



**World Health
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REGIONAL OFFICE FOR

Europe

Greening health systems

**Expert meeting
Bonn, Germany, 27-28 August 2013**



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**Meeting Report
27–28 August 2013**

ABSTRACT

In August 2013, the WHO Regional Office for Europe organized a technical meeting to discuss requirements for developing environmentally friendly health systems and to contribute to the development of a roadmap with strategic direction on how this topic could be further developed across WHO European Member States. The meeting also allowed for lessons learnt to be shared from a variety of European local and regional initiatives. The development of these documents represents a first major step in a long-term ongoing process of greening the health sector.

Keywords

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List of abbreviations

BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany
CGS	Climate change, green health services and sustainable development programme
EC	European Commission
EEHP	European Environment and Health Process
EEHTF	European Environment and Health Task Force
EU	European Union
GDP	gross domestic product
HCWH	Health Care Without Harm
HEAL	Health and Environment Alliance
HIA	health impact assessment
HIC	Working Group on Climate Change and its Impacts on Health of the EEHTF
HIV	human immunodeficiency virus
IIATT-SPHS	Informal Interagency Task Team on Sustainable Procurement in the Health Sector
ICI	International Climate Initiative, Germany
IHR	International Health Regulations
IPCC	Intergovernmental Panel on Climate Change
NHS	National Health Service, England, United Kingdom
NHS SDU	National Health Service Sustainable Development Unit
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
WHA	World Health Assembly
WHO	World Health Organization
WMO	World Meteorological Organization

Acknowledgements

Sincere thanks to all those who have contributed both to the development of the *Environmentally Sustainable Health Systems* documents, specifically Sonia Roschnik and James Mackenzie from the National Health Service Sustainable Development Unit. We would like to thank all the meeting participants for their contributions in reviewing the technical material and for their active contributions during the meeting.

We would also like to thank the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety for co-sponsoring this meeting.

Scope of the meeting

The “Commitment to act”, endorsed at the 5th European Ministerial Conference on Environment and Health in Parma, Italy, 2010, commits European Member States to protect health and well-being, natural resources and ecosystems and to promote health equity, health security and healthy environments in a changing climate. In particular it recommends collaboration to increase the health sector’s contribution to reducing greenhouse gas emissions and strengthen its leadership on efficient management of energy and other resources.

The WHO Regional Office for Europe organized a technical meeting to:

- discuss technical requirements for environmentally friendly health systems;
- contribute to the development of a roadmap with strategic direction on how this topic could be further developed across WHO European Member States; and
- share lessons learnt from a variety of European local and regional initiatives.

Opening remarks

Dr Srđan Matić, Coordinator Environment and Health, WHO Regional Office for Europe highlighted the obligations of the WHO Regional Office for Europe under the “Commitment to act” of the Parma Declaration on Environment and Health, as well as the need for the WHO to take a leading role in the development of sustainable health systems. Strengthening health systems is therefore an issue of growing importance, with investment in sustainable development critical to economic growth and resource management. Sustainability in health systems could also be a considerable component of the 6th Ministerial Conference on Environment and Health in 2016.

Dr Bettina Menne, Programme Manager, CGS, WHO Regional Office for Europe described the quest for sustainability in health systems as an opportunity to rethink development, and to seek the ‘triple bottom line’ of economic, environmental and social sustainability. The commitments of the WHO Regional Office for Europe were reiterated, adding that the need to create supportive environments is a core component of Health 2020 (see Fig. 1).

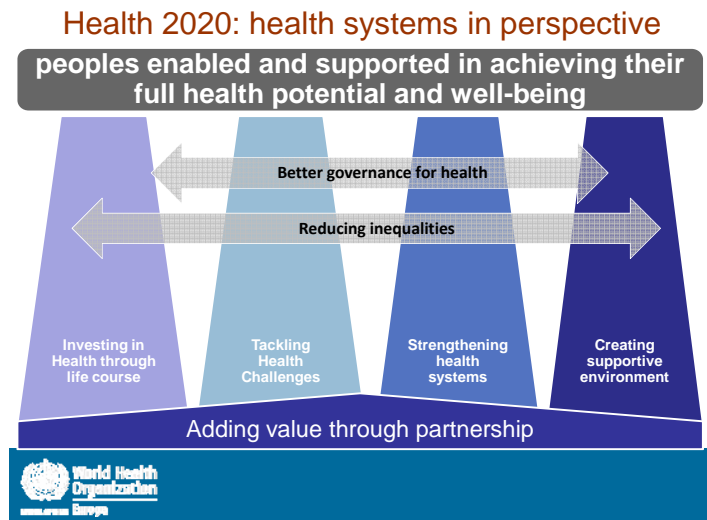
Parma Declaration on Environment and Health

COMMITMENT TO ACT

We are committed to protecting health and well-being, natural resources and ecosystems and to promoting health equity, health security and healthy environments in a changing climate. Taking into account the ongoing work under the United Nations Framework Convention on Climate Change and recognizing subregional, socioeconomic, gender and age variability, we will:

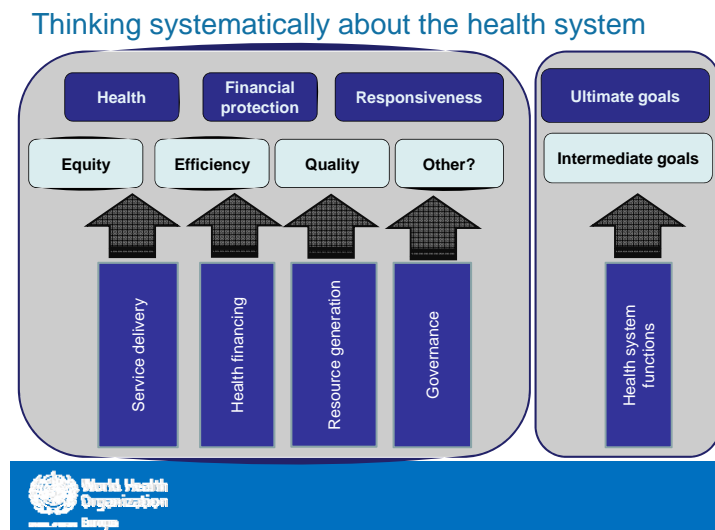
1. Integrate health issues in all climate change mitigation and adaptation measures, policies and strategies at all levels and in all sectors. We will assess, prevent and address any adverse health effects of such policies by, for example, strengthening health promotion in environmental policies;
2. Strengthen health, social welfare and environmental systems and services to improve their response to the impacts of climate change in a timely manner, for example to extreme weather events and heat waves. In particular, we will protect the supply of water and the provision of sanitation and safe food through adequate preventive, preparedness and adaptive measures;
3. Develop and strengthen early warning surveillance and preparedness systems for extreme weather events and disease outbreaks, for example vector-borne diseases, at the animal-human-ecosystem interface, where appropriate;
4. Develop and implement educational and public awareness programmes on climate change and health, to encourage healthy, energy-efficient behaviours in all settings and provide information on opportunities for mitigation and adaptation interventions, with a particular focus on vulnerable groups and subregions;
5. Collaborate to increase the health sector’s contribution to reducing greenhouse gas emissions and strengthen its leadership on energy- and resource-efficient management and stimulate other sectors, such as the food sector, to do the same;
6. Encourage research and development, for example with tools for forecasting climate impacts on health, identifying health vulnerability and developing appropriate mitigation and adaptation measures.

Fig.1. Health 2020: four pillars



Dr Valentina Hafner, Technical Officer, Health Systems and Public Health, WHO Regional Office for Europe presented a summary of the key aspects of health systems in the WHO European Region (see Fig. 2). She outlined the major challenges for health in the European Region during the 21st century, including climate change, ageing, natural disasters, food and water security, urbanisation and migration, economics and the optimal use of information and communications technology. Multi-sectoral engagement is essential to facilitate the management of these challenges. In addition, the presentation emphasised the links between the elements of the Health 2020 strategy, with a supportive environment central to strong and functional people-centred health systems and public health capacity.

Fig. 2. Health system functions and outputs



Susan Wilburn, Technical Officer, Interventions for Healthy Environments, WHO Headquarters presented the process of greening health systems in the European region, reiterating that the health sector is ideally placed to take the lead role in sustainable development. The importance of engaging with other sectors was emphasised, with improvements to transport, housing, energy and agriculture essential to healthy communities. Key greening activities of the health sector

were discussed; however, the benefits and risks of development strategies must be further explored to ensure that all opportunities are fully exploited without causing harm.

Presentation of background papers

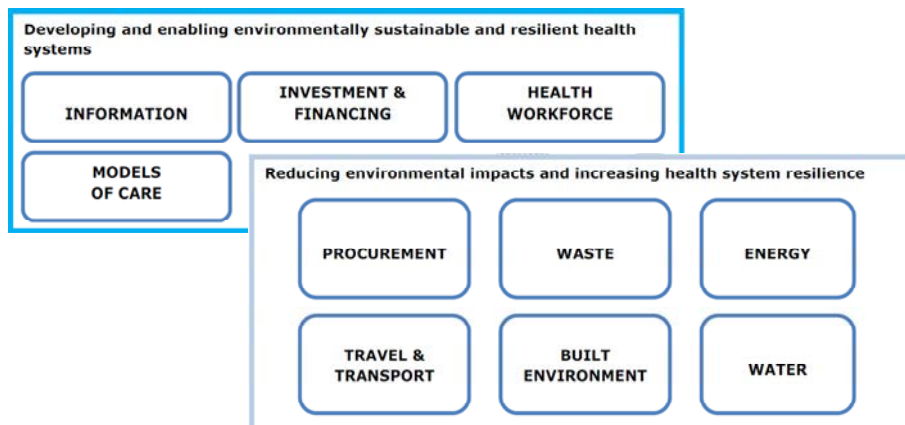
Strategic approaches to green health systems

Sonia Roschnik, Head of Unit, NHS Sustainable Development Unit presented the meeting background document entitled *Environmentally Sustainable Health Systems*. She introduced section one of the draft document, outlining the case for change and highlighting the reasons for, and co-benefits from, improvements to environmental sustainability within health systems. The importance of improving efficiency was highlighted, with implications for resource use management, optimising financial returns, reducing carbon output and improving business resilience and continuity, both now and in the future. Sustainability was presented as a core component of quality health care, requiring strong governance and a coordinated and strategic approach. Finally, improvements to health infrastructure and service delivery were highlighted as key to improving health system resilience to environmental threats and changes.

Technical approaches to green health systems

James Mackenzie, Programme Manager, NHS Sustainable Development Unit introduced section two of the document. This section provides technical guidance on themes represented in Figure 4. Each theme covers desirable sustainable outcomes, practical actions for implementation and how progress may be measured, as well as case studies. It was highlighted that the challenge will be to make the section specific enough to translate into action, as well as suitable for application across a broad range of settings. Case studies in the document were highlighted and meeting participants asked to consider their use and relevance. Participants were also asked to consider the structure, content and presentation of the document to ensure comprehensive feedback.

Fig. 4: Thematic areas covered in section two of the background document.



Are the proposed areas of focus the best?
What is missing?

Summary of the discussion

What are environmentally sustainable health systems?

A common theme of discussion throughout the meeting was the definition of what constitutes an environmentally sustainable health system. Building on the 2007 definition of a health system (Box 2), an environmentally sustainable health system aims to *promote, restore and maintain health*, while promoting:

- Equity;
- Quality;
- Effectiveness and efficiency;
- A patient centred approach;
- Timely efforts; and
- Sustainability.

Sustainability should become a core value in defining the minimum standards of quality care, ensuring a balanced approach to health care and environmental protection in a way that benefits all aspects of society. It was thus proposed that an environmentally sustainable health system is one that:

- has capacity for inevitable growth with minimal impact on the environment, whilst striving to achieve universal health coverage;
- supports healthy physical, social and economic environments;
- contributes to a reduction in the environmental burden of disease;
- goes beyond carbon footprints and ecosystem damage; and
- is linked to economic long-term sustainability.

Box 2. WHO definition of a health system

“A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities. A health system is therefore more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, a mother caring for a sick child at home; private providers; behaviour change programmes; vector-control campaigns; health insurance organizations; occupational health and safety legislation. It includes inter-sectoral action by health staff, for example, encouraging the ministry of education to promote female education, a well known determinant of better health.”

***Everybody’s Business: Strengthening Health Systems to Improve Health Outcomes
WHO’s Framework for Action***, World Health Organization, Geneva, 2007

What are the vision, objectives and sustainable outcomes?

Inspired by the ideas of transformational change (see Fig.5) meeting participants discussed some arguments for action, as well as proposed several sustainable outcomes.

Fig.5. Health system transformation (Source: presentation of Sonia Roschnik, Sustainable Development Unit for NHS, Public Health and Social Care)

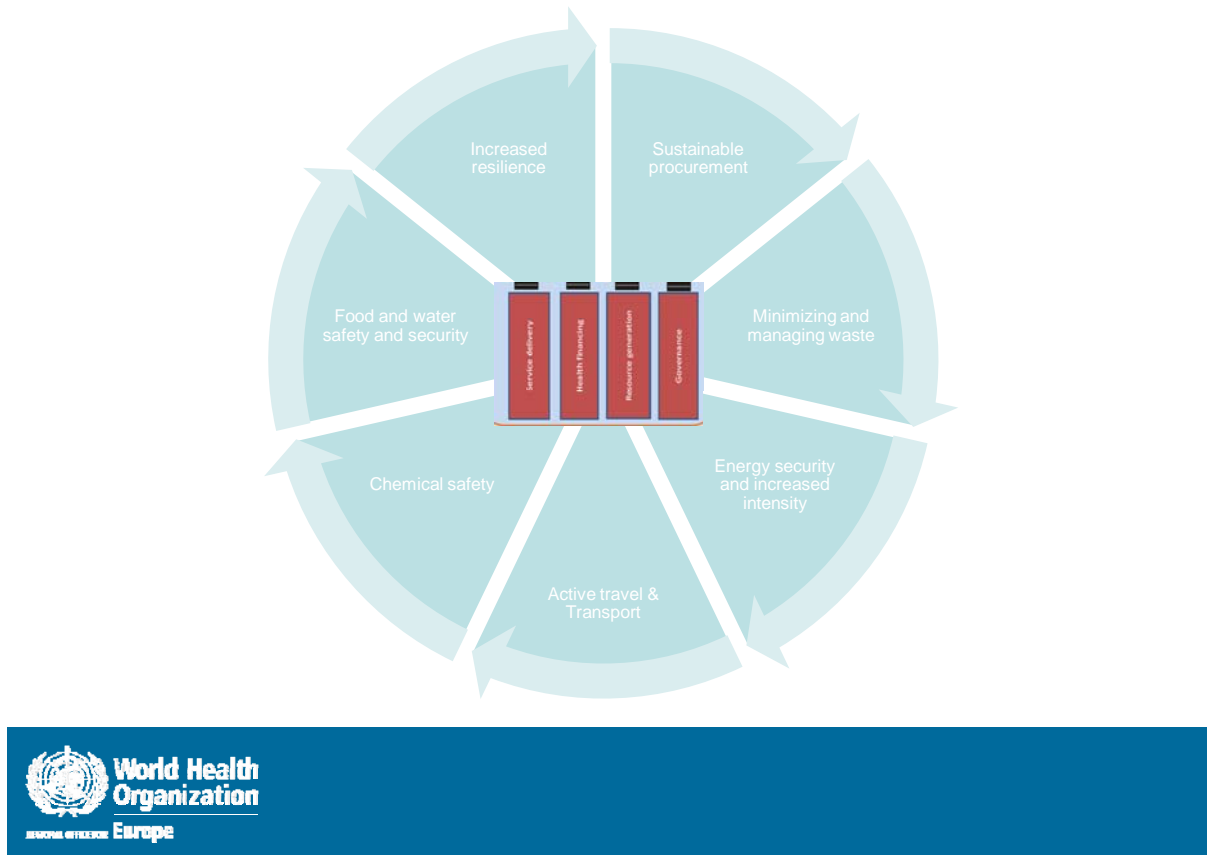
From	health care as an institution led service	To	health and social care as part of the community
From	curative and fixing medical care	To	early intervention and preventative care
From	sickness	To	health and well-being
From	professional	To	personal
From	isolated and segregated	To	integrated and in partnership
From	buildings	To	healing environments
From	decision making based on today's finances	To	an integrated value of the future which accounts for the impacts on society and nature
From	single indicators and out of date measurements	To	multiple score card information and in real time
From	sustainability as an add on	To	integration in culture, practice and training
From	waste and over use of all resources	To	a balanced use of resources where waste becomes a resource
From	nobody's business	To	everyone's business

It was agreed that there are many logical arguments for action:

- Environmental issues need to be acknowledged as central to public health;
- The ethical principle of non-maleficence, or “first, do no harm”, gives the health sector a natural mandate for action;
- Sustainable and resilient investment in the health sector is not only essential but can be offset by lower running costs in the long-term, stronger emergency response capabilities and improved resilience;
- Many of the actions health systems can implement to improve the environmental sustainability of their operations also provide:
 - Immediate health benefits (e.g. through active travel and reducing the harm from pollutants emitted by the health system);
 - Significant financial rewards (e.g. by improving energy efficiency and generating onsite electricity from renewable sources, running costs can be reduced);
 - Important social and community benefits (e.g. through local procurement of goods and services); and
 - Innovative models of care and workforce development.

A number of sustainable outcomes were mentioned throughout the discussion. They are represented in Figure 6.

Fig.6. Potential sustainable outcomes of an environmentally sustainable health system



The greatest ecological footprint of the health sector is produced by procurement, which should be considered as an issue of the entire supply and disposal chain. As such, a life-cycle approach to procurement should be taken. The development of sustainable and ethical procurement practices needs to be considered in a broader sense to include building materials as well as pharmaceuticals and equipment. In addition, competitive commercial exercises could form the basis of an incentive scheme to promote sustainable procurement. Other areas with high environmental impacts were discussed including waste, toxic substances and chemicals.

In the longer-term, it is hoped that greening the health sector will serve to establish momentum for environmental sustainability in other sectors, thus leaving a long-lasting legacy of this initiative.

How can the actions be implemented?

The core “environmentally sustainable” values desired of health systems require that the sustainable outcomes depicted in Fig. 6 to be embedded throughout the four main public health functions, namely: service delivery, financing, resource generation and governance.

A people-centred approach should be mainstreamed throughout the process to facilitate the engagement of decision makers, providers and communities necessary to achieve such a fundamental shift in the health sector. The public health action plan, through its essential public

health operations of health protection, health promotion, and disease prevention, represent areas of action with direct environmental impact.

Activities should start at the level of education, promoting empowerment and engagement of the individuals who will drive this change and assume leadership roles, with the ultimate goal of sustainable health systems. To successfully engage health-workers a more bottom-up approach to policy development and implementation is needed, actively involving the health-related workforce and representative bodies/unions.

Throughout this process, an integrated “cross-silo” approach to implementation will be required, engaging other sectors (e.g. construction and waste management) to seek the “triple bottom line” of sustainable development. However, it is important that any steps towards achieving environmentally sustainable health systems are outcome-based as opposed to activity-based, and that progress can be measured and monitored objectively.

It was suggested to use a “minimum” or layered approach that is applicable for all countries (developed *and* developing), acknowledging the differences in national baselines whilst embarking on the same journey. To support a layered implementation approach, collaboration within targeted sub-regional groups (e.g. south-eastern Europe) could be fostered. Facilitating such cooperation could improve knowledge transfer and sharing of good practices. Such collaboration should also be explored with development banks.

Strong advocacy and communication strategies will play a role in creating a supportive environment for implementation. Furthermore, communication and documentation of all steps of the process, and collating examples of good practices and case studies will lead to the creation of a stronger evidence base for action and proof-of-concept. This process could be led by a few key players who would kick start the process (“trail-blazers”, “pathfinders” or “champions”).

Practical tools that are generic and flexible need to be developed to support implementation (overcoming the so-called “implementation gap”). Such tools could include frameworks, hospital checklists, greenhouse gas emissions calculators, etc. Award schemes and incentive structures would encourage broader implementation, while enforcement and auditing mechanisms (especially at the national level) will ensure accountability and help establish reliable monitoring of the process.

Meeting participants discussed potential users and stakeholders that may be involved in the development of the *Environmentally Sustainable Health Systems* documents and associated activities in the future; a comprehensive list was compiled and will be used in planning the next steps.

What are appropriate indicators for monitoring the process and outcomes?

The development of metrics/indicators is required for national base-lining, but international comparison should be avoided due to geographic and demographic variability (for example when comparing Norway with Italy with regard to energy use for heating) and differences between health systems in the WHO Member States.

Proposed indicators to monitor the progress of implementing environmentally sustainable health systems include:

- Number of health care institutions complying with ISO 14001 (to be considered with reservations as it is activity-based rather than outcome-based);

- Number of health care institutions having a sustainable development management plan;
- Number of health care institutions reporting on a sustainable development management plan;
- Greenhouse gas emissions (carbon footprint) by health systems;
- Reduction in procurement of hazardous materials (as a proxy for waste); and
- Percentage of non-compliant institutions.

What changes to the background documents are necessary?

The meeting participants acknowledged that the development of these documents represents a major step in a long-term ongoing process of greening the health sector, and WHO guidance and advice was perceived to be essential.

It was suggested that the document series be entitled “*Towards environmentally sustainable health systems*”. It was suggested that this series should consist of two complementary documents. The first: a strategic/political document outlining the process and establishing the vision, objectives and context on which to build. The second: a detailed technical document covering separate topic areas of health systems and potential methods and concrete actions to implement environmental sustainability.

Building on the background documents, some general comments to improve the documents’ content were discussed:

- A clear message and/or vision needs to be clearly defined to set the context of policy-development and implementation, with a view to long-term goals and objectives;
- The scope of both documents needs clarification (e.g. toxic materials are so far omitted) as the content and topics should be relevant to both the health and environment sectors;
- There is a need to identify and specify the target audience for each of the two documents so that the message and structure can be tailored;
- The conceptual structure of the process needs to be clearly outlined in the introduction to the strategic document with an acknowledgement of its limitations;
- There is currently no defined division of responsibility for governance of the process, neither at macro nor micro level; this would be needed to ensure successful implementation;
- The document is currently written from the perspective of high-income developed countries; rather there is a strong need to establish a “minimum” or layered approach that is applicable for all countries (developed *and* developing), acknowledging that different countries are starting from different baselines but they are all on the same journey;
- The group acknowledged the difficulty in covering such technical detail in a concise document, and it is understood that this document alone will not cover the whole process, thus it is necessary to clarify the provisional long-term process and the proposed next steps;
- The authors and publishers should consider the benefits of electronic and/or web-based formats as opposed to purely paper-based publications when publishing the documents.

In addition, some general comments and recommendations for improving the technical content of the documents were proposed:

- Discussion of the topic areas should take a systems-based approach, with subsections within each topic highlighting the inter-silo/inter-topic interactions;
- Topic division is essential to make the large technical document accessible; it is necessary to consider that this document is not just for policy-makers and experts, but needs to be

- understandable to the workforce that will be responsible for implementing the process. Interventions should align with established areas of health care facility management;
- The technical advice is largely focused towards large energy-intensive buildings and could be reframed to address more general aspects of the health sector;
 - The language of the document needs to be adapted to the audience that the documents are targeting;
 - The technical document and the recommendations therein need to be checked for compatibility with EU laws and regulations; and
 - Cross-boundary issues (such as water contamination) should specifically be highlighted and recommendations made in line with existing EU and international legislative and regulatory instruments and agreements (e.g. protocols and conventions).

After review of the document, the meeting participants made some recommendations for strengthening the technical content:

- More integrated case studies are needed, and it was suggested that standards for case studies be established;
- With regard to the section on procurement:
 - “Hotel services” should be included, such as catering, laundry, cleaning and sterilization;
 - Chemicals and pharmaceuticals should also be considered separately, not just from a procurement perspective, but also in terms of use and disposal;
- With regard to the section on energy:
 - Energy management should be considered within a more holistic approach, covering procurement, efficiency, equipment use and carbon footprint;
 - Redesign/reengineering of existing equipment with correct labelling to improve overall energy use could be proposed;
 - Staff and patient comfort and energy use need to be balanced and considered from the perspective of climate variation, heating/cooling requirements and air quality;
 - National energy policy could influence health systems, and vice versa, as they are large national energy consumers; thus policy development in both sectors could encourage greener health systems;
- With regard to the section on waste:
 - To promote a reduction in the generation of waste, the single-use culture in health care settings should be discouraged where possible without endangering patient safety;
 - The component on waste-water should be included in the waste section of the technical document;
- With regard to the section on the built environment:
 - The importance of air quality and green spaces should be strengthened;
 - The importance of building design and materials should be evaluated;
 - The use of the building should also be included; the building could be designed and built to the correct building standards but could be used incorrectly by the users thereby negating positive design criteria by wasting energy/resources.
- Proposed new sections for inclusion in the technical document are:
 - Education and professional training;
 - Legislation and policy;
 - Leadership and management (responsibilities);
 - Chemical safety; and
 - Catering.

Working in partnership

Meeting participants recommended that this work is performed in partnership as much as possible. It was noted that numerous initiatives are already ongoing both within and between a range of countries.

During this meeting UNDP and Health Care without Harm presented their developments. Volker Welter, Senior Procurement Adviser, UNDP and Christoph Hamelmann, Regional Practice Leader, HIV, Health and Development, UNDP presented an overview of the UN Informal Interagency Task Team on Sustainable Procurement in the Health Sector (IIATT-SPHS). Acknowledging that procurement is the most important contributor to greenhouse gas emissions by the health sector, the IIATT aims to “green” the procurement of health-related products and services. The critical mass of procurement performed by the UN in some segments of the market may be used to help orient suppliers towards more sustainable processes. The IIATT’s activities are therefore focused on the development of guidelines to foster sustainability in procurement practices. This would in turn have a strong positive knock-on effect on the sustainability of health systems in general.

Anja Leetz, Executive Director, Health Care Without Harm, Europe provided an overview of global non-profit network Health Care Without Harm. The organisation works to link environment and health through sharing best practices and influencing policy. While issues vary by region, action areas include medical waste management, mercury use in medical devices, energy and food supply, and management of pharmaceuticals. It was again reiterated that hospitals may lead by example, improving and promoting public health while reducing their environmental footprint. The Global Green and Healthy Hospitals network and website were introduced, supporting the development of a comprehensive environmental health agenda for hospitals and health systems globally, and several case studies were discussed.

WHO support to European Member States

Sonia Roschnik presented the *Route Map for Sustainable Health*, a framework for action produced by the Sustainable Development Unit in conjunction with 70 partner organisations in the United Kingdom¹. The route map outlines the parallel and reinforcing pathways towards a sustainable health system, outlining the activities that should occur and milestones that should be reached by 2020.

The meeting participants subsequently developed a route map for their respective countries, describing the behaviours, standards and innovations necessary to achieve improved sustainability in health systems. A summary of the route maps generated by meeting participants is provided in Fig. 7.

¹ see: <http://www.sdu.nhs.uk/sustainable-health/route-map.aspx>

Fig. 7. Route map for achieving environmentally sustainable health systems as generating by the meeting participants.

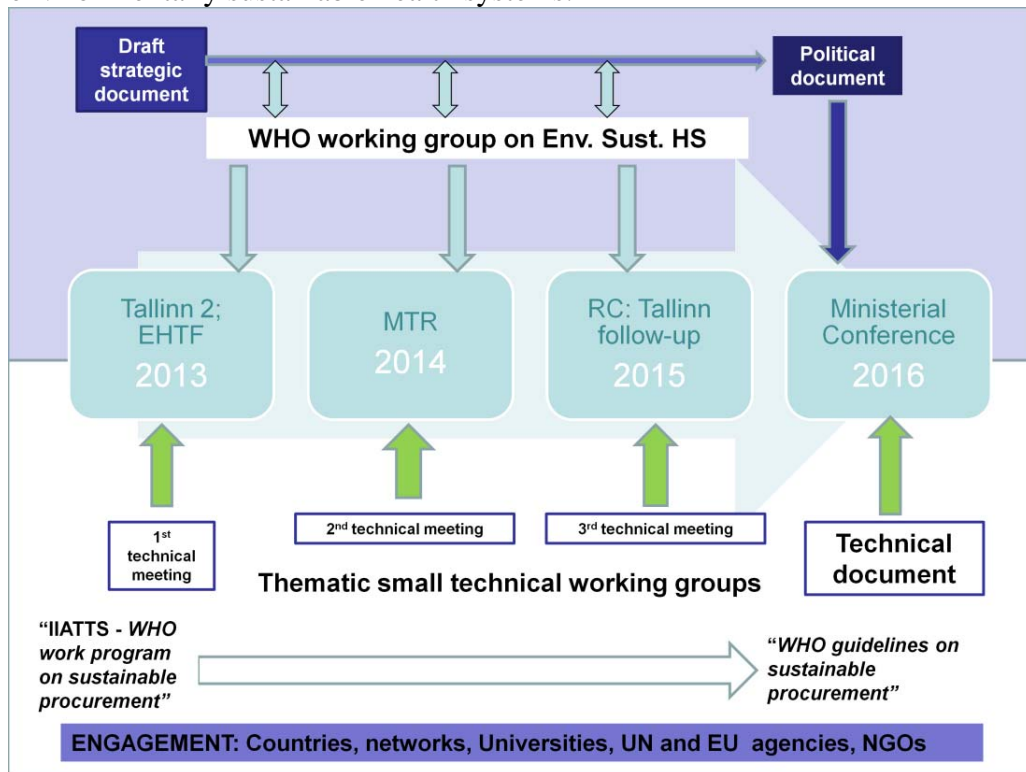
Measures of success	Mainstreaming Everybody's business Necessary tools Professional development (job profiling) HS leading by example New conscience at all levels	Publically reported with live data reported Genuine collaborative effort	All solutions found (!) Boundary between costs and sustainability tackled
Getting there	Established societal/behavioural norms	Standards and protocols in place	Sustainability is a legitimate criteria of quality
On the way	Engagement of rural health committees (e.g. KGZ) Volunteer activities Curricula development Establish inter-govt structure Capacity building Engage EU agencies (political agenda)	Implementation Energy efficiency assessments Labelling standards and compatible with renewable energy Find measures incentivisation	Indicators for innovations (also considering knock-on/2° effects) Cross-silo approach to renewable energy Established and easy data collection mechanisms Baseline establishment Financing mechanisms for sustainable investments
Getting started	Staff engagement (sust. days) Establishing political leadership Interdisciplinary debate on multi-sectoral coordination Define scope/priorities & baseline study Raising awareness of health prof, decision-makers, media Discussion on energy efficiency	Development of national strategic actions and protocols Establish national working groups Experts to establish key priorities Define responsibility for env. aspects Energy efficiency standards recorded Pilot projects Define mechanism (voluntary/obligatory)	Models or care – exploring possibilities (e.g. treatment at home) Identifying gaps in knowledge and defining research agenda Env-friendly manufacturing processes
	Behaviour	Standards	Innovation

Conclusions and next steps

During the concluding section of the meeting the following timelines and steps were discussed. It is planned that the current section one draft will be transformed into a draft strategic document. This should be produced in time for the Mid-Term Review (MTR) of the implementation of the Parma commitments, to be held in mid-2014. The current section two of the document will be extended to a draft technical document and is expected to be developed by 2015. The latter will only be possible through the active involvement of the meeting participants and through the creation of topic-specific small working groups.

The strategic document and final technical document should be completed in time for the 6th Ministerial Conference on Environment and Health in 2016 (please refer to Fig. 8 for an outline of the process and timeline). This process will occur concurrently with the development of the IATTS-WHO *Guidelines on Sustainable Procurement*. There would be potential for meeting participants to continue to contribute to this process through participation in working groups for technical document and strategic document development. WHO will for this keep the current ShareFile active and will provide an update on developments every three months. Furthermore, WHO will actively engage the current participants as well as other institutions as suggested by participants of this meeting.

Fig. 8. Process and roadmap for the development of the documents on environmentally sustainable health systems.



The development of the political/strategic document and the technical document will run in parallel, with technical meetings informing the process and policy promotion in the relevant settings (e.g. Tallinn 2, the Environment and Health Task Force, MTR). Engagement activities with countries and stakeholders will take place simultaneously.

And finally... some closing “vision quotes” from the participants!

Green health systems are essential to ensure universal health coverage | Green health systems are essential to the sustainability of the Millennium Development Goals | Sustainable health systems are part of sustainable development | A healthy environment is a prerequisite for good public and animal health | Introduce new technologies into the health sector, for example renewable energy and energy-saving technologies | Research, innovation, new technology | We can develop a healthy, sustainable world | Environmentally sustainable health systems should be covered by the WHO | Save money and create a happier workforce and a healthier population | Investments in better health and lower costs | Current models of care can cause harm | Use a policy approach | Save the environment and financial resources, and make people healthier | Reducing environmental contributors starts with us | The greening of hospitals will improve human and environmental health | Improve health buildings – don’t just stick energy gadgets on them and walk away | This process can be mainstreamed and adapted | Embedding environment in health is essential | Without a move to environmentally sustainable health systems the health inequalities of the past will be repeated | Sustainability is good business, good for the community and good for you | We can support you going green | Environmentally sustainable health systems are setting the standard!

Annex 1: Final programme

27 August 2013

08:45 – 09:15	Registration
09:15 – 09:30	Opening of the meeting (<i>Srdan Matić (Chair), World Health Organization</i>)
09:30 – 09:50	The rationale of this meeting and expected results (<i>Bettina Menne, WHO Regional Office for Europe</i>)
09:50 – 10:10	Key aspects of health systems development in the WHO European Region (<i>Valentina Hafner, WHO Regional Office for Europe</i>)
10:10 – 10:30	WHO developments on greening health services (<i>Susan Wilburn, WHO headquarters</i>)
	<i>Strategic approaches to green health systems</i>
10:30 – 11:00	Environmentally sustainable health systems: the case for change Presentation of the background document (<i>Sonia Roschnik, UNK</i>)
11:00 – 11:30	Coffee Break
11:30 – 13:00	Greening health systems: major concepts and strategic direction - group discussion <ul style="list-style-type: none"> • What are green health systems or environmentally sustainable health systems? • Vision and objectives? • Necessary essential elements? • Added values? • Which European and national support mechanisms should be put in place or are in place? • How can we best link to the sustainable development aim of universal health coverage?
13:00 – 14:00	Lunch (29 th floor)
14:00 – 15:00	Presentation of the group work and discussion Reflection from experiences in local settings. Invited participant.
	<i>Technical approaches to green health systems</i>
15:00 – 15:30	Environmentally sustainable health systems: key technical elements Presentation of the technical background discussion document (<i>James Mackenzie, UNK</i>)
15:30 – 16:00	Group work: technical discussion on key elements of environmentally sustainable health systems: procurement, waste, water, built environment, energy, travel and transport, as well as enabling mechanisms in health system functions such as governance, models of care, workforce development, financing and information. To guide the discussion a technical document has been developed. Overall questions of discussion will be building on the background document including:

	<ul style="list-style-type: none"> • Are the proposed areas of focus (key elements) the best? What is missing? Do the key elements have the right balance? • Are the proposed desirable sustainable outcomes well focused? • Are the proposed practical actions complete, accurate, clear, and feasible? • Does evidence support the approach? • How can the actions be implemented? • Are there other better case studies? • Are the indicators for measuring progress accurate? • Any other suggestions?
16:00 – 16:15	Coffee break
16:15 – 17:00	Continuation of the group work
17:00 – 17:15	Closure of the day
19.00	Social dinner

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	<i>Aligning technical and strategic approaches</i>
09:00 – 09:15	Opening of day 2 with a summary of day 1
09:15 – 10:15	Presentation of the group work of day 1 and discussion: Reflection from experiences in local settings. Invited participants.
10:15 – 11:00	Updates and lessons learnt from UN agencies and other organizations UNDP developments (Volker Welter and Christoph Hamelmann, UNDP) Health Care Without Harm: a summary of case studies (Anja Leetz, HCWH)
11:00 – 11:15	Coffee Break
11:15 – 13:00	Group work: aligning technical and strategic direction <ul style="list-style-type: none"> • What are green health systems or environmentally sustainable health systems? Who is the audience? • Vision and objectives? • Necessary essential elements to include in the document? How to restructure the document? • Practical action to be prioritized by theme? • Modes of implementation to be prioritized? • Measurements and indicators
13:00 – 14:00	Lunch
14:00 – 15:00	Presentation of results of the group work and discussion
	<i>WHO support to European Member States</i>
15:00 – 15:10	Think piece: the route-map towards green health systems?
15:10 – 16:00	Discussion
16:00 – 16:15	Coffee
16:15 – 17:00	Agreement on next steps

Annex 2: Final list of participants

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**The WHO Regional
Office for Europe**

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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In August 2013, the WHO Regional Office for Europe organized a technical meeting to discuss requirements for developing environmentally friendly health systems and to contribute to the development of a roadmap with strategic direction on how this topic could be further developed across WHO European Member States. The meeting also allowed for lessons learnt to be shared from a variety of European local and regional initiatives. The development of these documents represents a first major step in a long-term ongoing process of greening the health sector.

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