



Trees and Urban Climate Adaptation:

a social agenda for liveable cities

Planning for eco-towns, water and green infrastructure: a European perspective

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about the tcpa

town and country planning association

Founded by Sir Ebenezer Howard in 1899 to promote the idea of the Garden City, the tcpa is Britain's oldest charity concerned with planning, housing and the environment.



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about the tcpa

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- Secure a decent, well designed home for everyone, in a human-scale environment combining the best features of town and country
 - Empower people and communities to influence decisions that affect them
 - Improve the planning system in accordance with the principles of sustainable development

...through planning



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the challenges of the 21st Century

- **Climate change**
- **Social justice**
- **Globalisation**
- **Acute housing shortages**



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climate change the scale of the challenge

- Greatest emerging humanitarian challenge of our time
– causing 300,000 deaths a year and affecting the lives of 325 million people
Global Humanitarian Forum's *Anatomy of a silent crisis*
- Disproportionately affects the most vulnerable groups
- 'Close to home' climate-related disasters, eg Hurricane Katrina and the 2003 European heatwave sparked concern and action to adapt to a changing climate



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climate change the challenge in Europe

IPPC 4th Assessment report (2007) found:

- Climate-related hazards will mostly increase throughout Europe, varying according to regional geography
- Up to 1.6 million people annually will be threatened by sea-level rise and coastal flooding
- Southern Europe and Mediterranean region will suffer from increased period of droughts and fire risk



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climate change the challenge in the UK

- **Fluvial flooding** – especially in urban areas with extensive urban sealing and run-off (ex: 2007 floods)
 - Pitt Review 2008 – surface flooding already a serious problem and likely to increase under a changing climate
- **High temperatures** – residents of urban areas will especially suffer – buildings store heat and contribute to the Urban Heat Island (UHI) effect
 - Can result in temp differences of up to 7°C between large urban conurbations and their surrounding rural areas (Wilby, 2003)



climate change is happening now

- Up until now, efforts to address climate change have mainly focused on the **mitigation agenda**: reducing GHG emissions
- However, climate change is already with us. Much of the climate change over the next 40 years has already been determined by past emissions



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planning for climate change adaptation

- The demands on planning and urban design have never been greater
- New developments must be designed to cope with future rather than historical climates
- Risks – high temps, flooding, water quality and ground conditions – must be planned for and adapted too



grabbs

green and blue space
adaptation for urban
areas and eco towns



what is GRaBS?



GReen and **BL**ue **S**pace adaptation
for urban areas and eco-towns

three-year project funded under
INTERREG IVC Programme
september 2008- august 2011





GRaBS partners - 14



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- TCPA (UK)
 - University of Manchester (UK)
 - London Borough of Sutton (UK)
 - Northwest Regional Development Agency (UK)
 - Southampton City Council (UK)
 - City District of Geuzenveld-Slotermeer (NL)
 - Province of Genoa (IT)
 - Etnambiente (IT)
 - University of Catania (IT)
 - City of Malmo (SE)
 - Regional Environment Centre for Eastern Europe (SK)
 - Municipality of Kalamaria (GR)
 - Klaipeda University Coastal Research and Planning Institute (LT)
 - Provincial Government of Styria (AT)





GRaBS

overall objective



‘to ensure existing and new mixed use urban development is adapted to the impact of climate change through improving local and regional planning policy particularly through planning to put in place green and blue Infrastructure’



GRaBS

5 key objectives



1. increase partner expertise on use of green and blue infrastructure
2. identify and influence regional planning policy and delivery mechanisms for adaptation
3. develop and use a risk and vulnerabilities assessment tool
4. develop regional and local adaptation action plans including a high level policy statement
5. improve community awareness and engagement in planning process





GRaBS - the value of green and blue space



Green and blue spaces have a **vital role to play** in creating:

- a **natural cooling effect** to mitigate the urban 'heat island'.
- space for sustainable urban drainage to absorb excess rainfall.
- space for **renewable energy resources**, such as ground source heat pumps
- **vegetation** to reduce the effects of air pollution and to store carbon
- place for species to migrate and **adapt** to the effects of climate change



GRaBS - the value of green and blue space

- Ecological services
- Social benefits/ quality of life
- Economic value
- Business case



Adaptation Action Plans

GRaBS Climate Change Adaptation Action Plan Guidance

- A key output is that each partner will produce an **Adaptation Action Plan**, which will include a High Level Policy Statement
- The **High Level Policy Statement** will address regional policies and deliver adaptation actions at the regional and local level
- Each Adaption Action Plan will contain a SWOT analysis, the results generated by the **Climate Risk Assessment Tool** and a list of **actions, delivery mechanisms and measurable targets** to implement green and blue infrastructure

GRaBS

TCPA partner role



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- pass on work related to PPS on climate change and eco-towns to other GRaBS partners
 - develop TCPA knowledge of climate change adaptation strategies
 - improve national, regional and local UK policy on climate change and planning
 - use European exchange of experience to improve policy development





Eco-town worksheets

www.tcpa.org.uk/pages/sustainability-worksheets.html



eco-towns green infrastructure worksheet

the essential role of green infrastructure: eco-towns green infrastructure worksheet

summary points

This Worksheet has been produced because it is recognised by the Government and a very wide range of bodies that green infrastructure is essential to both the environmental sustainability and the long-term social and economic success of eco-towns.

The Worksheet is designed to provide clear guidance on how to design, incorporate and operate green infrastructure that is fully 'fit for purpose'. This guidance is intended not just for eco-town developers and planners but also for those who will manage the new settlements and work with the new communities. It is also intended to support the emergence of green infrastructure networks that, in terms of their quality, extent and capacity to deliver the widest range of environmental, social and economic benefits, can exceed the targets and standards for green spaces pursued by the champions of new settlements in previous generations.

The Worksheet sets out the principles that should characterise an eco-town's green infrastructure and the process that needs to be gone through from inception to delivery and beyond. It places great emphasis on integrating green infrastructure completely within the detailed planning of the eco-town and on drawing a community of green infrastructure and related expertise into the planning and decision-making process. The Worksheet also gives guidance on issues such as management and funding, including long-term arrangements.

The main part of the Worksheet deals primarily with the practical aspects of green infrastructure provision and the standards to be achieved. This is complemented by Annexes which provide greater detail on individual components of green infrastructure networks and on the potential for green infrastructure to significantly underpin

Worksheets:

- provide practical advice to developers and planners of eco-towns drawing on case studies in UK and from overseas
- aspirational

Green infrastructure worksheet:

- 40 per cent of the total land in an eco-town should be earmarked for GI
- GI should be implemented through co-ordinated planning, delivery and management



Learning to reduce vulnerability

- Adaptation means learning to live with more extreme weather events and changing weather patterns
- Significant change is needed by individuals, organisations and government in both policy and practice
- Communities must reduce their vulnerability to environmental, social and economic damage from long-term climate change impacts
- Projects such as GRaBS have a vital role to play through sharing best practice, mentoring, study tours and policy development – including lessons in best practice from Malmo, Sweden



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