Study results (example)

The economic viability of various measures to improve e.g. energy efficiency is most often subject to a number of complex parameters.

Measurement	Energy Saving kWh/a	Energy Cost Savings Elec. kWh = 0,88 CNY Gas kWh = 0,385 CNY	Investment Cost CNY	Payback Years
Heat recovery	1.081.937 kWh/a	496.113 CNY/a	2.400.000 CNY	6
Insulation of walls and roofs	537.877 kWh/a	207.082 CNY/a	2.346.600 CNY	20
Sensitizing staff and patients in terms of natural ventilation	760.447 kWh/a	669.2193 CNY/a	---------- CNY	immediately
Night ventilation	1.051.025 KWh/a	956.432 CNY/a	---------- CNY	immediately
Airtightness with new window seals	630.615 KWh/a	163.218 CNY/a	420.000 CNY	3
Window shading film (on existing windows)	278.213 KWh/a	394.784 CNY/a	562.950 CNY	2
Window glazing using existing frame, using new window seals	1.119.032 KWh/a	605.265 CNY/a	5.111.250 CNY	12

CNY: Renminbi Yuan (Chinese currency), 1 CNY = 0,16 US Dollar (May 2015)

The Green Hospital Study is available here:
www.germanhealthcarepartnership.de/studies

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GREEN HOSPITAL

Development of sustainable and energy-efficient hospitals

GHP is an initiative of

GHP is supported by

Background

What is a Green Hospital?

The design, construction and operation of a Green Hospital aims to:

- preserve the environment and natural resources
- achieve the highest level on environmental compatibility
- enhance social compatibility
- secure healthy environmental and working conditions
- apply low-emission and environmentally friendly materials
- recover renewable energy sources
- apply energy-saving process-, medical-, and system-engineering

Furthermore, Green Hospital qualitative and quantitative optimization measures have the purpose to:

- minimise all further life-cycle costs of the building
- guarantee a return on investment

Action

Measures to take

A wide range of measures can be identified to transform a „normal" hospital into a „green" one, starting from the choice of the construction site up to the smallest detail of the window frame.

Example:

Upgrading the existing mechanical ventilation system with heat recovery can lead to 11 % of energy savings; an investment that will be amortized in only 6 years.

In fact, the recently elaborated GHP – "Green Hospital Study" made clear, that energy efficiency and sustainability aspects can be achieved *beyond* costly high-tech solutions.

Even very simple design decisions, such as the carefully planning of building proportions and use of daylight can lead to considerable energy savings and a sustainable environment for staff and patients.

Transfer

Green Hospital – a chance for developing and emerging countries!

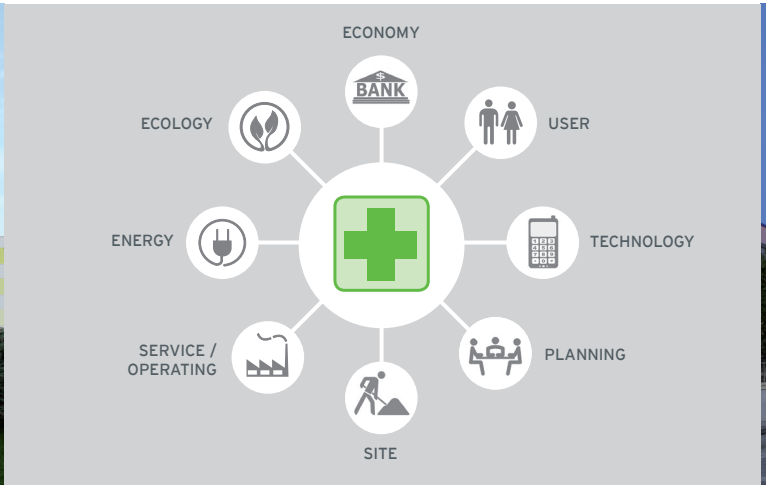
Energy-efficiency and sustainability of new constructions and reorganisations of hospitals are depending on geographic and climatic conditions.

- Green Hospital optimization measures should follow recommendations of applicability in developing and emerging countries.

- The economic viability of various measures to improve energy-efficiency is most often subject to a number of complex parameters. They must be known in detail before ascertaining any precise economic forecasts for individual improvement measures.

- Evidence and on-site experience suggest that new constructions have a high potential of being sustainable, because all sustainability criteria can be defined from the outset in the planning process.

Rehab Clinic with Health Centre, Großenhain; one of the first hospitals with DGNB certification of the German Sustainable Building Council



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