

Urban conservation in Istanbul's Historic Peninsula: progress and challenges

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Abstract

This paper analyses recent developments in urban conservation planning in Istanbul, with particular reference to the emergence of the concept of sustainable, low carbon urban conservation, and its potential application in the Istanbul's Historic Peninsula.

An analysis of the evolving concepts and practice of urban conservation demonstrates that the evolution from mainly physical goals to embrace socio-economic goals, in a process of 'integrated urban conservation', is being succeeded by a further re-conceptualisation – 'sustainable low carbon urban conservation'. The development and initial application of this new concept is illustrated by reference to UK experience.

In Turkey, academic and professional discourse has yet to significantly embrace this further conceptual development. Indeed, the application of 'integrated urban conservation' is severely limited by constraints on implementation. However, the wider urban agenda is now rapidly developing a climate change dimension. It is argued that in this changing context the concept of 'sustainable low carbon urban conservation' will evolve and the paper concludes by outlining its potential initial application which would help to move towards achieving a 'green' Historic Peninsula.

Keywords: sustainable low carbon urban conservation, planning for climate change, Historic Peninsula, Istanbul, World Heritage Sites, area management planning.



UNESCO threat of placing the Istanbul World Heritage Sites on the List of World Heritage List in Danger has spurred the move towards integrated area conservation. But sustainable low carbon urban conservation has yet to figure in academic and professional debates. This paper argues that this may well soon change and outlines a possible route to a 'green' Historic Peninsula.

2 Sustainable low carbon urban conservation: a conceptual framework

A periodisation analysis, such as that illustrated by figure 2, demonstrates that urban conservation is a dynamic concept. Understanding of the progress from the concept of preserving historic buildings to the conservation of areas of buildings (with the accompanying debate about gentrification) through to the concept of integrated urban conservation as a contribution to urban social and economic regeneration is an established component of the urban conservation discourse in Turkey [2]. The preservation of historic (especially monumental) buildings is well-established in Turkey. There are many examples of successful conventional Conservation Areas (though mechanisms to minimise gentrification are weak), but there are many more where implementation has been very limited [3]. The concept of conservation-led regeneration projects (often tourism oriented), as one of the goals of integrated area regeneration is being increasingly applied, not least in Istanbul's Historic Peninsula [4, 5]. But the evolving international concept and embryonic practice of sustainable low carbon urban conservation is only just beginning to enter the conceptual discourse in Turkey and has yet to be applied in practice. This emerging concept is a logical outcome of the debate about sustainable urbanisation which was itself triggered by the wider debate about sustainable development. Urban conservation is not an isolated activity. It changes as the urban development context changes.

The 1987 Bruntland Report established a definition of the concept sustainable development as '...development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs' [6]. The Report argued that the economic imperative to maximize economic production must be accountable to an ecological imperative to protect the eco-sphere, and a social equity imperative to minimize poverty – hence the 'three Es' of sustainable development: environment, economy and equity, sometimes referred to as the 'three pillars' [7]. Since the 1990s, the balance between these three components has been the subject of ongoing conceptual and policy debates and, eventually, political decisions about policy choices. Thus in the 1990s EU environmental policy developed an integrating spatial dimension, initially expressed in the European Spatial Development Perspective [8]. Hence, the development of cities and towns was increasingly seen to be out of balance, with economic imperatives outweighing both social and environmental/ecological imperatives. Sustainable cities were conceptualised in terms of (often contested normative models such as the 'compact city', promoted by the EU as the antithesis of unsustainable, market driven, urban sprawl [10]. By the early 2000s

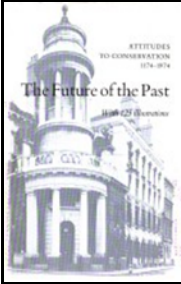
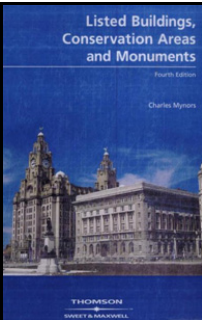

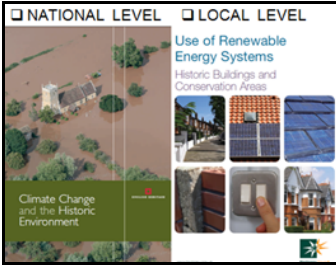
CONCEPT	PRACTICE	KEY REFERENCE / CONCEPTUAL IMAGE
Preservation (1970s)	Preservation of monuments and buildings: Individual building based preservation approach with <i>physical goals</i> .	 <p>Pevsner, N. and Fawcett, J. (1976) The Future of the past: attitudes to conservation, 1174-1974, original from the University of Michigan (digitized 13 Nov 2007); Whitney, ISBN0823071847, 9780823071845.</p>
Urban Conservation (1980s)	Conservation of group of buildings Urban Conservation Area (CA) approach: :physical goals plus <i>social goals</i> including minimising gentrification .	 <p>Charles, M. (1989) Listed buildings, conservation areas and monuments, UK: Longman,</p>
Integrated Urban Conservation (1990s)	Management of CAs: Area based approach: physical and social goals plus <i>economic</i> goals - including contribution to tourism -led urban economic regeneration.	 <p>Gulersoy Zeren, N. et al. (2004) Istanbul Project: Istanbul Historic Peninsula Conservation Study- cases of Zeyrek, Süleymaniye and Yenikapı, Istanbul: ITU.</p>
Sustainable Low Carbon Urban Conservation (2000s)	Holistic conservation, integrating urban heritage and climate change: carbon conscious area based urban conservation embracing the <i>environmental agenda</i> .	 <p>□ E. H. (2008) Climate Change and the Historic Environment, London: EH. □ Haringey LB (2008) Use of Renewable Energy Systems: historic buildings and Conservation Areas, London.</p>

Figure 2: Urban conservation: dynamic concept and evolving practice (Source: author’s research).



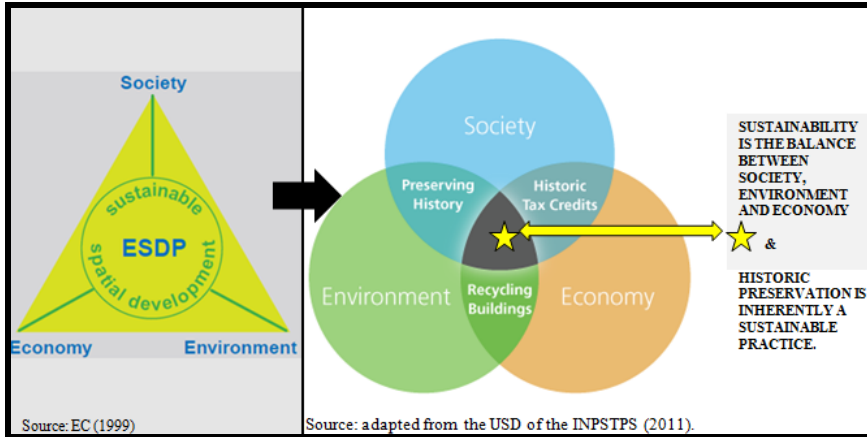


Figure 3: Triangle of objectives: a balanced and sustainable spatial development (Source: adapted from [8] and [9]).

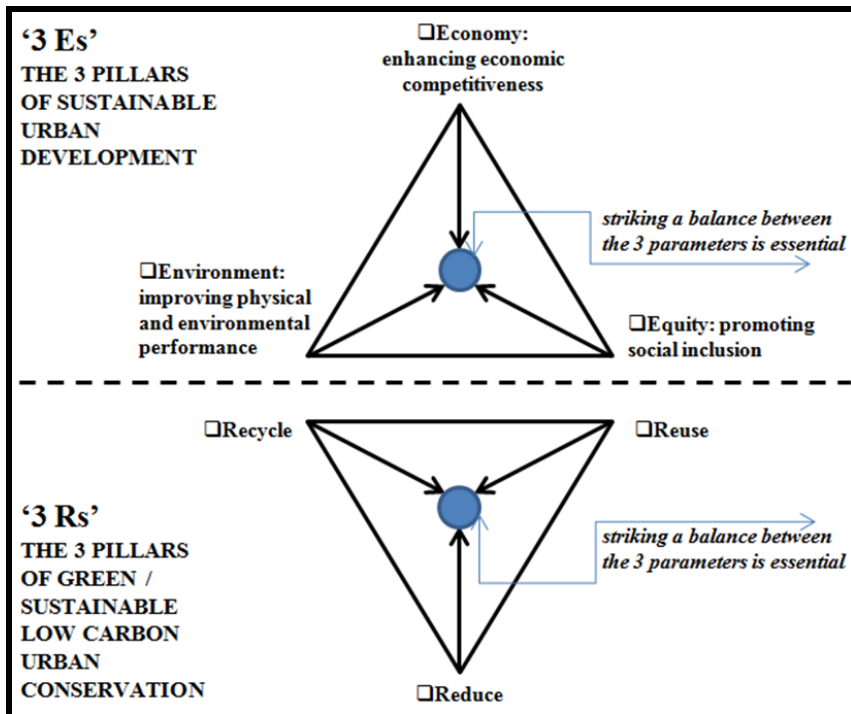


Figure 4: The '3 Es' of sustainable urban regeneration and the '3 Rs' of non renewable resource and waste management (adapted from [13]).

sustainable urban regeneration was conceptualised as a process which supports the economic development of cities (for example through large-mixed-use, prestige urban regeneration projects) but at the same time promoted social inclusion through participatory neighbourhood regeneration, whilst maximising environmental performance and protection [11]. At the same time, urban conservation came to be promoted as a component of urban regeneration [12].

However, there was a significant shift in the balance between the 3 Es in the run up to the 2009 Copenhagen summit. Climate change science both demonstrated the threat from the failure of the Kyoto Protocol to halt the increasing emissions of greenhouse gases and provided improved methods for calculating emissions from the built environment. The debate about national carbon emission reduction targets intensified. Reducing carbon emissions from buildings and transport, together with improving waste and water management moved to centre stage in urban policy. Thus in the three Es of sustainable urban development and regeneration the ‘E’ for environment was increasingly

<p>Low carbon spatial planning</p> <ul style="list-style-type: none">▪ good access to (preferably by rail) public transport;▪ high density mixed used development, including local employment;▪ integrated social infrastructure;▪ green public realm and edible landscapes.	<p>solar panel water heating,; ground source heat pumps and biomass heating</p> <ul style="list-style-type: none">▪ micro-generation - solar photovoltaic, panels and wind turbines
<p>Low carbon local transport</p> <ul style="list-style-type: none">▪ segregated pedestrian and cycle networks with secure cycle parking and restricted car access to schools;▪ zero carbon local buses and trams with provision for cycles;▪ space rentals for cars and local car club▪ re-charging points for electric cars.	<p>Clean</p> <ul style="list-style-type: none">▪ minimum use of fossil fuels, e.g. from combined heat and power
<p>Design and construction of low/zero carbon buildings</p> <p>Lean</p> <ul style="list-style-type: none">▪ less materials by design – use of energy efficient and recycled materials;▪ less energy through maximum insulation and ‘A’ standard appliances;▪ less waste generation – maximum re-use and recycling▪ less water consumption per capita <p>Green</p> <ul style="list-style-type: none">▪ maximum use of renewable energy –	<p>Low carbon communities</p> <p>Carbon conscious households</p> <ul style="list-style-type: none">▪ use of ‘A’ standard domestic appliances and heating systems;▪ use of personal carbon calculator to reduce personal carbon footprint; <p>Low carbon food economy</p> <ul style="list-style-type: none">▪ input: minimise food miles by maximising use of local sources;▪ output: minimise putrescible waste through composting <p>Low carbon schools</p> <ul style="list-style-type: none">▪ involving pupils in the management of their low/zero carbon school building as an active learning opportunity;▪ focal point for community-based monitoring of neighbourhood carbon emissions; <p>Low carbon community centres</p> <ul style="list-style-type: none">▪ zero carbon building with energy advice as a key community service;▪ focus for promotion of community level sustainable energy projects.

Figure 5: Normative model of carbon neutral neighbourhoods: key components (adapted from [14]).



expressed in terms of the three Rs of resource management which strengthened the environmental pillar (see figure 4). Here the issue is moving towards maximising the 'reduce' component. Thus the amount of *energy* used to construct, heat and cool buildings is minimised and the reduced demand is met from renewable energy. *Waste generation* is minimised, then maximum possible re-use is made of the reduced volumes and recycling is maximised, leaving a minimum for disposal through incineration or landfill. Reducing per capita *water consumption* is promoted through measures such as dual flush toilets, grey water recycling and rainwater harvesting. In urban regeneration debates this resource conservation perspective added weight to the general argument for rehabilitation of buildings rather than demolition and replacement and for the re-use of urban land rather than peripheral urban expansion. Thus, the term *environmental capital* is increasingly used to refer to the embodied energy and the materials that constitute existing buildings and urban infrastructure. Rehabilitation conserves this capital, whereas redevelopment requires writing it off and replacing it in a process that consumes energy and generates waste. More specifically, a carbon neutral neighbourhood is one in which net carbon emissions from energy use within the neighbourhood and from vehicles based in the neighbourhood are zero. Thus a wider range of measures are needed to deliver sustainable, carbon neutral neighbourhoods, both new neighbourhoods and improved existing neighbourhoods (figure 5). As a component of sustainable urban regeneration, sustainable, low carbon conservation will require the application of the model of carbon neutral neighbourhoods in conservation areas.

3 Sustainable low carbon urban conservation: emerging UK practice

In the UK, the government agency *English Heritage* led the development of this more environmentally sensitive approach, which emerged in two stages. The first stage was the emergence of urban conservation as integrated area management.

In the late 1990s the evolving post-Rio concept of sustainability was applied to heritage and became a 'central influence' on the agency's work. Hence '... the idea of heritage now extends ... to encompass the complex pattern of buildings, landscapes and sites around usthe historic environment as a whole'... which contributes to '... our sense of place and belonging'. In parallel '...the conservation of good existing buildings and spaces has been recognised as central to successful regeneration – the conservation of the historic environment has become the basis for – and not a barrier to – new economic life, life that brings sustainable uses for historic buildings, assuring their long term futures' [15]. Thus by the early 2000s urban conservation came to be conceived of as a holistic process of conserving the historic environment and as a component of sustainable urban regeneration.

The second stage is the ongoing evolution of the concept and embryonic practice of sustainable low carbon conservation, in the changing development context of climate change strategies and action plans which have been produced at national and local authority level since the mid-2000s. The international



debate about national carbon reduction targets intensified and the consumption of energy sourced from fossil fuels in cities and towns became a key policy issue. Reducing carbon emissions from buildings and traffic in urban areas is now a high priority in efforts to combat global warming.

In the UK, this prompted the restructuring of the urban planning agenda to make carbon reduction a key strategy. National carbon reduction targets were cascaded down to local authorities and all areas of policy and action were required to identify ways of reducing carbon emissions, particularly from buildings and transport [16]. Hence in 2008 English Heritage published *Climate Change and the Historic Environment*:

'Without action to reduce greenhouse gas emissions, the direct impacts of a changing climate will have major adverse effects on society, the economy and the environment, including our cultural heritage. The wide-ranging actions required to limit further damaging emissions, combined with the need to adapt historic assets to make them more resilient to a changing climate, will also have significant implications for the historic environment' [17].

In this context UK conservation practice is now enhancing efforts to reduce emissions from traffic and developing methods for incorporating energy efficiency, micro-generation, water and waste management installations in historic buildings, but in ways which do not damage heritage characteristics. Thus an integrated area management approach to urban conservation is evolving which has the added dimension of reducing carbon emissions from historic environments – an approach which can be conceptualised as *sustainable low carbon urban conservation*.

The early application of this approach is evident in *Bath* where the *World Heritage Site Management Plan* is widely acknowledged to be an example of leading-edge practice, as it is 'underscored by the principles of sustainability' and '... insinuates cultural heritage values into all aspects of the city's urban management' [18]. Thus the first Management Plan prominently addressed the issue of the *environmental capacity* of the city in terms of through and local traffic and proposed improvements over time, including the integration of different transport modes and further pedestrianisation. The transport section of the revised 2010 Plan strengthened proposals to reduce emissions pollution from traffic. But in view of '... shifting conservation priorities from global to local', it also introduced a specific climate change section [19]. This was in the context of Bath and North Somerset Council developing its strategies, in line with national policy, to reduce the 1 million tonnes of CO₂ emissions the District produces annually, mainly from housing and road transport. This new section of the Plan recognises that the large number of historic dwellings in the site will need to be adapted to future needs for energy efficiency and local renewable energy generation, bringing both opportunities and threats to the WHS and its setting. But funding for building improvement has long been very limited. However, this will change as national climate change policies to provide home owners with resources through the Green Deal become operational in Autumn 2012. This is a 'pay as you save system' through which the capital cost of energy installations

is paid back by users of dwelling from the reduction in their energy bills resulting from the installations.

Since the 1990s the definition of urban heritage has been broadened to include the heritage of the industrial revolution. Thus the new funding regimes for energy efficiency and micro-generation will have an impact in 19th century villa and terraced housing areas in relatively high demand areas such as those included in the 29 designated CAs in the *London Borough of Hackney*. The Borough has one of the most substantial urban conservation programmes in the UK and has pioneered the development of guidelines for the implementation of renewable energy systems in historic buildings and CAs. The situation in low demand neighbourhoods is well illustrated by experience in *Liverpool*. Here the definition of built heritage has been broadened in a SAVE-led campaign to prevent the demolition of 300 19th century terraced housing. The alternative proposed is eco-retrofitting to conserve the environmental capital of the neighbourhood through innovative urban design to upgrade the houses and their local environment [20].

4 A green Historic Peninsula?

During the past decade developments in urban conservation planning have focused on the implementation of the 2003 statutory Conservation Oriented Development Plan (CODP), through four urban planning mechanisms which have been largely uncoordinated and in partial conflict. The Greater Istanbul Metropolitan Municipality (GIMM) led *Museum City Project* prepared the urban design concept plans for implementing the CODP. But these were based on an approach which was dominated by demolition and replacement by replica housing – a process analogous to the post-war reconstruction of historic Warsaw. This approach was opposed, in terms of authenticity, by both UNESCO and many of the city's urban design professionals. In the event, the process was halted when the High Court cancelled the CODP on technical grounds in 2008, which meant that there was no legal basis for implementation plans. However, this impasse provides the opportunity to persuade the GIMM policy makers of the virtues of an alternative approach which has a stronger rehabilitation component, with eco-retrofitting combined with zero carbon new building to replace buildings that cannot be made earthquake resilient. This would preserve and enhance environmental capital, thus substantially and measurably reduce carbon emissions, as part of an evolving process of sustainable low carbon conservation.

The Historic Peninsula is one of the highest earthquake risk districts in the city. In 2006–2008 the GIMM, through its agency the Istanbul Metropolitan Planning Centre (IMP), prepared a suite of *earthquake-oriented action plans* for the neighbourhoods at greatest risk. But these informal urban design proposals were not developed to implementation stage. Rather, the main implementation mechanism is the Mayor of Fatih District's formal, statutory *Renewal Areas* programme based on Conservation Law 5366, which came into effect in 2005. The Sulukule Renewal Area was the first to be implemented. But the



comprehensive redevelopment of the area was the antithesis of sustainable urban conservation. Virtually all the neighbourhood's housing and infrastructure, its environmental capital, was destroyed, as well as its intangible cultural heritage – the 1000 years old Romany community [21]. The ongoing implementation of Renewal Areas programme does not involve comprehensive redevelopment, but a combination of redevelopment and rehabilitation. But this market-led process is likely to lead to further gentrification as there is no mechanism for the local re-housing of tenants. Thus it will contradict the aims and outcomes of the innovative UNESCO funded community oriented Fener-Balat neighbourhood regeneration programme, which was intended to provide a model for other neighbourhoods. Moreover there is no sign that the piloting of improved neighbourhood waste management in Fener-Balat will be extended. The concept of neighbourhood eco-retrofitting has not yet been introduced into the Renewal Areas programme.

This situation presents a major challenge for the further development of the fourth conservation planning process - *the Historic Peninsula World Heritage Sites Area Management Plan* (AMP) - which has recently started to move towards an integrated approach along the lines of the conceptual framework established by a UNESCO project [22, 23]. A combination of developments at local and national levels may provide conditions which will enable an Istanbul specific process of sustainable low carbon conservation to emerge. At local level history may record that the work of an international NGO, Embarq, had a major impact [24]. Since 2007 Embarq has been working with other NGOs, public and private sector partners to realise a vision of transforming the heavily congested Historic Peninsula into a 'low emission zone'. Embarq's advocacy led to the AMP agreeing in 2008 to develop an integrated sustainable transport plan for the Historic Peninsula, based on improving mass transit and pedestrianisation. This resulted in the closing to traffic of 90 streets in the vicinity of Sultanahmet Square in January 2011. Embarq is working with Istanbul Technical University to deploy sophisticated technology for quantifying carbon emissions using satellite data which could be used to measure the carbon reduction impact of conservation action: conservation planning in the Historic Peninsula is becoming 'carbon conscious'.

At national level *The Turkish National Climate Change Action Plan 2011* sets out policies for a more sustainable urbanisation process which emphasise the reduction of the carbon emissions from the buildings and transport in Turkish cities, including their historic districts. Like all such national plans it emphasises that delivery will depend on local municipalities. The development of Local Climate Change Action Plans for Istanbul's Districts will provide a framework for the development of policies and programmes for eco-retrofitting and low carbon housing construction. Energy performance certificates are required now for new buildings and will be required for existing buildings by 2017. A major UNDP project is working to establish a process for increasing the environmental (and earthquake safety) standards which buildings will have to meet. Local municipalities will be expected to lead by example by retrofitting public buildings, including schools [16]. The earthquake threat means that assembly



points and access routes for emergency services will have to be provided. This is an opportunity to create a network of carbon and water absorbing green spaces, linking nodes focussed on mosques and their immediate environment. The challenge is to integrate these and other elements to establish a Historic Peninsula Green Action Plan as a major component of an overall integrated conservation planning process. This could be the process through which the concept and practice of sustainable low carbon conservation are brought to the Historic Peninsula which, for all but the last century of its 8000 years history, was a low carbon settlement.

5 Conclusions

This analysis has demonstrated that in the changing context of contemporary urban development the continuing evolution of urban conservation is now at a stage when the concept of 'sustainable low carbon conservation' is emerging and embryonic practice can be identified. Thus there is potential for the development of this concept in the specific conditions of Turkish urbanisation and for its initial application to help to move towards a 'green' Historic Peninsula. At local level, there is an opportunity for a low carbon modification of the ongoing Renewal Areas programme and the provision of carbon and water absorbing green spaces. Such 'bottom-up' innovations are more likely to be introduced in the context of the increasing 'top-down' pressures from national climate change policy.

References

- [1] IMP, Istanbul Tarihi Yarımada yönetim planı analitik etüd ara raporu, Istanbul, p. 21, 2010.
- [2] Kocabas, A., *Urban conservation planning and practice in London and Istanbul: case studies of Beyoglu and Covent Garden, 1969-1989*, LAP, Blackwell, ISBN: 978-3-8383-3754-8-3, 2010.
- [3] Gorgulu, Z., 'Kultur mirasimizin korunması üzerine bir kez daha düşünürken' in Mengi, A. (ed.) *Kent ve planlama: geçmişi korumak geleceği tasarlamak, Ruşen Keleş'e Armağan Dizisi*, vol. II, pp. 39-45, Ankara: İmge Kitabevi, ISBN 978-975-533-555-1, 2007.
- [4] Kocabaş, A., 'Urban Conservation in Istanbul: Evaluation and Re-conceptualization', *Habitat International, A Journal of the Study of Human Settlements*, Elsevier, vol. 30, pp. 107-126, ISSN: R00108909_HAB_620, 2006.
- [5] Akkar Ercan, M., 'How to shape up conservation-led regeneration initiatives regarding community needs?' in *METU JFA*, (27:1), pp, 201-221, 2010.
- [6] Bruntland Report, *Our common future*, Oxford: O.U. Press, 1987.
- [7] Tweed, C. and Sutherland, M., 'Built cultural heritage and sustainable urban development' in *Landscape and Urban Planning*, 83, pp. 62-69, 2007.



- [8] European Council, *European Spatial Development Perspective*, p. 10, EC, 1999.
- [9] Kocabas, A., unpublished power point presentation, 2012.
- [10] Breheny, *Sustainable development and Urban Form*, London: Pion Limited 1992.
- [11] Gibson. M. & Kocabaş, A., 'London: Sustainable Regeneration: Challenge and Response', *Proc. 1st International Urban Design Symposium*, Mimar Sinan Fine Arts University, 177-228, Istanbul: MSU, ISBN 975-7634-51-4, September 2001.
- [12] English Heritage, *Conservation-led urban regeneration: the work of English Heritage*, London: English Heritage, 1998.
- [13] Gibson, M. & Kocabaş, A., 'Turkish planning at a crossroads: false dawn or vision of new era?' Mengi, A. (ed.) *Kent ve planlama: geçmişi korumak geleceği tasarlamak, Ruşen Keleş'e Armağan Dizisi*, vol. II, pp. 165-201, Ankara: İmge Kitabevi, ISBN 978-975-533-555-1, 2007.
- [14] Gibson, M. 'Carbon Neutral Neighbourhoods' in *New Start*, London: 19January, pp. 14-16, 2007.
- [15] Alexander, P., *Sustaining the historic environment*, Conservation Bulletin, Issue 36, December 1999, London.
- [16] Kocabas, A., 'The transition to low carbon urbanisation in Turkey: emerging policies and initial action', *Habitat International, Journal of the Study of Human Settlements*, Special Issue on Low Carbon Cities, Elsevier, 2012, forthcoming.
- [17] English Heritage, *Climate change and the historic environment*, London: English Heritage.
- [18] Rodwell, D., *Conservation and Sustainability in Historic Cities* Oxford: Blackwell Publishing Ltd., 2007, p. 160 and p. 149.
- [19] Bath and North East Somerset Council, *The City of Bath World Heritage Site Management Plan 2010-2016*, Bath: BNESC, 2010, p. 45.
- [20] Hines, M., *Reviving Britain's Terraces: life after pathfinder*, London: SAVE Britain's Heritage, 2010.
- [21] Kocabas, A. and Gibson, M., 'Planned gentrification in Istanbul: the Sulukule Renewal Area 2005-2010', *International Journal of Sustainable Development Planning*, vol. 6, no. 4, WIT Press, UK, 2012.
- [22] IBB, *Istanbul Tarihi Yarımada Yonetim Planı*, Istanbul: IBB, 2011.
- [23] Gulersoy Zeren, N. et al. (2004) *Istanbul Project: Istanbul Historic Peninsula Conservation Study - cases of Zeyrek, Süleymaniye and Yenikapı*, Istanbul: ITU.
- [24] <http://www.embarq.org>

