



Japan

Japanese Red Cross Ashikaga Hospital

Achievement of Green Hospital for Patient, Staff and Nature

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Making a Booklet of 10Years History of "Next-generation Green Hospital" 2009~2018

Award History

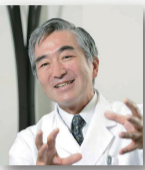


Ashikaga Red Cross Hospital has been working in terms of both construction and operation with the aim of realizing a "Green Hospital" that is friendly to Patients, Staff, and Nature.

Our "Next Generation Green Hospital" initiatives have been highly acclaimed both in Japan and overseas, and have won many awards, including being awarded the 1st Prize in the IFHE Building Award.

This time, we have compiled our 10-year efforts in a booklet.

I hope that green hospitals will spread all over the world, and that many medical personnel will be conscious of the environment and will be close to patients.



Satoru Komatsumoto



Overview

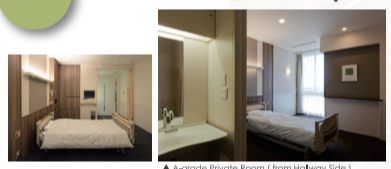
Name : Japanese Red Cross Ashikaga Hospital
Address : Yobe-cho 284-1, Ashikaga, Tochigi, Japan
Structure : Reinforced concrete with complete seismic damping
Floors : 9 above ground, 1 below
Parking : 1019 cars
Bed : 555 Beds
Total floor area : 52,282.67m²

- 2016 IFHE Building Award**
1st Prize (the Congress of the International Federation of Hospital Engineering, Netherlands)
- 2015 Energy Conservation Award**
Grand Prize (Japanese Ministry of Economy, Trade and Industry)
- 2013 Health Architecture Award**
(Japan Institute of Healthcare Architecture)
- 2013 Carbon Neutral Award**
(Japanese Association of Building Mechanical and Electrical Engineers)

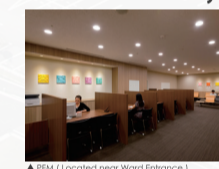


Action of the construction stage 2009 ~ 2011

Smart All Patient Rooms are Comfortable, Private Spaces



Support Service for Patients and Family



Solar Generator

The Solar power panels installed on the ground in front of the entrance are an eco-friendly symbol and catches visitors' eye and brings an awareness of the eco-friendly consciousness of the hospital. The solar generator generates 20kW, which corresponds to the power consumption of light on the Hospital mall and the outpatient clinics.



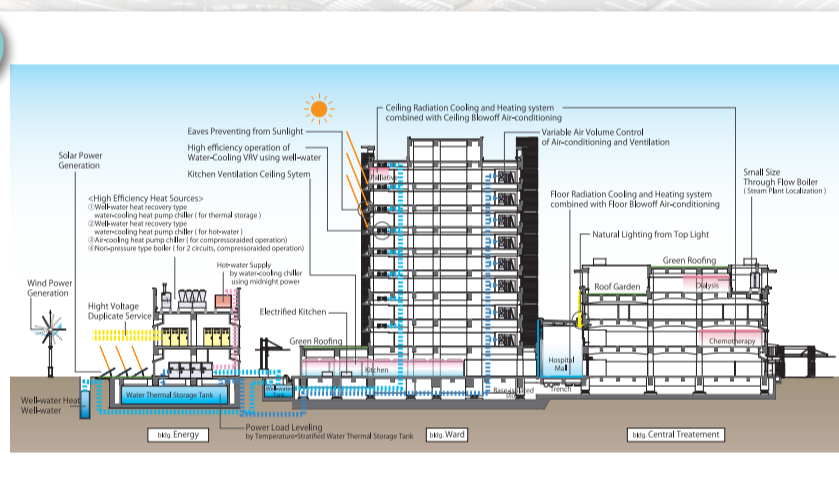
Wind Generator

Although the wind generator doesn't produce much energy, they are comforting to patients, marks the parking lot and marks the point of triage in the event of a disaster by they are divided into 4 colors. The wind generator generates 40kW, which corresponds to the power consumption of light on the Emergency Area.



Well Water

The abundant warm underground water is pumped up and stored in a tank of 2,000m³, which is used for heating and cooling as well as the hot water supply in the hospital.



The Integrated Interior, Art and Signs Draw Attention



Magnet Hospital for Staff Members

A pleasant working environment was created for the staff members so that they can feel outside air and see the scenery as much as possible.



Operating Room Window

In order to reduce stress of the medical staff caused from long operations, a window to the outside is placed in the operating room. The sizes and specifications of operating rooms are standardized for efficiency and flexibility and they include a changeable layout wall panel system.



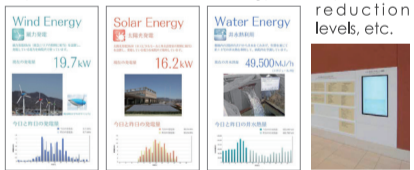
Easy to Understand Entrance of Wheelchair Restroom

At the entrance of the wheelchair restrooms, it is displayed as "for a person who uses the right / left side". Instead of using the negative expression "for right paralysis", we use the positive expression.



Eco-Information

A monitor in the entrance displays eco-friendly concepts and information about energy consumption, CO₂ reduction levels, etc.



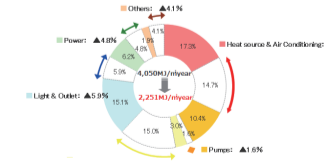
Disaster Type	Countermeasure
Earthquake	Base Isolated Structure
Fire	Wet-type pre-action vacuum sprinkler installed in whole bldg.
Flood	Increase ground level by 1 m
Infrastructure Disruption	Power: Full backup by the emergency generators Fuel stock for 3 days (energy-saving-mode operation)
	Water Supply: Water supply backup by the portable filter equipment for well-water Non-portable-water stock for 3 days in the well-water tank
	Drainage: Storage in pump-up drainage tanks every drainage
	Hot-water Supply: Hot-water stock for a day by using midnight power service
	HVAC: Water Thermal Storage : 2,000m ³ + Heat pump chiller using well-water
Meal	Serving hot meals in case of disaster by electrified kitchen
Stock	Emergency supplies store in bldg. Energy : 80t
Pandemic	Auditorium available as Triage and isolated space (All-fresh operation) Outdoor Triage Space marked with wind generators
Bioterrorism	Water spray system that can decontaminate the emergency entrance including an ambulance Glazed Treatment room exhausting from the bottom of the room



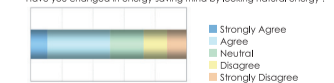
Action of the operative stage 2011 ~ 2018

Evidence Data

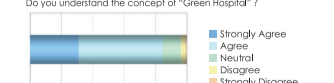
1) Energy reduction rate by application



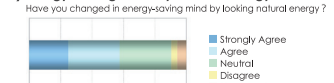
2) Understanding the Concept



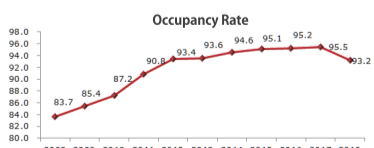
3) Energy-saving Mind



4) Energy-saving Mind by Natural Energy

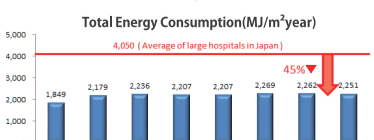


Increased occupancy rate
83.7% (2008) ⇒ 93.2% (2018)
Bed control by PFM (Patient Flow Management Center) improved the occupancy rate.



Energy consumption reduced by 45%
4,050 (MJ/m²·year) (average for hospitals in Japan)
⇒ 2,251 (MJ/m²·year) (2018)

As a top runner in Japan's eco-friendly hospitals, we have achieved a 45% reduction in energy compared to the average energy consumption of other large hospitals since the opening of the hospital.



Internationalization

Improvement of medical quality by JCI certification

A total of 14 categories and 1,146 items were reviewed by five assessors in 14 categories, with "patient safety, infection control and medical quality" at the core, and a very strict review. We achieved 94% of the achievement rate and received JCI certification wonderfully.



Japan Medical Service Accreditation for International Patients (JMIP)

Acceptance of International patients by JMIP certification



The Spread of Green Hospital

So far more than 3,000 visitors have visited. Eco friendly "Green Hospital" are spreading not only in Japan but around the world.

