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eg magazine – for examples of good ideas



## Shaping the Future

**A report on the work of the Town and Country Planning Association**

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Issue 4

Promoting local sustainable development

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# eg magazine

*for examples of good ideas*

The Town and Country Planning Association is a venerable institution founded by Sir Ebenezer Howard in 1899 to promote the idea of the garden city.

Today, it is very much at the forefront in researching and driving through equally new ideas in planning for the 21<sup>st</sup> century. Concern for the environment and social justice is still high on the agenda along with a recognition of the need to pursue a low carbon economy.

I thought it appropriate to start the year with a look at what the TCPA has been doing. You may be surprised at how much they have achieved in the past few years and their plans for the future.

Often in collaboration with other well respected organisations, they have produced a library of publications which are essential reading for anyone interested in planning for the future. Do take a look!

Plus we offer a round-up of interesting news items, examples of good ideas to inspire you.

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Cover photo : Welwyn Garden City

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Shaping the Future – Town and Country Planning Association

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## Shaping the Future

### TOWN AND COUNTRY PLANNING ASSOCIATION

*Fiona Mannion, TCPA Communications Manager, looks back on a busy year for the Association as it continues to make the case for a more socially and environmentally just planning system and works towards a low carbon economy.*

It's just over two years since the Coalition Government came into power and set about a far reaching reform of the planning system. During that time planning hasn't been out of the headlines for long, with the publication of the new National Planning Policy Framework in April 2012 and the Localism Act coming into force at the end of 2011. 2012 also saw new ministers appointed for housing and planning, Mark Prisk MP and Nick Boles MP, respectively.

Alongside the Government's busy agenda, 2012 was one the most successful years to date for the TCPA. This article gives a flavour of some of the major projects and campaigns the Association has been involved with over the last 12 months.

### **Our Garden Cities Campaign**

Perhaps as the world's oldest charity concerned with planning, housing and the environment (we were founded by Sir Ebenezer Howard in 1899 to promote the idea of the garden city), it should come as no surprise that the TCPA is keen to re-make the case for new communities as part of the solution to the chronic housing crisis. We believe that the radical nature of the Garden City Movement ideals remain of critical relevance to the 21<sup>st</sup> century, providing a foundation for high quality inclusive places, creating new jobs and truly sustainable lifestyles.

The TCPA recognises that garden cities, new market towns or sustainable urban extensions will not answer the housing crisis on their own, they must be part of a comprehensive approach to delivering more and better housing, offering choice, and maintaining and enhancing our existing homes and places.

The TCPA marked a renewed campaign to promote garden cities in 2011 with the publication of '[Re-imagining Garden Cities for the 21<sup>st</sup> Century](#)', with a number of policy successes, including reference to large scale new communities in the Housing Strategy November 2011.

The TCPA is keen to re-make the case for new communities as part of the solution to the chronic housing crisis.



In March 2012 the Prime Minister confirmed the Government's commitment to examine the opportunities offered by large-scale new communities in a speech on infrastructure, in which he announced a *'consultation later this year on how to apply the principles of garden cities to areas with high potential growth in places people want to live'*.

Following this, there was been clear recognition of the *'principles of Garden Cities'* in the NPPF, providing further foundation for the examination of the application of Garden City principles – in fact, it is the first time that Garden Cities have been directly mentioned in national planning policy for over 40 years.

As direct response to Government's challenge for the sector to come together to show how the Garden City approach could be reinvented for the 21<sup>st</sup> Century the TCPA convened a Garden City and Suburbs Expert Group which published its first report in May 2012 *'Creating Garden Cities and Suburbs Today'*. Drawing upon extensive feedback from two roundtable meetings of the Expert Group, the report is intended to be a catalyst for action by politicians, community and self-build groups, housing associations and house builders, investors and landowners, local authorities, and planners, spurring them to work together towards creating highly sustainable new communities based on Garden City principles.

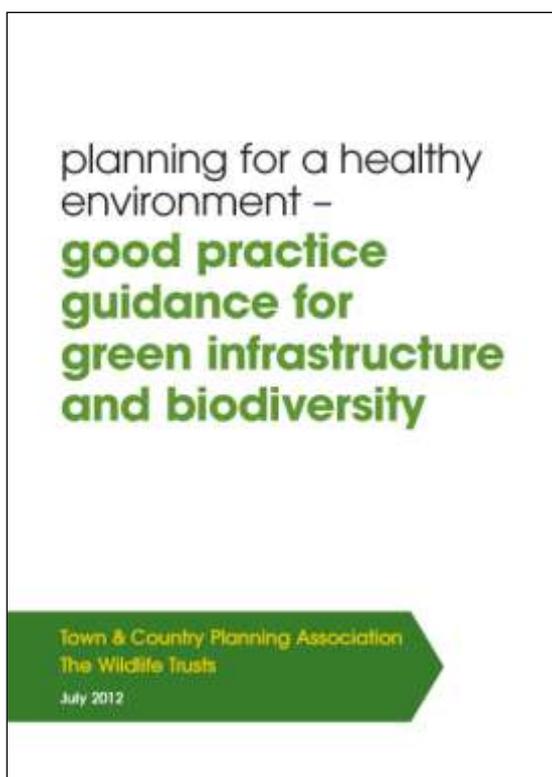
While there is no 'silver bullet' solution to unlocking the potential benefits offered by new Garden Cities and Suburbs today, the Expert Group has identified the need for urgent action in five principal areas - leadership, land, investment, planning and implementation - to address barriers to the development of a new generation of world-class communities. In November 2012, addressing the NHBC, the Deputy Prime Minister set out a vision of socially inclusive, high quality comprehensively planned new communities which would work with the natural environment and create places which people would want to live and work in. He also re-iterated Government's intention to hold a competition to promote a wave of large scale new communities that are ambitious and locally led and for the first time articulated in more detail what the Government understands by garden city principles.

The TCPA will therefore be continuing to raise the profile of the garden city principles and how they can apply to new development at all scales. Two projects already planned include a **Local authority handbook to creating Garden Cities and Suburbs today** and seminar series. This handbook will set out how to seize the opportunities for creating garden cities and suburbs today followed by a series of five seminars across England to give councillors and practitioners the opportunity to apply the handbook to their own situation.

Alongside this, we hope to publish a **Garden cities and suburbs community manual**: a short, simple and accessible plain-English manual for communities that want to grasp the neighbourhood planning and Garden Cities agendas, highlighting the opportunities for incorporating Garden City principles at the local level can bring. These include opportunities for self build, allotments, co-operatives, community land trusts, management of local parks and community facilities and community planning.

### Cross-sector Guidance

The Government no longer sees it as its role to provide detailed policy guidance but wishes local authorities and communities to be active and innovative in shaping their own future. The TCPA has therefore brought together or been involved with a number of coalitions in bringing forward cross-sector guidance.



For example, '**Planning for a healthy environment: good practice for green infrastructure and biodiversity**', led by The Wildlife Trusts and the TCPA, is a response to the Government's reform agenda which has shifted power to the local and neighbourhood levels while continuing to emphasise the importance of sustainable development and supporting the objectives of the Natural Environment White Paper, published by Defra.

People's connection with nature can increase their health and well-being and is just one of a range of social, economic and environmental services provided by the natural environment - without which society could not function.

Planning for new and existing communities provides real opportunities to protect and enhance the intrinsic and practical value of the natural environment, while responding to specific challenges posed by climate change. Thinking about nature should be the starting point of good planning, and is an essential component of delivering sustainable development.

## What the guidance does

The guide aims to help local practitioners to deliver positive and practical solutions when planning for the future and ensure nature is taken into account when planning and shaping their local area. The guidance reflects the best in cross-sector consensus building and cooperation. It was been prepared with the support of statutory and non-statutory organisations with expertise in planning green infrastructure and biodiversity.

Endorsed by more than 35 organisations, it summarises the latest policy drivers; distils the best approaches and good practice; and signposts sources of further detailed information.

The guidance is primarily intended to inform local plans, but also includes reference to neighbourhood planning and development management. It sets out for planners, practitioners and others:

- the key principles by which the provision of GI should be guided;
- guidance on strategic planning and using the duty to co-operate;
- guidance on developing local plan policy which ensures that the planning, design and long-term management of development results in a sustained positive outcome for GI and biodiversity; and
- guidance on maximising GI through neighbourhood planning, as well as considerations for masterplanning; and
- the essential elements of how to deliver effective planning policy on GI and biodiversity through funding mechanisms and community involvement.

The aim of this guidance is to demonstrate how planners and practitioners in England, from both the public and private sectors, can use green infrastructure as a multi-functional resource capable of protecting and enhancing the natural environment and providing the landscape, ecosystem services and quality of life benefits required to underpin sustainability.

## Planning and Public Health

Building upon the Government's preference for the sector to work together in producing guidance and best practice, the TCPA, working together with a number of planning and health organisations produced, 'Reuniting health with planning – healthier homes, healthier communities. How planning and public health practitioners can work together to implement health and planning reforms in England'

This handbook is the first of its kind since the Government set out a radical reform agenda across the planning and health sectors, including a requirement on planners to work with public health organisations, and a new public health responsibility for local authorities. It explains the relevance of these reforms for health and planning, expressed through the National Planning Policy Framework (NPPF), the Localism Act and the Health and Social Care Act, and gives planners and public health practitioners ideas for how they can work together.

The handbook aims to keep the importance of integrated working, specifically between planning and health, on the agenda. Using case studies from around England, it explores how places are using this time of upheaval to push forward their intention to integrate their work across both sectors.

The handbook begins by summarising elements of the new systems and their relevance to health and planning. New requirements, processes, structures and new languages will require local authority planners and public health professionals to learn how things work in practice. This presents new opportunities. For example, a range of public health challenges – such as reducing obesity levels, improving mental health and wellbeing, and protecting vulnerable groups from the impacts of climate change – will require interventions to the places we live in. Planners are therefore well placed to help design and develop healthier places.

The handbook also includes a tool to assist local authority planners as they prepare or review local plans to consider the key health aspects of the NPPF before the end of the transitional period, which will see less weight attached to out-of-date local plans if they do not conform with the NPPF.

The publication did not the end of the project but is the starting point for increasing our understanding of how areas across England are making things work in accordance with their local circumstances and needs. Following the launch in July, which featured representatives from the Department for Communities and Local Government, the



Department of Health and each case study area, a series of free regional seminars took place to engage practitioners and explore local challenges and good practice. The TCPA will continue in 2013 to look at how it can help strengthen the relationship between planners and health professionals.

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## **Leadership in Energy Action and Planning (LEAP)**



For nearly a decade now the TCPA has been increasingly active in European financed projects. Initially a partner in the APaNGO (Advocacy, Participation and NGOs in Planning)p project and then leading the RegioStar Award-winning GRaBS (Green and Blue Space Adaptation in Urban Areas and Eco towns) project.

The latest is [LEAP](#) - Leadership for Energy Action and Planning - a partnership including the TCPA and 9 local authorities from six European Union (EU) countries and one applicant country. It includes Germany, Republic of Ireland, Lithuania, Slovenia, Croatia and Bulgaria. Funded by International Energy Europe (IEE), the project has been set up to help the partners meet the EU's challenging energy and climate change targets for 2020 by embedding sustainable energy policy within local municipality operations and practices.

Local action will be vital if we are to make the transition to a low carbon economy and local communities need to understand the challenges posed by reducing carbon dioxide emissions, the positive solutions that are available, and the benefits of such solutions for both current and future generations. Citizens, politicians and administrators at all levels of government will have to work together, alongside the private sector, to transform energy markets.

LEAP aims to increase the ability of EU local authorities to pioneer and promote the use of sustainable energy measures and the move towards a low-carbon local economy. It bridges the gap between the EU's high level targets and local action on the ground, primarily through the development and adoption of Sustainable Energy Action Plans (SEAPs).

[A Sustainable Energy Action Plan](#) (SEAP) is the key document which outlines how a local authority intends to reach its CO2 reduction target by 2020. It defines the activities and measures set up to achieve the targets, together with time frames and assigned responsibilities.

While some of the LEAP partners already have experience of sustainable energy projects, others are at an early stage of their learning. At the heart of many EU projects is the exchange of knowledge between these 'learning' and 'experienced' bodies and LEAP is no different.

The UK partners, Cornwall and Southampton, are both 'experienced' partners who are at the stage of updating, but also implementing, their SEAPs. Through an in-depth mentoring and training programme, and by raising awareness of the approaches available, LEAP aims to help bring about a step-change in each partner's technical capacity.

As quite a technical project helping local authorities develop and implement their SEAPs, it can be difficult to communicate its outputs. But nonetheless, it has a vital role to play in building the capacity of local authorities to ensure that local renewable energy solutions are at the heart of decision making.



A pivotal part of a recent partner in October last year saw the Leader of Southampton City Council (the host partner), Cllr Richard Williams, sign up to the [Covenant of Mayors](#), a European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories.

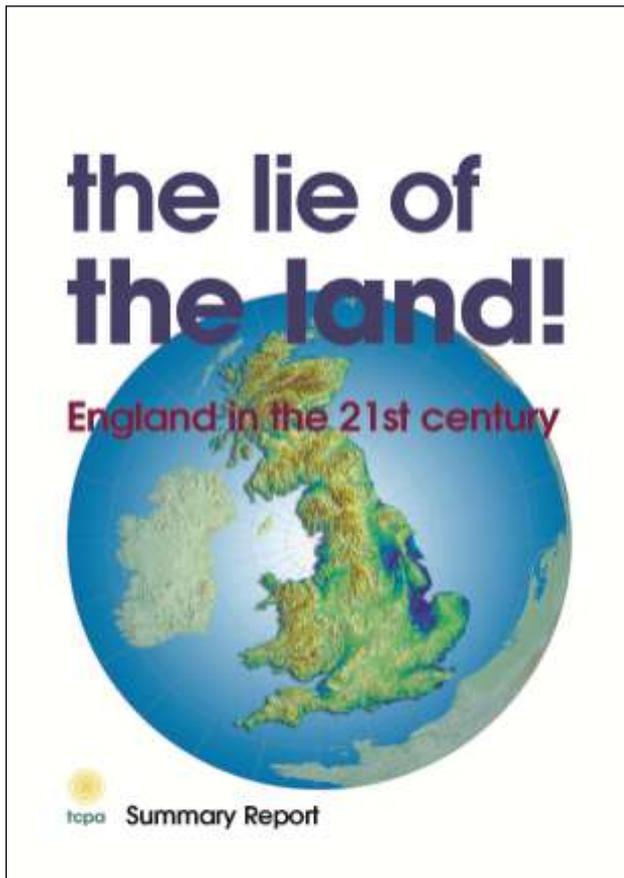
So far more than 4,000 authorities signed up to the initiative, mostly in Italy and Spain, but also including 34 in the UK.

#### *A mid-point review*

As LEAP passes its halfway mark (having begun May 2011), the partner meeting in October provided an excellent opportunity to see what advancement the local municipalities have made in progressing the development or updates of their SEAPs. What has been most striking is that all the partners have spoken of the relationships that they have built up through the mentoring of 'experienced' with 'learning' partners as one of the most effective learning tools of the whole project.

As with so many areas of development, political will and leadership have been identified as the major barrier, as well as opportunity, to seeing progress made in sustainable energy solutions. It follows therefore that the focus LEAP has placed on citizen engagement and political leadership will only continue to grow in importance if we are to see the necessary step change needed to move to a low carbon economy.

## Planning for a resilient future: 'The Lie of the Land!'



The TCPA's latest report, 'The Lie of the Land!' sets out a simple proposition that England is not well organised when measured against the scale of the environmental, economic and social challenges that face us in the 21st century. The report argues that if we want to achieve a fair, resilient and prosperous society we must first understand and engage with change effectively; and this will require the consideration of spatial responses at local, regional and national levels.

England in 2012 – unlike Scotland and Wales – has no government department, or agency, charged with addressing acute strategic, or 'spatial', problems across the country. A direct result is that England's future is much more uncertain than it needs to be.

The spatial gap between the nature of the challenges facing England and our political geography of institutions that will need to respond to them is stark. For example, the concentration of development pressures and resource constraints in the South East plays out against a political geography of fragmentation. London retains comprehensive strategic spatial powers while the greater south east is characterised by a mosaic of local government, a Local Enterprise Partnership (LEP), and other emerging bodies such as Local Nature Partnerships (LNPs). It is in relation to sea level rise and flood defence that the nature of the disjuncture between England's functional and political geography becomes most clearly visible.

The most vulnerable part of England's coastline stretching from the Humber to the Thames is overseen by one Environment Agency region, but in relation to spatial planning it is subject to thirty affected local planning authorities with no joint strategic approach. Even under current government policy this institutional response is inadequate, but the threat of greater than expected sea level rise requires a strategic spatial response on a bigger scale than even the previous regional strategies allowed for. The relationship of sea level rise to food production in the East of England is one question that clearly cannot be delayed.

The report raises a series of concerns about the ending of regional planning and the ability of localised approaches to deliver on complex interactions between demographic change, biodiversity and climate change. Moreover, the loss of regional data sets raises questions about how as a nation we understand ourselves. 'The Lie of the Land!' does acknowledge that new technology might be able to break the link between demographic growth and rapid resource depletion but only if 'sustained' effort is made by government to ensure such changes take place.



Solutions to these problems are readily available, but they require a significant culture change in ambition and greater collaboration between sectors and among government departments. The culture of thinking spatially about our nation is the first step to rebuilding our national organisational capacity. Uncertainty about national and international pressures is often used to justify the argument that long-term planning is impossible. In fact, the opposite is true: long-term strategies which acknowledge the need for the flexible adaptation of responses is the only way to manage change. The structures by which we plan should be designed not to achieve an end-state vision, but as a process of understanding and adapting to change within the key guiding principles of sustainable development.

### **2013 and beyond...**

The projects and campaigns outlined above highlight many of the key themes that the TCPA will be continuing to promote in the year ahead, from public and more and better housing through to advocating a joined up national approach to tackling the big challenges, such as climate change and infrastructure investment.

As a cross-sector membership organisation concerned not with the planning system itself, but with its outcomes, we encourage anyone with an interest in sustainable development to find out more on our website: [www.tcpa.org.uk](http://www.tcpa.org.uk)

**FOCUS ON  
FOOD****The Unhealthy  
Option**

Consumption of Red and Processed Meat is a leading contributor to GHG emissions. High intakes of RPMs increase the risks of several leading chronic diseases. This research identifies a low RPM dietary pattern that is already followed by a substantial fraction of the UK population and estimates health and environmental benefits that would result from its general adoption. Habitual RPM intakes are 2.5 times higher in the top compared with the bottom fifth of the UK consumers. Sustained dietary intakes at a reduced level in the UK population would reduce incidence of coronary heart disease, diabetes mellitus and colorectal cancer, by 3%–12%. The predicted reduction in UK food- and drink-associated GHG emissions would equate to almost 28 million tonnes of CO<sub>2</sub> equivalent/year across the population.

*Source: BMJ Open Access*

*Impact of a reduced red and processed meat dietary pattern on disease risks and greenhouse gas emissions in the UK: a modelling study*

<http://bmjopen.bmj.com/content/2/5/e001072.abstract>

**Why Food Waste Is Bad**

This paper, 'Total and per capita value of food loss in the United States', summarises why food waste is an issue, from an environmental and economic perspective, reviews other developed country estimates of food waste losses, and then calculates the volume and economic value of retail and consumer stage food losses in the US, looking at this at an aggregate and individual consumer level. It then discusses some potential policy approaches to addressing food waste and warns that food waste may grow in emerging economies because of growing incomes and changing diets and lifestyles. The authors estimate the total value of food loss in the United States and loss estimates by food group. These are useful in that they can generate awareness of the issue among the food industry members, governments, and consumers. Potential large-scale approaches and economic incentives to mitigate food loss in developed countries are also discussed.

<http://www.sciencedirect.com/science/article/pii/S0306919212000693>

## **Think. Eat. Save.**

Simple actions by consumers and food retailers can dramatically cut the 1.3 billion tonnes of food lost or wasted each year and help shape a sustainable future, according to a new global campaign to cut food waste by the UN Environment Programme (UNEP), the Food and Agriculture Organization (FAO) and partners.

The Think.Eat.Save. Reduce Your Foodprint campaign is in support of the SAVE FOOD Initiative to reduce food loss and waste along the entire chain of food production and consumption – run by the FAO and trade fair organizer Messe Düsseldorf – and the UN Secretary General’s Zero Hunger Initiatives. The new campaign specifically targets food wasted by consumers, retailers and the hospitality industry.

The campaign harnesses the expertise of organizations such as WRAP (Waste and Resources Action Programme), Feeding the 5,000 and other partners, including national governments, who have considerable experience targeting and changing wasteful practices. Think.Eat.Save. aims to accelerate action and provide a global vision and information-sharing portal ([www.thinkeatsave.org](http://www.thinkeatsave.org)) for the many and diverse initiatives currently underway around the world.

Worldwide, about one-third of all food produced, worth around US\$1 trillion, gets lost or wasted in food production and consumption systems, according to data released by FAO. Food loss occurs mostly at the production stages – harvesting, processing and distribution – while food waste typically takes place at the retailer and consumer end of the food-supply chain.

The global food system has profound implications for the environment, and producing more food than is consumed only exacerbates the pressures, some of which follow:

- More than 20 per cent of all cultivated land, 30 per cent of forests and 10 per cent of grasslands are undergoing degradation;
- Globally 9 per cent of the freshwater resources are withdrawn, 70 per cent of this by irrigated agriculture;
- Agriculture and land use changes like deforestation contribute to more than 30 per cent of total global greenhouse gas emissions;
- Globally, the agri-food system accounts for nearly 30 per cent of end-user available energy;
- Overfishing and poor management contribute to declining numbers of fish, some 30 per cent of marine fish stocks are now considered overexploited.

Part of the trigger for the campaign was the outcome of the Rio+20 Summit in June 2012, in which Heads of State and governments gave the go-ahead for a 10-Year Framework of Programmes for Sustainable Consumption and Production (SCP) Patterns. Developing an SCP programme for the food sector must be a vital element of this framework, given the need to sustain the world’s food production base, reduce associated environmental impacts, and feed a growing human population.

**URBAN  
AREAS****Counteracting the urban heat island effect  
with effective planning**

Climate change is likely to exacerbate the urban heat island (UHI) effect. A new study has therefore examined possible climate change adaptation measures that can alleviate the UHI effect and illustrated how these strategies can be practically applied. While the study provides real-life examples to demonstrate how the measures can be used, it does not include any quantitative assessment of their impacts.

Under the UHI effect, urban air temperatures are higher than those of rural surroundings. It has several possible causes, including the absorption of heat by building materials, street surfaces and air pollution, and the loss of soil and vegetation's cooling effects (through evaporation and shading), as natural surfaces are 'sealed' with paving, tarmac and other impermeable materials. The combination of climate change and the UHI effect may have negative effects on health through heat stress and the stimulation of ground-level ozone, which can cause respiratory problems.



The study places the available adaptation strategies for combating the UHI effect into four categories:

- Vegetation strategies, which consist of establishing urban forests and parks, street trees and green roofs or facades to encourage the cooling effects of plants.
- Water strategies, which consist of ponds, lakes and fountains, as well as green roofs to store water, which absorb heat and cool through evaporation.
- Built form strategies adjust building density or arrangement, such as lowering building height, increase variation in building height, using shading devices and changing the orientation of the street to improve ventilation.
- Material strategies involve using materials that have greater cooling effects through evaporation and heat reflection.

It can be difficult to transfer a large amount of knowledge and evidence about the use of these tools in combination into the urban planning process. However, the study provides examples of how the different UHI strategies have been applied together with the aim of adapting to climate change and reducing the UHI effect in two neighbourhoods in the Netherlands – located in Utrecht and The Hague.

Streets were widened and lowered in these neighbourhoods to improve ventilation, and roofs were coated white to increase reflection of sunlight, as part of built form and material strategies. Vegetation strategies included creating recreational green zones, which can also be used as cycle routes, green facades on buildings and green roofs. Water plans included sustainable water systems to supply trees with enough water to maximise their cooling ability and shallow canals to absorb and discharge heat.

These two plans demonstrate how urban design principles can be applied to address the UHI effect. Since the neighbourhoods were already in need of renovation, these measures were applied as part of this process, but it may be more difficult to convince stakeholders to implement measures if there is not an existing need to re-plan a neighbourhood.

In order to encourage policymakers to work with design principles, there should be more statistical information on the effects of UHI, and on the strategies to address these, so that targets can be set and evaluated. For example, there needs to be a quantitative (or numerical) definition of actual heat accumulation, of an 'acceptable' level of heat accumulation and the required measures to address heat accumulation, for instance, the amount of green space needed to reduce heat accumulation by a certain amount.

*Source: Kleerekoper, L., van Esch, M. & Salcedo, T.B. (2012) How to make a city climate-proof, addressing the urban heat island effect. Resources, Conservation and Recycling. 64:30-38. Doi: 10.1016/j.resconrec.2011.06.004.*

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### **Street studies: keeping the urban environment cool**

Trees and other vegetation have an important influence on urban temperatures. To explore these effects, Japanese researchers have built and studied scale models of tree-lined streets. This approach could help designers and planners create urban environments that are cooler during summer months.

The researchers built their models in an outdoor environment, at the fifth of the size of a typical Japanese residential district, using 1.5 metre high cubes arranged on a concrete slab. The study took place over two summer months, when temperatures varied between 25-40°C and wind speeds were around 0-2 metres per second. Vegetation took the form of potted plants, to represent trees, and grass, and was used to differing degrees in three different models, but arranged on the same basic street plan. A fourth street with no vegetation was used for comparison.

Although all the different models were much simpler than real streets, they allowed the researchers to answer questions about the kinds of designs that might create more comfortable conditions. For example, what influence would a larger number of trees have on air temperature, or wind speed.

By analysing measurements , the researchers concluded that the number of trees planted along a pavement has a significant effect on wind speed. The street with the most trees produced the biggest reduction in wind speed compared to the control. Temperature, measured at a height equivalent to that of pedestrians, also varied considerably depending on street design. Tree-lined streets were cooler for most of the day thanks to shading, except for two to three hours before midday, when the street with the most trees was hottest. According to the researchers, this was probably caused by the low wind speed in this model. During mid-afternoon, all the tree-lined streets were around 7°C cooler. The researchers also found that trees on the sidewalks were more effective than trees in the middle of the street for reducing the temperature.

*Source: Park, M., Hagishima, A., Tanimoto, J., & Narita, K. (2012). Effect of urban vegetation on outdoor thermal environment: Field measurement at a scale model site. Building and Environment. 56: 38–46. DOI:10.1016/j.buildenv.2012.02.015.*

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## Guerilla Public Seating



This is a series of guerilla public seating areas that sprouted into being through the wrapping of yellow drainage pipes around Hamburg’s existing urban infrastructure. The low-cost, weather-resistant and highly flexible plastic cushions turn bridge trusses into recliners, bike racks into loungers, and safety rails into sofas.

<https://www.facebook.com/photo.php?pid=1422261&l=267b9b9fbd&id=112707575438042>

PRODUCTS

### Natural Fabrics Clothing for Uniforms

For over 70 years petrol based synthetic fabrics have formed the basis for work wear, in particular uniforms, throughout the UK and the world, with cheap Far East production dominating the market.

With an interest in fashion and environmental issues, Richard Hamilton spent years researching fabric which would meet the demands of uniforms, whilst delivering ethical alternatives.

With a 70% bamboo and 30% organic cotton mix developed exclusively for Natural Fabrics, the material will bring all of the benefits of natural fibres such as anti-bacterial properties which are so important in any clinical application, alongside being hypoallergenic and anti-fungal - perfect for sensitive or allergy prone skin.

As well as being more caring for the wearer, the uniforms (as well as all of the packaging, bags and tags) hold excellent environmental credentials as they are fully biodegradable and compostable - perfect for the high "throwaway" lifecycle of the medical industry.

Not only is the end of their life more friendly to our planet, so is their beginning. Bamboo is the fastest growing plant in the world and spreads rapidly across large areas;

it grows naturally without the use of pesticides or fertilizers; is cut, not uprooted, which helps soil stability; grows on hill slopes where nothing else is viable; yields ten times more fabric per acre than cotton; and has a tiny water requirement unlike some other crops such as cotton.



<http://naturalfabricsclothing.com/>

## Washing whiter without water



The future of laundry could be cleaning with plastic beads, rather than with water, according to Xeros, a small company based in the northern English town of Rotherham.

Their bead cleaning technology was developed at Leeds University and Xeros is

currently working to commercialise it. According to the company, these polymer beads, used in washing machines instead of water, can “agitate, attract and transport away stain and soil from textile surfaces”. The beads absorb dirt into their molecular structure.

However, Xeros beads cannot be used in machines that are designed for washing with water. For the future use of the technology, a switch to bead cleaning washing machines will be required, though these should not be more expensive than current washing machines.

Xeros is currently promoting bead washing to commercial laundries. Bead cleaning machines have been installed in pilot projects in commercial laundries in the United Kingdom. The company is also promoting the technology in the United States, and has installed bead washing facilities in two businesses: a commercial laundry in New Hampshire and a 518-room hotel in Virginia. These installations will enable the environmental and cost benefits of bead washing to be measured.

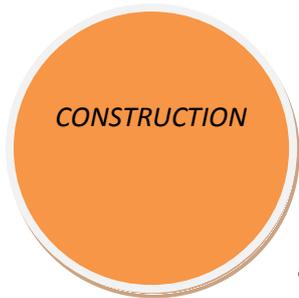
[http://ec.europa.eu/environment/ecoap/about-eco-innovation/good-practices/eu/20130128-washing-whiter-without-water\\_en.htm](http://ec.europa.eu/environment/ecoap/about-eco-innovation/good-practices/eu/20130128-washing-whiter-without-water_en.htm)

## Hybrid Air

Peugeot Citroen is developing a “Hybrid Air” powertrain that addresses the limited range of compressed air energy storage technology by combining it with a gasoline powered internal combustion engine (ICE). The company plans to have Hybrid Air powered vehicles on the road by 2016.

<http://www.gizmag.com/peugeot-citroen-hybrid-air-compressed-air/25961/>





## **Aggregates increasingly contributing to the sustainability agenda**

The UK currently uses more recycled and secondary aggregates than any other EU country, and their use is predicted to increase in coming years. Current estimates stand at 21% of recycled and 3% of secondary materials being used in residential construction. While the use of recycled materials is currently seven times higher, availability of secondary materials is expected to increase and the imbalance looks set to change.

As a follow-up to the two-part BRE Digest 522 Hardcore for supporting ground floors of buildings, sponsored by NHBC and published in 2011, NHBC Foundation has published *The use of recycled and secondary materials in residential construction*. This new and supplementary guide provides a detailed overview for specifiers, builders and developers into the two types of material, their sources, availability and applications, to ensure correct and appropriate use.

There are a number of potential advantages for the industry of using recycled and secondary aggregates. In addition to the environmental and social benefits, house builders can take advantage of the credits available under category 3 of the Code for Sustainable Homes, as well as the potential cost savings in reduced transport or haulage of aggregate to site, and reduced waste disposal costs of existing materials.

The guide provides an overview of potential issues, pitfalls and lessons learned from three case studies around the UK. It also details guidance and information on codes, protocols, standards and controls available from other organisations, as this is usually quite widely dispersed and not easily accessible. A copy of the guide is available to download at [www.nhbcfoundation.org/recycledmaterials](http://www.nhbcfoundation.org/recycledmaterials)

## **IET pilots new BREEAM Refurbishment scheme**

The Institution of Engineering Technology (IET) is working with BRE to pilot the BREEAM Refurbishment 2014 scheme for non-domestic buildings, which is currently under development. The pilot involves the IET's London home, Savoy Place, which is being refurbished using sustainable techniques and technologies to demonstrate how an important historic building can be brought up to modern standards in a sustainable way.

<http://www.breeam.org/page.jsp?id=563>

**Information from BuildUp** - The European portal for energy efficiency in buildings  
<http://www.buildup.eu>

### **Market Trends towards Nearly Zero-Energy Buildings**

This overview article showcases the key market success factors and trends in the development of 'high performance' buildings.

High performance buildings which use nearly zero or very low energy (and meet the requirements of the Recast EPBD for the years 2019/2021) have been developed as pilot projects for many years. Passive House, Active House, effinergie®, MINERGIE® and Effizienzhaus Plus are some of the most interesting examples of national and international market concepts currently available. An overview of commonly used terms and definitions of high performance buildings among the EU Member States was prepared by members of the Concerted Action EPBD.

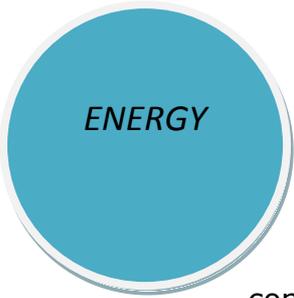
[For the full article](#)

### **Heat Pumps: a Mature Technology for Efficient Buildings**

A heat pump is used to transport heat from a low temperature source to a higher temperature use (heat sink) by means of a transfer fluid (or refrigerant) in a thermodynamic cycle. Energy (usually electricity, or gas) is needed to circulate the transfer fluid and to operate pumps and fans.

- Heat pumps can also be used for cooling buildings by reversing the cycle of the transfer fluid; these are referred to as reversible heat pumps.
- Integrated heat pump solutions result in compact multifunction units for ventilation, heating, cooling and domestic hot water in low energy houses.
- Heat pumps can be coupled to other systems or energy sources including boilers, solar thermal, and solar photovoltaics.

[For the full article](#)



ENERGY

## **GEOWAVE PROJECT AIMS TO ANCHOR WAVE ENERGY**

A major new research project – lead by the University of Dundee – has been launched with the aim of helping make offshore wave energy a sustainable proposition.

Sustainable offshore wave energy has the potential to make a real contribution towards the binding European Union commitment to source 20% of its electricity requirements from renewable sources by 2020. The vast wave energy resource along Europe’s western seaboard is unparalleled anywhere in the world. Consequently the EU has an opportunity to become international industry leaders in what is becoming a rapidly evolving and dynamic marketplace.

However, technical and economical hurdles associated with anchoring wave energy devices to the seabed threaten to stall and limit the impact that renewable wave energy has the potential to deliver.

Consequently the offshore renewable wave energy industry has collectively identified “mooring and anchoring systems” as a research topic of immediate relevance and priority.

The ‘GeoWAVE’ project has been launched to address this issue. Lead by the University of Dundee and funded with €1.1million from the European Union FP7 programme, the project also involves the University of Western Australia and University College Cork, together with a number of small to medium-sized enterprises (SMEs): Lloyds Register, Seaflex AB, Deep Sea Anchors, Wavebob Ltd and Cathie Associates.

“There is great potential for wave power to be a valuable source of renewable energy but if it is to be realised we have to make it robust and cost-effective,” said Dr Jonathan Knappett, Senior Lecturer in the School of Engineering, Physics and Mathematics at the University of Dundee, who is co-ordinating the project.

“One of the big challenges facing the industry is how wave energy convertors can be safely attached or anchored to the sea bed. Currently this accounts for around one-third of the production costs of convertors. That cost needs to come down if they are to be used within a fully commercial wave farm.

“If we can reduce the costs associated with station-keeping, then it will go a long way to making wave power an energy source that we can harness more effectively.”

GeoWAVE aims to address this immediate research need by conducting industry-specified research on a new generation of offshore anchors and mooring components deemed to have the highest economical and technical merit for mooring wave energy devices.

By doing this, GeoWAVE will remove the technical and economical hurdle of mooring wave energy converters to the seabed so that widespread deployment on a commercial scale becomes viable. The new knowledge generated by the project will be fully assigned to the SME partners in the project, thereby providing new business opportunities. The new approaches generated within GeoWAVE may also benefit other types of offshore green energy solutions such as floating platforms for offshore wind turbines.

The consortium will apply complementary methodologies in numerical, analytical and experimental modelling combined with field trials to increase the understanding of the combined response of the system and to develop economical and practical design solutions for the wave energy industry.

For more information see the project website at:

<http://www.geowave-r4sme.eu/>



*The Atlantic Road in Norway...built high enough for the waves to crash through.*

<http://pinterest.com/pin/142778250658427144/>

## **Open Source „Global Village Construction Set“**

How to achieve industrial productivity on a small scale.....lowering the barriers for farmers, builders and others.

A repository of published designs is freely available.

Watch the video: [http://www.blueeconomy.de/m/news/view/Open-Source-Global-Village-Construction-Set?utm\\_source=twitterfeed&utm\\_medium=twitter](http://www.blueeconomy.de/m/news/view/Open-Source-Global-Village-Construction-Set?utm_source=twitterfeed&utm_medium=twitter)

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