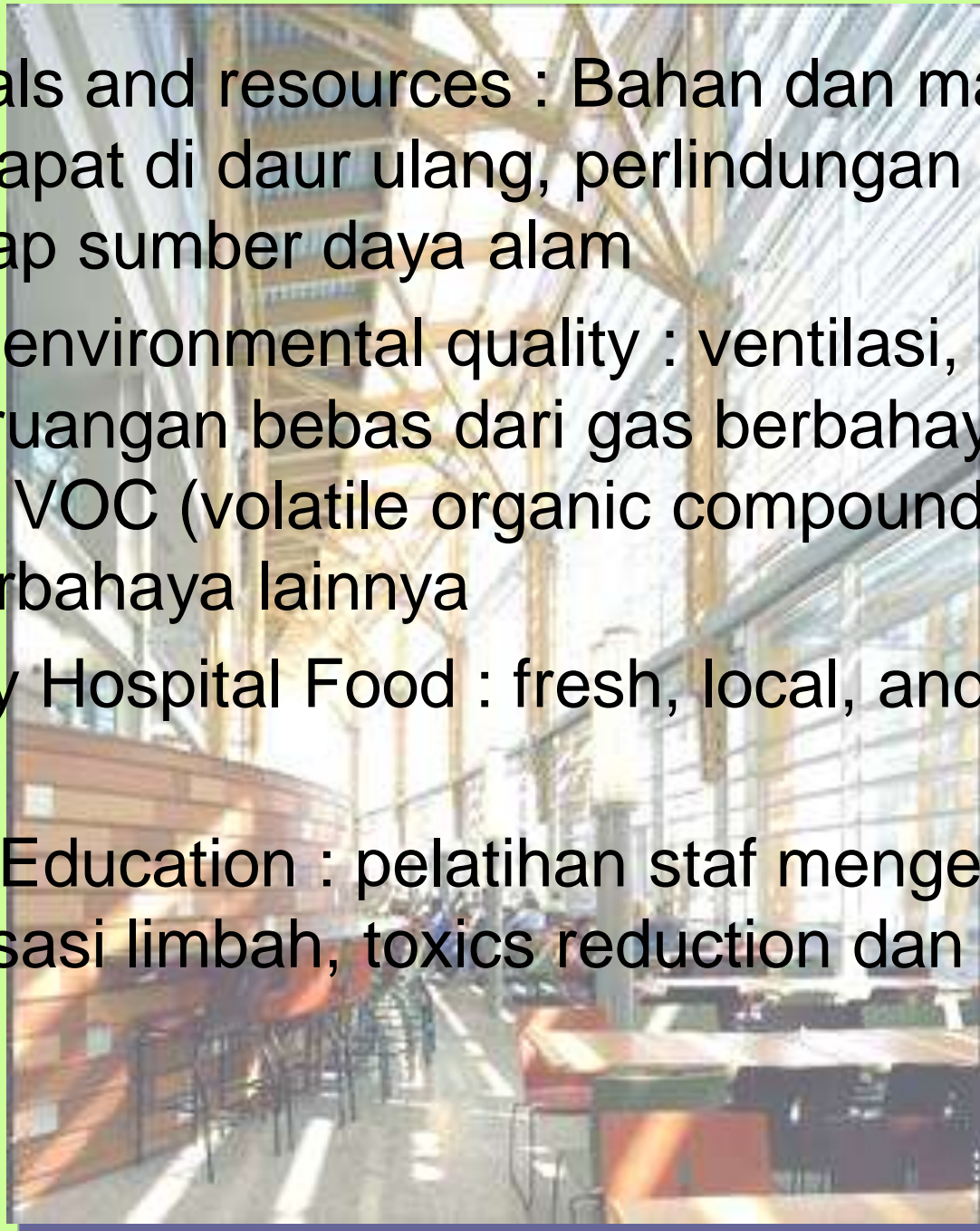
- **St. Luke's Hospital** (Duluth, MN)
- **Good Shepherd Health Care System** (Hermiston, OR)
- **Allen Memorial Hospital** (Waterloo, IA)
- **Duke University Medical Center** (Durham, NC)
- **Fletcher Allen Medical Center** (Burlington, VT)

12 criteria that *The Green Guide* used to assess 10 top green hospital candidates

1. Lokasi rumah sakit : dapat dijangkau menggunakan alat transportasi alternatif
2. Efisiensi penggunaan air : mengurangi penggunaan air, pemanfaatan air olahan dari IPAL, penyediaan lahan terbuka hijau untuk menyerap air hujan
3. Energi dan polusi udara : menurunkan konsumsi energi, mengurangi polusi udara, mengurangi penggunaan CFC, menggunakan energi terbarukan



4. Materials and resources : Bahan dan material yang dapat di daur ulang, perlindungan terhadap sumber daya alam
5. Indoor environmental quality : ventilasi, kualitas udara ruangan bebas dari gas berbahaya seperti VOC (volatile organic compound), dan gas berbahaya lainnya
6. Healthy Hospital Food : fresh, local, and organic food
7. Green Education : pelatihan staf mengenai minimisasi limbah, toxics reduction dan daur ulang

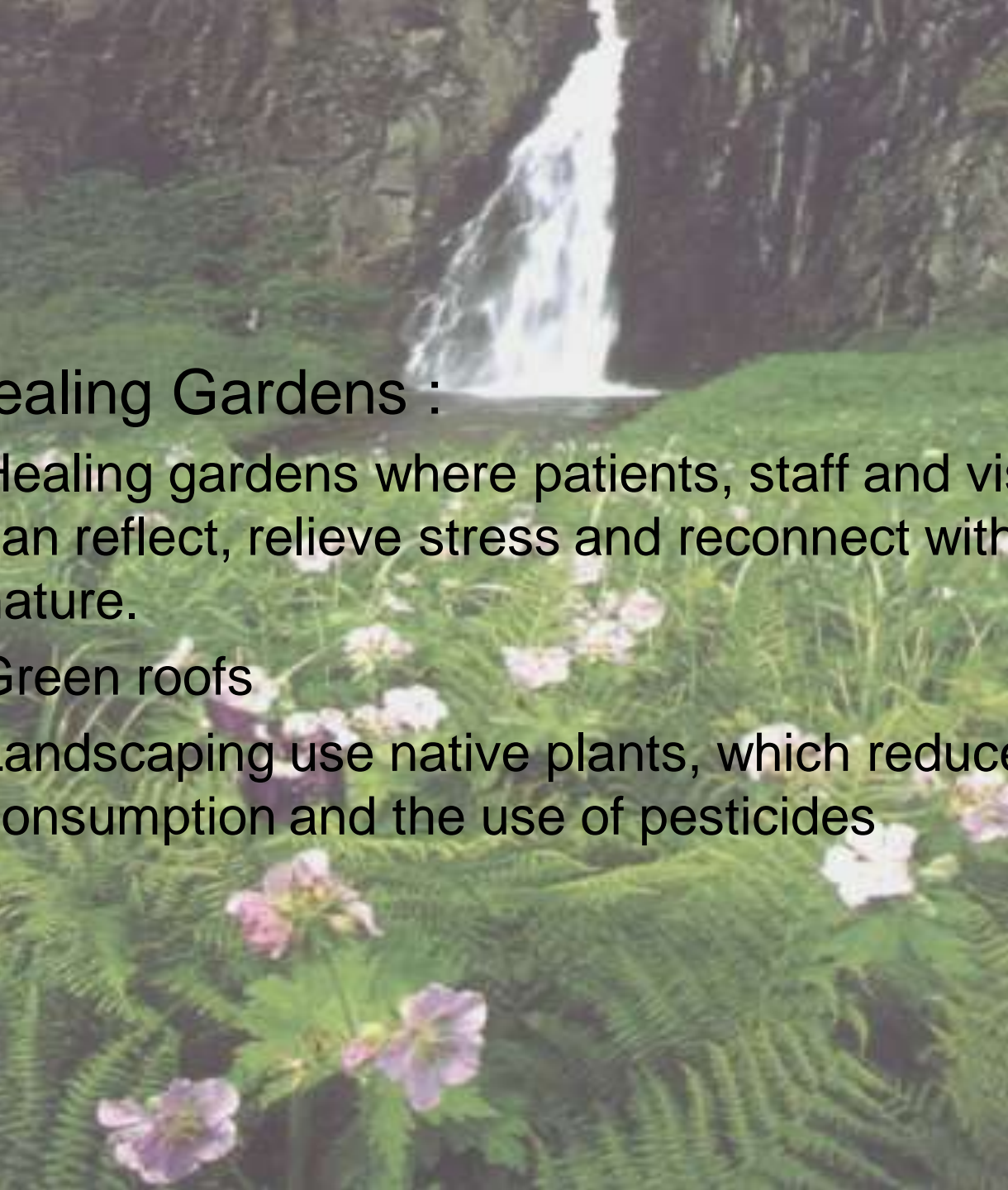


8. Pengadaan : energy-efficient equipment, green products
9. Contaminants : reduction of toxics such as mercury and PVC (which can leach toxic plasticizers into fluids in IV drip bags and tubing)
10. Green Cleaning : penggunaan bahan pembersih yang aman dan pelatihan operator cleaning service mengenai penggunaan bahan pembersih



11. Waste reduction : pengelolaan limbah dengan prinsip 3 R (Reuse, Reduce, Recycle)





12. Healing Gardens :

- Healing gardens where patients, staff and visitors can reflect, relieve stress and reconnect with nature.
- Green roofs
- Landscaping use native plants, which reduce water consumption and the use of pesticides

Penerapan di Australia

GREEN HOSPITAL



These energy efficient measures will result in an overall 45% reduction in greenhouse gas emissions (compared with a conventional hospital).

Water saving measures will result in a minimum 20% reduction in water demand



Orientated towards the north, making good use of the sun and lots of natural light throughout the building.



Rainwater collected from at least 75% of all new roof areas and reused for toilet flushing and watering gardens.



Energy from solar panels on the roof will generate around 40% of domestic hot water in ward areas.



Paints, carpets and joinery free of Volatile Organic Compounds and formaldehyde to improve indoor air quality.



A gas-fired cogeneration power plant, which simultaneously produces electricity and heat.

The heat, which is usually wasted in the generation of electricity, will be captured and used for space heating, domestic hot water and cooling.

Generating electricity with gas produces far less Co2 than coal generation.



Use of materials with a high recycled content and sustainable flooring, joinery and furniture.



Water efficient fittings throughout.



Water efficient landscape watering system.



Energy efficient lighting, heating and cooling.



A black water treatment plant will treat water for reuse in toilet flushing and watering the gardens and Royal Park



Drought tolerant and hardy plants.



More than 500 bike parking spots.



Aiming to achieve 5 Star Green Star Status under Green Building Council of Australia's Healthcare pilot.



Biomass fuel boiler that uses alternative fuel sources to produce hot water.



Kampanye perubahan perilaku dan kebiasaan dalam aktivitas sehari-hari untuk melakukan penghematan mulai dari aktivitas sederhana, mulai dari diri sendiri, mulai dari kantor sendiri dan berupaya mengajak rekan-rekan sekantor.

GREEN HOSPITAL DI RS. KANKER “DHARMAIS”



TUJUAN PENERAPAN GREEN HOSPITAL

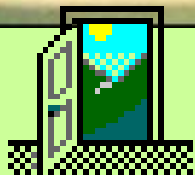


TUJUAN UMUM

Efisiensi SDA ⇒ *Green Hospital 2010*

TUJUAN KHUSUS

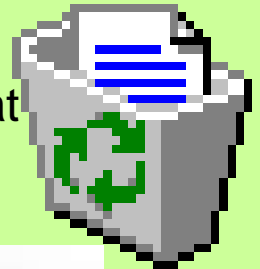
- ↑ komitmen karyawan
- Efisiensi kertas
- Efisiensi energi listrik
- ↓ dampak penggunaan alat transportasi
- Efisiensi air bersih
- Minimisasi sampah 3R (*Reduce, Reuse, Recycle*)
- Efisiensi penggunaan solar dan oli
- Penggunaan bahan kimia ramah lingkungan



Upaya yang dilakukan

- **Efisiensi Penggunaan Kertas**

Hasil selama 3 bulan pelaksanaan program : 5 satuan kerja dapat menghemat 12 rim kertas

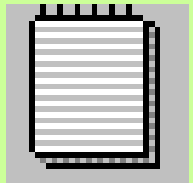
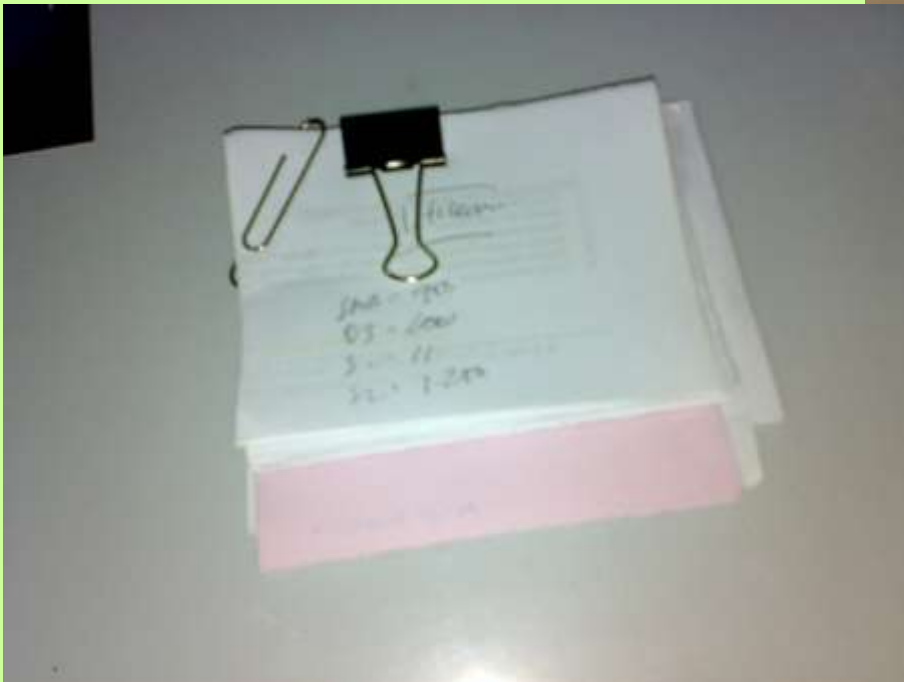
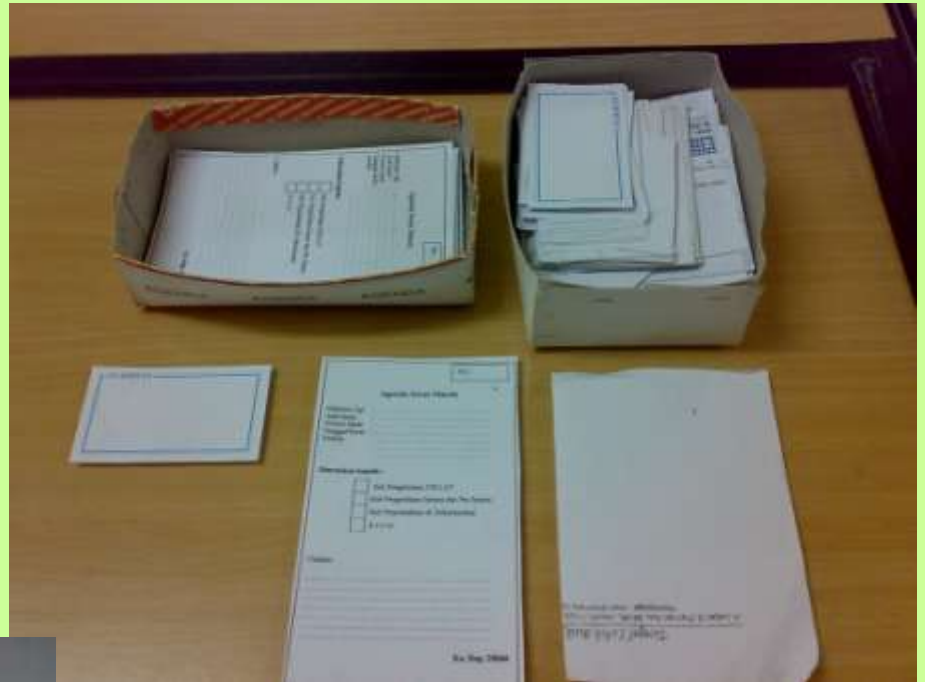


Penggunaan kertas bekas



Tempat sampah khusus kertas

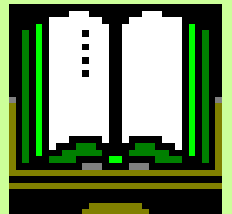
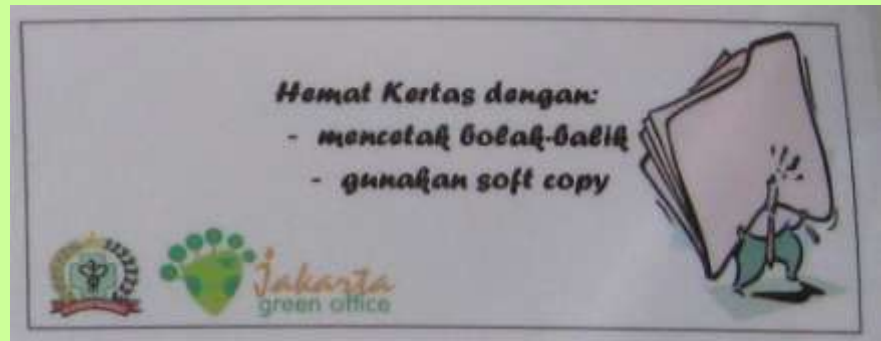
Penggunaan kertas bekas
untuk agenda surat/ disposisi



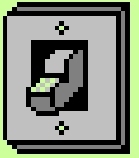
Stiker sosialisasi yang ditempel
pada printer



MAU PRINT ???
CEK DULU PEKERJAAN ANDA...!!!
(Print KONSEP Gunakan kertas bekas)

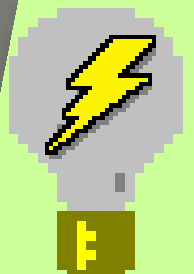
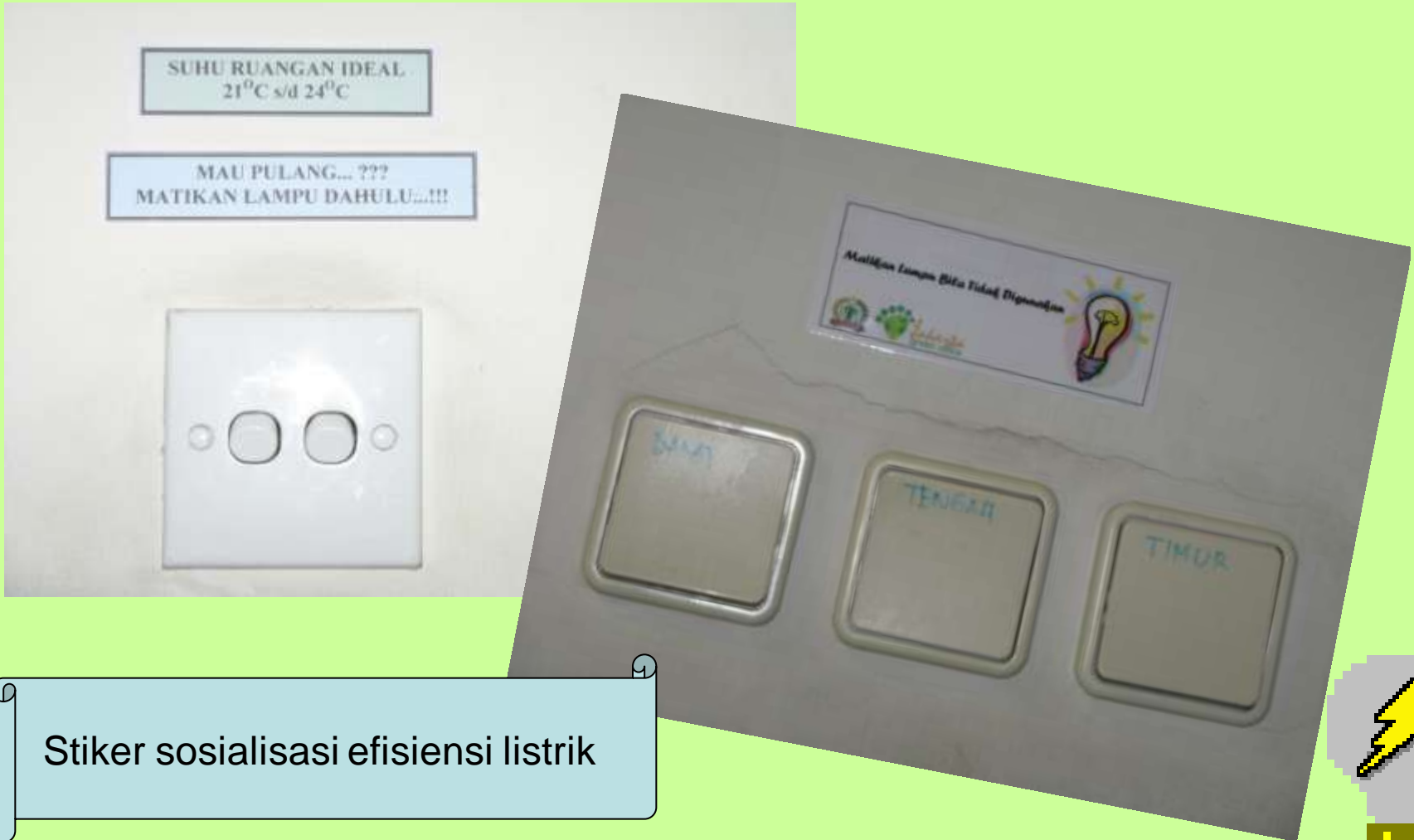


Upaya yang dilakukan



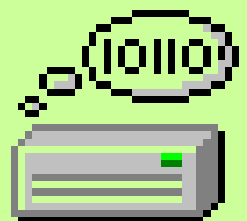
- **Efisiensi Penggunaan Energi Listrik**

Hasil selama 3 bulan pelaksanaan program : rata-rata efisiensi = 30 juta/ bulan





Stiker sosialisasi efisiensi listrik

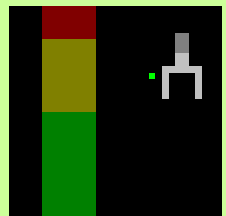




Pemanfaatan
penerangan alami



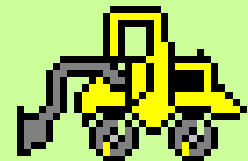
Capasitor Bank

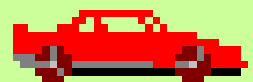


Upaya yang dilakukan

- **Mengurangi Dampak Lingkungan Akibat Penggunaan Alat Transportasi**
 - Pemanfaatan secara maksimal bis jemputan yang disediakan untuk karyawan
 - Pemeliharaan kendaraan operasional secara rutin

Hasil yang dicapai selama 3 bulan pelaksanaan program :
terjadi penambahan jumlah anggota jemputan sebanyak 25 orang





Upaya yang dilakukan

- **Efisiensi Penggunaan Air Bersih**

- Pemanfaatan Air Hasil Olahan Limbah Cair

- Penghematan biaya dari pendingin linac :

- Rp 21.615.300,- / tahun

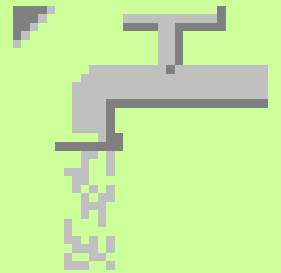
- Penyiraman taman

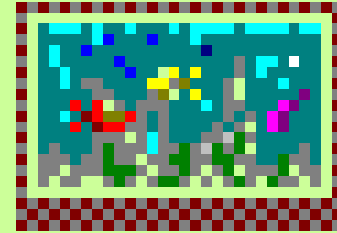
- Pembuatan Sumur Resapan (biopori)

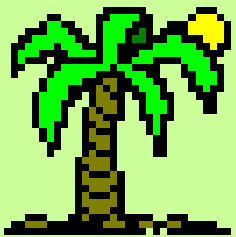
Dalam 3 bulan pelaksanaan program sudah membuat 197 buah lubang biopori

- Memasang tanda hemat air

- Survey sebagai upaya pemeliharaan sarana perpipaan air bersih







Upaya yang dilakukan

- **Penanganan Sampah Melalui 3R (*Reduce, Reuse, Recycle*)**
 - *Reduce* (upaya mengurangi terbentuknya sampah)
 - *Reuse* (penggunaan kembali)
 - *Recycle* (daur ulang)

Sampah organik : 1387 kg/ bulan

Sampah an-organik : 1511 kg/ bulan



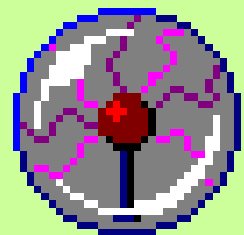
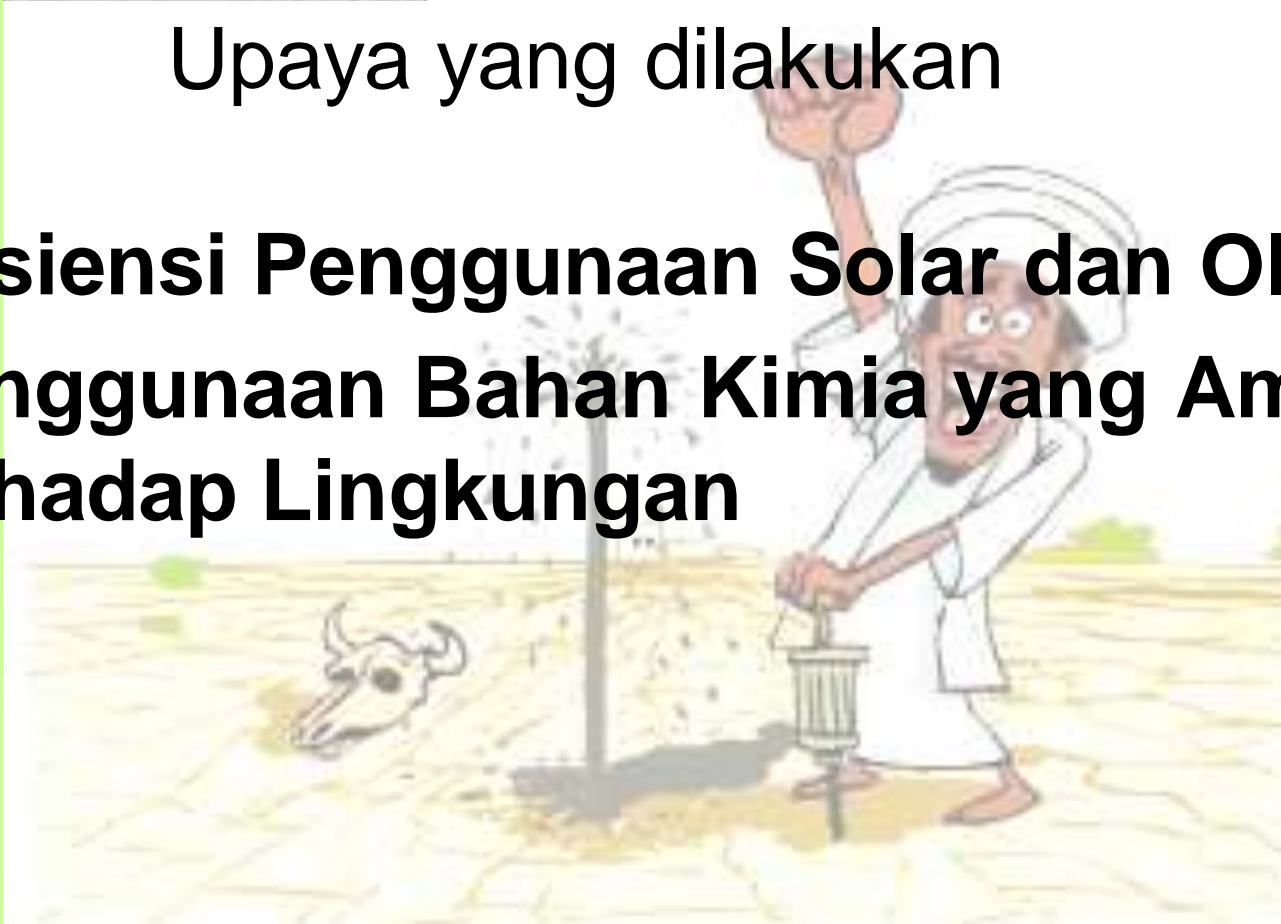






Upaya yang dilakukan

- **Efisiensi Penggunaan Solar dan Oli**
- **Penggunaan Bahan Kimia yang Aman terhadap Lingkungan**



[Koran](#) » [Berita Utama](#)

2008-11-01 07:50:00

Tiga Kantor Terpilih Paling Ramah Lingkungan

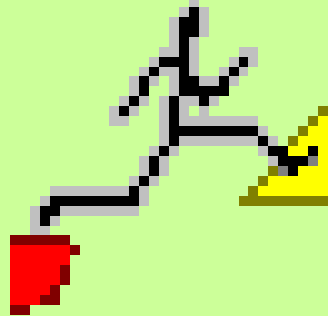
JAKARTA -- Lomba lingkungan antarkomunitas perkantoran di Jakarta, Jakarta Green Office (JGO), menetapkan tiga pemenang terbaik dan satu pemenang favorit. Pengumuman tersebut dilakukan pada malam *grand final*, Jumat (31/10).

Ketiga pemenang terbaik tersebut adalah **Keslink Team (RS Kanker Dharmais) sebagai juara pertama**, juara kedua Green Ville (PT Asdi Swastya), dan juara ketiga adalah TMMIN JGO (Toyota Manufacturing). Sedangkan yang menjadi pemenang favorit adalah Jagadu (KPP Pratama Gambir Dua).

JGO merupakan ajang kompetisi kelompok karyawan perusahaan di Jakarta tentang kepedulian terhadap lingkungan kerja dalam gerakan penghematan listrik, air, kertas, serta pengolahan sampah. Program ini dimulai sejak Juli hingga Oktober 2008 dan diselenggarakan oleh PT Unilever Indonesia, Harian *Republika*, Radio Delta, Aksi Cepat Tanggap (ACT), Badan Pengelolaan Lingkungan Hidup Daerah (BPLHD) Jakarta, dan WWF Indonesia.

Read more.....





PIAGAM PENGHARGAAN
"INDONESIAN HOSPITAL MANAGEMENT AWARD"
PERSI AWARD - IHMA 2008

Diberikan Kepada :

RS Kanker Dharmais - Jakarta

Sebagai

Terbaik

PERSI AWARD - IHMA 2008

Kategori :

INTERNAL SERVICE PROJECT

Judul :

*Efisiensi Penggunaan Sumber Daya Alam RS Kanker Dharmais
Menuju "Green Hospital 2010"*



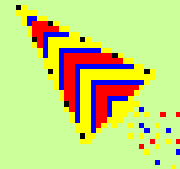
KETUA UMUM PERSI

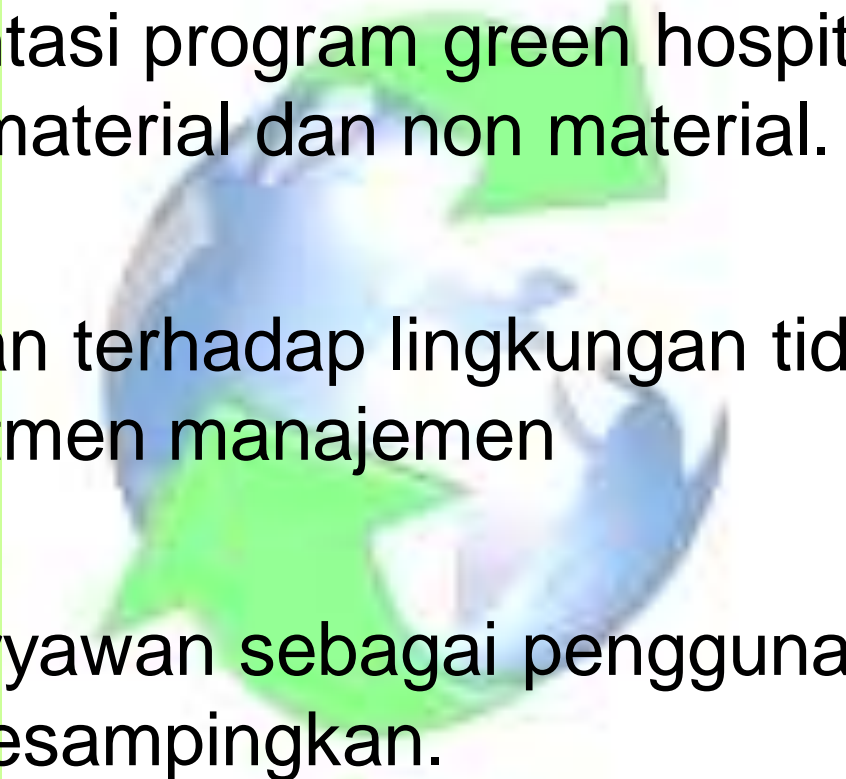
dr. Adib Abdullah Yahya, MARS



KETUA PANITIA
PERSI AWARD - IHMA 2008

dr. Supriyantoro, SpP, MARS



- 
- A. Implementasi program green hospital memberi manfaat material dan non material.
 - B. Kepedulian terhadap lingkungan tidak terlepas dari komitmen manajemen
 - C. Peran karyawan sebagai pengguna SDA tidak dapat dikesampingkan.





Go to Indonesia Sehat 2010



"Dharmais" Green Hospital 2010



Terima Kasih