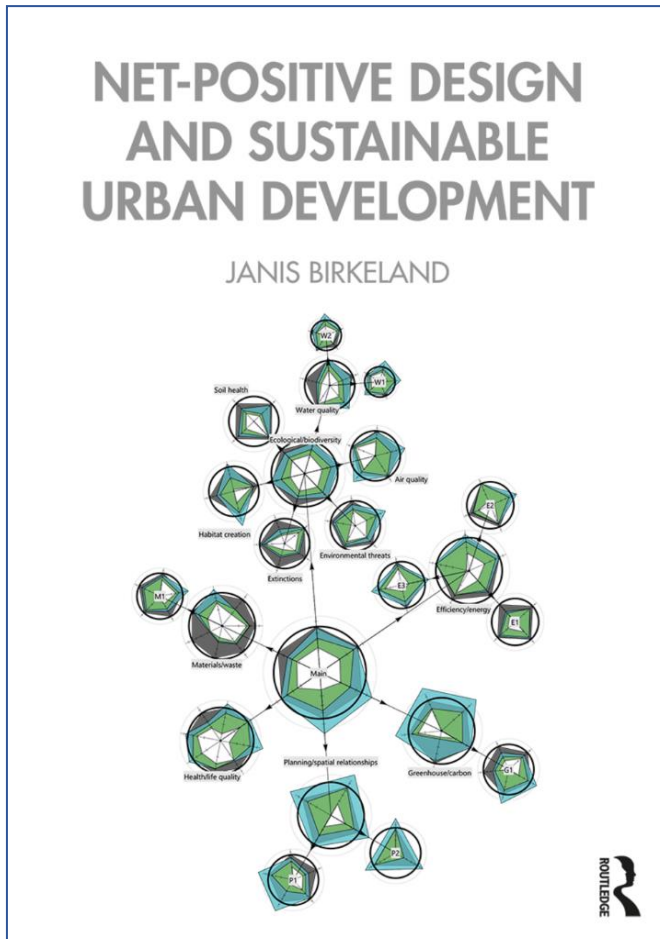


Net-Positive Design and Sustainable Urban Development

How urban development can save the planet

By Janis Birkeland



Net-Positive Design explains why existing approaches to sustainable urban design have been ineffective - and shows how to reform the anti-ecological biases in our current frameworks of environmental governance, planning, decision making and design.

The challenge: The greenest buildings do more harm than no buildings at all. 'Sustainable' urban planning, policy and design still depletes and degrades resources and ecosystems while concentrating wealth and concretising social disparities. Positive Development theory posits that cities and buildings cannot just offset their own impacts - they must compensate for more than their share of all development impacts.

The answer: Built environment design need not rely on fluctuating markets. It can provide direct, universal access to the means of survival and wellbeing, and improve relationships between society, individuals and nature - while expanding positive future options.

Positive Development provides the *tools, methods, benchmarks and theory* to reverse social injustices and environmental devastation through planning and design.

Methods: Janis Birkeland's book *Positive Development* (2008) presented macro-level reforms: new theory, standards and a community-based planning method. *Net Positive Design* (2019 Routledge 354 pages) presents micro-level reforms: new sustainable planning analyses, a collaborative design process, and a digital design tool (the STARfish), with net-positive benchmarks and other features that correct the conceptual problems of green building rating tools.

Tools: The STARfish digital tool aids design professionals and students in creating environments that provide net social and ecological gains in whole-system sustainability. It not only upends building assessment tools, it integrates assessment and measurement with design. Bridging the hard-soft systems divide, it synthesises the technical and creative dimensions of urban design.

Benchmarks: To be net positive, nature's 'positive ecological footprint' must exceed humanity's negative ecological footprint relative to pre-development conditions (pre-settlement, pre-urban). The tool defines new net-positive criteria and benchmarks for impact categories based on fixed, objective biophysical conditions, rather than relative to conventional buildings and practices.

Theory: Existing 'closed-system' conceptual, physical and institutional structures are inherently biased against the preservation and expansion of social and natural life-support systems. Explicit, practical reforms to planning, design and decision making are proposed to enable cities and buildings to increase the 'ecological base' and 'public estate' - in absolute terms.

The 'STARfish' tool can be accessed at <http://netpositivedesign.org>

Biography

Dr. Birkeland is Honorary Professorial Fellow, Faculty of Architecture, Building and Planning, University of Melbourne. She was Professor of Sustainable Design at the Uni of Auckland, New Zealand and Professor of Architecture at Queensland Uni of Technology in Brisbane, Australia. Before that, she was a lawyer, architect and planner in San Francisco. She originated the theory of net-positive design, design for eco-services and other increasingly popular concepts, and taught and published various aspects of sustainable development for over two decades. Her PhD was *Planning for Sustainability* (1993) and her books include *Positive Development*, *Mapping Regional Metabolism*, and *Design for Sustainability*.

Endorsements

'In the wake of the catastrophic impacts of climate change and global warming, Birkeland's new book brings hope. By re-engineering our approach to urban development, Birkeland reveals how CITIES could become our most powerful resource in reversing the trends associated with climate change. Advocating 'positive development', Birkeland's evidence-based methodology centres on design and ethics, rather than policy and planning, to apply measurable principles, tools and strategies. Essential reading for all decision makers.' *Dr Kathi Holt (Vice-President UDAL, Urban Design Alliance, Director TANDEM) is an architect and strategic urban designer, specializing in cities research and design*

'From the author who developed Positive Development theory comes another tour de force – a delightful guide for those of us disappointed with the direction of conventional approaches to wicked problems. By integrating the technical and creative dimensions of sustainable development (free online app included!), Birkeland's new odyssey is a must-read primer for anyone considering deeds more important than words.' *Mirek Dymitrow, PhD in Human Geography and Researcher at Chalmers University of Technology, Lund University and University of Gothenburg, Sweden*

'An excellent encyclopedic explanation of the root causes of current interacting environmental issues, this book provides an impressively detailed set of useable models and tools to address them, while welcoming debate. Drawing on Birkeland's decades of academic research and practice, the book is both an invaluable education tool and a practical guide.' *Dr. Stephen Knight-Lenihan, School of Architecture and Planning, University of Auckland, researches local government urban biodiversity and climate change adaptation decision-making*

'This is the essential textbook for every design practitioner. Janis uniquely synthesizes the vast ground of interdisciplinary practices required to transform the world of both physical and institutional design and assessment – and thoroughly details the what, why and how of it.' *Peter A. H. James, engineer and director of Gatchi Pty Ltd, has had sustainability leadership roles in multinational firms including Arup, SKM, Davis Langdon and EC Harris*

'Birkeland's visionary proposals for environmental planning leave no stone unturned. She carries the reader through a critical outline of models for sustainability to her own path-breaking conception of the 'net-positive' approach. A comprehensive textbook on design and governance for architects and town planners alike.' *Dr. Ariel Salleh, sociologist with the University of Sydney writes extensively on environmental ethics and ecopolitics and is co-editor of 'Pluriverse: A Post-Development Dictionary' (2019)*

'Birkeland is a true pioneer in the field of sustainability theory. This book sets out her key arguments and proposes a design tool to enable collaborative creation for 'positive development'. Like Birkeland's advocacy, it is comprehensive and challenging and offers real options for going beyond sustainability.' *Dr. Paul Downton, architect, writer, urban evolutionary, proprietor Ecopolis, founder Urban Ecology Australia, co-founder Ecocity Design Institute*

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