Climate Change and Health Good Practice Award: Competition Entries

Category: Mitigation

1. Luftibus Fresh-Air-Express on feet (AUSTRIA)

Organisation: Environmental Department – City of Graz, Austria
Contact Person: Johann Ofner
Email: johann.ofner@stadt.graz.at

Project Description: The "Luftibus" is a walking community of pupils with an adult escort, which is walking to school everyday. It is a healthy and secure alternative to driving pupils to school by car. The difference to similar projects is, that before implementing the fresh-air-express, there's a comprehensive stage of awareness raising for several classes.

The pilot project was started in secondary modern school Andritz in Graz. There children aged 11 to 12 years are educated to air-, mobility- and transport-experts. They learn about pros and cons of means of transportation and their sustainable handling, air pollution and its impacts on health and to find the most secure and fastest route to school.

After training the older children, pupils from elementary school Andritz will be incorporated and together pupils search for the best route to school for the younger children. They will draw routes in city maps and walk several ways to find out the best. This route will be marked with stopping points and a time-table will be fixed.

Some adults will be prepared to be escorts for the children. After that every morning pupils can take the "Luftibus" to go to school instead of driving by car with their parents.

2. Wissen Zum Essen (AUSTRIA)

Organisation: Die umweltberatung (Austria)
Contact Person: Mag. Julia Katzmann
Email: umweltbildung@umweltbertung.at

Project Description: The material "knowledge on food", produced in 2006/2007, is presented by external consultants in many schools in lower Austria. The material makes clear the links between nutrition, agriculture, a healthy soil, the origin of food, and climate change. Public relations are done by "Die Umweltbertung". There are seminars for educationalists where some of the methods are

introduced for further use in class. Teachers do not get the material without being trained in such a workshop.

Outline of materials:

- Background information for educationalists, which can be handed on to parents by master copies
- Worksheets – some with a quiz, others with experiments for pupils
- Posters with the ecologic nutrition-circle (refers to seasonal and regional food)

Give-aways: little ecologic nutrition-circle for every learner

3. Green Health Care Oeresund (DENMARK & SWEDEN)

Organisation: Green Health Care Oeresund (Denmark & Sweden)
Contact Person: Charlotte Berg and Daniel Eriksson
Email: chbe@geh.regionh.dk / Daniel.Eriksson@tem.lu.se

Project Description: Malmö University Hospital (UMAS) and Gentofte Hospital in Copenhagen have since 2006 joined in a common project called Green Health Care Oeresund.

The project is developed at two levels: a concept level and a practical level.

At the concept level the concept," Green Health Care" will be defined and form the frame for the collaboration and communication in the project.

At the practical level the hospitals work with two projects:

One project is focusing on energy savings. Hospitals are large consumers of energy and with increasing energy prices savings in this area will benefit both the hospitals economy and the environment in relation to reducing the CO2 release. Hospitals have lots of technique but also the behaviour of the staff contributes considerable to the amount of energy used. The mapping of energy-use and possible savings has a broad focus on technique, hospital operation and staff behaviour.

The other project will built a model for a future ward room with a holistic approach. When it comes to a ward room both the establishment, interior, cleaning possibilities, aids etc. will affect the satisfaction of the patients and the staff. A green ward room therefore needs to take many aspects into account and secure that the room fulfil goals of patient satisfaction, health and safety conditions, energy consumption, hygiene standards and environmental consideration.

4. BUND-Label "Energy Saving Hospital (GERMANY)

Organisation: Bund fuer Umwelt und Naturschutz Deutschland Landesverband Berlin e.V. (BUND Berlin) - Association for the Protection of the Environment and Nature in Germany (NPO)
Contact Person: Annegret Dickhoff
Email: dickhoff@bund-berlin.de

Project Description: The BUND-Label "Energy Saving Hospital" is an award any hospital in Germany can acquire upon the evidence of saving energy on a large scale and reducing its CO2 output. The label is given to hospitals which are specially committed to energy efficiency and thus to climate and resources protection.

There are four criteria according to which the activities of a hospital are checked; at least two of them have to be fulfilled. This procedure takes into account short term measures as well as long term engagement to reduce carbon dioxide emissions.

The environmental activities of hospitals usually take place in combination with the assembling of modern technology and other structural measures for example, external insulation for building walls and new windows. Some hospitals also decide to purchase renewable energy when the contract with their previous energy distributor ends. Setting up a new energy system generally costs hundreds of thousands of Euros. Hospitals usually need a combined heat and power unit or other heat supply and also refrigerating engineering. To fund these energy systems hospitals often cooperate with companies who offer contracts for energy conservation. This financing technique uses cost savings to repay the cost of installing energy conservation measures in the first years. After the repayment the hospitals saves money.
The BUND presents the clinic's activities on reference data sheets and puts data of contact persons on the internet. In this connection the BUND sees its role as an agent between hospital management, organisations and authorities.

At the same time the BUND online-newsletter offers a platform for publication of various activities for more climate protection and reduction of energy consumption in hospitals.

5. Educating ourselves to change: educational experiences about eco-efficiency (ITALY) (Educarci al cambiamento: esperienze educative sull'ecoefficienza)

Organisation: Azienda USL 11 Empoli
Contact Person: Maria Grazia Petronio
Email: mg.petronio@usl11.tos.it

Project Description: The USL 11, as part of initiatives on the theme of education for sustainability, energy saving and environmental protection, has promoted and implemented in the 2006-2007 in collaboration with ARPAT the UNESCO project "If shut down, no waste and no spend!" and in collaboration with the Sustainable Tuscany Foundation the project "The school that protects the environment: education, exchange and dissemination of good practice in the territory of the Zone of Leather and Circondario Empolese Valdelsa."

The USL11 Empoli with ARPAT has coordinated in own territory of competence the Conference on Climate Change 2007 Junior held on September 13, 2007 organized by APAT via video conference Roma-Empoli, during which was drawn up the game-simulation "Go to say to the dinosaurs." The event was attended by about 100 students from the region.

In continuity with the initiatives launched last year, during the Energy Saving Week, the company has organized during the week 5-11 November 2007 the week of Save Energy and Reduce Waste: "How do you throw?… Recycling you learn and save."

The project "The school that protects the environment" came to his second year of implementation, 2007-2008, involved the territory of Zone of Leather and Circondario Empolese Valdelsa. The project has addressed issues of sustainability of school buildings, energy and waste.

6. Energy Efficiency Plan of the Municipality of Padua (ITALY)

Organisation: Municipality of Padua, Italy and DG Environment
Contact Person: Luise Daniela
Email: padova21@comune.padova.it

Project Description: Energy saving and limitation of CO2 and other greenhouse gas emissions through improvement in the management of buildings and of the service offered by the Municipality; and substitution of highly polluting burning fuels with a greater use of renewable energy sources.

As part of the project we undertook a general analysis of consumption and efficiencies of the electric and thermal devices used by the Municipality of Padua. Subsequently a series of proposed interventions to improve energy efficiency, energy saving and to increase the amount of energy produced from renewable sources were made. An evaluation of the economic burdens and environmental impacts was undertaken. As a result of this analysis the following was implemented:

- Purchasing of electric energy in the free market system
- City Lights System
- Traffic lights – substitution of incandescent lamps with LED lamps
- Assessment of the electric and thermal efficiency of buildings
- Public vehicle parking – substitution of 20 fuel engine vehicles with double injection system vehicles
- Photovoltaic system
- Best practice of the Municipality of Padua: training and awareness campaign for citizens and public workers.

7. The Perugia Minimetrò (line Pian di Massiano-Pincetto) (ITALY)

Organisation: Municipality of Perugia, Italy
Contact Person: Dr. Vincenzo Piro
Email: v.piro@comune.perugia.it

Project Description: To construct a Minimetrò system in the City of Perugia, with the following benefits: reducing traffic (both public and private transport); making the city more liveable and encouraging pedestrians; limiting of energy costs; relieving damage done to the historic and art treasures due to pollution. The Minimetrò is fully integrated into existing transport systems and has

links to the: National rail; Centrale Umbra Rail; bus network; parking; and has access via lifts and escalators.

The Minimetrò consists of a double track line made from steel, 3 km long, on which 25 vehicles run with rubber wheels for 50 passengers and 8 seats are available with special tip-up seats. Automation allows for a very high level of frequency, one minute between one vehicle and another. The capacity is 3000 people / hour in each direction.

The system belongs to the APM type (Automated People Mover) with cable traction and is handled, in the stations, with the technologies of automatic fixing.

Movement of the vehicles is therefore transmitted by a steel cable moved by an electric motor. When the vehicle reaches the two stations, it rotates on an inversion platform, allowing for the vehicle itself to move again in the opposite direction.

The maximum speed of the System is 7m/s. Study of the illumination and of the construction details aim to achieve a result of maximum lightness and transparency.

The lines have been developed, for the sections of the viaduct, with a structure made from steel consisting of very high electro-welded beams.

There are seven stations: essential structures are characterised by thin elements and allow for strategic views of the surrounding landscape.

8. Eco-Hut: sustainable accommodation (PORTUGAL)

Organisation: Cascais Natura Environmental Agency, Portugal
Contact Person: Luís Capão
Email: luiscapao@cascaisnatura.org

Project Description: The Eco-Hut has been designed mainly to provide accommodation in areas that are sensitive for nature conservation. It also intends to create an experience of educational habitation, as all water and energy use is controlled through a credit system the limits the amounts available during a given period. The eco-credit system allows the users to see how resources are being used. When the user checks-in he/she receives a card with the eco-credits needed for number of days of stay. If the user spends more resources than sustainable needs, the credits will all be used up. In this situation, the eco-hut could be turned off or the user may have to pay negative credits (more expensive).However, guests that sustainably use the resources will see their credits at a level above zero before the end of their stay. In this case they could receive the equivalent money back or stay more days for free. The eco-hunt is designed with the aim of being used also by handicap people. The eco-hut construction considers bioclimatic strategies in order to adjust each place of implementation, optimizing the energetic efficiency and reducing the carbon emissions. The current model of the Eco-Hut, occupies some 76 sq meters, and is modular so it can form larger structures for multiple uses.

Main features of the eco-huts are:
* Construction: Suspended construction; recycled, recyclable or natural materials; certificate wood;

modular system

* Thermal efficiency: Use of cork for insulation; heating using biomass; natural ventilation; use of natural factors of thermal amenity; solar-thermal panels

* Energetic efficiency: Maximizing of natural light; energy from renewable sources depending on local conditions; LED light technology

* Water and sanitary system: Use of local water resources; waste water treatment station and Lagooning.

9. Reduction in greenhouse-effect emissions in Wastewater Treatment Plants: Biofuel production from biogas (SPAIN)

Organisation: Murcia City Council, Spain
Contact Person: Adela Matinez-Cachá
Email: Concejalia.medioambiente@ayto-murcia.es

Project Description: The objective of this project is to obtain automobile fuel from a renewable energy, namely biogas generated in urban wastewater treatment plants (EDARs). Biogas is a waste product of anaerobic mud digestion, resulting from the wastewater treatment process that has an important negative environmental effect (odours, toxic nature and flammability, etc.). Aguas de Murcia, the company responsible for the water cycle in the District of Murcia, uses this biogas as a renewable energy source. In this project the biogas passes through different phases in a pilot plant designed for that purpose. The process involves four phases:

1. Cleaning of the biogas: selective elimination of trace compounds, obtaining a pure methane and CO2 current that has several concatenated phases
2. CO2 absorption plant: separation of both the compounds that form the gaseous current, assigning to each a separate use. This can be done by
3. Using the CO2 that has been recovered and reused in the treatment process as an additive in treatment, thereby closing the cycle of zero atmospheric emissions.
4. Transformation of the biogas into fuel for automobiles, and compressing and storing it for use as a fuel in the Aguas de Murcia vehicles fleet.

10. Health promotive health care for a sustainable Dalarna (SWEDEN)

Organisation: Dalarna County Council, Sweden
Contact Person: Johan Hallberg
Email: johan.hallberg@ltdalarna.se

Project Description: The aim of the project is to enhance knowledge of the correlation between health promotion and sustainable development, including the climate change, among health professionals, and by doing so to motivate health professionals to work in a way that promotes health and sustainable development. This pilot project involves health professionals at five different health

centres in the county of Dalarna, Sweden. They have received a limited educational effort of one lecture, one booklet, some pamphlets for patients, two posters and some other materials presenting the correlation between health promotion and sustainable development, including climate change.

The lecture and the written materials are based on the report "Promoting health – a key to sustainable development" (A Swedish report produced by the project leader, not yet published.) and the orientating model for thought and action "Seven landmarks for health and sustainable development". The seven landmarks are: 1. More bodily movement in the every day life, 2. More fruits and vegetables in the food, 3. Room for humane interaction, 4. Room for active parenting, 5. Balance the stress, 6. Closeness to nature, 7. Closeness to culture.

Before the educational efforts started the 280 health professionals have answered three different questionnaires about their attitudes and knowledge concerning health promotion and sustainable development, their thoughts of written prescription of physical activity and finally their sense of coherence. The same questionnaires will be answered in September 2008. There will be an analysis of the annual report of the health centres concerning health promotion and the use and quality of written prescription of physical activity. The health professionals in five other health centres are control group.

11. Safe and enjoyable routes to and from school (SWEDEN)

Organisation: Swedish Road Administration, Region Stockholm, 8 Greater Stockholm boroughs
Contact Person: Fariba Daryani
Email: fariba.daryani@tk.stockholm.se

Project Description: Over recent years a disturbing tendency has developed – of children being driven to and from school in cars. The environment round schools is not intended to cater for the increase in traffic, an increase which makes for lower road-safety standards and higher levels of pollution, with a negative effect on pupils' health.

Children's physical activity is reduced by their being driven to and from school and to and from free-time hobbies etc. Frequent car use is a cause of a decrease in children's health; diabetes and back problems are affecting younger and younger children. And they don't get a chance to enjoy "discovering" their local environment. It also develops one-sided attitudes to travel among the children who are now turning into a "back-seat generation".

Within the project, we develop techniques/ methods to change travel behaviour patterns. We inspire parents and teachers to encourage children to walk, bike or travel in groups to and from school. We act in order to make routes to school safer and richer in terms of enjoyment.

We increase people's awareness of the problems caused by car runs, and get them used to using new means of travel.

In order to inspire boroughs and schools to work on traffic and health issues we have produced tools. Among other things, we have produced a film about 'walk-buses', Walkbuses – "this is what we did" brochures.

12. Reducing emissions of nitrous oxide (SWEDEN)

Organisation: Stockholm County Council, Sweden
Contact Person: Anna Linusson
Email: anna.linusson@sll.se

Project Description: Stockholm County Council is working hard to reduce its emissions of nitrous oxide (N2O, laughing gas) to the atmosphere. By 2011, the emissions should have decreased by 75 % compared with 2002.

To reach the goal by 2011, many different measures must be taken. Destruction of nitrous oxide is an important part, but work will also be done on leakage control and to make the use of nitrous oxide more efficient.

* A destruction facility for nitrous oxide, Anesclean-SW, was purchased by Stockholm County Council in 2004 and installed at the Karolinska Huddinge Hospital. Anesclean-SW is a prototype, and is unique in its kind. It has been working very well from the start, providing a reduction of the incoming nitrous oxide in excess of 95 %. Purchase of two more destruction facilities is planned for 2008/2009.
* Extended leakage control will start during 2008. Equipment in the maternity wards and in the ventilation channels will be examined. This area has great potential for reducing the emissions of nitrous oxide.
* Studies of a special gas valve to improve the efficiency in using nitrous oxide have recently started. This will reduce the amount of nitrous oxide used by the woman in labour by automatically switching to an oxygen/air mixture in the end of the contraction in order to prevent the mother from inhaling more nitrous oxide than needed for pain relive.

13. Basildon and Thurrock Carbon Reduction and Green Awareness Project (UK)

Organisation: Basildon and Thurrock University Hospitals NHS Foundation Trust, UK
Contact Person: Jenny Galpin
Email: Jenny.galpin@btuh.nhs.uk

Project Description: A multi-faceted action plan was developed to deliver health and energy benefits.

More effective boilers were put in place to provide the steam needed to support the hospital. The new equipment provided the capacity to support the energy requirements of the hospital in a more effective way.

A new 15,000m2 cardiothoracic centre was built and opened in 2007. Designed with sustainability in mind it achieved an 'excellent' NEAT rating through minimising internal rooms and selecting power

installations which provide efficient energy usage. The building includes, for example, motion sensitive air conditioning in the operating theatres which operates only when occupied.
An extensive programme of water system improvement and renewal was carried out.
A programme of replacing incandescent lamps with miniature fluorescent lamps was introduced.

Improved roof insulation was installed.

The Trust worked with local partners and used its own resources to offer a range of different alternatives to single occupancy car journeys.

Measures were put in place to support smoking cessation through offering support to those who wished to quit and by making Trust buildings and grounds 'smokefree'

Software was put in place to allow PC monitors to turn off automatically while retaining the ability to undertake upgrades and maintenance at night.

14. Sustainable Centre for Disability Studies (UK)

Organisation: Disability Essex, UK
Contact Person: Mr. Richard Boyd
Email: info@disabilityessex.org

Project Description: The Sustainable Centre for Disability Studies offers an innovative ecological design to Passivhaus standards and BREEAM Excellent rating. Passivhaus is the leading standard for energy efficient construction and this will be the first UK office building to meet this stringent standard, demonstrating a new and economically significant response to the development of low carbon economic growth. It will be an Exemplar Green Building (as recognized by Inspire East www.inspire-east.org.uk) that will achieve proven ultra-low energy and low carbon performance and demonstrate to other organisations they can do the same and reduce their carbon footprint.

Construction involves the use of extensive 'passive' measures to achieve a reduction in our carbon footprint – application of effective, robust and long lasting renewable 'building technologies' e.g. photovoltaics, windmills, thermal mass, solar, shading. These will be used to demonstrate construction and engineering techniques to various industries and to students trained in-house on accredited courses, including the charity's own disabled students.

Simultaneously it is designed to cater specifically for the needs of people with disabilities and medical conditions in a changing climate (e.g. effective cooling mechanisms), offering a range of services to help them lead a healthy lifestyle whilst reducing their impact on the environment.

15. A Greener and Healthier University (UK)

Organisation: The University of Edinburgh, UK
Contacts: David Somervell & Karen Darling
Email: David.Somervell@ed.ac.uk / Karen.Darling@ed.ac.uk

Project Description: A recognised leader in environmental and sustainability issues the University has pushed pro-active measures to promote the health of all academics, technicians, and support staff – and of students who choose to study in Scotland's capital. The Health and Safety Department promote a healthy workforce as well as a safe one.

When the University Court adopted the Sustainability Policy – and an Integrated Transport Policy – in 2000 the following goals were set:

- To promote continual improvement in sustainability guidelines for design teams and contractors working on new build and refurbishment projects – specifically to cut absolute CO2 emissions by 40% by 2010 – against 1990 baseline
- To develop procurement procedures with all suppliers to ensure social, ethical and environmental criteria are integrated into programmes aimed at achieving best value – through Sustainable Procurement
- To maximise the efficient use of energy and materials, continually improve pollution prevention measures and increase use of renewable resources – and reduce water consumption by 20% by 2010 – against 2000 base year
- To minimise waste generation in research and teaching and encourage repair, reuse and recycling ahead of the responsible disposal of surplus materials – and cut waste to landfill and recycle 30% of all arisings by 2007
- Promote practical measures to reduce the impact of travel to and between university sites – and reduce single occupancy car journeys by 5% by 2007.
- Additionally Health & Safety + HR departments actively support Health Promotion.

16. Aberdeen Royal Infirmary Energy Centre Upgrade (UK)

Organisation: NHS Grampian, UK
Contact Person: Alex Tait
Email: alex.tait@nhs.net

Project Description: Previous feasibility studies gave clear indication that this site met the criteria for a high efficiency CHP installation.

In order to maximise the full environmental benefits, our organisation worked with the carbon trust to ensure that the conclusions were robust and provided sound basis for further investigation.

In 2007 a team of consultants were invited to review these studies and prepare options for upgrade or replacement of the current energy centre.

Based on a number of critical success factors the outcome of discussions, including several workshop events, resulted in a preferred option being selected for submission to our local NHS board.

As stated this option is calculated to reduce site CO2 emissions by some 8,00S tonnes and based on current fuel costs, it will provide revenue savings of £1,000,000 pre annum.

Generating 90% of site electricity, the project which will include installation of a 3.9 MW combine heat and power unit, is designed to meet the base heating demand of the site.

When required it will be augmented primarily by a biomass steam boiler, supplemented by conventional dual fuel steam raising plant. Marginal provision for export of heat and power has been build into the project.

17. Camden Walking Plan Second Edition 2006; First Review conducted April 2008 (UK)

Organisation: London Borough of Camden, UK
Contact Person: Aideen Dunne & Tom Allen
Email: aideen.dunne@camden.gov.uk / tom.allen@camden.gov.uk

Project Description: The Walking Plan is a document that outlines the Council's strategies for promoting and increasing walking within the borough. The Walking Plan adopts a holistic approach to improving walking in the borough by implementing a multi dimensional strategy. This includes targeting the physical environment by improving pedestrian facilities, providing training and education to empower children and adults to be more active and to increase the opportunities available to walk by increasing connectivity and accessibility between and to pedestrian footways and walking routes.

The success of the Walking Plan and the achievements made as a result are mostly due to holistic approach and the thorough review process of the Walking Plan that occurs every two years. This process is very transparent and inclusive but also stretching for the Council.

The Walking Plan is reviewed and success is determined by comparing performance and progress to targets outlined in the plan. Performance indicators and up-to-date data on current performance allow it to be very clear whether or not the original aims of the Walking Plan have been met.

The review process also includes consultation with local interest groups, stakeholders and field experts.

18. Transport Review (UK)

Organisation: Northern Lincolnshire & Goole Hospitals NHS Foundation Trust, UK
Contact Person: Jug Johal
Email: jug.johal@nlg.nhs.uk

Project Description: The goal for our project was to develop a travel strategy with a goal to promote sustainable transport by increasing travel choice and reducing the need to travel. Following the Transport Reviews carried out in 2004/2006 and the Trust spending on average £1M per annum on travel, Northern Lincolnshire & Goole Hospitals NHS Trust made the decision to appoint a Transport Manager.

To ensure that Transport Services are delivered economically and efficiently, we have undertaken service reviews in the following areas, amongst others:

- Cross-site Travel: Staff travel has recently been analysed and from the data collated it has shown that staff travel both cross-site and non cross-site is costing the Trust thousands of pounds each year. For the first three months of this financial year staff travel has cost the Trust £183,191.60 in expense claims and taxis, extrapolated straight line for the rest of the year this would equate to £732,766.40 (1.5M Grey Fleet Miles).

  Two shuttle busses have implemented to reduce the number of miles claimed by staff and cut carbon emissions. In the Fist seven months the Trust saved over 200,000 grey fleet miles saving the Trust in-excess of 40K.

- Taxi Usage: For the first six months of 2006/07 financial year, NLAG has spent £48,740.99 on taxis, extrapolated straight line for the rest of the year this would equate to £97'481.98.

  A new courtesy car service has been implemented which has reduced the average taxi bill to 3.2K.

- Postage & Equipment: Northern Lincolnshire & Goole Hospitals NHS Trust has 3 sites set geographically wide apart. In-order to meet the operational requirements of the Trust and patient care to be delivered to the best possible standard the Trust currently spends thousands of pounds each year transporting equipment, samples, records etc to each site.

  A new courier service has been developed which has involved a number of services being centralized.

- Pool Vehicles: Trust Pool Cars were reviewed in November 2005 and our analysis showed that a number of different manufactures and engine sizes were being used and also some vehicles owned by the Trust were very old and in need of replacement.

  The Trust has completed a rigorous vehicle replacement program which has seen the introduction of much more fuel efficient vehicles such as the award winging Vauxhall Corsa 1.3CDti. All commercial vehicles have been replaced and will be replaced on a 3 year cycle.

19. Links to higher education
Carbon cutters – saving carbon, saving energy (UK)

Organisation: Norfolk and Norwich University Hospital, UK
Contact Person: Alison Morris
Email: amorris@norwich.serco.com

Project Description: The NNUH carbon management programme began in march 2007 with the 2nd wave of the carbon trust NHS carbon management programme, following this sign up the NNUH trust along with its partners; Serco and Octagon jointly funded an undergraduate environmental science student from the university of East Anglia. The aim of this was to allow up to date expertise and the support of the university and connected partners in the field of carbon reduction and management.

The hospital was selected along with the two other local businesses to be part of a ply on the wall documentary on measuring organisational carbon footprints and finding solutions.

The NNUH had a workforce that was, at least in part, engaged with and enthused by the issue of reducing carbon emissions at the start of the project and the fact that 300 carbon saving ideas had been suggested was indicative of this. However, it lacked a dedicated and informed resource to take the role of identifying and driving forward the best initiatives so appointing Alison Morris was a carbon reduction Officer helped make the link between enthusiasm and action.

20. The Northwest NHS sustainable development work programme to December 2009 (UK)

Organisation: NHS North West and the North West public health team, UK
Contact Person: Ruth Passman
Email: Ruth.passman@dh.gsi.gov.uk

Project Description: This project is to establish and implement a programme of overarching high impact changes in the North West to improve its contribution to achieving national sustainable development targets. By December 2009, the NHS in the Northwest aims to have implemented the following high impact changes to improve its contribution to achieving national sustainable development targets:

1. Sustainable development self assessment; promoting the sustainable development commission toolkit

2. Improving sustainable development performance

3. Transport; making NHS transport sustainable

4. Procurement; working within the north west sustainable procurement framework

5. Social impacts; building sustainable development into people policies

6. Sustainable estate management; promote and maintain good environmental management in facilities

7. Employment and skills; creating the skills to deliver sustainability in NHS

8. Community engagement; working with and reflecting our communities

9. Sustainable new build; NHS to develop new build with low environmental impact and real social benefit

10. Climate change; to work with the climate change partnership to manage climate change impacts on health and healthcare

A one-day summit conference was held on 14th December 2007 attended by 100 chairs, chief executives and senior policy making staff from primary care trusts, acute hospital trusts, ambulance

trusts, local authorities, the north west development agency, the environment agency, natural England, forestry commission, academia, and the audit commission.

At that event the chairs and chief executives signed up to a 'charter' of the 10 high impact changes thereby committing themselves to the initiative. The signed charter is kept in gateway house, Piccadilly south, Manchester m60 7lp, home of NHS North West.

21. Sustainability at Nottingham University Hospitals (NUH) NHS Trust (UK)

Organisation: Nottingham University Hospitals NHS Trust, UK
Contact Person: Jo Tomlinson
Email: Josephine.tomlinson@nuh.nhs.uk

Project Description: NUH locally sources food for patient meals and retail outlets for our City Hospital with our long term aim being to; develop a central food processing unit. This will expand the scheme to both hospital sites and allow us to share the benefits with other NHS organisations. Our long term objective is to reduce, as far as possible, the practice of transporting food long distances and enable patients visitors and staff to benefit from fresh seasonal ingredients which is healthier, supports the local economy and reduces our carbon footprint.

The introduction of the free Medilink bus service between our two hospitals, discounted bus tickets, tax efficient cycle schemes, pool bikes and tax efficient travel card schemes will allow those travelling to hospital to chose the best transport choice for them. Our Medilink service also links with wider public transport networks providing choice, promoting social inclusion and reducing traffic congestion and pollution.

This links with the Q-Active project that focuses on attaining a fit and happy work force.

Our City Hospital Campus achieves 97% Clinical Waste recycling. The next step is to introduce a Domestic Commingled Re-cycling Waste Strategy so the benefits of the full life cycle approach are achieved across NUH.

22. Sandwell Food and Health Network: Creating a sustainable food economy; Improving food access, improving health in Sandwell (UK)

Organisation: Sandwell Food Policy Team of the Sandwell Health and Wellbeing Board of Sandwell Local Strategic Partnership and Ideal for All Ltd, UK
Contact Person: John Middleton (Dr)
Email: John.middleton@sandwell-pct.nhs.uk

Project Description: Voluntary and statutory groups are working in partnership to improve the local health of the population of Sandwell by improving access to fresh produce and reduce the carbon footprint. Delivered via coordinated network of projects:

- Salop drive, a pioneering, productive market garden and allotment project produces, distributes and markets fresh fruit and vegetables to local households. It involves disabled people in a community-led process of involvement.
- Eatwell, borough wide programme supporting people in making health food choices and developing a health food economy.
- Cookwell, organising and running courses that teaches groups to shop wisely and cook healthily using fresh produce.
- Slimwell helps people to manage their weight.
- Ready steady grow works with schools and young people engages them with the principles of understanding growing, food miles and health eating
- Shopwell, provides training and advice to over fifty local shops to support them in stocking fresh produce sourced from local suppliers/growers where possible, and improving access to fresh produce locally.
- The emerging community agriculture strategy will work to identify opportunities for using land to grow food, utilizing and coordinating existing sites and allotments, putting food access/green spaces for health on the planning agenda.

23. Stockport NHS Foundation Trust Carbon Management Implementation Plan (CMIP) (UK)

Organisation: Stockport NHS Foundation Trust, UK
Contact Person; Tony Winter
Email: tony.winter@stockport.nhs.uk

Project Description: CMIP is split into 5 distinct areas as follows:

Energy: CMIP's primarily focuses on reducing energy usage through initiatives including:
1. CHP installation
2. Small usage boiler replacement programme
3. Electrical lighting replacement programme
4. General improvement in levels of insulation

In addition we have focused on:

Water:
1. Laundry heat recovery and plant and equipment replacement programme
2. Installation of water saving devices

Waste: Reduce, re-use, recycle is the underpinning ethos of much of the work that has already commenced through the improved management of general black bag, construction and clinical waste

Procurement: purchasing policies are constantly reviewed aimed at:
1. Reducing the amount of carbon needed to create and deliver products
2. Reducing the amount of waste from supplier organisations
3. Selecting tenderers (where permitted) from a north west 'pool' of contractors and suppliers

Transport: the central aims of the travel plan are to:

1. Promote realistic travel mode choices
2. Prioritise and manage car parking including meeting essential demand
3. Improve access through increased public transport choice
4. Encourage healthier travel options – walking etc

Supporting all theses schemes is a growing staff and public awareness programme designed to engage and encourage their long term active involvement

24. Carbon Reduction Road Map (UK)

Organisation: Cwm Taf NHS Trust, Wales, UK
Contact Person: Anthony Howard
Email: Anthony.howard@pr-tr.wales.nhs.uk

Project Description: The project follows a programme developed by the Carbon Trust and is based on a 5 stage implementation plan to cut carbon at the heart of the Trust.

Step 1: Mobilise the Trust – Establishing

- Project Broad chaired the Director of Estates
- Project team chaired by the Assistant Director of Estates
- Energy group
- Waste group
- Transport group

Step 2: Set a baseline, forecast and targets

Assembles key information in order to establish the starting point for carbon emissions reductions. This entails understanding what drives Carbon Management in the Trust, assembling information on the current emissions and trends.

Step 3: Identify and quantity options

This step looks at what opportunities are available for reducing emissions within the Trust and assessing their impact on the Trust's carbon emissions and overall performance.

Step 4: Finalise Implementation Plan

This stage is to complete the development of a realistic Strategy for managing carbon, and to prepare a practical Implementation Plan that can delivers the strategy.

Step 5: Implement Plan

This stage of the programme is concerned with implementing projects, monitoring progress and communicating success to stakeholders.

25. NHS in Wales travel plan initiative (UK)

Organisation: SWWITCH (South West Wales Integrated Transport Consortium) in partnership with WHE (Welsh Health Estates), UK
Contact Person: Jayne Cornelius
Email: Jayne.cornelius@swansea.gov.uk

Project Description: The aim of the NHS Wales travel plan initiative is to provide NHS staff responsible for the development and implementation of travel plans at their sites.

Welsh Health Estates (WHE) has worked with The South West Wales Transport Consortium (SWWITCH) to develop travel plan champions and easy-to-implement mechanisms for encouraging the development and implementation of travel plans in the NHS in Wales. This has lead to the launch on 14th November 2007 of the 'NHS Travel Plan Toolkit' for all NHS Trusts in Wales.

The project team met in August 2006 and deemed that the first course of action was to meet with NHS staff whose roles have an environmental focus in order to gauge how a travel plan initiative would be received. Jayne conducted a presentation to the Welsh Health Environment Forum (WHEF) in September 2006 regarding the benefits of introducing travel plans with examples from the SWWITCH region. The day was extremely successful and confirmed the need for workshops and a Travel Plan toolkit.

It was also agreed by the project team that the initiative would be split into two distinct phases that would complement each other, these being a workshop and a toolkit.

A NHS specific workshop was organised and delivered in the summer 2007.
The final toolkit is electronically based to allow for additional information to be added as and when required.

26. Oxford is My World (UK)

Organisation: Oxford City Council, UK
Contact Person: Charlie Morris-Marsham
Email: cmorris-marsham@oxford.gov.uk

Project Description: A compacts guide and supporting website which covers Energy, Lifestyle, recycling, Water and Travel and contains inspirational advice on how people can reduce their impact on the planet, whatever their circumstances or income.

The guide is available in hard copy electronically from the partnership website:
www.oxfordismyworkd.org

It contains broad-ranging advice on large and small actions people can take:

Ever wish you could “activate” your kids? Well Sustrans is a national charity that encourages children to travel to school in an active and environmentally-friendly way
.
Why waste money and energy going to a sterile gym when you could be outdoors, meeting new people? Join a BCTV Green Gym, where you can get fit, work on your tan and learn new skills!

If you’re thinking of buying a new car, choose one with low emissions, as it will benefit both the local and global environments. Consult the Energy saving Trust or the Environmental Transport Association for advice on buying an efficient car.

Information about the wider issues of climate change and resource use were included in the guide, although Oxford is My World has taken great care not to descend into scare-mongering or sensationalism. As a result, the guide is a serious manual aiming to enable change – and individuals can pledge their commitment to tackling the issues.

At every stage of production, the environmental impact of the guide was considered. Oxford I My World sought to inform individual and businesses from a position of experience and also act as a signpost for other organisations.

27. Northern Ireland Switched on Schools Programme (UK)

Organisation: Southern Education and Library Board, UK
Contact Person: Robert McCReery
Email: Robert.mccreery@selb.org

Project Description: A total of 43 schools will benefit form the SWITCHED ON Schools programme with over 200kWp of PV and 25 renewable streetlights installed in less than two years. Over 35 of the schools have had their PV installed and the remaining installations will be complete by end of June 2008. Four sizes of PV have been installed – 10kW, 5kW, 4kW and 3kW – depending on the size, location and orientation of the schools.

What makes Switched on Schools extremely innovative is the fact that on-site installations are accompanied by an online educational resource which helps to bring the benefits of renewable energy into the classroom. The website (www.switchedonschools.co.uk) is populated by actual generation date from the PV system at each school to create a Northern Ireland Switched on Schools ‘power station’.

A prominent display in the reception area of each school also shows the amount of electricity being generated and the CO2 reduction at each school. This provides a very visual reminder to everyone that they are part of the Switched on Schools programme and helps to enhance their energy efficiency awareness.

Category: Adaptation

1. French Heat Warning System (FRANCE)

Organisation: French National Institute for Public Health
Contact Person: Mathilde Pascal
Email: m.pascal@invs.sante.fr

Project Description: Following the 2003-heatwave, the French Ministry of Health developed a plan to prevent heat related health impacts during extreme heat-waves. A complex set of intervention measures is activated in case of an alert. Within this plan, the French heat warning system was designed to identify adverse weather situations and to trigger alerts. The general objectives of the system are: 1) to identify when and where a heat wave is likely to happen, 2) to identify if this heat wave presents a risk, 3) to warn the public authorities who are in charge of the action plan and finally 4) to detect early impacts on the health of the public. The first three objectives are accomplished by monitoring bio-meteorological parameters. The last objective of detecting the public health impacts is done through a monitoring of real time mortality and morbidity data.

A warning is proposed by the French Institute for Public Health (InVS) when the three days-average of the minimal and maximal temperature are above defined threshold. The system has a lead time of 72 hours. The health authorities at the regional level (department) can then decide to take several actions.

During the alert, mortality and morbidity are collected daily from hospitals, in order to detect a possible problem in the management of the event.

The public is warned through advices released by the meteorological office Météo France and by InVS web site. The messages include a description of the heat wave, the observed health impact if needed, recommendations to prevent health effects and links to relevant websites.

2. Response to heat-wave induced health care problems (GREECE)

Organisation: 3rd YPE (Makedonias) (Greece)
Contact Person: ANDRIOPOULOS DEMOSTHENIS

Project Description: 3rd YPE (Makedonias) is coordinating 17 medium size hospitals and a series of independent points of care. These are spread out over an area of 20000 square kilometres, serving a population of 1.8 million people.

Within the above constraints, during the last three years, 3rd YPE (Makedonias) has implemented a simple but effective plan that has significantly improved the perception of the population regarding the handling of heat wave emergencies. In particular, all hospitals within its jurisdiction were asked to set aside air conditioned areas where the general public could take refuge during heat waves. In addition, care was taken so that the hospital air conditioning is improved, and that areas critical to the hospital's functioning (e.g., surgeries, blood banks, switchboards etc) become sufficiently heat-proof. The technical specifications were set so that a heat wave of 45 C could be handled. Finally, a heat wave response committee was established in each hospital. Its function is to coordinate the hospital resources in the case of extreme weather conditions.

3. Heat-Health Watch Warning system in Hungary (HUNGARY)

Organisation: National Institute of Environmental Health, Hungary
Contact Person: Anna Paldy MD. PhD
Email: paldy.anna@oki.antsz.hu

Project Description: The pilot Heat Health Watch Warning system was introduced in 2005, from 2006 the HWWS was introduced on national level. The goal is to warn the general population and the health care system of the impacts of heat wave and the dissemination of knowledge to help adaptation to heat. Further goals: to elaborate guidelines for heat plans and actions, to prepare leaflets, posters and video clips for educational purposes; to survey the knowledge of the general population concerning the impact of heat; to contribute to the elaboration of the climate and health chapter of the National Climate Change Strategy; to estimate the impact of heatwaves, to collect real time mortality data from general practitioners and from hospitals in the Central Hungarian Region (CHR).

The HWWS is based on the 3-day forecast of the Hungarian National Meteorological Service and the10-day probability forecast of heatwave of the German Meteorological Service. The criteria of HW (3 levels) is based on the time series analysis of 31-year (1970-2000) meteorological and mortality data of Budapest. In case of a HW forecast, the chief medical officer announces a heat alarm of corresponding degree. The National Public Health Service alerts the health care system (GPs, hospitals) and informs other authorities of the heat alarm. In the pre-summer period the PH system helps the authorities prepare their specific heat plan: disseminates scientific material for medical staff, educational material for municipalities and schools and posters for public places. Advertisements were broadcasted on several TV channels.

4. The launching of a local Heat-and UV-alert Plan to set an example for other cities to follow (HUNGARY)

Organisation: Municipality of Tatabánya, Hungary
Contact Person: Dr. Barbara Botos

Email: kornyezet@tatabanya.hu

Project Description: In March, 2007 the Municipality of Tatabánya signed a partnership agreement with the Hungarian Academy of Sciences to elaborate the first local climate change strategy of Hungary. According to the agreement the role of the municipality was the overall professional supervision of the preparation and the implementation of the first Hungarian local climate change strategy, the running of a local climate group and the organization of forums/conferences that serve the publicity of the climate change pilot program. In the same month we set up a local climate group.

The group has been meeting every second or third week to prepare and implement the local climate change strategy of Tatabánya. The climate group has members from local NGOs, economic stakeholders, the main public utility companies and public institutions, but there are also teachers, nurses, students and pensioners in the group, who represent the city as a whole. It was this climate group which has elaborated the local climate change strategy, which includes priorities, short-term and long-term plans and concrete steps to be taken by the city management in the future, as well as a proposal for the methodology of a GHG inventory of the city. It was also this local climate group which has initiated the preparation of the first Hungarian local Heat and UV-alert plan.

5. Bioclimatic characterization of urban areas (ITALY)

Organisation: Regional Agency for Environmental Prevention in Emilia-Romagna, Italy
Contact Person: Dr Paolo Lauriola
Email: plauriola@arpa.emr.it

Project Description: In 2005 ARPA Emilia-Romagna implemented a regional network aiming at characterizing the mean bioclimatic conditions of the main urban areas of the region (the capitals of the 10 provinces). Following world meteorological organization's directives, the monitoring stations were not located at street level but over the mean building height. Analyses have been carried out in order to compare urban and rural data in terms of apparent temperature, Thom index, temperature and relative humidity.

In 2002 two experimental campaigns were conducted within the city of bologna. The main goal was a characterization of the micro-bioclimatic conditions within the urban area. Other campaigns were carried out in the subsequent years in order to investigate micro-environmental conditions.

In 2007 we started a pilot study in a small size urban area (a town of about 10.000 inhabitants). The existence of a significant heat island effect was shown. We will devote much attention on this issue in the near future.

Specific analyses will be carried out on the influence of ventilation on bioclimatic conditions in the hilly areas.

6. Development of a heat wave warning system (ITALY)

Organisation: Regional Agency for Environmental Prevention in Emilia-Romagna, Italy

Contact Person: Dr Paolo Lauriola
Email: plauriola@arpa.emr.it

Project Description: In 2001 ARPA Emilia-Romagna carried out a study on the effect of bioclimatic discomfort on mortality, showing the importance of that risk factor in our region (rif).

In 2004 a prototype heat warning system was implemented. The system was developed in the subsequent years by means of several analyses focused on the assessment of the heat risk function and of the bioclimatic characterization of the different areas of the regional territory. 15 years mortality data of the population living in bologna, the chief town of the region, were analysed (rif).

Now the system is fully operational during the summer season over the whole territory with specific forecasts of bioclimatic conditions for 37 areas. For each province a specific 3-day forecast is given for the main urban area, the flat territory, the hilly and the mountain areas.

A system to estimate short-term population dynamics during the summer season was also implemented in order to better define population exposed to heat waves. The system was based on TV access data (rif).

The development of the system in now focused on:
- A detailed description of bioclimatic characterization of the regional territory
- An improved analysis of the health effects of bioclimatic discomfort by using emergency calls data
- The development of a heat health effects surveillance system based on the real time availability of the emergency calls over the whole regional territory

7. Regional Plan of the Emilia-Romagna regional authority for the fight against the Asian Tiger mosquito and the prevention of Chikungunya and Dengue fever

Organisation: Regional Agency for Environmental Prevention in Emilia-Romagna, Italy
Contact Person: Dr Paolo Lauriola
Email: plauriola@arpa.emr.it

Project Description: The framework for the development of the project is related to the Chikungunya outbreak which developed in Emilia-Romagna during summer 2007. This episode proved the possibility of importing vector-borne diseases which were only present in the original tropical areas in all the regions where the vector (i.e. Aedes Albopictus) is present.

This new scenario is made possible by the relevant presence of the vector in the region; the various diseases which can be passed by Aedes Albopictus are related to Flavivirus, Bunyavirus and Alfavirus. The severity of such diseases will force the adoption of special and rapid preventing and effective measures to control the population of Aedes Albopictus. Thus, the objectives of the project can be summarized as follows:

- The optimization of the activities against the diffusion of Aedes Albopictus in Emilia-Romagna in order to reduce as much as possible the density of the population of the insect;

- To early identify the eventual presence of patients who are potentially carrier of a virus and to promptly adopt coordinated measures for health protection.

8. MeteoSalute project: implementation of a biometeorological and bioclimatological information system supporting health professionals and population.

Organisation: Interdepartmental Centre of Bioclimatology – University of Florence
Contact Person: Prof. Simone Orlandini
Email: simone.orlandini@unifi.it

Project Description: The general aim of this project is to carry out researches for analyzing the relationships existing between meteorological conditions and human health, the results of which will allow for informing health care system and the population about the potential risk for specific pathologies, but also about the wellbeing deriving from climatic and environmental conditions.

Specific aims are to:
1. Classify different Tuscany bioclimatic areas according to climate and health risks, above all as regards heat waves and cold spells.
2. Detect Tuscany seasonal climate and extreme events changes in recent decades.
3. Establish which areas of this region have been and could be more critically affected by local climate changes, thus also identifying those in which a less impact of climate on human health is expected.
4. Provide seasonal scenarios of thermal perception and health risk according to model simulated future climates.
5. Activate a daily bulletin of warning system for each individualized bioclimatic areas, supporting people at more risk like elderly, children and patients.
6. Understand and predict Tuscany indirect impacts of climate change both for human health and human activities (like tourism and other economic sectors).

Projects from outside the EU

1. Active transport quantification tool (AUSTRALIA)

Organisation: ICLEI - Local Governments for Sustainability- Oceania (ICLEI – Oceania)
Contact Person: Ms Maria Simonelli
Email: maria.simonelli@iclei.org

Project Description: The Victorian Health Promotion Foundation (VicHealth) originally partnered with ICLEI Oceania in September 2002 to build local government capacity for pedestrian and bicycle-friendly actions.

Active Transport refers to travel modes that involve physical activity. This includes walking, cycling, running and other physical activities. Active Transport has multiple benefits including reduced greenhouse emissions, financial savings from reduced fuel use and an improvement in health.

The Active Transport Tool (ATT) allows users to quantify these benefits. It has been developed through a partnership between ICLEI – Oceania and VicHealth. This tool is available free and allows the user to measure the health, community and environmental benefits of walking or riding.

The tool provides a valuable tool for users to also report on actions and thus strengthen the business case for investment in infrastructure to support active transport modes. The tool is supported by provision of training to council workers who will promote the tool to schools.

The Active Transport Tool (ATT) is an intuitive and simple online tool that users can navigate easily. There are four main levels of user: Public User, Council User, Editor and Administrator. All users have the ability to add actions, edit actions, delete actions and view the benefits of actions.

Users of the ATT are able to quantify the multiple benefits of the following activity types: Walking School Bus (WSB), Walk to School, Ride to School, Walk to Work and Ride to Work.

The benefits calculated by the tool include:
- Total CO2e Savings – Greenhouse Gas Emissions
- Financial saving to families avoiding driving
- Total coronary heart disease expenditure benefit
- Total Type 2 diabetes expenditure benefit
- Total congestion benefit to community
- Total pollution benefit to community
- Total road safety benefit to community
- Total hours saved per year
- Value of hours saved per year
- Total financial benefit
- Total kilometres walked per year
- Overall happiness

2. « Ça marche pour la PMU ! »
The outpatient and community service of the university hospital is on the go (SWITZERLAND)

Organisation: Policlinique Médicale Universitaire (PMU) Lausanne, Switzerland
Contact Person: Karin Michaelis
Email: karin.michaelis-conus@hospvd.ch

Project Description: Various attractive projects have been realized in order to initiate employees to modify their mobility manners during at least one week:

1. PMU proposed them to use a pedometer tested scientifically and to walk to work. The total number of kilometres walked by employees was posted daily at the entrance. In order to visualize the total distances that had been walked, kilometres were summed up and pictured as a red rope on a map of Europe posted at the entrance

2. Employees were able to leave their car in a specific free parking lot and received in exchange either a weekly public transport pass or a bicycle for a week.

3. PMU also organized a walk through the city, up to a spot where a 100km roller blades contest was being held. Families and friends could participate to the roller blades race.

4. A conference was organized, in the presence of political authorities and local press, about mobility plans for enterprises as well as benefits of walking or bicycle riding on physical health. This was followed by a health promoting aperitif.

3. Move for Health and the environment (Gesund bewegt – fuer die Umwelt) (SWITZERLAND)

Organisation: Verein Bewegungsfoerderung der Aerztinnen und Aerzte für Umweltschutz Sektion beider Basel, Switzerland
Contact Person: Meltem Kutlar Joss
Email: meltem.kutlar@gmx.ch

Project Description: The project aimed at encouraging a moderate activity level integrated in day-to-day routine as opposed to working out in the gym. Human powered mobility and sustainable transportation substituting car rides were promoted – thus mitigating climate change.

Primary care physicians were invited to participate in the project through mailing, journal articles, presentations at meetings and personal contact by physicians of the project team. A systematic assessment of physical activity level and mobility behaviour of patients aged 16-65 years were performed in general practices via self-completed questionnaires prior to consultation during eight two-week periods from February 2004 to June 2005. People identified as insufficiently physically active were offered a leaflet or a voucher for individual counselling with a trained activity adviser. All insufficiently physically active and 15% of active patients were invited to complete a similar questionnaire sent by mail 12 months after baseline assessment. A standardised telephone interview with the participating doctors and physiotherapists inquiring about their experience with integrating the project into their daily routine was performed.