



Integrating Environment-Friendliness into Sustainability and Quality of Health Promoting Hospitals

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Overview- Questions

1. Why do we have to care for the environment?
2. What has Health Care & Health Promotion to learn from the environmental/sustainable discourse?
3. How do hospitals affect the environment?
4. How relevant are hospitals “pressures” on the environment?
5. What can be done to influence the environmental impacts of hospitals? What does an environment-friendly (EF) hospital (EFH) do?
6. How can environmental-friendliness be integrated into everyday hospital functioning effectively, efficiently, sustainably?
7. Why should hospitals become environmental-friendly?



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in Hospitals and Health Care

1. Why do we have to care for the environment?



Environmental issues related to human activities - a selected list from A to W

Anoxic waters (Anoxic event, Dead zone), **Climate change** (Global warming , Sea level rise, Greenhouse gas), **Conservation** (Species extinction), **Energy conservation** (Renewable energy, Efficient energy use), **Environmental degradation** (Habitat destruction), **Environmental health** (Air quality , Asthma, Sick Building Syndrome), **Genetic engineering** (Genetically modified food controversies), **Intensive farming** (Overgrazing, Monoculture, Meat production) **Land degradation** (Land pollution, Desertification), **Soil** (Soil conservation, Soil erosion) **Land use** (Urban sprawl) **Nanotechnology** (Nanotoxicology, Nanopollution) **Nuclear issues** (Nuclear fallout, Nuclear weapons, Nuclear safety), **Overpopulation**, **Water pollution** (Acid rain, Water crisis), **Air pollution** (Smog, Tropospheric ozone, Indoor air quality) **Reservoirs** (Environmental impacts of reservoirs), **Resource depletion** (Exploitation of natural resources, Overdrafting) **Consumerism** (Consumer capitalism, Over-consumption), **Fishing** (Overfishing) **Logging** (Clearcutting, Deforestation) **Mining** (Acid mine drainage), **Toxins** (Chlorofluorocarbons, DDT, Dioxin, Toxic heavy metals, Pesticides) **Waste** (E-waste, Litter, Medical waste)

Adapted from Wikipedia, http://en.wikipedia.org/wiki/List_of_environmental_issues



Environmental issues related to human activities - a selected list from A to W

Anoxic waters (Anoxic event, Dead zone) - **Climate change** (Global warming , Sea level rise, Greenhouse gas), **Conservation** (Species extinction), **Energy conservation** (Renewable energy, Efficient energy use), **Environment** (Genetically modified food crops, Meat production) **Land degradation** (Soil erosion) **Land use** (Urbanization) **Nuclear issues** (Nuclear fallout) **Water pollution** (Acid rain, Water quality) **Reservoirs** (Environment of natural resources, Overdrainage) **Fishing** (Overfishing) **Logging** (Deforestation) **Toxins** (Chlorofluorocarbons, DDT, Litter, Medical waste)

All these environmental issues

- are serious and relevant,
- are highly linked up with each other, but
- “Climate change is the biggest global threat of the 21st century”
(The Lancet Commissions, 2009)
- and they also have essential health effects!



Why is climate change the biggest global threat of the 21st century?

There is broad consent about evidence of climate change and its negative impacts. For Example:

- IPCC (2007): Climate Change 2007 - Synthesis Report by Intergovernmental Panel on Climate Change
- Nicholas Stern (2007): The Economics of Climate Change. The Stern Review
- The Lancet Commissions (2009): Managing the health effects of climate change
- WHO (2009): Protecting health from climate change: connecting science, policy and people



Why is climate change the biggest global threat of the 21st century?

- And global climate change is no longer an ominous future threat but a drawing **present reality** – one that is already creating disturbing shifts in the natural and human environment and eroding the delicate balance of planet's ecosystem and the species that depend on it (WHO, 2009)
- But “the growing consensus is that we'll only be able to cope if we can **keep the warming to 2C**. After that point, dangerous, even unstoppable, climate change becomes more and more likely.”

Source: <http://www.independent.co.uk/environment/climate-change>



There are relevant but different effects of climate change



- More extreme **weather events** (air temperatures & air pollution, floods, demolition of living room, contaminated water)
- Continuous increasing of **sea level**
- Negative effects on **agriculture** (increasing malnutrition)
- **Migration**
- **Economic cost** of climate by mitigation and adaption
- **Social consequences** by raising inequities between rich and poor
- New challenges to the control of **infections diseases**

Based on: WHO (2009): Protecting health from climate change: connecting science, policy and people)



Estimated health impacts of greenhouse gas in the EU

Table 1. Estimated health impacts in 2020 based on the Commission's proposal and a second proposal giving a 30% cut in GHG emissions

	Air pollution impacts – baseline 2020	Change in health impacts through 20% cut by 2020	Change in health impacts through 30% cut by 2020	Additional change from 30% cut over 20% cut
Health impacts – cases attributed to air pollution exposure				
Mortality: Life years lost among people over 30 years	2,800,000	-218,182	-323,333	-105,151
Chronic bronchitis, population over 27 years	142,168	-11,078	-16,417	-5,339
Hospital admissions	75,319	-5,869	-8,698	-2,829
Restricted activity days, people of working age	246,333,947	-19,194,869	-28,445,700	-9,250,831
Days with respira- tory medication use by adults and children	25,155,404	-1,960,163	-2,904,850	-944,687

Source: M. R. Holland (2008): The co-benefits to health of a strong EU climate change policy, Eds. HEAL, CAN, WWF Europe)



2. What has Healthcare & Health Promotion to learn from the environmental/sustainable discourse?



Healthcare and Health Promotion can learn from sustainable development concerning environmental tasks

Since the 60ies there is a discourse about sustainable development on different levels

■ Politics

e.g. Our Common Future (Brundtland Report), Earth Summit. UN Conference on Environment and Development (1992), UN Millennium Summit (2000), Kyoto Protocol (2005)

■ Science (Research, Models, Instruments)

e.g. Sustainable development triangle (Munasinghe 1992), DPSIR framework (EEA), Ecological Footprint

■ Experts, Networks, Organizations

e.g. Health Care Without Harm, Sustainable Hospitals Program, The Canadian Coalition for Green Health Care, Green Peace



Source: http://www.iisd.org/pdf/2006/sd_timeline_2006.pdf



Important steps in the development of the sustainable and the health promotion discourse on a political level

- 1972: UN Conference on Human Environment Limits to Growth
- 1972: Club of Rome
- 1987: **The Brundtland Report**
- 1987: Montreal Protocol
- 1992: Earth Summit
- 1997: Kyoto Protocol
- 1997: Earth Summit + 5
- 2001: EU Strategy for Sustainable Development
- 2000: UN Millennium Summit
- 2002: World Summit on Sustainable Development, Johannesburg
- 2005: Kyoto Protocol Becomes Law
- 2009: COP15 - United Nations Climate Change Conference Copenhagen

There is an explicit reference by HP to SD since the Ottawa Charter

- 1974: Lalonde Report
- 1978: Declaration of Alma-Ata
- 1979: Health for All
- **1986: Ottawa Charter for Health Promotion**
- 1988: Adelaide Recommendations on Healthy Public Policy
- 1989: WHO Charter on Environment & Health
- 1991: Sundsvall Statement on Supportive Environments for Health
 - 1991: Budapest Declaration on Health Promoting Hospitals
- 1997: Health and Environment in Sustainable Development: Five Years after the Earth Summit
- 1997: Jarkarta Declaration
 - 1997: Vienna Recommendations on Health Promoting Hospitals
- 2000: Mexico Ministerial Statement for Promotion of Health
- 2005: Bangkok Charter for Health Promotion in a Globalized World
- 2009: Nairobi Call to Action



Health Promotion programmatic documents from the beginning explicitly refer to Sustainability

Health Promotion (WHO-Declarations from global HP conferences)



Ottawa 1986



Adelaide 1988



Sundsvall 1991



Jakarta 1997



Mexico 2000



Bangkok 2005



Nairobi 2009

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Our Common Future (Brundtland Report)

Health Promotion “Public health and environment: ecological matters and environmental determinants (Ottawa 1986) following”

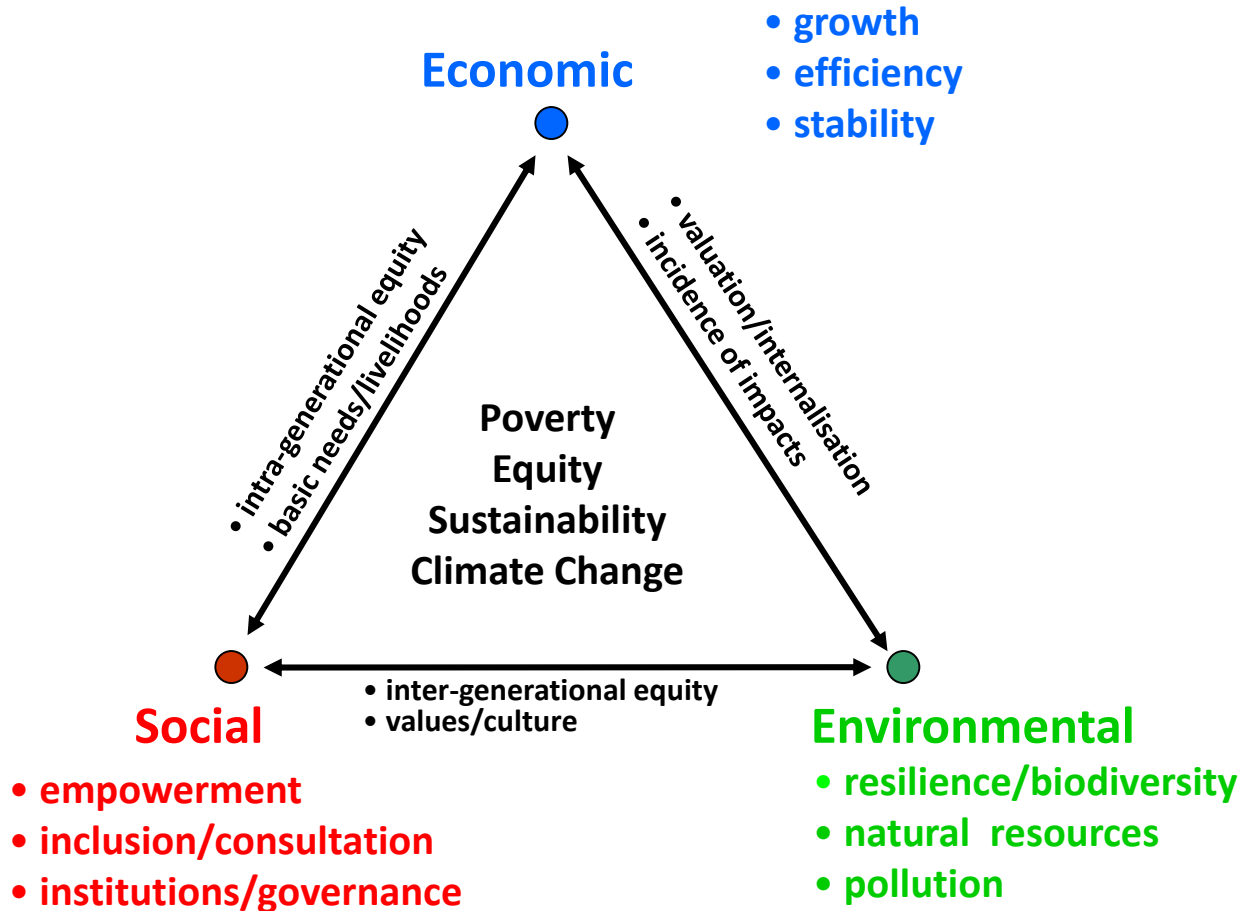
“Progress has been made in addressing ecological matters and environmental determinants (Sundsvall 1991) placing health at the centre of (sustainable) development, e.g. in the Millennium Development Goals” (Bangkok 2005)

UN Climate Change Conference

Global Sustainable Development (key events)



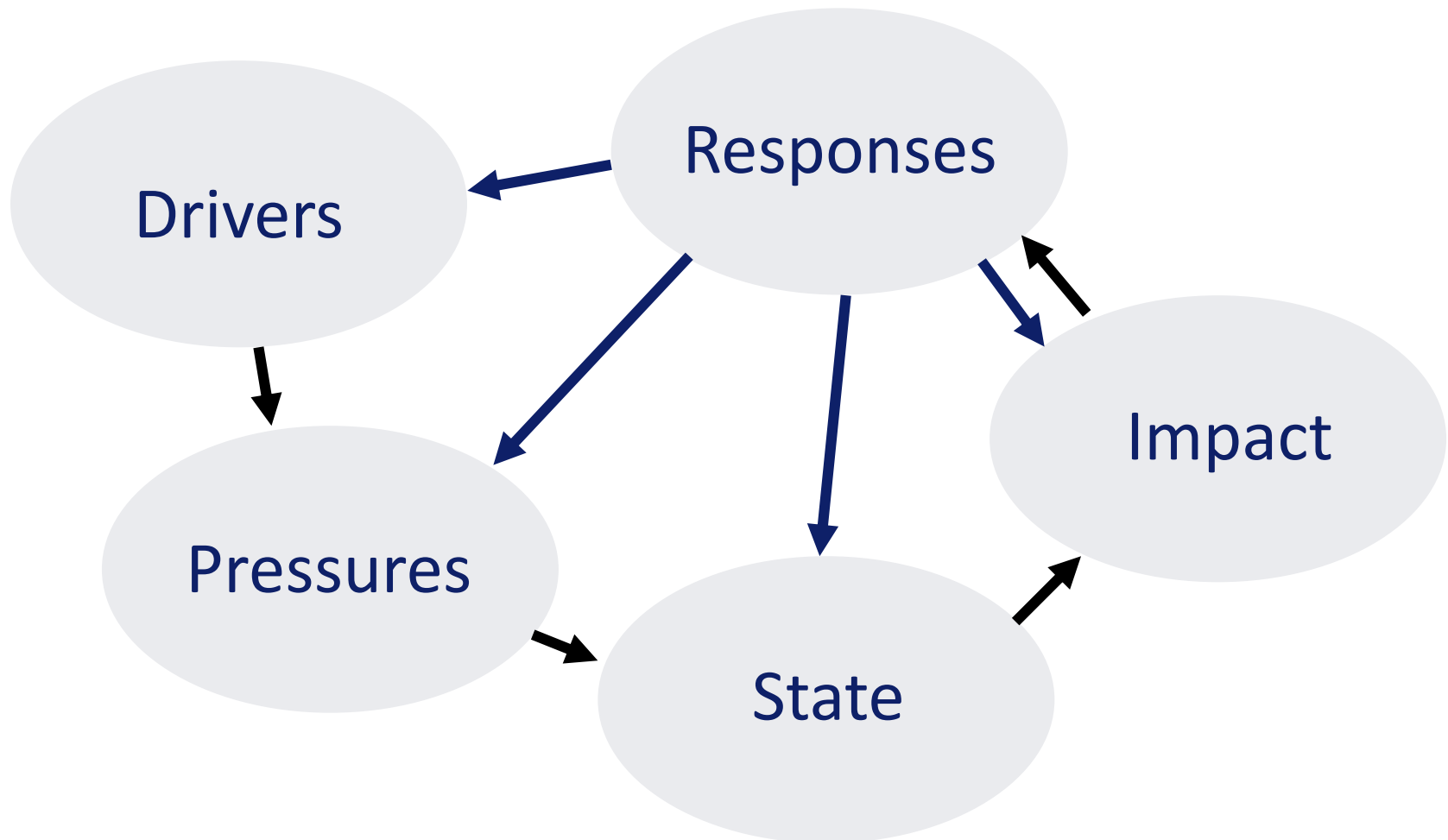
Sustainable development triangle - key elements and interconnections (Munasinghe 1992, Rio Earth Summit)



Munasinghe (1992) - Environmental Economics and Sustainable Development, Paper presented at the UN Earth Summit, Rio de Janeiro, and reprinted by the World Bank, Washington D.C.



The DPSIR framework (EEA)





DPSIR framework for modeling the interactions between society and the environment

- DPSIR is a causal framework for describing interactions between society and environment by the European Environment Agency (EEA) based on OECD

- The components of this model are:

Driving forces (needs related to actors)

Pressures (as a result of production or consumption processes meeting actors needs). Three main types:

- 1) Excessive use of environmental resources,
- 2) Changes in land use
- 3) Emissions (of chemicals, waste, radiation, noise) to air, water and soil

States (physical, chemical, biological qualities of environmental compartments)

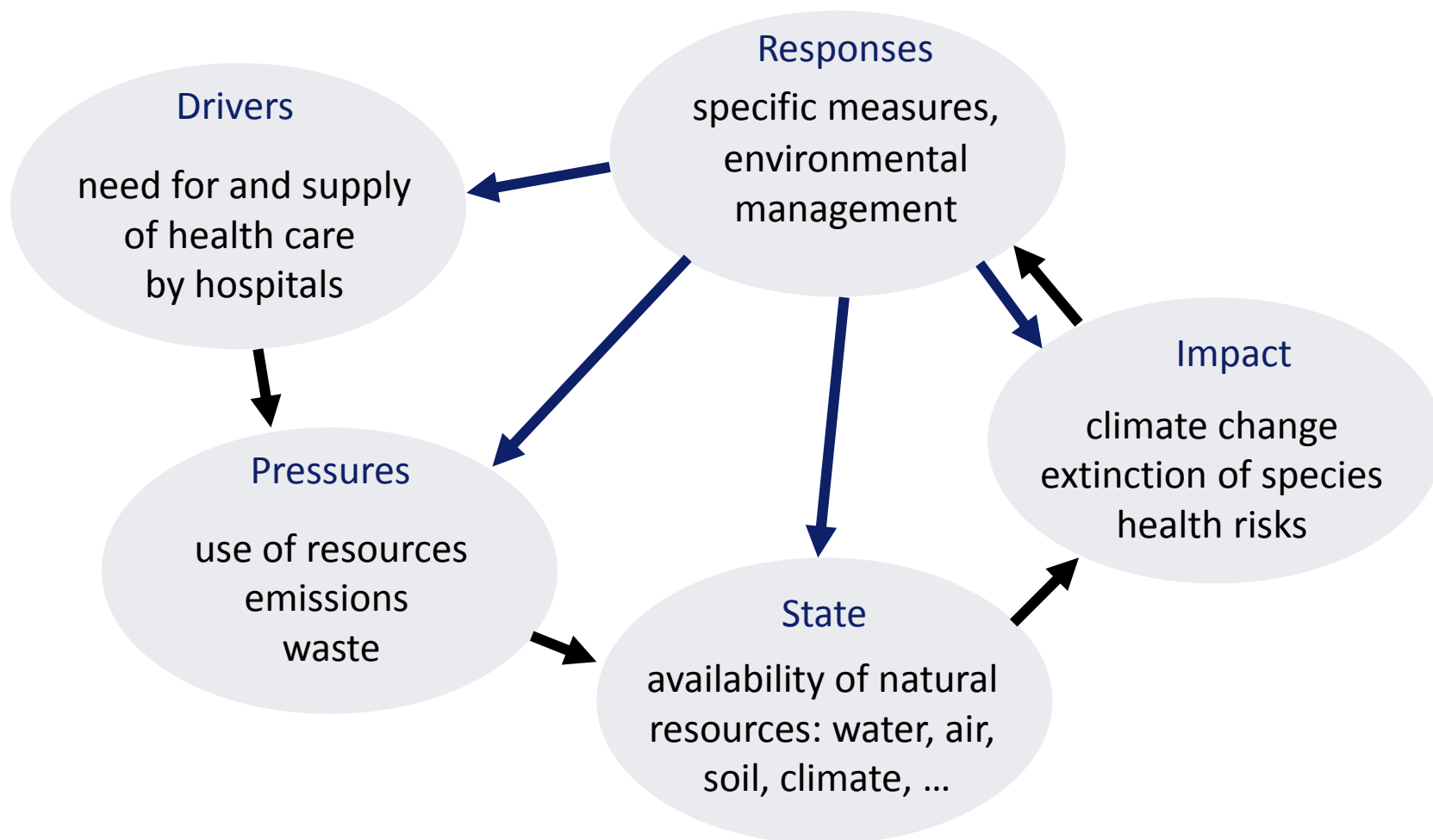
Impacts (on functioning of ecosystems, their life-supporting abilities, and ultimately on human health and on economic and social performance of society)

Responses (by society or policy makers can affect any part of the chain between driving forces and impacts)

(Definitions of elements of chain adapted from Kristensen, 2004)

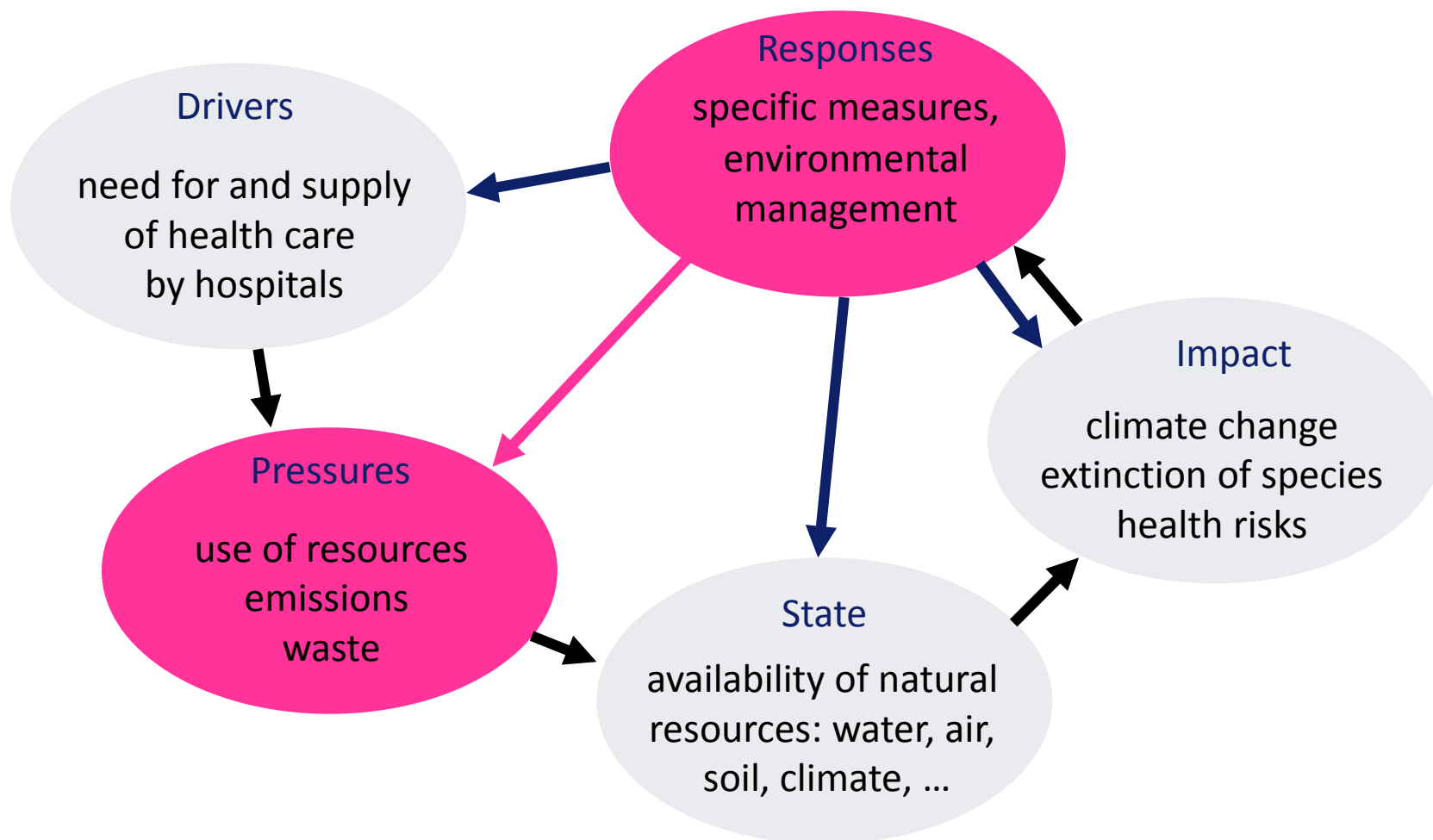


DPSIR framework used on the hospital sector





DPSIR framework used on the hospital sector





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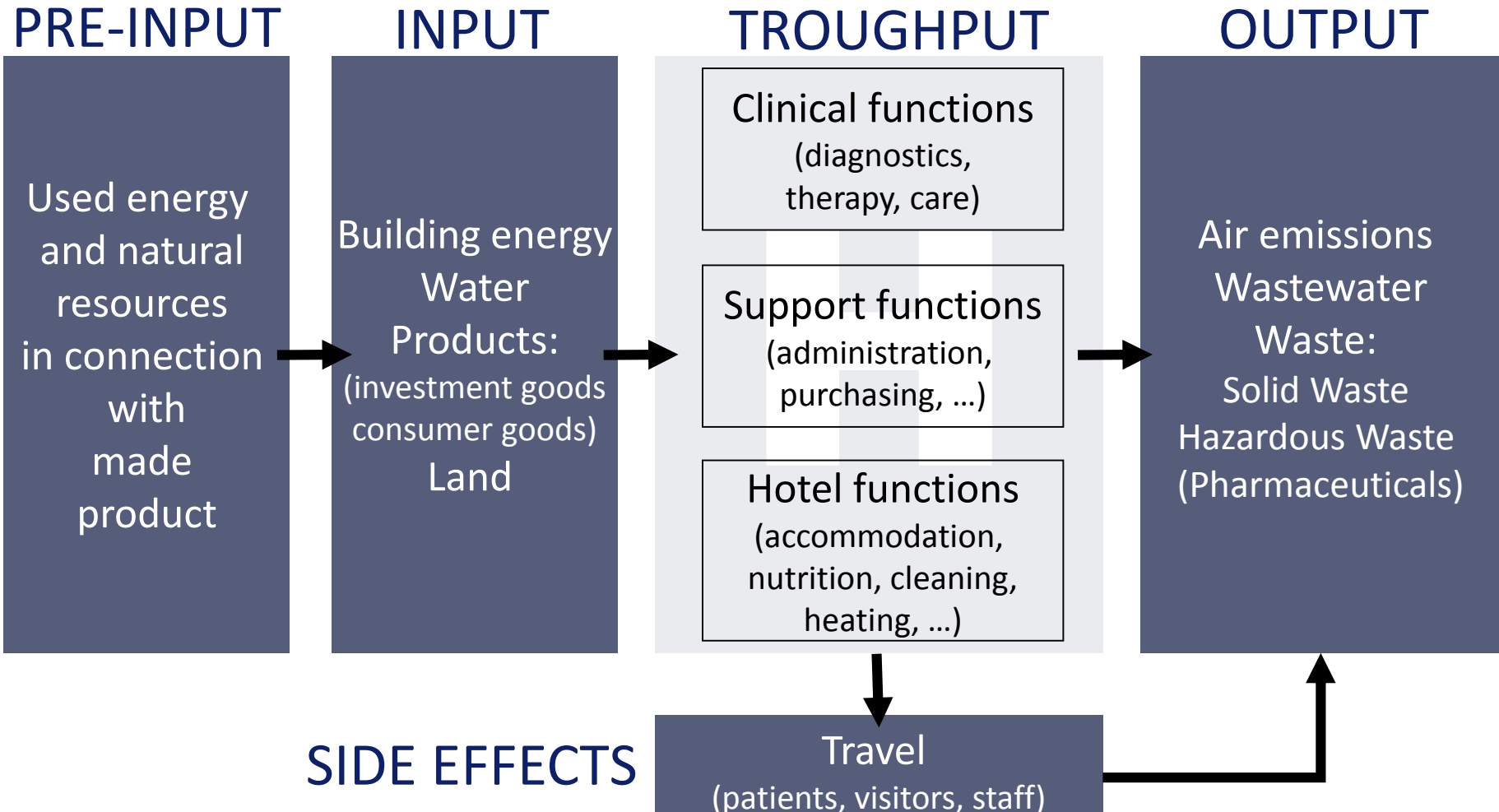


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3. How do hospitals affect the environment?



Typology of pressures from hospitals on the environment by input, output, throughput and side effects





4. How relevant are hospitals “pressures” on the environment?



Some general and hospital specific measures for pressures

General:

- **Ecological Footprint**
<http://www.footprintnetwork.org>
- **EMAS III (Eco- Management and Audit Scheme, 2010):** management tool for organisations to evaluate, report and improve their environmental performance (70 hospitals registered, EU-wide over 50.000 organisations)
http://ec.europa.eu/environment/emas/index_en.htm
- **MIPS (Material Input per Unit of Service)** developed by Wuppertal Institute for Climate, Environment and Energy, Germany
http://www.wupperinst.org/projekte/themen_online/mips/index.html

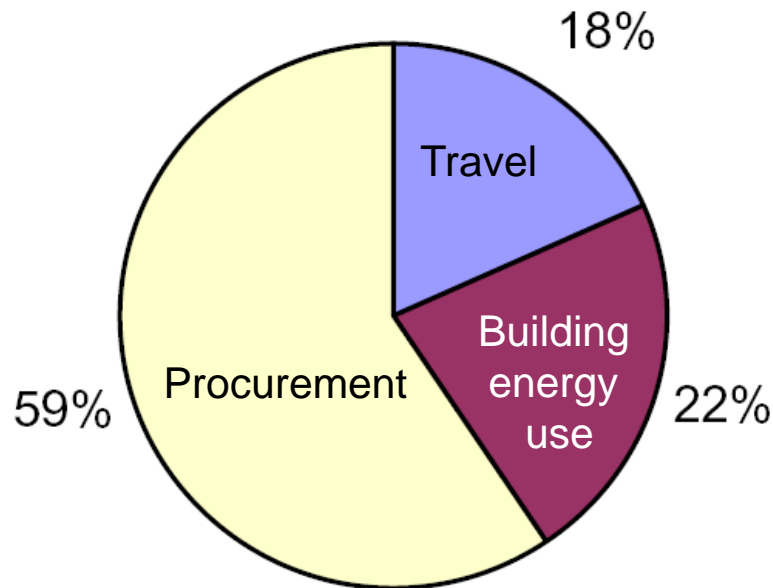
Hospital specific:

- **Healthcare Energy Impact Calculator (EIC)** by Practice GreenHealth
<http://www.practicegreenhealth.org/tools/eic>
- **H2E Self-Assessment Guide** (for hospital wastemangement)
<http://www.h2e-online.org/pubs/selfasmt.pdf>
- **Selfassessment-tool for sustainibility of hospital units (LBIHPR)**
<http://www.das-nachhaltige-krankenhaus.at/>



Pressures from the hospital sector in CO₂ units in England

Figure: CO₂ emission in 2004 - primary sector breakdown for the NHS

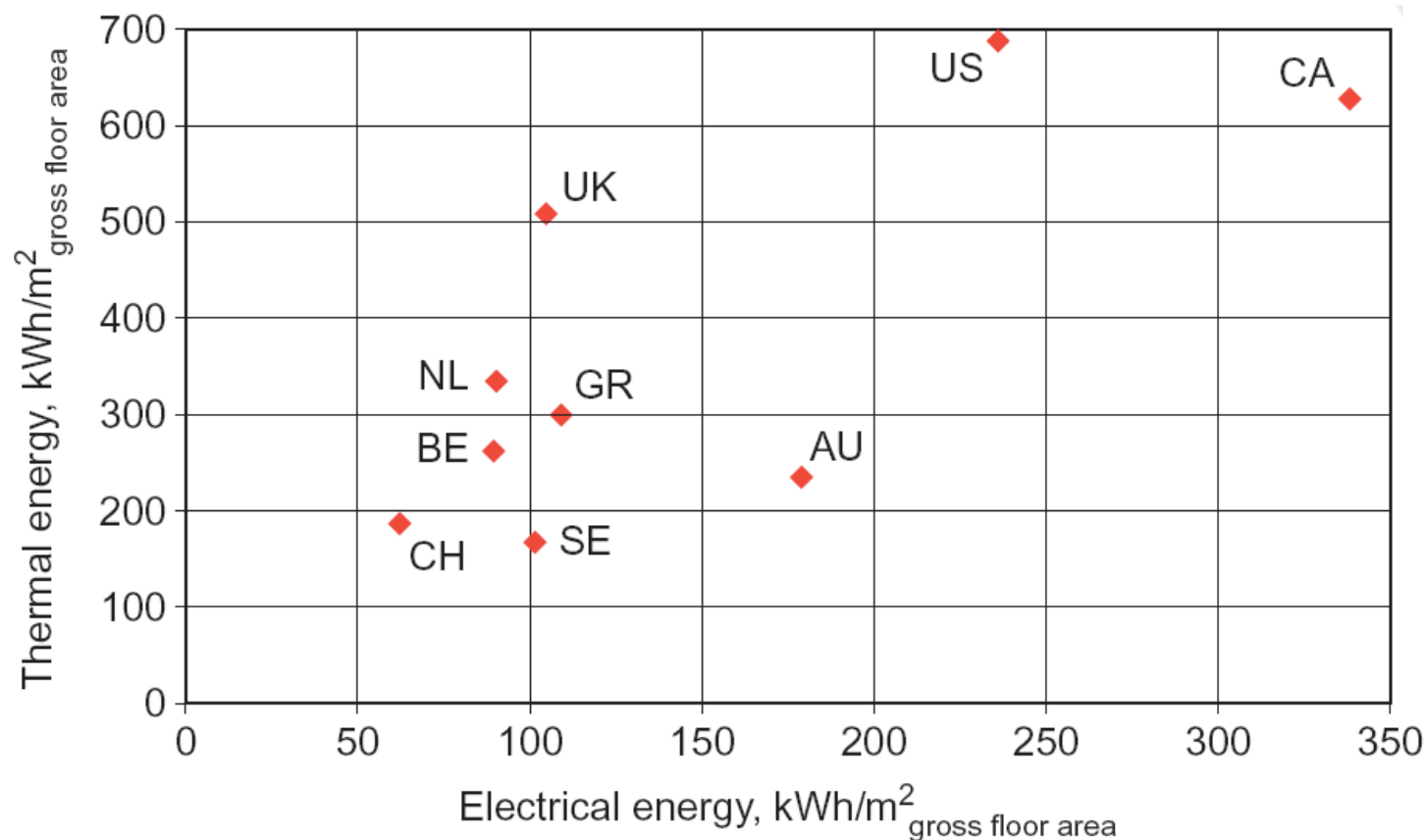


Sector	Sub sector	CO ₂ Emissions		GHG (CO ₂ e) emissions	
		MtCO ₂	% of total ^d	MtCO ₂ e	% of total ^d
Travel	Patient: own travel ^a	1.53	8%	1.53	7%
	Visitor travel ^a	0.38	2%	0.38	2%
	Staff: commuting ^a	0.76	4%	0.76	4%
	NHS travel: business mileage/ fleet/Patient Travel Services (PTS) ^c	0.74	4%	0.78	4%
	Travel: sub total	3.41	18%	3.45	16%
Building energy use ^b	Electricity	2.31	12%	2.44	11%
	Heating/hot water - gas	1.66	9%	1.95	9%
	Heating/hot water - coal	0.07	0%	0.08	0%
	Heating/hot water - oil	0.09	1%	0.11	1%
	<i>All Heating/hot water - subtotal</i>	<i>1.83</i>	<i>10%</i>	<i>2.15</i>	<i>10%</i>
	Building energy use: sub total	4.14	22%	4.59	22%
Procurement ^c	Pharmaceuticals	4.06	22%	4.57	21%
	Medical instruments/equipment	1.66	9%	1.88	9%
	Business services	0.98	5%	1.12	5%
	Paper products	0.97	5%	1.03	5%
	NHS freight transport	0.72	4%	0.75	4%
	Other manufactured products	0.63	3%	0.69	3%
	Manufactured fuels/ chemicals/ gases	0.53	3%	0.59	3%
	Food and catering	0.39	2%	0.72	3%
	Construction	0.36	2%	0.38	2%
	Information and Communication Technologies (ICT) ^e	0.32	2%	0.36	2%
	Water and sanitation	0.13	1%	0.24	1%
	Waste products and recycling	0.10	1%	0.65	3%
	Other procurement	0.08	1%	0.26	1%
	Procurement: sub total	11.07	59%	13.24	62%
	Total NHS England emissions		18.61	100%	21.28

Source: Stockholm Environment Institute, NHS (2008): NHS England Carbon Emissions Carbon Footprinting Report



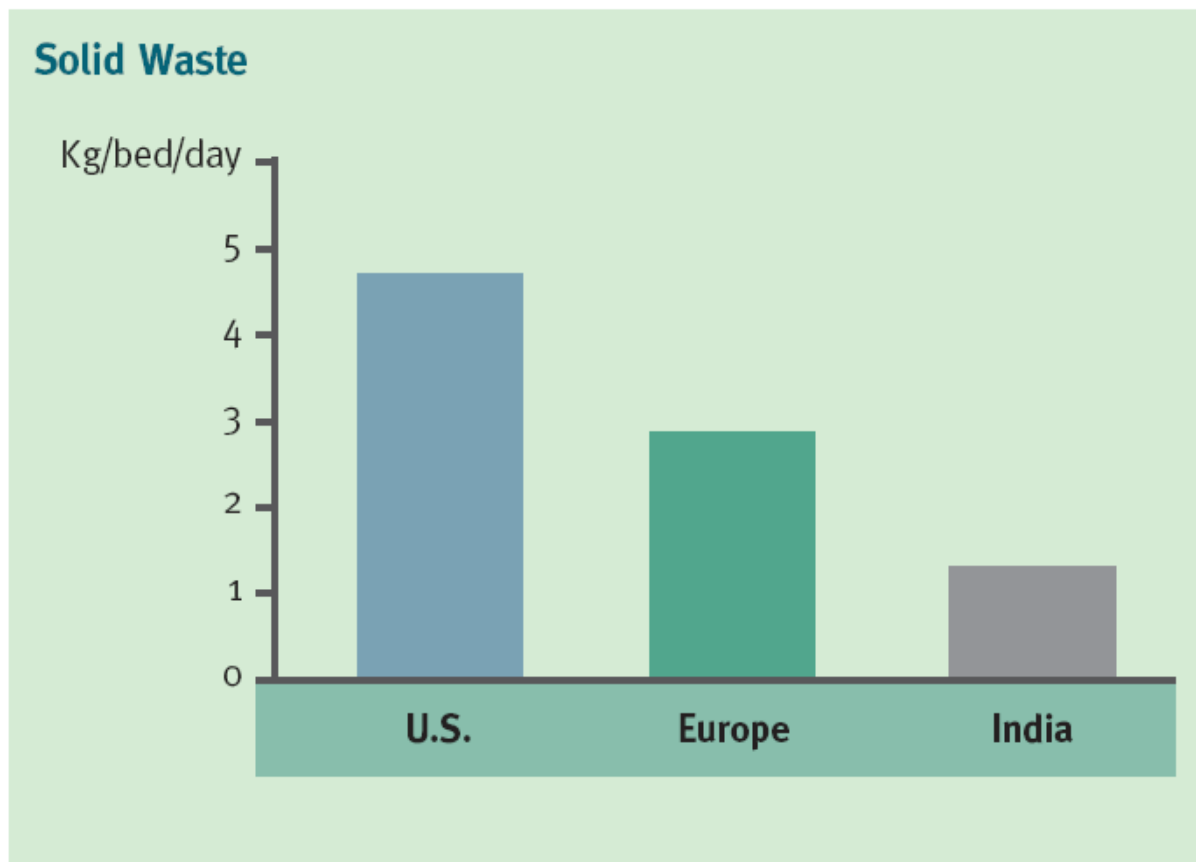
Energy consumption for hospitals differs in selected OECD countries by factor 5 for electrical and by factor 4 for thermal energy



Source: Center for the Analysis and Dissemination of Demonstrated Energy Technologies - CADET (1997): Energy Efficiency Organization Study on Hospitals Maxi Brochures



Solid waste from the hospital sector differs by degree of “development” of societies



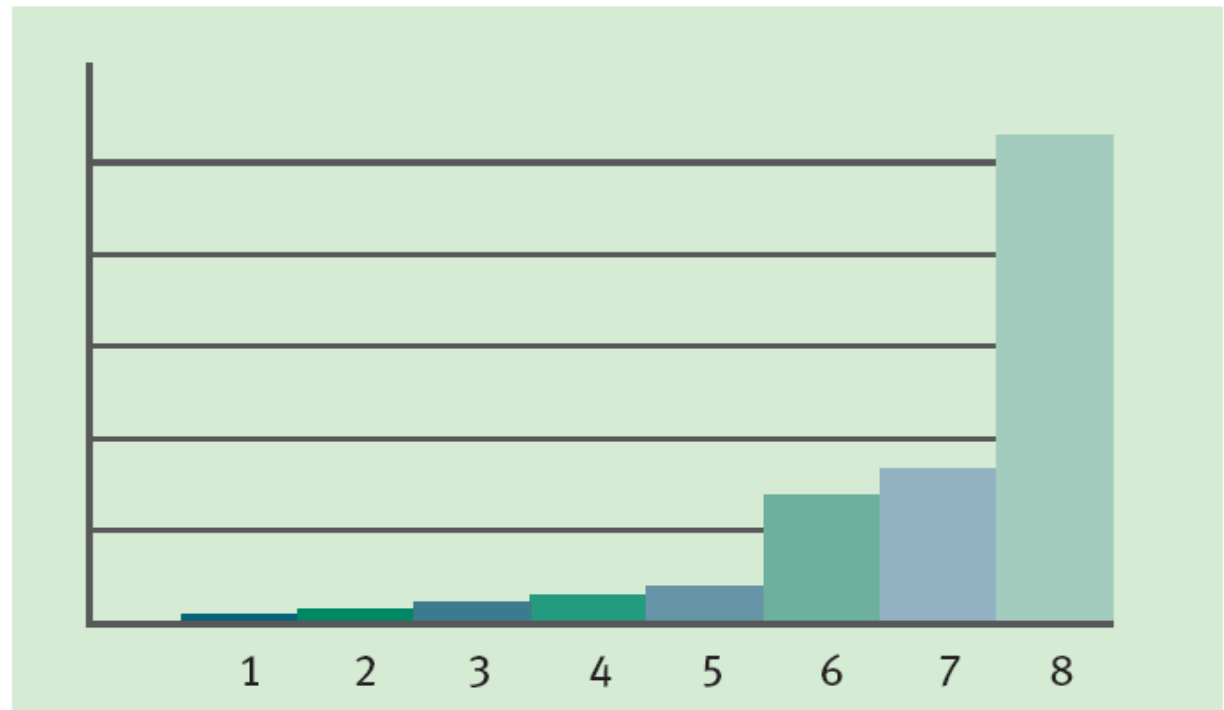
Source: Numbers from Waste Graph: www.kgmoas.com/july.htm, www.lboro.ac.uk/departments/cv/wedc/garnet/swmnew2.html, www.unescap.org/stat/envstat/stwes-12.pdf, [www.cmc.gov.za/peh/soe/waste_a.htm#Medical waste](http://www.cmc.gov.za/peh/soe/waste_a.htm#Medical%20waste), www.emcentre.com/unepweb/tec_case/health_85/house/h2.htm

Illustration: Environment Science Center Augsburg (2001): Greener Hospital



Relative importance of different types of solid waste from the hospital sector

1	Yard Trimmings	1.6%
2	Glass	1.8%
3	Metals	2.6%
4	Diapers	3.5%
5	Other	4.5%
6	Plastic	14.6%
7	Food and other Organics	17.5%
8	Paper	53.8%

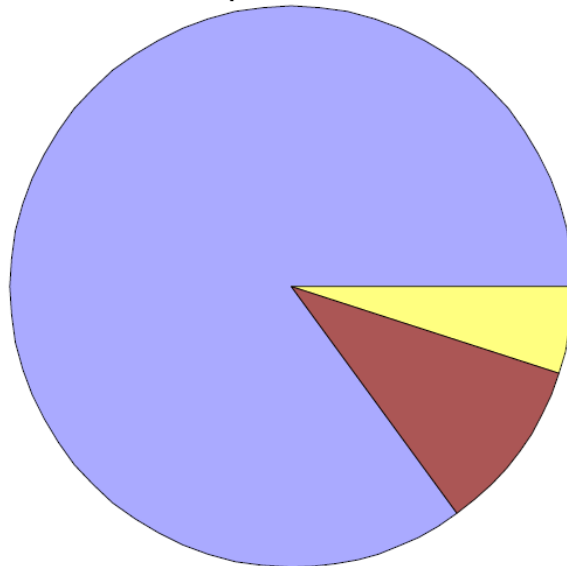


Source: Numbers from Waste Graph: www.kgmoas.com/july.htm, www.lboro.ac.uk/departments/cv/wedc/garnet/swmnew2.html, www.unescap.org/stat/envstat/stwes-12.pdf, [www.cmc.gov.za/peh/soe/waste_a.htm#Medical waste](http://www.cmc.gov.za/peh/soe/waste_a.htm#Medical%20waste), www.emcentre.com/unepweb/tec_case/health_85/house/h2.htm



Relative pressures from the hospital sector by infectious and hazardous waste

Hospital Waste



- General Non-Infectious (85%)
- Infectious (10%)
- Hazardous - Chemical / Radioactive (5%)

Table 3-1. A comparison of medical waste categories according to EU Waste Catalogue and WHO.

European Waste Catalogue	Categories of health-care waste (WHO)
18 01 01 sharps (except 18 01 03)	Sharps
18 01 02 body parts and organs including blood bags and blood preserves (except 18 01 03)	Pathological waste
18 01 03* wastes whose collection and disposal is subject to special requirements in order to prevent infection	Infectious waste
18 01 04 wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)	Non-risk or "general" health-care waste
18 01 06* chemicals consisting of or containing dangerous substances	Chemical waste Waste with high content of heavy metals
18 01 07 chemicals other than those mentioned in 18 01 06	Chemical waste
18 01 08* cytotoxic and cytostatic medicines	Genotoxic waste
18 01 09 medicines other than those mentioned in 18 01 08	Pharmaceutical waste
18 01 10* amalgam waste from dental care	Waste with high content of heavy metals
15 01 11* metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers	Pressurised containers
National regulation [EU proposal: COM(2003) 32 final]	Radiological waste

(*) Indicates waste classified as hazardous

Source: Health Care Without Harm (2004): Non-Incineration Medical Waste Treatment Technologies in Europe

Source: Basel Action Network (BAN) (1999): Eleven Recommendations for Improving Medical Waste Management



(Pressures measured by) “Ecological Footprint” of the hospital

- A pilot study by Susan Germain and the Canadian Association of Physicians for the Environment (CAPE): First-ever carried out 2001 for Lions Gate Hospital, Vancouver
- Canada 7.6 ha/person-year,
- World 2.2 ha/person-year,
- Biocapacity 1.8 ha/person-year,
- Few “imitators” > great complexity and effort



Ecological Footprint of
Lion Gate Hospital, CA

4.9 ha/patient-year



Contributions of hospitals pressures to environmental state for energy use and CO₂ for EU hospitals sector

Extrapolation for all EU 27 hospitals in 2004 (Schmied & Pelikan)

- **Consumption:** 35 200 GWh of electrical energy and 80 000 GWh of thermal energy (only building energy without “Pre-Input” for products and travel)
 - Hospital sector consumes **1.24% of the produced electricity in EU**
- **Carbon Emissions:** 35.58 millions tons CO₂ or **0.83% of the total EU emissions** in 2004
 - With “Pre-Input” estimated **over 4% of the total EU CO₂ emissions**
- **NHS in England** has calculated its total (including production and travel) carbon footprint at more than 18 million tons of CO₂ each year or 25% of total public sector emissions (NHS, 2008)

Assumptions of the extrapolation:

- 1) Average use of 0,011 GWh (per bed/year) of electrical energy and 0,025 GWh (per bed/year) of thermal energy (van Heur 2008)
- 2) Approximate 2.950.000 hospital beds in the EU 27 (Eurostat) > 590 beds by 10000 inhabitants EU27 average 2005 (Eurostat 2005) and round 500 millions inhabitants



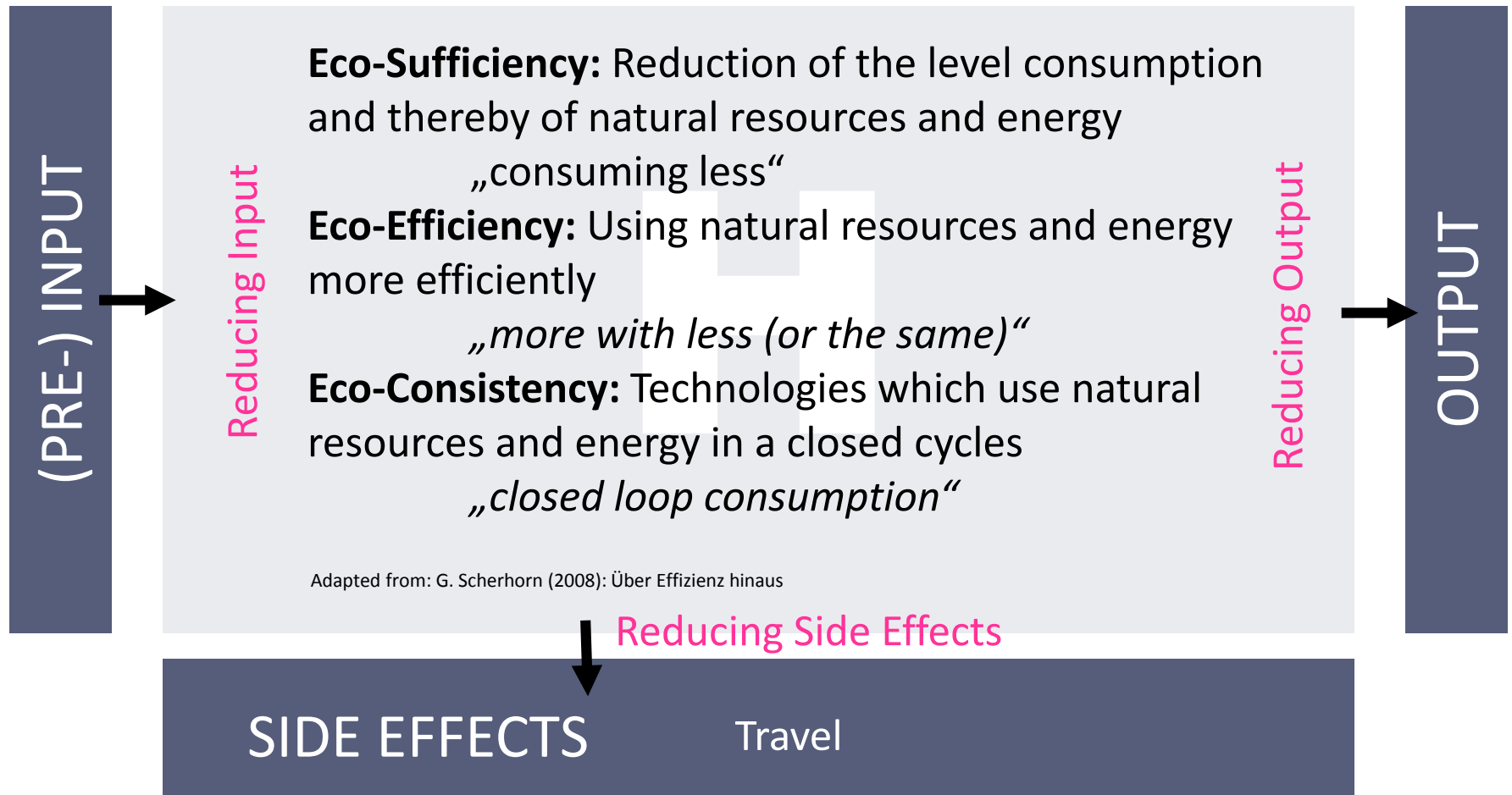
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What does an environment-friendly (EF) hospital (EFH) do?



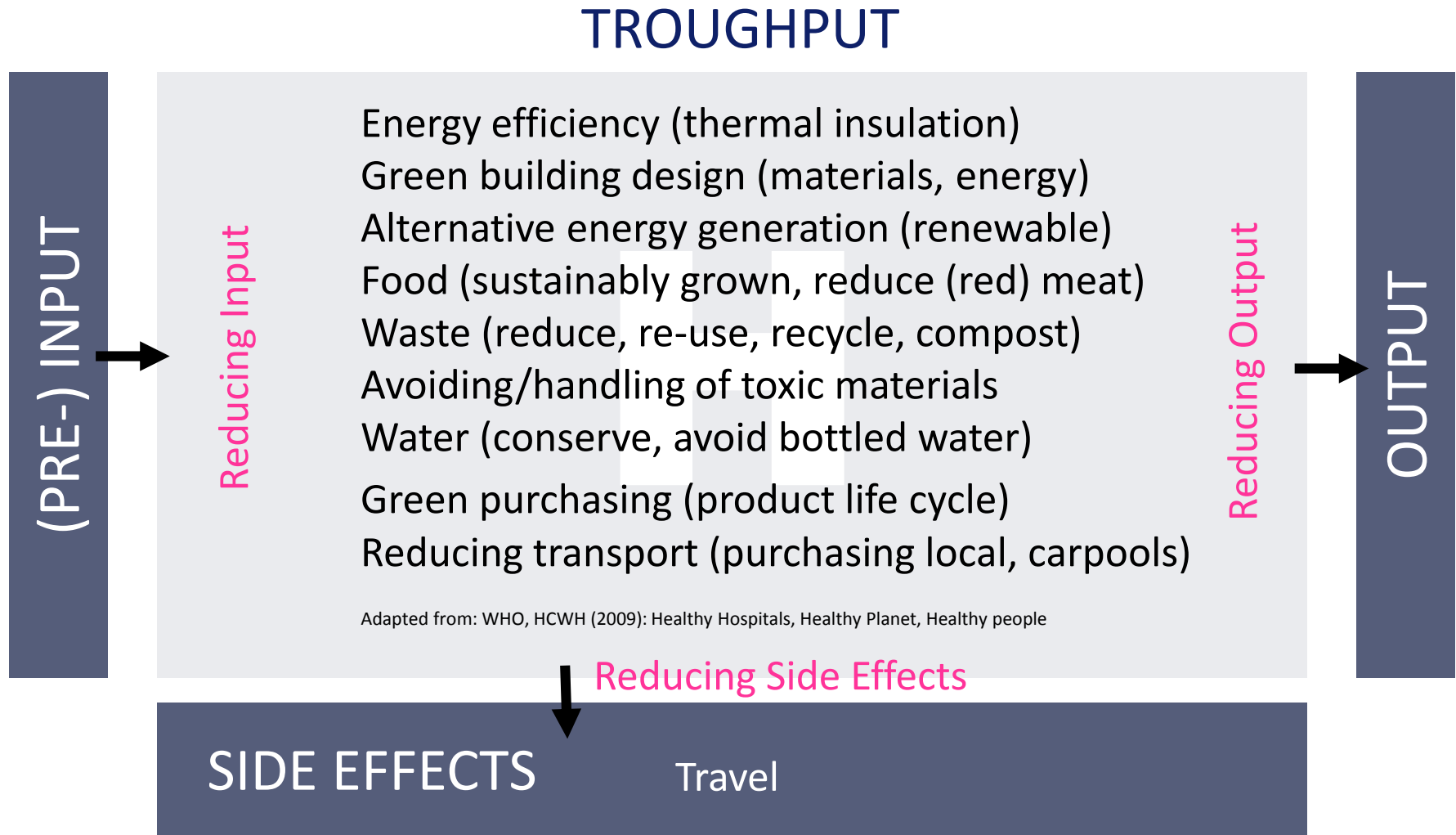
Possible responses from the hospital: Principle strategies

TROUGHPUT





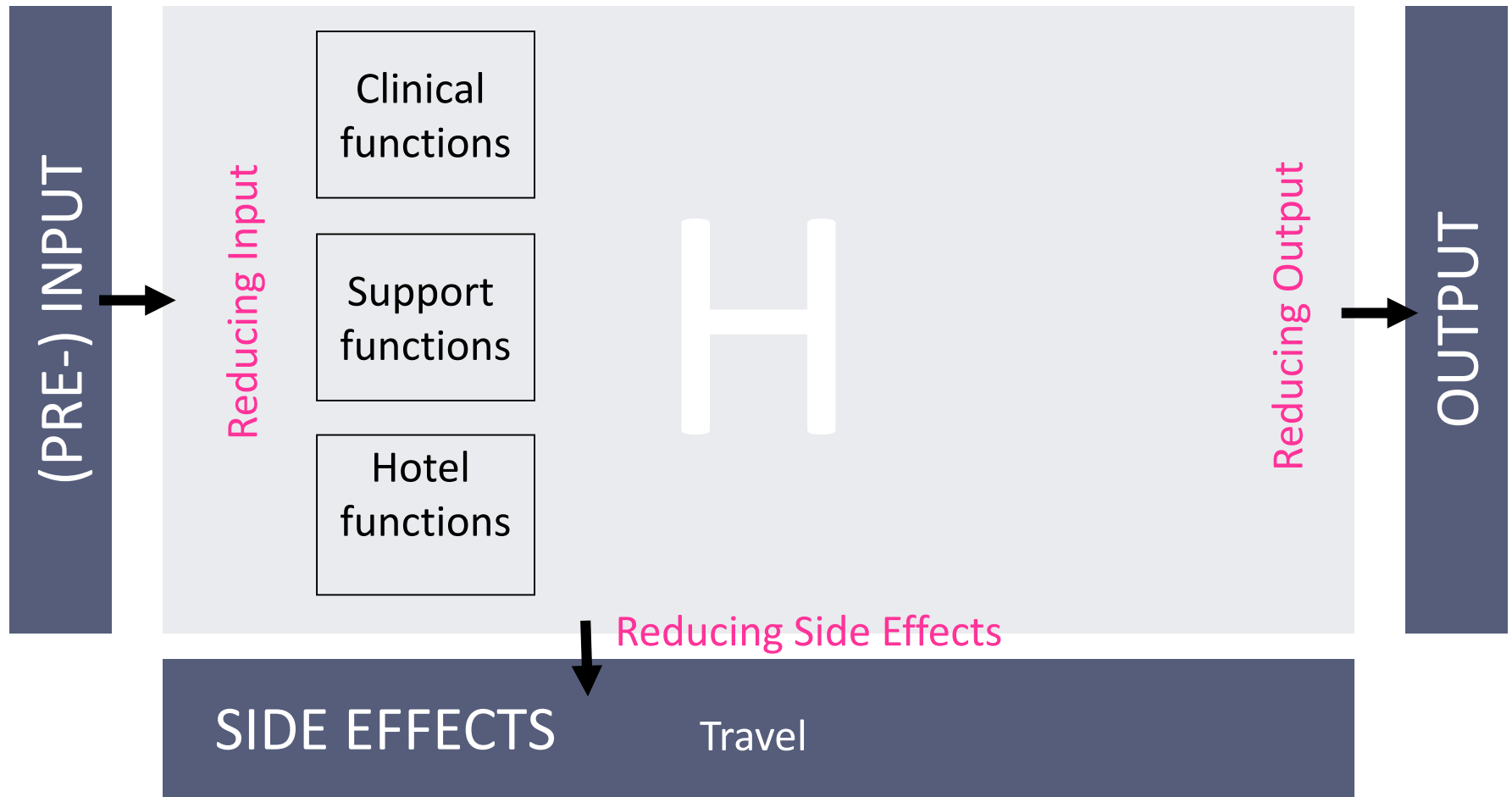
Possible responses by hospitals: Selected areas of action





Possible responses from the hospital for its different functions

TROUGHPUT





6. How can environmental-friendliness be integrated into everyday hospital functioning effectively, efficiently, sustainably?



How has environmental friendliness to be realized in and by hospitals? (I)

- Hospitals have to reproduce themselves in everyday practice by **decisions**.
- Therefore **criteria of EF** have to be used in **all** relevant decisions for consumption (and production) by almost **all staff members** on different hierarchical levels and in different functions.
- Individual decisions by staff members at the **bottom** do matter, because in the end they produce the **everyday practice** of the hospital. Therefore staff has to be **motivated, enabled and empowered** for EF.
- This only can be done by decisions at the **top** concerning policies and strategies, structures and processes of the organization defining **opportunities** and **capacities** for EF decisions at the bottom. (Like in HP, it is about making the EF choice the easy choice!) So making a hospital more EF needs organizational change of the complex organization of the hospital



How has environmental friendliness to be realized in and by hospitals? (II)

- It is not trivial and often cannot be judged locally in the hospital, what actually is the EF choice at all. There are confusing, controversial global discourses ongoing which have to be observed, translated and adapted.
- Therefore the organization and management needs **local experts of EF** in the hospital to integrate EF in the specific situation of a hospital.
- This situation mirrors a situation we already know well from **quality issues** in the hospital. Therefore EF in hospitals has to be linked and integrated into **quality management** of hospitals and use quality philosophy and tools.
- And there is another reason for the necessity of this integration. Hospitals are confronted with **many different expectations** for reform and only have a **limited capacity** for continuous learning and management of change.



Which subsystems of a hospital have to be involved in making a hospital more environmental-friendly?

Management

- Human resource management
- Finance management
- Purchasing management
- Safety & occupational health management
- **Quality Management**
- **Health Promotion Management**
- **Sustainability Management**

Clinical services*

- Admission > Discharge
- Diagnosis
- Therapy
- Rehabilitation
- Patient education
- Prevention
- Etc.

Other Support services

- Transport
- Maintenance
- Waste management
- Etc.

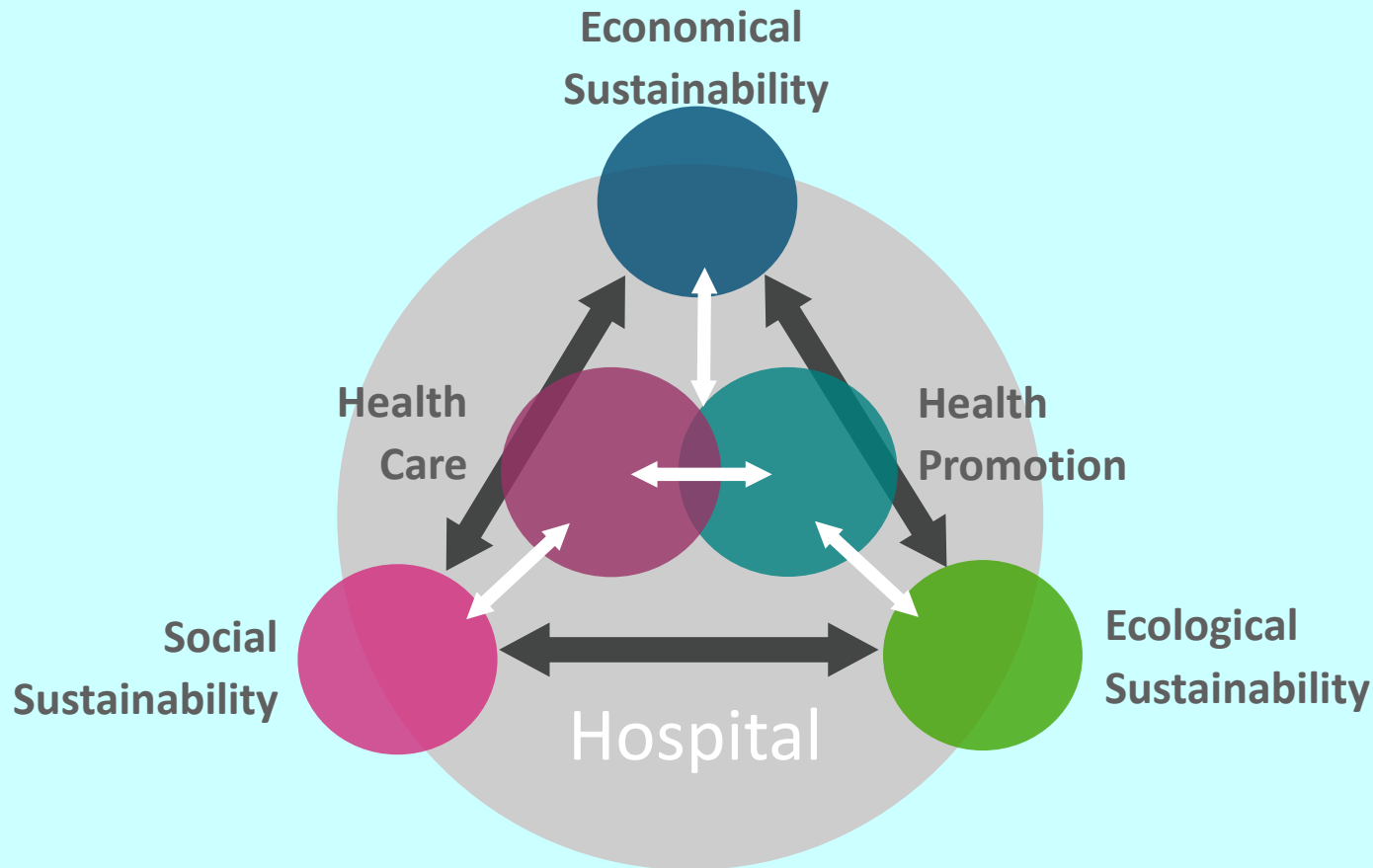
Hotel services

- Cleaning
- Nutrition
- Etc.

*) Medical, nursing, therapeutic, educative



A multi-criteria quality approach defining a “Sustainable & Health Promoting Hospital”



Environments of the Hospital

(developed and tested in the “Sustainable Hospital Project”, Vienna 2007-10)

Grafik-Design: Angy Rattay



How can multi-criteria quality of a hospital be achieved? By comprehensive quality management

Quality function/ activity ... for quality of ...	Structures of services (& settings) →	Processes of services (& settings) →	Outcomes/ impacts of services (& settings)
1. Definition	S1: Define criteria & standards for structures	P1: Define guidelines & standards for processes	O1: Define targets for outcomes & impacts
2. Assessment, monitoring, evaluation	S2: Assess for of structures	P2: Assess for of processes	O2: Assess for of outcomes & impacts
3. Assurance, development, improvement	S3: Develop of structures by OD, PD, TD	X	X



How can a comprehensive Quality-Management-System that includes environment friendliness (EF) be implemented quality assured?

EFQM- Structures	EFQM- Processes	EFQM- Outcomes
<ul style="list-style-type: none"> ■ EFQM aims: ■ targets, principles, criteria, standards, indicators ■ EFQM strategic definitions: written policies, (action-) plans, programs, projects ■ EFQM tools: ■ guidelines, protocols, manuals ■ EFQM structures: teams, steering committee, ■ EFQM dissemination policy ■ EFQM budget 	<p>EFQM Strategies</p> <ol style="list-style-type: none"> 1. Definition of ... 2. Assessment, monitoring, evaluation of ... 3. Assurance, development, improvement of ... 	<p>EF quality- assurance, development, improvement</p>



Selfassessment-tool for sustainability of hospital units - Interview guideline

Part A: **“Sustainable culture”** - 2 Questions

Part B: **“Ecology”** (Waste, Energy use, ...) - 14 Q

Part C: **„Economy“** (cost awareness of staff) – 2 Q

Part D: **„Social“**- 18 Q


D1: internal social responsibility incl. stresses and strains for staff

D2: external social responsibility (cooperation, purchasing)

D3: Health Promotion (actions)

Part E: **“Core processes of the unit”** (quality, teaching) – 5 Q

Project: „Testing the Sustainable Hospital“ – 2008-2010, Vienna
<http://www.das-nachhaltige-krankenhaus.at>



Das nachhaltige Krankenhaus

Das nachhaltige Krankenhaus. Erprobungsphase. Erprobungsbereich 3

Teil D: „Soziales“

Soziales A: Interne soziale Verantwortung - MitarbeiterInnen

D1: Erfahren Sie als MitarbeiterInnen insgesamt ausreichend Anerkennung und Wertschätzung?
(Anerkennung und Wertschätzung bezieht die Ebenen KollegInnen, Vorgesetzte und Leitung, PatientInnen und Angehörige, Gesellschaft mit ein)


Bewertung	1	2	3	4	5	Handlungsbedarf	hoch	mittel	niedrig
Anmerkungen:						Verbesserungsoptionen:			

D2: Haben Sie als MitarbeiterInnen insgesamt ausreichend Informationen und Mitsprachemöglichkeiten?
(Partizipationsmöglichkeit an der Gestaltung der eigenen Arbeit)

Bewertung	1	2	3	4	5	Handlungsbedarf	hoch	mittel	niedrig
Anmerkungen:						Verbesserungsoptionen:			

D3: Haben Sie als MitarbeiterInnen insgesamt ausreichend Entwicklungsmöglichkeiten im Sinne von Aus- und Weiterbildungsmöglichkeiten und Aufstiegschancen?

Bewertung	1	2	3	4	5	Handlungsbedarf	hoch	mittel	niedrig
Anmerkungen:						Verbesserungsoptionen:			



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D1: Internal social responsibility incl.

stresses and strains for staff


D2: External social responsibility

(cooperation, purchasing)

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„Testing the Sustainable Hospital“ – Pilot Project 2008-2010, Vienna
<http://www.das-nachhaltige-krankenhaus.at>



Das nachhaltige Krankenhaus. Erprobungsphase. Erprobungsbereich 3
Das nachhaltige Krankenhaus

Teil D: „Soziales“

Soziales A: Interne soziale Verantwortung - MitarbeiterInnen


D1: Erfahren Sie als MitarbeiterInnen insgesamt ausreichend Anerkennung und Wertschätzung?
(Anerkennung und Wertschätzung bezieht die Ebenen KollegInnen, Vorgesetzte und Leitung, PatientInnen und Angehörige, Gesellschaft mit ein)

Bewertung	1	2	3	4	5	Handlungsbedarf	hoch	mittel	niedrig
Anmerkungen:						Verbesserungsoptionen:			

D2: Haben Sie als MitarbeiterInnen insgesamt ausreichend Informationen und Mitsprachemöglichkeiten?
(Partizipationsmöglichkeit an der Gestaltung der eigenen Arbeit)

Documentation:

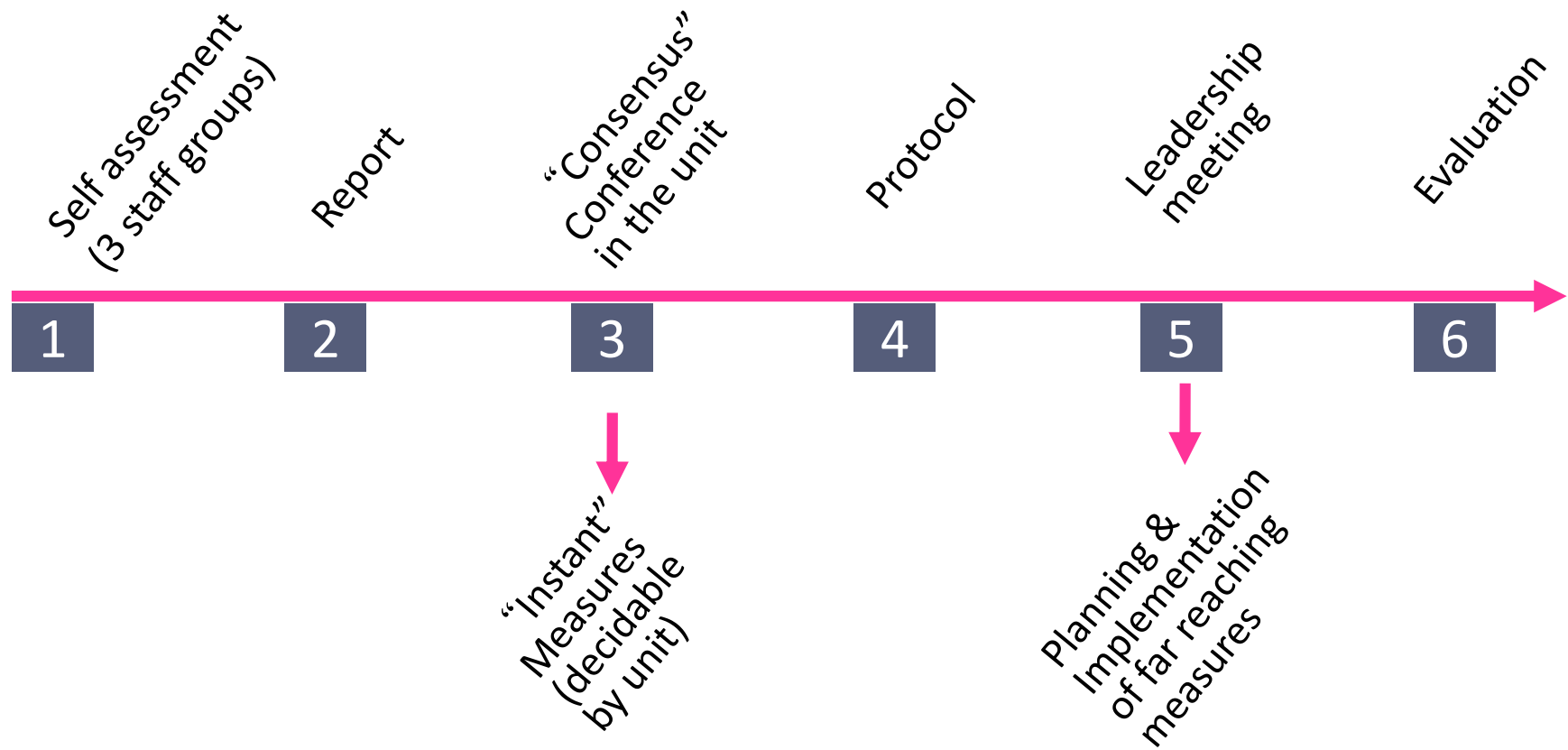
- Rating the performance
- Rating the need for action
- Suggestions for solutions



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Self assessment-tool for sustainability of hospital units - Procedure





Self assessment-tool for sustainability of hospital units - Procedure

Strengths of the Procedure:

- Participatory bottom up procedure, but supported top down
- Agenda Setting & awareness raising for environmental issues
- Use of local expertise for problems and solutions
- Instant solution of local environment related problems
- Lean and acceptable procedure for staff and management



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7. Why should hospitals become environmental- friendly?



Why investing in environment friendliness by hospital organizations? (I)

- To become environment friendly an organization needs an investment of scarce resources - attention, time, money and capacity for change!
- Why should, or why will an organization decide to invest in environment friendliness?
- From the point of the organization egoistic and/or altruistic reasons or motives are possible for this kind of decision of investment and for cultural change
- Egoistic reasons or motives are oriented at (comparative) return on investment concerning fulfillment of core goals and values of an organization. These may be:
 - Better profit by or at least lower costs of services and operating costs
 - Better quality of services
 - Also expectations of clients and staff may count for improving the attraction of the hospital in a market situation, where there is competition, if clients and staff are scarce



Why investing in environment friendliness by hospital organizations? (II)

- For all these **egoistic** reasons we need **evidence** that the underlying assumptions are correct and empirically sound. While for fulfillment of **altruistic** values **belief** may be enough!
- Values are a matter of **culture** and it really takes **time** to change culture!
- But **politics** also has other means than supporting steps towards a more solidary and altruistic culture. By **regulations** and **incentives** it can create a situation where it is egoistically sound and rational to invest in environment friendliness.
- Therefore, if we really want hospitals to make an **adequate and timely contribution** to saving our environment, besides good will of managers and staff of hospitals we need wise and courageous politicians who are willing to make their contribution to make this possible and happen!



Acknowledgment

- This conference and the statements and deeds of politicians, administrators, scientists and hospital people, especially from Taiwan, towards more environment friendliness are very encouraging for us.
- Please take our congratulations and thanks for this exemplary kind of leadership and good practice!



Thank you for your attention!

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