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Book Reviews

Sustainable Energy Landscapes: Designing, Planning and Development
Sven Stremke & Andy van den Dobbelsteen (Eds)
Boca Raton, FL, CRC Press, 2012, 528 pp., £86 hb, ISBN 978-1-439-89404-0

In some first world nations such as United States and Australia, where emissions from fossil fuels remain high, there are still leading politicians who remain sceptical about the contribution of fossil fuels to climate change in order to maintain economies based on extractive industries. Fortunately, many other nations have ignored this Faustian bargain and have created viable economies based on renewable energy and its associated infrastructure. A sign of maturity of the renewable energy enterprise is new planning and design methods developed for sustainable energy landscapes that address emerging land use conflicts. There is now a book, *Sustainable Energy Landscapes: designing, planning, and development*, that celebrates the advances that have been made for landscapes to participate in sustainable energy production.

This information-rich book is a comprehensive overview of the issues related to renewable energy production. It is divided into four parts—preamble, methods, case studies and education; each with numerous separately authored chapters. *Part One*: *Preamble* provides a brief history of the changing context of energy landscapes. *Part Two: Methods* considers various types of design and planning methods for sustainable energy production. Design is addressed through a 'five-step approach' including comprehensive analyses, multiple scenario projections and integrated visions for flexible frameworks of energy-conscious interventions.

Scenario projections used in this 'five-step' approach require different forms of landscape visualisation. Simple renderings are considered effective for community consultation; however, new digital technologies have opened up possibilities for spatial and abstract mapping with significant research consequences. Some examples of this are described in *Part Three: Case Studies*.

They include two mapping research projects, vastly different in scale, the *Shapes of Urban Landscape Project* in Germany and the *Slowup Landscapes* research projects in Spain and Morocco. The former shows how detailed mapping and visualisations of urban landscape elements and typologies can lead to relational design of energy landscapes within the city; whereas the *Slowup Landscapes* research projects model large-scale biomass power plants using forests and crops in various harvesting strategies for visual management. As well, *Slowup Landscapes* exist as vast sustainable energy landscape corridors, 180-km long, designed as synergies between environmental, economic and social factors.

The book argues that planning for sustainable energy production is beset by 'wicked' problems which resist orthodox planning processes. It reviews current planning paradigms in terms of their capacity to address wicked problems and finds them lacking. Alternatively, it proposes *swarm planning* which copies swarm behaviour in nature where systems adjust to uncertainties through changing their internal patterns and structures. Arguing that cities could be self-organising systems, the book suggests landscapes could perform swarm behaviour thus increasing their capacity to deal with uncertainty and change.

The impacts renewable energy technologies have on localities are explored, followed by an analysis of criteria and principles for fair siting of renewable energy infrastructure. The analysis includes generic spatial archetypes, urban centres to rural areas, in terms of their suitability for different types of sustainable energy landscapes.

Part Three: Case Studies explores diverse planning and design approaches for sustainable energy landscapes through eight case studies, beginning with CHORA's tactics for energy-conscious designs in Asia. CHORA, a British-based planning practice, argues for the value of incubators to nurture alternative energy experiments. CHORA is known for projects which link extremes of scientific programming with playful artistic practice and its methods are described using two Asian examples, *Smart City Chengdu* and *Taiwan Strait Smart Region*.

Unlike the intricacy and chance in CHORA's games, gigantism and rationalised strategies required for mega-regions are the focus of *Conduit Urbanism: Rethinking Infrastructure Ecologies in the Great Lakes, North America*. Here, geo-design and planning through GIS have the capacity to map simultaneously ecologies, economies, energy infrastructures and geographies as co-dependent agents in shaping landscapes. The case study suggests that if sustainable energy landscapes are based on increasing urban complexity, then a diversity of bundled infrastructures could be carried along a new resource 'umbilicus'. At points of crossover in this 'conduit urbanism', a new mega-region typology—*the multimodal transfer exchange*—can emerge, apparently capable of unlimited huge-scaled sustainability possibilities.

This is challenged in another case study exploring the potential for fine-grained connections in the '*collapsoscapes*' of post-industrial cities of the United Kingdom. Like the EU Shrinking Cities movement, British planners have recognised that post-industrial spaces provide opportunities for creative minds to develop a new template for the city of the future. The case study focuses on resilience through food and biomass production as closed cycles. Different scales of food production and biofuel infrastructure are explored; however, one intriguing small-scale example is the 'silkworm city closed cycle' where using large greenhouses with mulberry trees, silk is harvested from cocoons for high-value lingerie, while the worms are fed to sturgeon who produce expensive caviar and ultimately provide fertiliser for the mulberry trees, completing the cycle.

British Columbia provides some interesting examples of community renewable energy planning through Integrated Community Sustainability Plans. Using different forms of renewable energy as comparative cases, the book asks how much of the energy mix will be locally produced, will most of the energy continue to come from large-scale facilities in remote areas and, more importantly, will the community grow to love the landscapes of carbon neutrality?

Fostering sustainable energy transitions at the community level is also the focus of a number of case studies which report that by 2009, 50 villages in Germany had changed

to local bioenergy at district, village and individual farm levels. In Austria, Energy Zone Mapping for biomass district heating has been incorporated into strategic planning, while in Denmark, the island of Samsø has achieved 100% transition to renewable energy. The case study of the Abruzzo region of Italy shows how GIS analyses can produce 'thermodynamic profiles' which can be used for sustainable energy planning.

Hypothetical plans and designs are explored in *Part Four: Education*. In the Netherlands, students experimented with designs for two sustainability islands in the Dutch delta region using a range of renewable energies including 'Blue Energy', a form of osmotic power derived from the difference in salt concentration between salt and fresh water. Students in Minnesota developed designs for a Zero + Campus including 'Zero + Performance Modelling Tools'. In contrast to large renewable energy fields or biomass plantations, this approach calls for incorporating sustainability features into existing built environments thus creating new multi-functional places with a range of ecosystem services, energy and water systems.

Finally, the Royal Institute of Art in Stockholm's programme, '*Resources*', provides a catalogue of ideas for radically different sustainable landscapes including scenarios for three globally dominant economies, China, United States and India; such as the 'Shanghai: Beyond Oil' scenario, a modern high-tech dense and self-sufficient city, 'Los Angeles: Beyond Desire', a post-material urbanity scenario, and 'Pune: Beyond Development', exploring spatial justice and redefining urban growth.

The book concludes by describing a new transdisciplinary field for spatial planners and designers, energy experts, economists and natural scientists. This field will reveal relationships between energy and landscape, develop innovative designs and alternative spatial plans for sustainable energy landscapes, validate them through case studies and disseminate the accumulated knowledge. This book will be an invaluable resource for such an emerging field.

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Terrain Vague: Interstices at the Edge of the Pale
Patrick Barron & Manuela Mariani (Eds)
London and New York, Routledge, 2014, 258 pp., £34.99 pb, ISBN 978-0-415-82768-3

Debris, detritus, dregs, dross, leftovers, litter, refuse, rummage, waste; what an awful lot of ways to say rubbish! All manner of landfills, dumps, scrapyards and brownfields are needed to cope with so much 'garbage language' (Jennifer Scappettone, p. 148). English provides a rich linguistic landscape of trashy synonyms. Nevertheless, Patrick Barron