

Uusi kirja kestävästä yhdyskuntatekniikasta juuri ilmestynyt !

Englanninkielinen, 336s. 4-värikuvitus. Sisällysluettelo ja tilaustiedot takapuolella.

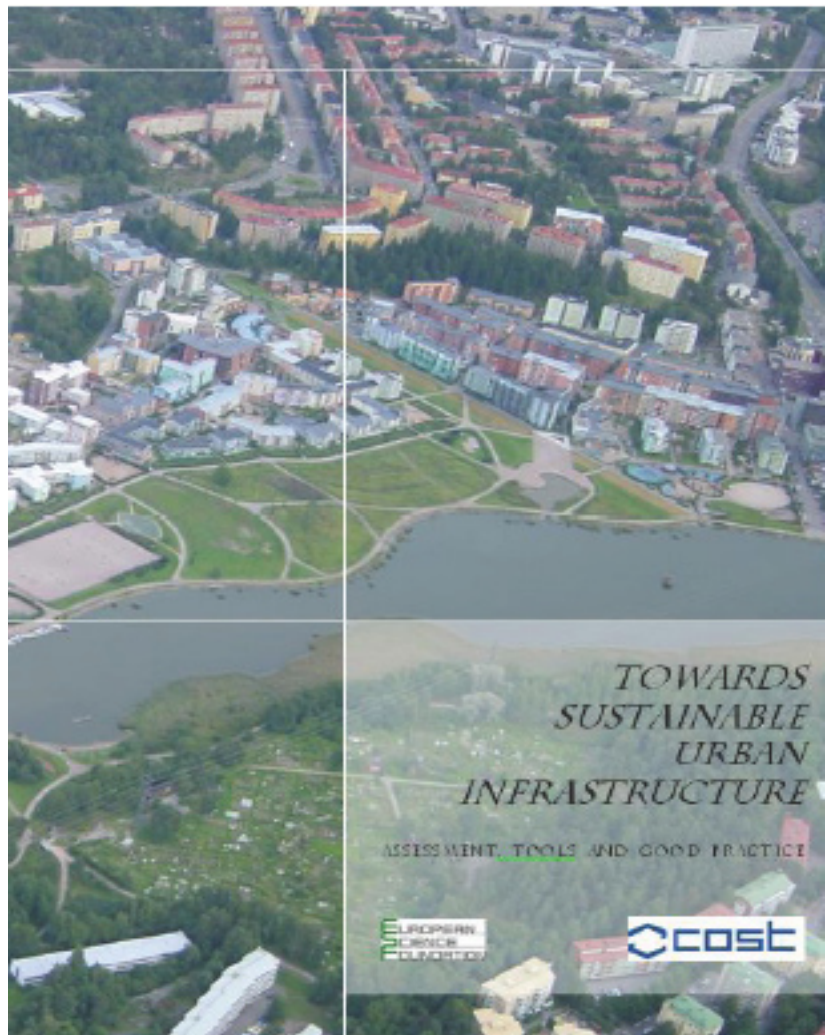
Towards Sustainable Urban Infrastructure

”KESTÄVÄN YHDYSKUNTAINFRAN KÄSIKIRJA”

This book is about sustainability of urban infrastructure. It covers energy, water, and transport systems as well as waste management and blue-green infra, i.e. recreational and other green and open areas including water areas.

Urban development is a major reason for increased consumption of material resources, energy and water and produces emissions and wastes into air, ground and water. Because of growing spatial needs the cities and towns are expanding requiring ever more land areas and large-scale technical systems. Urban dwellers, service providers and producers need new types of technical and social infrastructure to fulfil the growing needs of their urbanised community.

This book gives an overview of the questions, methods and tools for assessing sustainability of the development of urban infrastructure and describes 46 different good practice cases in 15 different countries in Europe and Canada. The book is a basic information source for planners and designers, civil servants and developers, decision-makers and lay-people dealing with urban development when assessing the sustainability of different alternatives of infrastructure.



Lahti, P., Calderón, E., Jones, P., Rijsberman, M. & Stuij, J.

TABLE OF CONTENTS

Preface	7
Acknowledgements	8
EXECUTIVE SUMMARY	9

PART I THEORIES, METHODS AND TOOLS FOR ASSESSMENT

1 Introduction.....	19
2 Approaches to the consideration of sustainability	23
2.1 Sustainability assessment of urban infrastructure	23
2.1.1 Basic concepts and terms used in the book.....	25
2.2 Theory and views.....	28
2.2.1 Environmental awareness and sustainable development	28
2.2.2 Eco-efficiency	30
2.2.3 Key elements of sustainable development.....	31
2.2.4 Subjectivity in the assessment and decision-making process	32
2.2.5 Aspects and approaches to sustainable development.....	33
2.2.6 Four basic approaches to sustainable development.....	34
3 Process of planning and decision making	36
3.1 Communication strategies	36
3.1.1 The need for participation and two way communication	37
3.1.2 Informing the stakeholders and marketing	39
3.1.3 Consulting of stakeholders	41
3.1.4 Advising by stakeholders.....	42
3.1.5 Co-producing among stakeholders.....	43
3.1.6 Deciding by stakeholders	44
3.2 The planning process	45
3.2.1 Defining the system boundaries	45
3.2.2 Goal formulation	47
3.2.3 Information gathering.....	47
3.2.4 Developing and evaluation of options.....	47
3.2.5 Making decisions	48
3.2.6 Procurement	48
3.2.7 Implementation and Monitoring	48
4 Methods for sustainability assessment.....	50
4.1 Comprehensive sustainability assessment.....	51
4.2 Methods for ecological sustainability assessment.....	54
4.2.1 Environmental Impact Assessment (EIA)	54
4.2.2 Strategic Environmental Assessment (SEA)	55
4.2.3 Life Cycle Analysis (LCA)	56
4.2.4 Ecological Footprint (EF)	58
4.2.5 Ecological Rucksack (ER)	59
4.2.6 The Green Poster (GP)	61
4.2.7 Eco-Accounting.....	62
4.3 Methods and tools for economic sustainability analysis.....	64
4.3.1 Cost-benefit Analysis (CBA)	64
4.3.2 Cost-effectiveness analysis (CEA)	65
4.3.3 Multi-criteria decision aid (MCDA)	66
4.3.4 Environmental Accounting (EA).....	66
4.4 Methods and tools for social sustainability analysis	67
4.4.1 Social Impact Assessment (SIA)	68
4.4.2 Socio-Economic Impact Assessment (SEIA)	69
4.5 Criteria for the selection of indicators	70
4.5.1 General criteria	71
4.5.2 Specific criteria	72
4.5.3 Aggregation and weighting of indicators	75
4.5.4 Assessment matrix	77

PART II GOOD PRACTICE CASES 81

1. Introduction to case studies.....	83
2. Water and sewerage	88
The Kolding Pyramid, Kolding	90
Digital diagnostics system for sewer pipes, Helsinki	94
Storm water management – “Porte des Alpes” site in the Lyon suburbs	99
Sustainable Housing Estate EVA-Lanxmeer, Culemborg	103
The sustainability of conventional versus nature based sewerage systems, Oslo	109
The Bromma Biogas Plant, Stockholm.....	114
Source Separating Wastewater System in Ekoporten, Norrköping.....	118
3. Transport	122
Urban space zoning, Graz.....	124
Lyon Urban Mobility Master Plan	132
Meckenheim’s Motto, Interference wanted.....	136
The reorganisation of the railway system in the Florentine metropolitan area.....	139
Ecosystem fragmentation assessment for the Trento-Rocchetta road project	144
The Mobility Program as the link element of the interventions of Porto 2001	148
Buga – the free riding bicycle of Aveiro.....	152
Escalators to access to Toledo’s Historic Core	156
Promoting public transport in the City of Zürich	161
4. Energy	164
Vienna Climate Protection Programme, KLiP	166
The Christophorus House - a multi purpose office building with low-energy consumption.....	171
Middelgrunden Windfarm, Copenhagen.....	175
Tervola Small-scale CHP Bio Energy Plant	178
Two million Marks for Da-Di – Saved by schoolchildren	183
City District Heating and Cooling.....	186
The Emporium Case.....	189
Green municipality, green electricity in Utrecht	193
Supporting Sustainable Choice of Energy Efficient Windows	196
5. Waste management	201
Strategic Environmental Assessment (SEA) for the Viennese Waste Management Plan	203
Waste Sorting in Copenhagen.....	205
Soil remediation programme in Finland.....	208
Solid waste pneumatic collection system in the historic centre of León	212
Construction Waste Minimisation in Housing of Wales.....	216
6. Blue-green infrastructure.....	224
REVER (REseau Vert EuRopeen/European Green Network) crossing Brussels region.....	227
Rennes Urban Greenspace Differentiated Management	233
The Green Poster of Fredrikstad as a tool for the Municipality plan	238
Stockholm’s blue-green infrastructure	243
7. Holistic cases.....	247
ECUB PROJECT, Brussels	249
Urban Ecological Renewal of the Hedebygade Block, Copenhagen	254
Viikki Eco Neighbourhood Blocks, Helsinki	260
Ferrara, the children’s city: creating opportunities for children and young people	263
The Path (POT) – a circular memorial park around Ljubljana.....	268
Rehabilitation and Restoration of Skocjanski Zatok.....	273
Urban Renewal and Social Insertion. Opening of the City to the Sea.	278
8. Assessment cases	283
The use of checklists to support spatial planning in Graz	284
Radiation-Solar Comfort, Early Analysis in High Density Urban Context	288
InfraGuide, The National Guide to Sustainable Infrastructure in Canada.....	295
The Energy and Environmental Prediction (EEP) model	303
A survey tool for measuring people’s perceptions of and attitudes to built cultural heritage	306

1. Global Change 310
2. Urban Change 313
3. Technological Change..... 316
4. Institutional and Social Change..... 327
5. Summary and Conclusions 335

ORDER HERE:

Auli Rautakivi
VTT Urban Development
P.O Box 1000, 20440 VTT, Finland
Auli.Rautakivi@vtt.fi

price: 45 € + delivery costs 7€ = Total costs 52 €

to your order, please include your:

- mailing address: _____

- billing address: _____

- company's VAT identification number: _____

TILAUSOSOITE:

Auli Rautakivi
VTT Yhdyskuntien kehitys
PL 1000, 020440 VTT
Auli.Rautakivi@vtt.fi

HINTA: 45 €+ postituskulut 7€

Tilausmäärä _____ kpl

Lähetysosoite: _____

Laskutusosoite: _____

Yrityksen toimipaikan ALV numero: