

Contents

Foreword..... III

Contents VII

KEYNOTE LECTURES

Architectural Quality and Sustainability 3

Rab Bennetts

Sustainable Housing for Indigenous Populations in Remote Regions:
A Case Study from Nguiu, Northern Australia 11

Steve Burroughs

Net-Zero Energy Buildings: Designing to Nature’s Budget 19

Charles J. Kibert

Building Sector Strategies for the 21st Century 31

Nils Larsson

A Strong Foundation for Construction in Europe 43

Christophe Lesniak

Procuring and Financing Sustainable Buildings 45

Thomas Lützkendorf

The Shift from “Less Bad” to “0-Impact” 55

Ronald Rovers

ADVANCED BUILDING DESIGN

Adopting Eco-Efficiency Strategies into Maintenance Activities of Existing
Buildings..... 65

Cristina Allione

Form Follows Energy in Srby, Czech Republic..... 69

Thomas Austerveil

Environmental Requirements and Integrated Design: Methodological and
Applicative Aspects 73

Antonio Basti

New Knowledge about Regime of Natural Physical Cavity of Double-Skin Transparent Façade under Windless Climate Conditions – Long Term In-Situ Experimental Research	77
<i>Boris Bielek, Milan Bielek, Daniel Szabó</i>	
Envoronmental Strategies for Design of Sustainable Buildings in Technique of Green-Eco Architecture	81
<i>Milan Bielek, Boris Bielek</i>	
Integrative Design: The Key to Cost-Effective Green Buildings	85
<i>John Boecker</i>	
Active House	89
<i>Klára Bukolská</i>	
Two Renovated Public Buildings with Renewable Energy Technologies	93
<i>Karin Buvik, Kirsten Englund Thomsen, Ove Mørck</i>	
The Eco_Wall; Challenges in the Pursue of LEED Platinum	97
<i>Joseph Cory</i>	
An Integrated Approach to Products and Productions	101
<i>Brunella Giada Cozzo, Gian Paolo Marino</i>	
Environmental Protection – Case Study of the School Units of Pikermi in Greece	105
<i>Agisilaos Economou</i>	
The “Addition Strategy” in Building Extension and Sustainable Transformation	109
<i>Jacopo Gaspari</i>	
Aspects of Sustainable Appartment Housing	113
<i>Michael Gies, Ines Lauer</i>	
Algorithmic Art-Architecture; 3D Voronoi/Delaunay Automatic Generated Structure	117
<i>Nina Hedwic</i>	
The Urbanistic Answers to the Actual Problems of Modernity	121
<i>Pavel Holubec</i>	
Net-Zero Energy Buildings	125
<i>Ladislav Jůna</i>	
Cognitive Algorithms in Structural Optimization	129
<i>Martin Kaftan</i>	

Experiences and Knowhow from Implementation of Experimental Low-Energy House in Accordance with Criteria of Sustainable Civil Engineering.....	133
<i>Martin Kamenský, Miloslav Bagoňa, Martin Lopušniak</i>	
All-Glass Facades in Fire Conditions from Sustainable Development – Point of View	137
<i>Václav Kupčík, Marek Pokorný</i>	
Industrial Heritage Towards Sustainability	141
<i>Tomáš Med</i>	
Associative Design Techniques in Sustainable Architecture.....	145
<i>Jiří Pavlíček, Weijie Liu, Shiyun Qian</i>	
Renovation of a Historic Barn into a Passive Residential House.....	149
<i>Georg W. Reinberg, Petr Novák</i>	
Photovoltaics in Modern Architecture	153
<i>Georg W. Reinberg</i>	
The Solar Aktivhaus – A Building Example.....	157
<i>Georg W. Reinberg</i>	
Day Care Nursery School in Nursery Deutsch Wagram	161
<i>Georg W. Reinberg</i>	
Preservation of the Historic Stock in Passive House Refurbishment.....	165
<i>Martha Enriquez Reinberg, Georg W. Reinberg</i>	
A Case Study of Low-Energy Houses in Northern Italy.....	169
<i>G. Salvalai, E. Zambelli</i>	
Inspired by the Past, Built for the Future; Conversion of a Former Substation, a Monumental Listed Building	173
<i>Beate Schneider, Klemens Osika</i>	
Energy Base, Sustainable Passivhouse Office Building	177
<i>Ursula Schneider</i>	
Collective Dwellings	181
<i>Sara Cardoso Silva, Helena Coch</i>	
Sustainable and Smart University Campuses; Strategic Approach to Sustainability and Building Intelligence for University Campuses.....	185
<i>Jiri Skopek</i>	
Passive Office Building – The Effect of Shading and Thermal Mass	189
<i>Kamil Staněk, Marek Ženka</i>	

Green Landmarks: Possible Ways of Decreasing the Energetic Demands of Historically Valuable Buildings.....	193
<i>Mahulena Svobodová</i>	
Sustainable Design and Redesign of Buildings in Slovakia.....	197
<i>Ingrid Šenitková, Anna Vašková</i>	
Static Design of Thermal Insulating Steel Connections.....	201
<i>Zuzana Šulcová, Zdeněk Sokol, František Wald</i>	
Solar School in the Village of Kargyak.....	205
<i>Jan Tilinger</i>	
Developable Residential Facilities for Rapid Construction.....	209
<i>Pavel Truksa</i>	
Ways from Passive to Zero-Energy House.....	213
<i>Jan Tywoniak</i>	
The Models suitable for Application of Fibre Concrete with Recycling Material	217
<i>Jan Vodička, Vladimíra Vytlačilová</i>	
Strengthening of Masonry Vaulted Structures	221
<i>Martin Zlámal, Petr Štěpánek</i>	

ENERGY EFFICIENCY

Building Shape and Heating Requirements: A Parametric Approach in Italian Climatic Conditions	227
<i>Rossano Albatici, Francesco Passerini</i>	
Energy Efficiency in Urban Restructuring Projects – Guidelines and Practical Lessons from 6 European Cities	231
<i>Erik Alsema, Tomas Vimmer, Monika Kwapulinská</i>	
Costs of Reduction of Energy Demand in Construction	235
<i>Nataliya Anisimova</i>	
Bioclimatic Design in Türkiye: Lessons from Past, Visions for Future.....	239
<i>Merve Bedir, Gülsu Ulukavak Harputlugil, Gülser Çelebi</i>	
Sustainable Building Today – Energy Efficiency through Green Construction....	243
<i>Thomas Braig, Ruediger Utsch, Oliver Bruns</i>	
Design and Development of a Smart Window for Solar Control of Glazed Facades	247
<i>Alessandro Carbonari, Berardo Naticchia, Giorgio Tosi, Carla Conti</i>	

Multicriteria and Multilevel Optimization Tasks Application to Choose Building Energy Standard.....	251
<i>Małgorzata Fedorczak-Cisak, Marcin Furtak</i>	
The Conversion of Energy Efficiency Requirements for Buildings in Poland	255
<i>Robert Geryło</i>	
Energy Efficiency Practice in Office Building	259
<i>Rusdy Hartungi, Chris Pye</i>	
The Intelligent Building Equipped by the Neural Network Controlling the KNX Devices Helps Increase Energy Efficiency.....	263
<i>Martin Hasaj, Pavel Kordik, Miroslav Šnorek</i>	
Sustainable Refurbishment of Museums	267
<i>Michaela Hoppe, Volker Huckemann, Lars Klemm</i>	
EPDB Energy Performance Certification for Sustainable Buildings	271
<i>Karel Kabele, Miroslav Urban, Michal Kabrhel, Daniel Adamovský</i>	
The Energy Behaviour of the Residential Building Stock in Cyprus in View of the Energy Performance of Buildings Directive Implementation	275
<i>S.A Kalogirou, C.N Maxoulis, G. A. Florides, G. P. Panayiotou, A.M Papadopoulos, M. Neophytou, P. Fokaides, G. Georgiou, A. Symeou, G. Georgakis</i>	
Exploitation of an Air-Ground Heat Exchanger in a Low-Energy Family House	279
<i>Antonín Kolbábek, Michal Jaroš</i>	
The Role of Transport for Energy Efficiency of Buildings	283
<i>Claus Köllinger, Anna Thormann</i>	
Concentrated Heat Storage for Solar Heating.....	287
<i>Adil Lari</i>	
Energy Performance Assessment for Existent Single Family Dwellings.....	291
<i>Constantin Lepădatu, Irina Bliuc, Irina Baran</i>	
Potential for a Neighbourhood Income-Based Domestic Energy Model for Ordinary Electricity Use in England.....	295
<i>Stephen William Lorimer</i>	
Reaching Sustainable Settlement and Building Structures as a Problem of Choosing Intelligent Indicators.....	299
<i>Thomas Macoun, Ulrich Leth, Harald Frey</i>	
Various Approaches to the Evaluation of the Energy Performance of Buildings in Italy – Some Results of Calculation Procedures Application on Residential Buildings	303
<i>Anna Magrini, Francesca R. d'Ambrosio Alfano, Lorenza Magnani, Roberta Perneti</i>	

Complex Retrofit of Prefabricated Block of Flats – Economic and Environmental Aspects	307
<i>František Macholda, Jan Antonín, Jiří Beranovský, Petr Kotecký, Lucie Šancová, Petr Vogel</i>	
Sustainable Public Buildings in Wels (Upper Austria)	311
<i>Kateřina Mertenová, Heinz Plöderl</i>	
Proposal of Simplified Calculation 6R1C Method of Buildings Energy Performance Adopted to Polish Conditions.....	315
<i>Piotr Narowski, Maciej Mijakowski, Aleksander Panek, Joanna Rucińska, Jerzy Sowa</i>	
Resource Efficiency of Passive and Low Energy Houses – A Comparison of Calculated Space Heating Demand and Measured Space Heating Consumption	319
<i>Christoph Neururer, Martin Treberspurg, Roman Smutny</i>	
Achieving 6 Star Energy Efficient Housing Cost Effectively in Australian Temperate Climates	323
<i>Timothy O'Leary, Martin Belusko, Frank Bruno</i>	
The Influence of Passive Cooling on Energy Saving	327
<i>Milan Ostrý, Pavel Charvát</i>	
Energy Consumption and Robustness of Buildings	331
<i>Massimo Palme, Antoni Isalgue, Helena Coch, Rafael Serra</i>	
Multi-Comfort House (Energy-Efficient Living and First Project in Czech Republic)	335
<i>Karel Sedláček</i>	
Domestic Polygeneration Practices for Energy Saving in Building	337
<i>Sergio Sibilio, Maurizio Sasso, Carlo Roselli</i>	
Sustainability Monitoring of Viennese Housing Estates. Post-Occupancy-Evaluation, Energy Monitoring and Cost Analysis of Passive and Low Energy Housing Estates	341
<i>Roman Smutny, Martin Treberspurg</i>	
Building Integration Aspects of Solar Thermal Collectors and Photovoltaics	345
<i>Yiannis Tripanagnostopoulos, Juliane Metzger</i>	

MATERIAL EFFICIENCY

Woodstock: A Unique Building that Demonstrates Advanced Climate Protection Using the Czech NOVATOP Construction System	351
<i>Michal Babor, Jiří Oslizlo</i>	

Surface Pretreatment – A Way to Effective Utilization of Waste Plastics as Concrete Aggregate. Review and First Experiences	355
<i>Lubomir Bágel, Peter Matiašovský</i>	
Eco-Industrial Planning Model: “APEA Carpinello” Forlì	359
<i>Massimo Bastiani, Virna Venerucci, Marco Nori, Filippo Giovannini</i>	
Hemp – Thermal Insulation for Sustainable Building.....	363
<i>Martin Blaha</i>	
Sustainable Construction in Remote Communities: A Case Study from Aurukun, Australia	367
<i>Steve Burroughs</i>	
Recycling of C&D Waste in Belgium: Ongoing Research and Relevant Developments.....	371
<i>Jan Desmyter, Jeroen Vrijders, Luc Boehme</i>	
Renovation of a Bridge Using GFRP Reinforced Concrete Slabs.....	375
<i>David Ďurech, Petr Štěpánek, David Horák</i>	
Optimized Balcony Precast Elements from Fibre Concrete.....	379
<i>Otislav Fiala, Petr Hájek, Vlastimil Bílek</i>	
Despite All Strategies for Enhancing Resource Efficiency, Per Capita Material Stock is Increasing – Housing Stock and Building Material Flows in Germany 2050	383
<i>Karin Gruhler, Clemens Deilmann</i>	
Environmental Parameters of Building Materials and Structures - Data Uncertainties	387
<i>Julie Hodková</i>	
Expanded Clay Thermo Insulating Concrete.....	391
<i>Michala Hubertová, Rudolf Hela, Roman Stavinoha</i>	
Waste Materials in Concrete – Acceptable Deterioration or Improvement?	395
<i>Ján Jerga, Martin Križma, Terezia Nürnbergerová</i>	
Sustainability of Polyurethane Thermal Insulation – Performance Assessment at Building and Building Component Level.....	399
<i>Shpresa Kotaji, Oliver Loebel</i>	
The Use of Plastic Crushed Material from Electronic Waste in Structural Cement Composites.....	403
<i>Martin Križma, Terezia Nürnbergerová, Ján Jerga</i>	
ETICS with Integrated Vacuum Insulation Panels.....	407
<i>Libor Kubina</i>	

Utilization of High Performance Silicate Composites in Material Effective Building Structures	411
<i>Magdaléna Kynčlová, Petr Hájek, Ctislav Fiala</i>	
Materials Ecoefficiency and Perception	415
<i>Beatrice Lerma</i>	
Agriculture Waste Products as Resources for Building Low Tech Design.....	419
<i>Luciana Mastrodonardo</i>	
Water Permeability of Crashed WEEE Plastic Waste Cement Composites	423
<i>Peter Matiasovsky, Olga Koronthalyova</i>	
Environmental Assessment (LCA) as Guide Parameter in Choosing Eco-Efficient Materials	427
<i>Patrizia Milano</i>	
Photocatalysis in Building Technology: A Comparison between Different Light Sources	431
<i>Rossana Paparella, Roberta Bertani, Giorgio Garau, Pietro Fiorentin, Alessandro Scroccaro, Fabio Simionato</i>	
Examples of Using of Recycled Polymers (HDPE, PP) for Solution of Construction Details.....	433
<i>Jan Pěncík, Libor Matějka</i>	
Saving Natural Resources by Material Recycling	437
<i>Katrin Rühner, Petra Jakubcová, Tristan Herbst</i>	
Numerical Analysis of Moisture Performance of Selected Types of Building Panel Envelopes.....	441
<i>Marian Vertal, Pavol Durica</i>	
EPS – The Insulation for Sustainable Building	445
<i>Pavel Zemene, František Vörös</i>	

QUALITY OF INTERNAL AND EXTERNAL ENVIRONMENT

Probabilistic Models for Energy Efficient Building: A Case-Based Support System for Schematic Design Phase	451
<i>Roberta Ansuini, Massimo Lemma, Alberto Giretti, Costanzo Di Perna</i>	
Envelope Behavior Assessment: In Situ Measurement and Analysis of Thermal Loss	455
<i>Roberta Ansuini, Massimo Lemma, Alberto Giretti, Costanzo Di Perna, Roberto Larghetti</i>	
Building Biology in Low Energy and Passive Houses	459
<i>David Eyer</i>	

Numerical Simulations Regarding Air Circulation in Urban Spaces.....	463
<i>Mariana Fartatescu, Raluca Maria Manoliu</i>	
Interaction of Environmental Noise and Building Construction.....	467
<i>Marián Flimel</i>	
Integration of Recently Built-Up Areas into the Pattern of the City.....	471
<i>Jaromír Hainc, Jan Jehlík</i>	
Important Points of Brownfield Revitalization	475
<i>Jana Horická</i>	
Urban Canyon Effects on Valparaíso	479
<i>Antoni Isalgué, Claudio Carrasco-Aldunate, Helena Coch, Rafael Serra</i>	
Daylight in the Building	483
<i>Lenka Maierová, Karel Kabele</i>	
Solving of Current Brownfields and Suburbanization Problems within Sustainable Development of Residences and Regions. Analysis of Current Strategies.....	487
<i>Alena Mansfeldová, Zuzana Kramářová</i>	
Impacts of Form-Design in Shading Transitional Spaces: The Brazilian Veranda	491
<i>Gogliardo Vieira Maragno, Helena Coch Roura</i>	
Acoustic Quality of Dwellings, a Concept of Uniform Classification Scheme	493
<i>Jacek Nurzynski</i>	
Managing the Indoor Security and Safety in Historical Buildings.....	497
<i>Sergio Olivero, Pekka Huovila, Janne Porkka, Federico Stirano</i>	
The Applicability of Building Products with the Function to Reduce the EMF Exposure.....	501
<i>Rossana Paparella</i>	
The Energy Certification and Indoor Environment Quality in a School.....	505
<i>Dusan Petras, J. Sabikova</i>	
A Common Metrics and Set of Indicators for Assessing Buildings and Urban Fabric Sustainability Performance	509
<i>Serge Salat, Daphné Vialan, Caroline Nowacki</i>	
Energy Efficient Buildings – Design and Energy Calculations in Variants	513
<i>Kateřina Sojková</i>	
Indoor Air Quality of the Office Buildings.....	517
<i>Ingrid Šenitková, Tomáš Tomčík</i>	

Theoretical Assessment of the Impact Low-Emission Plaster on the Microclimate of Buildings	521
<i>Ondřej Šíkula, Miloš Kalousek</i>	
IEAA-Assessment Tool for Architectural Competitions.....	525
<i>Martin Treberspurg, Mariam Djalili, Roman Smutny, Markus Gratzl-Michlmair, Heimo Staller</i>	

ASSESSMENT METHODS

Socio-Cultural Sustainability and an Assessing Model for Reuse Adaptation	531
<i>Dicle Aydin</i>	
Assessment of Thermal Rehabilitated Buildings, from an Energetic Point of View and of the Indoor Environment Quality in the Spirit of the Total Performance Concept	535
<i>Irina Bliuc, Irina Baran</i>	
The Adoption of LCA to Assess Sustainable Building Technologies in Office Buildings	539
<i>Elisavet Dimitrokali, Rusdy Hartungi, Joe Howe</i>	
DGNB vs. LEED: A Comparative Analysis	543
<i>Sebastian Eberl</i>	
Open House – Instrument for Assessing the Sustainability Performance of Buildings in Europe.....	547
<i>Natalie Essig</i>	
Sustainability Criteria's to Improve the Quality of Dwelling Houses over the Lifecycle	551
<i>Andreas Gensmantel</i>	
Sustainability Indicators: Measuring the Unmeasurable.....	555
<i>Pekka Huovila, Carmen Antuñu Rozado</i>	
Determinants of Housing Consumption and Residential Crowding in Hong Kong	559
<i>Wadu Mesthrige Jayantha, Eddie C. M. Hui</i>	
Environmental Assessment of Public Buildings – Example Case	563
<i>Jerzy Kwiatkowski, Aleksander Panek</i>	
Simplified Methods of Building Environmental Assessment in Poland	567
<i>Jerzy Kwiatkowski, Michał Piasecki, Aleksander Panek</i>	
Smart Models as Intelligent Assistants in Building LCA	571
<i>Katrin Löwe, Stefan Albrecht, Matthias Fischer, Bastian Wittstock</i>	

Estimation of Ventilation Rates in Mechanically Ventilated Buildings.....	575
<i>Tao Lu, Xiaoshu Lü, Anssi Knuutila, Martti Viljanen</i>	
Chaos Models in Sustainable Building Simulation	579
<i>Xiaoshu Lü, Derek Clements-Croome, Martti Viljanen</i>	
Sustainability and Performance Assessment and Benchmarking of Buildings	583
<i>Antonín Lupíšek, Petr Hájek, Tereza Pavlů, Tarja Häkinen</i>	
SB2010 Method for Sustainable Building Assessment	585
<i>Manuel Macias, Nils Larsson</i>	
Assessment of Residual Working Life for Existing Bridges	589
<i>Jana Marková, Milan Holický</i>	
Control Procedures of Efficiency Audit.....	593
<i>Dana Měšťanová</i>	
Energy Certification of Buildings: Parametrical Study on the Increasing Certification Class Obtained in Residential Buildings in Spain	597
<i>Eduardo Montero, Manuel Fernández, Fernando Aguilar, María Jesús González</i>	
Adjustment of Parameters Used for Calculation Method Applied in Certification Process in Poland	601
<i>Aleksander Panek, Joanna Rucińska, Maciej Mijakowski</i>	
European LCA Exercise	605
<i>Michał Piasecki</i>	
Improving Indoor Quality with Minergie-Eco	609
<i>Thomas Rühle, Severin Lenel</i>	
Environmental Assessment of Structural Design of Residential Buildings within the Project Ecopark Odolena Voda	613
<i>Jan Růžicka, Štěpán Mančík</i>	
LCA – Use and Barriers	617
<i>Heimo Staller, Wibke Tritthart, Mónika Hajpál</i>	
Building Environmental Assessment System – Weight Determination	621
<i>Ingrid Šenitková, Eva Křídlová Burdová, Silvia Vilčeková</i>	
Change and Continuity in Traditional Environments: Case of Güzeyurt (Gelveri-Kalvari) – Turkey	625
<i>Ümmügülüm Ter, Elmas Erdoğan</i>	
National Green Building Assessment Tool in India	629
<i>Apoorv Vij</i>	
Multicriterial Evaluation of Buildings Based on Incomplete Data Model.....	633
<i>Luděk Vochoc, Vladimír Žďára</i>	

SBToolCZ – Complex Assessment Methodology of Buildings Performance for Czech Republic	635
<i>Martin Vonka, Antonín Lupíšek, Petr Hájek, Vladimír Žďára</i>	
What is green? Benchmarking the Environmental Performance of Sustainable Buildings	639
<i>Bastian Wittstock, Katrin Löwe, Matthias Fischer, Anna Braune, Johannes Kreißig</i>	
Reuse of Monumental Buildings as a Sustainability Component	643
<i>Esra Yaldiz</i>	
Comparative Analysis of Life Cycle Inventory Databases for Structural Steel Members	647
<i>Iordanis Zygomalas, Evangelos Efthymiou, Charalambos Baniotopoulos</i>	

ECONOMY

Rational Expectation in Facility Management	653
<i>Vaclav Beran, Petr Dlask</i>	
Market Value of Sustainability Buildings and Their Market Share	657
<i>Renata Schneiderova Heralova</i>	
Energy Balance Modeling of the Buildings	661
<i>Jiří Karásek</i>	
The Integration of Sustainability Issues into Property Valuation Theory & Practice – An International Review	665
<i>David Lorenz, Thomas Lützkendorf</i>	
Building Maintenance and Renovation	669
<i>Daniel Macek</i>	
Evaluation of Energy Saving Arrangements in Buildings	673
<i>Ondřej Povýšil</i>	
Integration of Sustainability Issues into Real Estate Risk Analysis as a Foundation of Real Estate Portfolio Management	677
<i>Christoph Rohde, Thomas Lützkendorf, Wei Fan</i>	
Do Green Building Councils Make Sense? – An Economic Analysis	681
<i>Sabine Sedlacek, Gunther Maier</i>	
Financing in a Sustainable Building Process	685
<i>Kaarin Taipale</i>	

POLICY AND LEGISLATION

Towards a Carbon Neutral Settlement in Norway. Science in Action. – The Case of Brøset, Trondheim.....	691
<i>Rolf André Bohne, Annemie Wyckmans, Judith Thomsen, Eli Støa</i>	
Policies and Strategies on Sustainable Buildings in India	695
<i>Priyanka Kochhar</i>	
The Role and Importance of an International Standardised Approach to Sustainability Reporting in the Construction and Real Estate Sector	699
<i>Thomas Lützkendorf, David Lorenz, Katherine Miles</i>	
A Review of Structures of Industry Opinion: Contextual Paradigms Surrounding the Emergence of Passivhaus Design in the UK	703
<i>Henrietta Lynch</i>	
Sustainable House? Naturally!.....	707
<i>Péter Medgyasszay</i>	
Standardization of a Sustainable and Eco-Efficient Building Material: Earth – A German Perspective.....	711
<i>Urs Müller, Christof Ziegert, Ulrich Röhlen, Horst Schroeder</i>	
Cyprus Building Energy Performance Methodology: A Comparison of the Calculated and Measured Energy Consumption Results.....	715
<i>G. Panayiotou, C.N. Maxoulis, S.A. Kalogirou, G.A. Florides, A.M. Papadopoulos, M. Neophytou, P.A. Fokaides, G. Georgiou, A. Symeou, N. Hadjinikolaou, G. Georgakis</i>	
Legislation for Decision-Making Process in Implementation of Technical Steps for Green Structures	719
<i>Jan Pěnčík, Radomír Bocek, Marek Foglar</i>	
Governance Aspects of Sustainable Building Councils – Results from a Survey..	723
<i>Sabine Sedlacek</i>	
Advanced Assessment of Industrial Heritage Buildings for Sustainable Cities' Development.....	727
<i>Miroslav Šýkora, Milan Holický, Jana Marková</i>	
Sustainable Building Design Strategies for Pakistan	731
<i>Muhammad Ali Tirmizi</i>	
Sensitivity Analysis of Building Stock Management Model.....	735
<i>Dalibor Vytláčil</i>	
Sustainable Construction in Poland – A Need for Strategic Approach.....	739
<i>Sebastian Wall</i>	

EDUCATION AND INFORMATION

Implementation of International Energy Engineering E-Courses for Promotion of Sustainability Buildings and Communities	745
<i>Maria Jesús González, Eduardo Montero, Fernando Aguilar</i>	
Sustainable Building Education at Czech Technical University in Prague	749
<i>Petr Hájek, Karel Kabele, Jan Růžicka, Jan Tywoniak</i>	
Sustainable Education in Earth building	751
<i>Stephan Jörchel, Horst Schroeder, Ulrich Röhlen</i>	
Energities: Educational Game about Energy	755
<i>Erik Knol, Peter W. de Vries</i>	
Experimental Atelier: Garbage Design	759
<i>Kateřina Nováková, Henri Achten</i>	
Teaching Sustainable Design to the World.....	763
<i>Richard Sickinger</i>	
Education and Training in the Field of Sustainable Building Design	767
<i>Ingrid Šenitková, Silvia Vilčeková</i>	
New Educational Course “Reinforced Concrete and Stone Constructions in Ecological Building”	771
<i>Alexander N. Tetior</i>	
New Network Offers Public Authorities the Possibility to Exchange Experiences and Knowledge about Sustainable Construction.....	775
<i>Angelika Tisch, Heimo Staller</i>	
MSc in Sustainable Architecture: Towards a Zero Emission Built Environment.	779
<i>Annemie Wyckmans</i>	
Teaching Sustainable Approach in Architecture School.....	783
<i>Zdeněk Zavřel, Dalibor Hlaváček</i>	
Author Index	i
List of Exhibitors.....	v
General Partner	vii
Main Conference Partners	xi
Partners.....	xxiii