

Book reviews

WIND POWER: RENEWABLE ENERGY FOR HOME, FARM AND BUSINESS

P. Gipe. James & James (Science Publishers), 2004.
ISBN 1 9029 1654 9, £35, 512 pp.

Wind Power, subtitled *Renewable Energy for Home, Farm and Business*, is a revised version of the author's previous books on the subject. As with previous versions this is very much a practical guide to wind turbines and their use rather than a treatise on cutting-edge research. If you have ever seriously considered using a wind turbine, whether to power your caravan in the field, to reduce your household electricity bill or as a commercial investment, then this book will be invaluable in making the right choices, including the choice not to do so! The book is also an excellent review of wind turbine history and the practical reasons why some of those 'Tomorrow's World' developments have never made it into widespread commercial usage. Given that wind energy professionals so often see these ideas reinvented and presented to them as 'the next big thing' it is good to have such an extensive repository of such practical information for reference.

Wind Power should not be seen as a manual for wind turbine aerodynamics or a textbook on electrical generator technology. Even the chapter on future developments deals more with the changes required in society and the supporting industrial business models than with the technology itself. That is not to discourage researchers or developers from picking up this book as it gives an unparalleled overview of the subject and demonstrates how the technology of turbines is sometimes the least important factor in a successful installation. Issues involving choices of tower, safety, security and even billing arrangements with the local power company, can play a defining role in successfully using a wind turbine, even in the smallest installation, and yet are often overlooked. Many wind energy developers could benefit from understanding the value and difficulty of doing a meaningful site survey of wind conditions and the interpretation of turbine manufacturers' power curves.

For UK readers there may appear to be something of a gap in the information provided, which probably reflects the current status of the industry rather than any inherent bias. Sadly, whether for reasons of politics, planning law or socio-geographic factors, the UK is not as developed in utilising wind power as the USA, Denmark or Germany, and this is reflected in the coverage of the book. Since wind energy is not only extremely topical but also widely misunderstood, and sometimes

misrepresented, this very readable book's revision and republication is timely and a welcome injection of realism into the subject.

A. QUINN

NEW GENERATION WHOLE-LIFE COSTING: PROPERTY AND CONSTRUCTION DECISION MAKING UNDER UNCERTAINTY

I. Ellingham and W. Fawcett. Taylor & Francis, 2006.
ISBN 0 415 34658 4, £29.99, 224 pp.

The Department of Trade and Industry's (DTI's) recent consultation on 'sustainable construction' put a strong emphasis on whole-life costing. The method is certainly a significant step forward from focusing on first costs—even if they include green wash add-ons. But allowing for future costs and savings by discounting can be as dry as old sticks. There is a partially developed International Standards Organization (ISO) standard full of practical adaptations of the method but nevertheless very formulaic. Ellingham and Fawcett's new book is both a real breath of fresh air and a source of some important new ideas.

The authors' approach is to treat buildings with the same respect the client would have for any other financial asset they were thinking of buying. They borrow heavily from the ideas of the financial market rather than bookkeeping. The key step they want the reader to take is to see a new building as a set of options; not design options, but options for future uses. That naturally leads to adapting the financial market's 'call' and 'put' options that are used to hedge against uncertainty. 'Real options' are sums of money spent now on design modifications that keep open future options for use. The options need never be taken up but the 'real options' cover for futures where it would be imperative to do so. Suppose you believe that the future is photovoltaics. Then the right tactic is pay the real option so that they can be installed cheaply in the future instead of trying to squeeze them into the initial budget, only for the value engineer to knock them out again later when the project is over budget.

The authors spend some time on the appropriate discount rate for whole-life costing. Arguably this is a client issue (the view taken by ISO) and ideas about volatility and general market risk while skillfully presented are not likely to be negotiable by the designer. Nevertheless the material forms helpful background as to why discount rates differ between clients. It is a little surprising but they do not handle the specific issue of the public sector discount rate (where HM Treasury live largely in a world of their

own and don't make it to the index) and the discount rate for private finance initiatives.

In a break from financial traditions the book also recognises that key decisions in construction projects are often taken early on before full costs are available. The book introduces a scoring method of characterising the risks facing a project, both in construction and future use. The resultant profile leads the design team or specifier to see which of six profiles they are facing.

I leave to last possibly the most outstanding aspect of the book, and that is its design. Whole-life costing could be as dull as the worthy ISO standard. This book is visually a delight. There are the inevitable boxed texts on specific topics (how did Aristotle survive without them?), but the narrative is full of lively examples and visual snapshots of case studies. This book is thoroughly recommended for courses (though there are no exercises) and clients, agents and designers alike.

D. Fisk

TROPICAL SUSTAINABLE ARCHITECTURE: SOCIAL AND ENVIRONMENTAL DIMENSIONS

J.-H. Bay and B.-L. Ong (eds). Architectural Press, 2006.
ISBN 0 7506 6797 4, £34.99, 512 pp.

It is not uncommon to publish condensed conference proceedings. You know what you get is on the tin, an eclectic but interesting collection of ideas and observations. The editors of this book are at pains to explain that this is not such an enterprise and that it only grew out of the first conference of the Network for Tropical Architecture in 2004 in Singapore. Nevertheless I was left with the impression that either Architectural Press was taking trade descriptions to its limits or that the editors should have got everyone to read everyone else's papers and sort out the inconsistencies.

Problems start with the first contribution from Alexander Tzonis, who gives a description of the decline of design method architectural philosophy with the decline of the welfare state. While interesting, it hardly chimes with the Asian contributions

in later chapters where 80% of the housing is pure state-controlled. Dean Hawkes' contribution that follows is not much better. Surely you would not expect a text on tropical architecture to have examples from British Columbia, Dublin and Cambridge? Humphreys' famous curve of temperature adaption is paraded without any caveat that it was collected mostly in Hertfordshire. There is nothing wrong with either paper but what are they doing in this form in this volume?

The contributions from authors based in the tropics focus largely on case studies and are therefore more intriguing. The perspectives are sometimes narrow, but the undertow is there to find. For a moment I was going to punch the air when I learnt that Taiwan had mandatory green building labelling since 2001 but then it turned out that the threshold was set low enough to get most buildings through! Exploring the rationale for space-built ratio in Dhaka we pick up the stories of encroachment, vandalism and weak regulation. Where else would you learn that Mexicans are the world's second largest consumers of polyethylene terephthalate (PET) beverage bottles or how you could recycle them as building components?

There is a final chapter by Anona Pieris that the editors intend as a critique. If it was presented at the conference it must have been a rollicking seminar followed by discussion well into the night. Architecture, she tells us, in full flood, cannot launch a critique of global capitalism when it serves the capitalist machine. This is not the collection of essays to ask whether in any case architectural critique is likely to convince anyone but itself that it knows what it is talking about.

Anyone who believes that 'sustainable architecture' *anywhere* is likely to exhibit novel elements of integration, stakeholder involvement and explicit concern for the future might begin to worry that this collection of essays is about something else entirely different. There is nothing wrong with that, because many of them are fascinating, but the publishers do need to explain why they are marketing this book with such a mainstream title.

D. Fisk