

DETAILED PROGRAMME OF PARALLEL SESSIONS

14th May 2015 | 08:45 – 09:00 | Auditorium 17 de Abril

OPENING SESSION

14th May 2015 | 09:00 – 09:45 | Auditorium 17 de Abril

PLENARY SESSION: TECHNOLOGIES FOR ENERGY EFFICIENT BUILDINGS AND BETTER INDOOR ENVIRONMENTAL QUALITY

Lecturer: Karel Kabele

Chair: Manuel Carlos Gameiro da Silva

14th May 2015 | 09:45 – 10:30 | Auditorium 17 de Abril

PLENARY SESSION: SUPPLY SECURITY ASPECTS IN COMPETITIVE AND INCREASINGLY DISTRIBUTED LOW-CARBON ENERGY MARKETS

Lecturer: Reinhard Madlener

Chair: Patrícia Pereira da Silva

COFFEE-BREAK

14th May 2015 | 11:00 – 13:00 | Room 2.3

THEMATIC SESSION: Decision analysis for sustainability

Chair: Luís Dias

ID

33	ASSESSING FOREST BIOMASS ENVIRONMENTAL IMPACTS: A CONTINGENT VALUATION STUDY Sara Sousa, Anabela Botelho, Lígia M. Costa Pinto, Patrícia Sousa
34	A CONTINGENT VALUATION OF THE ENVIRONMENTAL IMPACTS OF DAMS Lígia M. Costa Pinto, Anabela Botelho, Patrícia Sousa, Sara Sousa
35	ARE PEOPLE WILLING TO ACCEPT A COMPENSATION FOR THE WELFARE LOSS DUE TO WIND FARMS? AN EXAMPLE FROM PORTUGAL Patrícia Sousa, Anabela Botelho, Lígia M. Costa Pinto, Sara Sousa
111	MOBILITY IN UNIVERSITY OF COIMBRA - POLO II Francisco Brito e Cruz, Álvaro Seco, Anabela Salgueiro Narciso Ribeiro
58	ALLOCATING SHADOW PRICES IN A MULTIOBJECTIVE CHANCE-CONSTRAINED MODEL FOR BIODIESEL BLENDING Carla Caldeira, Luís Dias, Fausto Freire, Dimitris Kremmydas, Stelios Rozakis
54	STUDY OF TRANSPORTATION ENERGY EFFICIENCY BY FUEL SMART CARD SYSTEM Ali Hakimelahi, K.V Krishna Rao, S.L. Dhingra, Sina Borzooei

ID

15	INSTITUTIONAL-EVOLUTIONARY ANALYSIS OF THE BRAZILIAN INDUSTRY OF PHOTOVOLTAIC ENERGY Siqueira de Moraes Neto, Gustavo Matarazzo Resende, Maurício Fernandes Pereira, André Luís da Silva Leite
25	WAYNERGY VEHICLES: A ROAD PAVEMENT ENERGY HARVEST SYSTEM APPLICATION Francisco Duarte, Adelino Ferreira, João Champalimaud
37	ELECTRICITY SCENARIOS UNDER CLIMATE CHANGE Jael Correia, Paula Ferreira
41	WIND GENERATION INFLUENCE ON MARKET SPLITTING IN IBERIA Nuno Carvalho Figueiredo, Patrícia Pereira da Silva, Pedro Cerqueira
83	NEW SOLAR WATER HEATING SYSTEMS WITH IMPROVED ENERGY MANAGEMENT AND SAFETY FUNCTIONALITIES Victor D. N. Santos, Fernando Moita, João P. Trovão, Manuel Cerveira
89	OPTIMAL TIMING OF ONSHORE WIND REPOWERING IN GERMANY UNDER POLICY REGIME CHANGES: A REAL OPTIONS ANALYSIS Lukas Gläsel, Reinhard Madlener

ID

82	SENSITIVITY OF THE PMV INDEX TO THE THERMAL COMFORT PARAMETERS Rui Moutela, João Dias Carrilho, Manuel Gameiro da Silva
90	A PARAMETRIC STUDY ON WINDOW-TO-FLOOR RATIO OF THREE WINDOW TYPES USING DYNAMIC SIMULATION Ana Rita Amaral, Eugénio Rodrigues, Adélio Rodrigues Gaspar, Álvaro Gomes
102	NATURAL VENTILATION AND THERMAL COMFORT IN OLD RESIDENTIAL BUILDING, CASE STUDY: SINGLE FAMILY HOUSE IN COIMBRA Atefeh Salehi, Isabel Torres, Ana Ferreira Ramos
105	DEVELOPMENT OF A LIVE LABORATORY FOR RESEARCH AND TECHNOLOGY DEMONSTRATION IN INDOOR ENVIRONMENT ASSESSMENT AND CONTROL João Dias Carrilho, Behrang Chenari, Maria Rocheta Gomes, Gustavo Botte, Mário Mateus, Manuel Gameiro da Silva
77	RADIOGENIC HEAT PRODUCTION FROM A DEEP BOREHOLE IN THE BEIRAS GRANITE (ALMEIDA, CENTRAL PORTUGAL) Rita Lamas, Mafalda M. Miranda, Luis Neves, Alcides Pereira
85	THERMAL PROPERTIES OF A HERCYNIAN GRANITIC ROCK: DATA FROM A DEEP BOREHOLE (ALMEIDA, CENTRAL PORTUGAL) Mafalda M. Miranda, Alcides S. Pereira, José J. Costa, Nelson V. Rodrigues, Catarina R. Matos

LUNCH
at CAFETARIA DO MUSEU DA CIÊNCIA

14th May 2015 | 14:30-16:10 | Room 2.3

THEMATIC SESSION: Greening the Automobile

Chair: Rita Garcia & João Malça

ID

45	WHICH CRITERIA MATTER WHEN SELECTING A CONVENTIONAL OR ELECTRIC VEHICLE? Gabriela D. Oliveira, Luís C. Dias
66	NUMERICAL SIMULATION OF ENGINE PERFORMANCE EVALUATION CONSIDERING THE USE OF PETROL FUEL AND ETHANOL (E85) Nuno Mendes, Luis Serrano, M. Gameiro da Silva
80	LIFE-CYCLE GREENHOUSE GAS EMISSIONS OF DISPLACING INTERNAL COMBUSTION ENGINE VEHICLES BY ELECTRIC VEHICLES IN THE PORTUGUESE PASSENGER CAR FLEET Rita Garcia, Jeremy Gregory, Fausto Freire
95	LIFE-CYCLE ASSESSMENT OF ELECTRIC VEHICLE BATTERIES – LIMN2O4 VERSUS LIFEPO4 Pedro Marques, Rita Garcia, Luiz Kulay, Fausto Freire
108	GREENHOUSE GAS ASSESSMENT OF AN AUTOMOBILE PLASTIC COMPONENT PRODUCED AT CIE PLASFIL Amir Safaei, João Malça, Carlos Ferreira, Mariana Fernandes, Gonçalo Tomé, Cláudia Esteves, Pedro Silva, Fausto Freire

14th May 2015 | 14:30-16:10 | Room 2.4

POLICY AND ASSESSMENT: Energy policy

Chair: Patrícia Pereira da Silva

ID

19	MOVING FORWARD IN EUROPEAN UNION CLIMATE AND ENERGY POLICIES – ENERGY EFFICIENCY TOWARDS 2030 Guillermo Ivan Pereira, Patrícia Pereira da Silva
30	DRIVING FORCES BEHIND EU-27 ENERGY AND CO2 INTENSITIES Luís Cruz, José Dias
38	UP-TO-DATE ASSESSMENT OF GHG EMISSIONS TRENDS THROUGH EISD FRAMEWORK UNDER CLIMATE CHANGE POLICY UNCERTAINTY PROSPECTS Jorge Cunha, Manuel Lopes Nunes, Fátima Lima
56	EMPLOYMENT EFFECTS OF ELECTRICITY PRODUCTION FROM RENEWABLE ENERGY IN PORTUGAL – AN IO LCA APPROACH Carla O. Henriques, Dulce H. Coelho, Natalie L. Cassidy
71	TECHNOLOGICAL DIFFUSION BETWEEN DIFFERENT ENVIRONMENTAL COUNTRIES Mónica Meireles, Isabel Soares, Oscar Afonso

14th May 2015 | 14:30-16:10 | Room 2.5

BUILDINGS AND END-USES: Buildings 2

Chair: José Costa

ID

70	GROUND SOURCE HEAT PUMPS AS HIGH EFFICIENT SOLUTIONS FOR BUILDING SPACE CONDITIONING - RESULTS OF AN EXPERIMENTAL CASE STUDY IN PORTUGAL Anabela D. Carvalho, André Quintino, João Fong, Aníbal T. de Almeida
72	ENERGY MANAGEMENT OF A HIGH RATE HOTEL João R. Galvão, Carlos D. Jesus, Rita M. T. Ascenso
109	EXPERIMENTAL FEATURES OF A DIRECT HELICAL-COIL EVAPORATOR FOR AN ORGANIC RANKINE CYCLE BASED MICRO-COGENERATION SYSTEM João Pereira, Jorge André, Ricardo Mendes, Eduardo Costa, José Baranda
110	APPLICATION OF AN OPEN MODELLING ARCHITECTURE FOR MICRO-CHP SYSTEMS BASED ON RANKINE TECHNOLOGY' Márcio D. Santos, Jorge C. André, Sara Francisco, José M. Baranda
14	EVALUATION OF METHODS FOR REPRESENTING ELECTRIC VEHICLES FOR DISTRIBUTION GRID SIMULATION AND PLANNING – A STATE-OF-THE-ART ANALYSIS Stefan Übermasser, Marina González Vayá, Pedro Almeida, Johannes Stöckl

COFFEE-BREAK

14th May 2015 | 16:40-18:20 | Room 2.3

THEMATIC SESSION: Life-cycle Assessment of Bioenergy

Chair: Fausto Freire, Érica Castanheira & João Malça

ID

61	NON-TOXIC JATROPHA CURCAS BIOREFINERY EVALUATION: SINALOA CASE STUDY Carla Silva, Ana Filipa Ferreira, João Ribau, Miguel Angulo-Escalante, Alfredo Estrada-Angulo, Jorge Milán-Carrillo, Ignacio Contreras-Andrade
96	LIFE-CYCLE ASSESSMENT OF MICROALGAE BIODIESEL: A REVIEW Filipa Figueiredo, Rita Garcia, Margarida S. Gonçalves, Érica Castanheira, João Malça, Ana Cristina Oliveira, Cristina T. Matos, Fausto Freire
101	GREENHOUSE GAS ASSESSMENT OF RAPESEED-BASED BIODIESEL ADDRESSING UNCERTAINTY João Queirós, João Malça, Fausto Freire
106	WELL-TO-WHEELS ENVIRONMENTAL ASSESSMENT OF BIODIESEL USED IN HEAVY-DUTY VEHICLES João Malça, Érica Castanheira, Pedro Marques, Luís Serrano, Fausto Freire

14th May 2015 | 16:40-18:20 | Room 2.4

POLICY AND ASSESSMENT: Sustainable Development, Markets and Regulation

Chair: Eduardo Barata

ID

4	TOWARDS SUSTAINABLE DEVELOPMENT? FORECASTING ENVIRONMENTAL INDICATORS FROM ENVIRONMENTAL KUZNETS AND LOGISTIC CURVES Ana Jesús López, Rigoberto Pérez
23	ANALYSING THE EFFECT OF CARBON PRICES ON ELECTRICITY STOCK MARKET RETURNS THROUGH A COINTEGRATED VECTOR ERROR-CORRECTION MODEL Patrícia Pereira da Silva, Blanca Moreno, Nuno Carvalho Figueiredo
50	THE ECONOMIC IMPACTS OF DISASTERS André Parreiral, Pedro Ramos, Eduardo Barata, Luís Cruz
53	PLURAL FORMS OF INSTITUTIONAL ARRANGEMENTS IN THE BRAZILIAN ELECTRICITY INDUSTRY Daniel Gonçalves Lopes, André Luís da Silva Leite
55	TRANSPORT ENERGY KUZNETS CURVES FOR EU Maria Pablo-Romero, Luís Cruz, Eduardo Barata

14th May 2015 | 16:40-18:20 | Room 2.5

BUILDINGS AND END-USES: Buildings and eco-design

Chair: Adélio Gaspar

ID

10	IDENTIFICATION OF ENERGY MODELS AS A KEY STAGE FOR SIMULATION-BASED PREDICTIVE CONTROL OF MASSACTIVATED SYSTEMS IN BUILDINGS Manuel Andrés, Juan Rodríguez, Eloy Velasco, Ana Tejero, Francisco J. Rey
31	THE DRIVE TOWARDS NEAR ZERO ENERGY BUILDINGS THROUGH PROFESSIONAL TRAINING IN PORTUGAL: THE SOUTHZEB PROJECT Filipa Amorim, Ricardo Gomes, Miguel Carvalho, Carlos Silva, Paulo Ferrão, Manuel Correia de Guedes, Manuela Almeida
98	LIFE-CYCLE ENERGY ANALYSIS OF A SINGLE FAMILY HOUSE: ASSESSING ALTERNATIVE PASSIVE CONSTRUCTION OPTIONS Helena Monteiro, Fausto Freire, John E. Fernández
112	COST OPTIMALITY OF SOLAR THERMAL AND BIOMASS SYSTEMS IN EXISTING RESIDENTIAL BUILDINGS Ana Rita Raposo, Sérgio Tadeu, Nuno Simões, António Tadeu

CONFERENCE DINNER – 20:00
at LOGGIA –Machado de Castro Museum

15th May 2015 | 09:00 – 09:45 | Auditorium 17 de Abril

PLENARY SESSION: BRAZILIAN INITIATIVES FOR ENERGY SUSTAINABILITY

Lecturer: Tiago de Barros Correia

Chair: Carlos Henggeler Antunes

15th May 2015 | 09:45 – 10:30 | Auditorium 17 de Abril

PLENARY SESSION: BUILDING STOCK, URBAN INFRASTRUCTURE AND ENERGY DEMAND

Lecturer: Roland Clift

Chair: Fausto Freire

COFFEE-BREAK

15th May 2015 | 11:00-13:00 | Room 2.3

THEMATIC SESSION: Sustainability Assessment of Agro-Industrial Chains

Chair: Érica Castanheira & Filipa Figueiredo

ID

52	SOCIAL SUSTAINABILITY OF SUGARCANE PRODUCTION IN BRAZIL Chongyang Du, Luiz Kulay, Fausto Freire, Luis Dias
78	USING LIFE CYCLE ASSESSMENT TO ASSESS YOGURT PRODUCTION Sara Belo, Ana Dias, Henrique Trindade, José Almeida, Luís Andrade, Luís Arroja
79	EVALUATING THE ENVIRONMENTAL IMPACT OF TWO BEEF PRODUCTION SYSTEMS USING LIFE CYCLE ASSESSMENT Sara Belo, Ana Dias, Manuel Feliciano, Fernando de Sousa, José Almeida, Henrique Trindade, Luís Arroja
91	ENERGY AUDITS AND ENERGY EFFICIENCY IN THE PORTUGUESE WINE INDUSTRY: A CASE STUDY Bruno J. Cardoso, Francisco B. Lamas, Álvaro C. Gomes, Adélio R. Gaspar, José B. Ribeiro
99	LIFE-CYCLE GREENHOUSE GAS ASSESSMENT OF PORTUGUESE CHESTNUT Diana Rosa, Filipa Figueiredo, Érica G. Castanheira, Manuel Feliciano, Filipe Maia, José Santos, Ana Paula Silva, Henrique Trindade, Fausto Freire
100	GREENHOUSE GAS ASSESSMENT OF WINE PRODUCED IN PORTUGAL Filipa Figueiredo, Érica Castanheira, António D. Ferreira, Henrique Trindade, Fausto Freire

15th May 2015 | 11:00-13:00 | Room 2.4

POLICY AND ASSESSMENT: Buildings and Cities

Chair: Ivo Martinac

ID

104	PRIMARY ENERGY AND GREENHOUSE GAS EMISSION FACTORS FOR ELECTRICITY IN PORTUGAL Pedro Marques, Rita Garcia, Fausto Freire
81	ENVIRONMENTAL PRODUCT DECLARATION OF CERAMIC ROOF TILES: A CASE STUDY OF INFORMATION REQUIREMENTS WITHIN THE LIFE CYCLE Marisa A. Almeida, João Barata, Ana C. Dias, Luís Arroja
60	LIFE-CYCLE ASSESSMENT OF A CITY APARTMENT AND A SUBURBAN HOUSE: ADDRESSING THE ISSUE OF OCCUPANCY Joana Bastos, Stuart Batterman, Fausto Freire
57	SUSTAINABILITY IN THE EXISTING BUILDINGS BASED ON LIFE CYCLE ANALYSIS Jana Kmeťková, Dušan Petráš
3	THE USE OF LINEAR PROGRAMMING TECHNIQUES TO ASSESS THE EFFECTIVENESS OF ECONOMIC INCENTIVES FOR BUILDING ENERGY RETROFITS Lorenza Di Pilla, Giuseppe Desogus, Salvatore Mura, Roberto Ricciu, Massimo Di Francesco

15th May 2015 | 11:00-13:00 | Room 2.5

BUILDINGS AND END-USES: Buildings 3

Chair: Kristina Orehounig

ID

43	THE SIMULATION IN THE ENERGY EFFICIENCY DESIGN FOR EXISTING BUILDINGS Gigliola Ausiello, Teresa Notaro
116	COST OPTIMALITY AND REAL OPTIONS IN INVESTMENTS FOR ENERGY RETROFITTING IN BUILDINGS, IN PORTUGAL Sérgio Tadeu, Patrícia Pereira da Silva, Rafael F. Alexande, António Tadeu, Nuno Simões
65	OPTIMIZING RETROFITTING STRATEGIES IN A BUILDING USING MULTIOBJECTIVE GENETIC ALGORITHMS Claudia Sousa Monteiro, João M. C. Sousa, André Pina, Paulo Ferrão
87	GerAPlanO – A NEW BUILDING DESIGN TOOL: DESIGN GENERATION, THERMAL ASSESSMENT AND PERFORMANCE OPTIMIZATION Eugénio Rodrigues, Ana Rita Amaral, Adélio Rodrigues Gaspar, Álvaro Gomes, Manuel Carlos Gameiro da Silva, Carlos Henggeler Antunes
115	A METHODOLOGY FOR THE ASSESSMENT OF THE POTENTIAL FOR ENERGETIC REHABILITATION IN PORTUGUESE HEALTHCARE BUILDINGS Miguel Serpa Oliva, José Mendes da Silva, António Tadeu

LUNCH
at CAFETARIA DO MUSEU DA CIÊNCIA

15th May 2015 | 14:30-16:10 | Room 2.3

THEMATIC SESSION: Sustainable energy neighbourhoods

Chair: Kathryn Janda

ID

1	TOWARD URBAN ENERGY DENSITY (UED) DEFINITION Salah Vaisi, Francesco Pilla, Declan McCormac, Sarah J. McCormack
27	PUBLIC LIGHTING FOCUSED ON URBAN AND PEOPLE José Freitas Cardoso, Jorge Mendes Santos, João Garcia Mendes
49	TOWARDS REGIONAL ENERGY SUFFICIENCY: GIS-BASED POWER-TO-GAS POTENTIAL ASSESSMENT OF COIMBRA DISTRICT Fabian Heymann, Ricardo Bessa
117	EVALUATION OF RENEWABLE ENERGY SOURCES INTEGRATION POTENTIAL IN A NEW DEVELOPMENT AREA Shan-Shan Hsieh, Kristina Orehounig
121	A WICKED APPROACH TO ENERGY STRATEGIES IN RETAIL ORGANISATIONS Kathryn B. Janda, Julia Patrick, Ramon Granell, Susan Bright, David Wallom, Russell Layberry

15th May 2015 | 14:30-16:10 | Room 2.4

SMART CITIES: Demand response, Energy storage, smart grids

Chair: Carlos Henggeler

ID

84	ANALYSIS OF SOLUTIONS PROVIDED BY A RESIDENTIAL ENERGY MANAGEMENT SYSTEM Ana Soares, Carlos Oliveira, Álvaro Gomes, Carlos Henggeler Antunes
13	COMPARISON BETWEEN NUMERICAL MODELS AND EXPERIMENTAL MEASUREMENTS OF A COOL DOWN PROCESS IN A THERMAL STORAGE SYSTEM Thomas Schütz, Ana de la Peña, Rita Streblow, Dirk Müller
40	BUILDING THE BRAZILIAN SMART GRID: IMPLEMENTATION OF SMART GRID TECHNOLOGIES IN GOIÁS Thiago L. Vasques, Sérgio G. de Araújo, Flávio T. Vieira, Getúlio D. Júnior, Marcelo S. de Castro, Gustavo C. Souza, Pedro S. Moura
48	ENERGY STORAGE SYSTEM FOR RESIDENTIAL ZERO ENERGY BUILDINGS IN PORTUGAL Filomeno M. Vieira, Pedro S. Moura, Aníbal T. de Almeida
75	A PROPOSAL OF AN ENERGY MANAGEMENT SYSTEM FOR DEMAND RESPONSE IN A RESIDENTIAL SETTING Ana Soares, Hugo Melo, Carlos Henggeler Antunes, Carlos Oliveira, Álvaro Gomes, João Trovão, Paulo Pereirinha, Victor Santos

15th May 2015 | 14:30-16:10 | Room 2.5

BUILDINGS AND END-USES: End-use energy efficiency

Chair: Isabel Torres

ID

26	TEENAGERS' ENERGY USE RELATED TO ELECTRONIC MEDIA: A SOCIOLOGICAL APPROACH Ana Horta, Susana Fonseca, Nélia Nobre, Augusta Correia, Mónica Truninger
63	QUANTIFYING THE SAVINGS POTENTIAL ASSOCIATED WITH ENERGY BEHAVIOURS Marta Lopes, Carlos Henggeler Antunes, Ana Reis, Nelson Martins
64	ESTIMATING THE IMPACT OF OCCUPANT BEHAVIOURS ON ENERGY CONSUMPTION OF SMALL COMMERCIAL AND SERVICES BUILDINGS Ana Reis, Marta Lopes, Nelson Martins
93	A FRAMEWORK TO ANALYSE DEMAND-SIDE MANAGEMENT PROGRAMS USING THE TIMES MODELS Catarina Miguel Sabino, António Gomes Martins
59	SUSTAINABILITY APPLIED TO A UNIVERSITY CAMPUS: UTFPR'S GREEN OFFICE CASE STUDY Eloy Fassi Casagrande Junior, Henrique Marin van der Broocke Campos, Jair Urbanetz Junior

COFFEE-BREAK

15th May 2015 | 16:40-18:20 | Room 2.3

POLICY AND ASSESSMENT: Energy planning and Sustainability

Chair: Oxana Tchepel & António Pais Antunes

ID

6	TOWARDS THE ELECTRIFICATION OF THE TRANSPORTATION SECTOR: ENERGY AND ENVIRONMENTAL IMPACTS IN PORTUGAL AND BELGIUM Mário Martins, Catarina Rolim, Patrícia Baptista, André Pina
62	ADVANCED INPUT MODELLING FOR ENERGY PLANNING: INCLUDING ARCHETYPAL USER PROFILES IN ENERGY MODELS Chiara Delmastro, Simona D'Oca, Stefano Paolo Corgnati
67	URBAN TRANSPORT EMISSIONS AND ENERGY CONSUMPTION: WHAT ARE THE IMPACTS OF LOW EMISSION ZONES (LEZ)? Daniela Dias, Oxana Tchepel, António Pais Antunes
73	FORECASTING OF SUNSPOT BY USING A HYBRID APPROACH Luiz Albino Teixeira Júnior, Samuel Bellido Rodrigues, Edgar Manuel Carreño Franco, Reinaldo Castro Souza, Rafael Moraes de Souza, Arinei Carlos Lindbeck da Silva, Ricardo Vella de Britto Pereira, Bruno Quaresma Bastos
107	ASSESSMENT OF MODIKO SYSTEM CONSTRUCTION ACCORDING TO SBTOOLPT-H Dina Barata, Constança Rigueiro, Laertes Mota

15th May 2015 | 16:40-18:20 | Room 2.4

SMART CITIES / POLICY AND ASSESSMENT

Chair: Ana Jesús López Menéndez

ID

29	MODELLING A CO ₂ -STEERING SIGNAL FOR DEMAND SIDE MANAGEMENT IN DISTRICT HEATING GRIDS Hassan Harb, Michael Diekerhof, Luis Hernandez, David Lillienberg, Rita Streblow, Antonello Monti, Dirk Müller
76	METHOD TO BUILD ENERGY EFFICIENT CITIES Miguel Pires Amado, Francesca Poggi, António Ribeiro Amado
97	HIGH SPATIAL DENSITY AIR QUALITY MONITORING USING NEW LOW COST TECHNOLOGIES Sérgio Lopes, João Martinho, João Leite, Paulo Pinho
36	ASSESSING SUSTAINABLE CITIES: URBAN INTEGRAL SUSTAINABLE ASSESSMENT TOOL Jocelyn Erandi Reyes Nieto, Luís Simões da Silva, Vitor Murtinho, Constança Rigueiro
92	THE COMMUTING 'EMBODIED' IN URBAN AREAS PRODUCTION – WHO CONTRIBUTES TO EXACERBATE THE PHENOMENON? João-Pedro Ferreira, Pedro Ramos, Luís Cruz, Eduardo Barata

ID	
96	EXPLORING THE USE OF INDICATORS FOR BENCHMARKING THE ENERGY PERFORMANCE OF PORTUGUESE SECONDARY SCHOOLS Hermano Bernardo, Carlos Henggeler Antunes, Adélio Gaspar
103	ESTIMATION OF THE EFFECT OF THE UNCERTAINTY OF ATMOSPHERIC TRANSMISSIVITY ON MEAN DAILY IRRADIANCE Manuel Gameiro da Silva, Alp Göktürk, Göksel Çetinkaya, Eray Uzgören
120	TOWARDS THE DEVELOPMENT OF ENERGY EFFICIENCY PLANS IN SCHOOL BUILDINGS – A CASE STUDY Luísa Dias Pereira, Hermano Bernardo, Manuel Gameiro da Silva
8	CLASSROOMS ENERGY EFFICIENCY: TESTING FOR PERMEABILITY AND AIR CHANGE RATE Manuel Pinto, Ricardo Almeida, Paulo Pinho, Teixeira de Lemos
119	INDOOR AIR QUALITY IN THE SCOPE OF BUILDING MAINTENANCE Ana Rodrigues, Eduardo Roque da Cunha, Luís Borges