

THE **ECO**EDGE

URGENT DESIGN CHALLENGES IN BUILDING SUSTAINABLE CITIES



EDITED BY
ESTHER CHARLESWORTH
AND ROB ADAMS



The EcoEdge

'Greenspeak' is increasingly central to the discourses of the architectural design and planning professions. However, constructed examples of the principles in practice, of designers, planners and urban politicians actually walking the sustainability talk into action are not nearly as common . . .

This book presents the experiences of design practitioners who have implemented sustainable design projects rather than just theorized about them. Presenting diverse case studies of contemporary sustainable urban practice from Europe, Africa, India, South America, the USA and Australia, this book offers the reader a fantastic wealth of practical material from a range of internationally renowned authors. It includes:

- 14 global case studies which act as benchmarks and inspirations for transformation;
- voices and experiences of developing economies such as India and China, heard on equal footing with those from Europe, North America and Australia;
- an exploration of urgent design challenges such as population density, recreating infrastructure that supports carbon neutral or low carbon (emission) intensive urban activities, and retrofitting for sustainability;
- a clear structure: divided into 3 parts, each part is introduced by a thematic overview essay by an internationally respected design scholar, on sustainability and their field of practice. These essays provide insight into each case study chapter that follows; locating practical themes explored and pointing out where further work is needed in policy, planning, design and research.

Well-illustrated, thematically focused and with superb global coverage, this book presents the reader with a multi-voiced and yet highly cohesive reference for anyone interested in green issues in urban design and architecture.

Dr Esther Charlesworth is the founding Director of Architects without Frontiers (Australia), a design non-profit organisation committed to working with communities in need. She is currently Senior Research Fellow in Architecture at RMIT University, Melbourne. After working as an architect and urban designer in Melbourne, Sydney and New York, Esther lectured in architecture at QUT, Brisbane, the University of Melbourne and at the American University of Beirut between 2000–2002. Between 1995 and 1999 Esther was Senior Urban Designer with the City of Melbourne and there founded the CityEdge International Urban Design Series. She has published widely on the theme of social responsibility and architecture including: *CityEdge: Contemporary Case Studies in Urbanism* (2005), *Architects Without Frontiers, War, Reconstruction and Design Responsibility* (2006) and *Divided Cities* (2009).

Professor Rob John Adams AM is Director City Design at the City of Melbourne. Rob Adams has over 36 years' experience as a practising architect and urban designer consistently producing design-research based urban projects and strategies receiving over 100 state and national awards for excellence. In 2007 Rob was awarded an Order of Australia in recognition for services to urban design, town planning and architecture, and in 2008 named as the Australian Prime Minister's Environmentalist of the Year at the Banksia Awards.

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The EcoEdge

Urgent design challenges in
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Editors: Esther Charlesworth and Rob Adams

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Contributors

Rob Adams, University of Melbourne Professorial Fellow, and Director of Design and Culture for the City of Melbourne. His seminal work as an architect and urban designer, including his role in revitalizing Melbourne, was recognized with an Order of Australia in 2007 for services to urban design, town planning and architecture. In 2008 he was named the Prime Minister's Environmentalist of the Year (Banksia Awards).

Brit Andresen was awarded the RIAA Gold Medal for 2002 in recognition of her outstanding achievements as an academic and design architect in Australia and overseas. Andresen is Director of Andresen O'Gorman Architects and Professor of Architecture at the University of Queensland.

Scott Boylston is Professor of Graphic Design at Savannah College of Art and Design, Georgia. He wrote the acclaimed *Designing Sustainable Packaging* (Lawrence King Publishers 2009) and has published short stories and poetry on environmental degradation. His poster designs have featured in international shows on prison reform, immigration rights, globalization and governmental hypocrisy.

James Brearley, Adjunct Professor at RMIT University, Melbourne, and **Qun Fang** established the Shanghai branch of BAU Brearley Architects + Urbanists in 2001. BAU and Steve Whitford won first prize in the 2001 Invited Urban Design Competition for a 25 km² extension to Xin Yu City. They attribute their success and thoroughness to an interdisciplinary approach to architecture, landscape, urban design and planning.

Esther Charlesworth, Senior Lecturer in Architecture and Design, RMIT University, Melbourne, is founding director of Architects Without Frontiers (Australia). She researches the roles of design professionals in community development, particularly post-conflict and natural disaster. Publications include *Architects without Frontiers: War, Reconstruction and Design Responsibility* (Elsevier 2006) and *Divided Cities: Beirut, Belfast, Jerusalem, Nicosia and Mostar* (University of Pennsylvania Press 2009), co-written with Jon Calame.

Melanie Dodd is an architect and head of the Architecture programme at RMIT University, Melbourne. She is a member of the international art and architecture

collaborative Muf, and founder member of Mufaus, a multidisciplinary and research-based practice. Muf has been exhibited and published at the Carnegie Museum in Pittsburgh, Van Allen Institute in New York and the Design Museum in London. Melanie was the Creative Director of the 2010 National Architecture Conference in Sydney – ‘Extra/Ordinary’.

Paul Downton is Principal Architect, Urban Ecologist and Director of Ecopolis Architects (Adelaide, Australia). A prize-winning architect and urbanist, he is best known for his futurist concepts of ‘ecopolis’ and ‘urban fractals’, incorporating ecological architecture, eco-city design and bio-urbanist strategies. Editor and primary author of the Australian government’s highly successful *Your Home Technical Manual*, his most recent work is *Ecopolis: Architecture and Cities for a Changing Climate* (Springer Press/CSIRO 2009).

Scott Drake is a Senior Lecturer in Architecture, Building and Planning at the University of Melbourne, the principal author of *The Elements of Architecture: Principles of Environmental Performance in Buildings* (Earthscan 2009), and author of *The Third Skin: Architecture, Technology and Environment* (UNSW Press 2007).

Chrisna Du Plessis is Principal Researcher at the Council for Scientific and Industrial Research (CSIR), South Africa. With a BArch and MArch in sustainable development (University of Pretoria), a PhD in urban sustainability science (University of Salford) and an honorary doctorate in Engineering (Chalmers University of Technology), she prepared the *Agenda 21 for Sustainable Construction in Developing Countries* for UNEP and CIB.

John Fien, Professor of Sustainability in the Innovation Leadership programme at RMIT University, is responsible for supporting research on social, environmental and economic sustainability across the university. With interdisciplinary experience in education and training, natural resource management, public participation and sustainable consumption, he has a broad sustainability agenda, developing partnerships between university researchers, business, industry, government, NGOs, schools and communities.

Wim Hafkamp is Scientific Director, Nicis Institute in The Hague. He was Professor of Environmental Studies and Head of the Erasmus Centre for Sustainable Development and Management (Erasmus University, Rotterdam). A specialist in modelling the economic effects of sustainable environmental policies, he has been a member of the Dutch Advisory Council on Housing, Spatial Planning and Environment and Council for Transport and Infrastructure.

Ralph Horne is the Director of the Centre for Design and a Professor at RMIT University, Melbourne. He is a specialist on environmental assessment and design in the UK and Australia. Recent research has centred on eco-design and social context, especially with respect to affordable housing, product and packaging eco-design, consumption, life-cycle assessment, carbon-neutral communities and sustainable household practices.

Alex Lifschutz worked at Foster Associates (1981–1986) on the forty-three-storey Hong Kong and Shanghai Bank headquarters and then co-founded Lifschutz Davidson. Alex is active in all the practice’s projects and initiates

research and development on new systems of construction and adaptable structures. Since 2002, he has been an elected member of the Architectural Association Council.

Neville Mars, a Dutch architect, is Director of the Dynamic City Foundation (DCF) in Beijing and engaged in research and the design of China's rapid urban development. His research on long-term design solutions related to hyper-speed market-driven development and China's formulated goal to build 400 new cities by 2020 resulted in *The Chinese Dream: A Society under Construction* (010 Publishers 2008).

Shantha Sheela Nair is in charge of India's rural sanitation, which is just one of her responsibilities as the Secretary, DDWS, Ministry of Rural Development for the Government of India in New Delhi. A leading figure in sustainability debates in India, she seeks to ensure that sanitation is given a high priority at all levels of government and ardently promotes rainwater harvesting.

Dennis Pieprz, Sasaki's President, plays a leading role in the firm's design practice, including urban design and regeneration, and interdisciplinary teamwork. He led the design of Sasaki's prize-winning Olympic Green, the urban design plan for the main site of the 2008 Beijing Olympics, and has been the design principal for over thirty national design award-winning projects.

Leon van Schaik, Innovation Professor of Architecture at RMIT University, Melbourne, was awarded an Order of Australia in 2006 for services to architecture. He has developed a model postgraduate architecture programme. Publications include: *Mastering Architecture: Becoming a Creative Innovator in Practice* (Wiley 2005), *Design City Melbourne* (Wiley 2006), *Spatial Intelligence: New Futures for Architecture* (Wiley 2008) and *Procuring Innovative Architecture* (Routledge 2010).

Mechthild Stuhlmacher (and Rien Korteknie) founded Korteknie Stuhlmacher Architects in 2001. The firm deals with residences, experimental housing, public buildings for education, sports and culture, commercial buildings, urbanism and art in public spaces. Stuhlmacher is a founding member of the Parasite Foundation, an organization focused on high-quality temporary building. She has taught architectural design at Delft University of Technology since 1997.

John Worthington, co-founder of leading international strategy and design consultancy DEGW, is the Graham Willis Professor in Architecture at the University of Sheffield and Director of Learning for the Academy of Urbanism. He has been a chairman of CABA/RIBA Building Futures (2003–2006), a board member for the London Thames Gateway Development Corporation (2006–2009) and wrote *Reinventing the Workplace* (Architectural Press, 2nd edn 2006).

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Esther Charlesworth and Rob Adams
June 2010

Abbreviations

BAU Brearley Architects and Urbanists

BREEAM	Building Research Establishment Environmental Assessment Method
CABE	Commission for Architecture and the Built Environment
CAS	complex adaptive system
CBD	city or central business district
CCP	Chinese Communist Party
CEF	Chatham Environmental Forum
CSCB	Coin Street Community Builders
DD	dynamic density
EcoSan	ecological sanitation
ECCT	EcoSan community compost toilets
FAR	floor area ratio
ICA	Investment and Construction Authority
IfS	Institute for Sustainability
LDS	Lifschutz Davidson Sandilands
LEED	Leadership in Energy and Environmental Design
MUD	market-driven unintentional development
OGC	Office of Government Commerce
PUC	People's Urbanity of China
SCAD	Savannah College of Art and Design
SES	social-ecological system
SOHO	single occupant home office / small office home office
UEA	Urban Ecology Australia
UPI	Urban Planning Institute
URI	Urban Renaissance Institute
VVD	Volkspartij voor Vrijheid en Democratie (People's Party for Freedom and Democracy)

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The EcoEdge

Esther Charlesworth

At a design level, we need to be able to test and interrogate alternative scenarios. What is it like to live in a climate change resilient city? What does that mean for urban places, other than simply engineering solutions? How much will we want to live by the water if it's cut off from us by levy walls? And if higher housing densities around public transport aren't going to be our sole solution to reducing emissions, what will be? And what would a retrofitted suburb be like to live in? And how do you negotiate all of this with communities, and make it happen?

(Stalker 2007: 4)

EcoEdge stories

This book was inspired by debates and dialogue at the regular CityEdge International Urban Design conferences hosted by the City of Melbourne (Australia). The popularity and impact of the CityEdge series on both the audience and speakers – many of them urban design politicians, architects and urban designers responsible for shaping the form of a large number of global cities – indicate an increasing desire amongst both design practitioners and academics to learn from, and build on, the sustainable urban design stories of their international peers.

The fourteen case studies in this book are inspiring benchmarks for the transformation of cities of both the North and the South, including China, India, South Africa, Vietnam, the UK, Denmark, the Netherlands, the USA and Australia. These case studies highlight the urgent design challenges of population density, infrastructure, carbon-neutral (or at least low-carbon) urban planning, and retrofitting for sustainability. Each author has addressed the emerging 'green' issues of their chosen city and offered solutions, where applicable, to implement visions of what a sustainable design practice might look like across a range of urban scales and cultures. Many of the contributors have also examined the often conflicting responsibilities and opportunities for designers and urban policy makers working in the challenging realms of sustainable urban design, planning, architecture and building technology. For

example, bringing together a group of urban designers to develop a master plan based on carbon-neutral planning principles for a new or old urban centre is one part of the journey towards delivering a sustainable future to communities; actually securing political and financial support to deliver on the promise of that plan is a much harder and rarer achievement.

The case studies in *The EcoEdge: Urgent Design Challenges in Building Sustainable Cities* are organized around three major fields of practice in the quest for urban sustainability: (1) urban design, (2) infrastructure and (3) architecture. Each of these three sections of the book is introduced by an overview essay by an internationally respected scholar of design and sustainability. These essays offer insights on the significant principles and lessons in the case studies they introduce.

Greenspeak or greenwash?

'Greenspeak' is increasingly central to the discourses of the design and planning professions. However, constructed examples of the principles in practice, of designers, planners and urban politicians actually *walking* the sustainability *talk* into *action*, are not nearly as common. *The EcoEdge: Urgent Design Challenges in Building Sustainable Cities* presents the experiences of design practitioners who have implemented sustainable design projects rather than just theorized about them. Many architects and designers have been successful at implementing sustainability at the scale of the individual product or building through the use of passive solar design and innovative construction technologies. Likewise householders across the globe are increasingly playing their part in the eco-revolution, installing water tanks, solar panels and worm farms in their own backyards. And yet the scale that will contribute exponentially to a reduction in greenhouse gases and rising sea levels is not necessarily the one of *individual* action or individual buildings but rather the one of *collective* political and design collaboration in tackling emissions from the city and its resultant sprawl. Sadly, despite the media scrum created by the Kyoto, Copenhagen and climate conferences, this attention to the physical manifestations of environmental policy on metropolitan regions (through strategies of urban consolidation and increasing public transport) seems to have been put in the 'too hard' basket for politicians invested with the power and funds to actually reduce the likely impacts of climate change.

Designer denial

Projected to us every hour, every day through a barrage of media sources, the commonly accepted scientific facts of climate change are that urban centres in the future will become hotter, dryer and more vulnerable to intense storms, cyclones and flooding, with coastal centres experiencing even greater and often disastrous storm surges, rising sea levels and population displacement. Though it is now common knowledge that cities create most of the planet's greenhouse gas emissions, as *EcoEdge* author Ralph Horne tells us, the gap between the empirical data on global warming and realizable design visions for solutions for compact cities with a low-carbon future has never been greater.

With most metropolises from Mumbai to Melbourne expected to double in size in the next twenty to forty years, the time has come for the design profession to develop – with ‘military urgency’, *EcoEdge* author Paul Downton suggests – sustainable urban design models built on policy decisions on the construction and investment in critical regional infrastructure (transport and employment) hubs. Without such design visions, politicians are left with climate change policies galore but no means to ever implement them. Without attention to the perilous physical consequences of urban vulnerability wrought by global warming, urban designers will likewise be left with sophisticated master plans with little demographic relevance and perhaps little future employment.

Avoiding silos

The many intersecting and overlapping themes in the fourteen case studies are discussed in the ‘epilogue’ in this book. However, if one overarching theme is to be highlighted here, it is that the urgent challenge of urban sustainability cannot be solved, as Albert Einstein once said, ‘with the same thinking we used when we created them’. The disciplinary chauvinism of traditional design practices, for example architecture that privileges aesthetic form over social justice or environmental sustainability, is central to many urban problems. So architects, urban designers and planners must heed the lessons of the case studies in this book and engage in much more dynamic and proactive ways with their colleagues from science, urban sociology, commerce and politics. As *EcoEdge* author, Wim Hafkamp, argues:

The design challenge is no longer about urban form, the built environment per se, or the quality of public space, but about shaping interactions between all those involved: residents, teachers, employers, housing corporations, youth workers and police, through to politicians and ministers.

Reference

Stalker, C. (2007) ‘Design in the age of climate change’, paper presented to *Urban Design Australia Conference*, Canberra, September. Online: www.urbandesignaustralia.com.au/images/Docs/Papers/CarolineStalkerDes%20in%20the%20Age%20of%20Climate%20Change.pdf; accessed 12 December 2009.

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Part I

Urban Design and a Sustainable City

