Posters

MONDAY, SEPTEMBER 4
09.00 am – 05.30 pm

LOCATION: POSTER AREA,
CONFERENCE MAIN HALL
LCM for transport and mobility

CHAIRS: Stephan Krinke - Volkswagen AG
Christoph Herrmann - Technical University of Braunschweig

MO-178-1 Life-cycle performance of kerosene produced through biomass gasification and Fischer-Tropsch synthesis
Diego Iribarren 1, Mario Martín-Gamboa 1, Pedro L. Cruz 1, Laura C. Delgado-Casado 1, Javier Dufour 1,2

1Systems Analysis Unit, Instituto IMDEA Energía, Spain 2Chemical and Environmental Engineering Group, Rey Juan Carlos University, Spain

Trakarn Prapaspong 1, Jun Ren 2, Wonsiri Punurai 1, Jin Wang 2, Yasothorn Sapsathian 1, Teraphan Ornhammarath 1

2Department of Civil and Environmental Engineering, Faculty of Engineering, Mahidol University, Nakhon Pathom, Thailand 2Liverpool Logistics, Offshore and Marine (LOOM) Research Institute, Department of Maritime and Mechanical Engineering, Faculty of Engineering and Technology, Liverpool John Moores University, Liverpool, United Kingdom

MO-294-3 Life Cycle Analysis for DI-CNG vehicles
Joachim KIEFER
Delphi Automotive Systems Luxembourg, Luxembourg

MO-302-4 Marketing the Cycle: Challenges and opportunities for car parts dismantling and reuse
Matthias Kalverkamp, Alexandra Pehlken
University of Oldenburg, Germany

MO-399-5 WOOD FIBRES-REINFORCED POLYMER APPLICATION TO ENHANCE SUSTAINABILITY PURPOSES FOR AUTOMOTIVE SECTOR
Silvia Maltese 1,2, Laura Zanchi 3, Massimo Delogu 3, Alessandra Bonoli 2, Rubina Riccomagno 1

1Magneti Marelli, Italy 2University of Bologna 3University of Florence
MO-415-6  Life Cycle Assessment of intermodal freight transport in Belgium
Angel Luis Merchan, Sandra Belboom, Angelique Leonard
University of Liege, Belgium

MO-482-7  Do Tire Studs in Cars Save or Take Lives? A Life Cycle Assessment on Human Health Impacts
Anna Furberg, Rickard Arvidsson, Sverker Molander
Chalmers University of Technology, Sweden

MO-513-8  Transport of goods in the urban logistic: comparative LCA of electric, CNG and Diesel light duty vehicles
Benedetta Marmirol i 1, Laura Carettoni 1, Mattia Venditti 2, Ezio Spessa 2, Giovanni Dotelli 1

1Politecnico di Milano, Italy 2Politecnico di Torino, Italy

MO-522-9  GHG emissions reductions linked to introducing electric mobility in the city of Lima (Peru)
Ramzy Kahhat 1, Ian Vazquez-Rowe 1, Samy Garcia-Torres 1, Ursula Cardenas Mamani 1, Renata Mele 2, Angelo Facchini 3

1Pontificia Universidad Catolica del Peru, Peru 2Enel Foundation, Rome, Italy 3IMT School for Advanced Studies Lucca, Lucca, Italy

MO-542-10 Sustainability indexes for logistics: How to bring LCA perspective to KPIs for different business units in different regions of the world – A BASF experience
Marcela Porto Costa 1, Bruce W. Uhlman 2, Juliana Maria da Silva 1, Mariana Dondeo Nazar 3, Daniela Elias Ascar 3

1Fundação Espaço ECO/ BASF S.A, Brazil 2BASF United Stated of America 3BASF S.A, Brazil

MO-573-11  Life Cycle Costing of Recycling Strategies for Rare Earth Permanent Magnet Motors
Gwendolyn Bailey, Karel Van Acker, Wim DeWulf
KU LEUVEN, Belgium
Environmental repercussions of metal additive manufacturing technologies and consequences for LCM in space and aerospace industry: a life cycle assessment review

Johan Berg Pettersen 1, Marit Bjørnbet Moe 1, Håvard Bergsdal 2, Eduardo João Silva 3, Jonathan Ouziel 4

1Sintef Raufoss Manufacturing 2Asplan Viak 3ISQ 4Airbus Safran Launchers

Project to Lead Eco-design Integration with Aerospace Development and Engineering Systems

Luca Petruccelli 1, Andrew Clifton 2, James Goddin 1, Kim Marshall 1

1Granta Design, United Kingdom 2Rolls-Royce plc
Life Cycle Management of Energy and Energy Transitions - Managing the complexity of today's and future energy systems with a life cycle focus: Challenges and methodological solutions

CHAIRS:
- Karin Treyer - Paul Sherrer Institute
- Alicia Boyano-Larriba - European Commission - Joint Research Centre
- Roberto Turconi - ArcelorMittal

MO-180-14  A life-cycle perspective in energy systems modelling: nuclear extension scenarios for Spain
Diego García-Gusano 1, Mario Martín-Gamboa 1, Diego Iribarren 1, Javier Dufour 1,2

1Systems Analysis Unit, Instituto IMDEA Energía, Spain 2Chemical and Environmental Engineering Group, Rey Juan Carlos University, Spain

MO-182-15  Addressing the key drivers of regional energy consumption of the manufacturing industry in Japan
Ken’ichi Matsumoto 1, Yosuke Shigetomi 1, Tomoki Ehara 2, Yuki Ochi 2, Yuki Ogawa 2, Hiroto Shiraki 3, Yuki Yamamoto 1

1Nagasaki University, Japan 2E-Konzal, Japan 3The University of Shiga Prefecture, Japan

MO-212-16  Dynamic life cycle assessment for microalgae production coupled to photovoltaic panels
Marjorie Morales, Olivier Bernard

INRIA (Institut National de Recherche en Informatique et en Automatique), BIOCORE team, France

MO-241-17  Life cycle assessment of prospective energy scenarios for 2030 in an insular context: Guadeloupe case study
Paula Pérez-López 1, Romain Besseau 1, Mathilde Marchand 2, Frédéric Amblard 3, Isabelle Blanc 1

1MINES ParisTech, PSL Research University, France 2Transvalor S.A., France 3École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

MO-279-18  Integrating Life Cycle Management to Improve Industrial Energy Efficiency
Jun-Ki Choi, Daniel Kelley, Kelly Kissock

University of Dayton, United States of America
MO-308-19  Positive or negative? Consequential life cycle assessment of lithium-ion and lithium metal polymer stationary batteries in Switzerland
Laurent Vandepaer 1, Julie Cloutier 2, Christian Bauer 3, Ben Amor 4

1Université de Sherbrooke, Paul Scherrer Institut 2Institut de recherche d'Hydro-Québec 3Paul Scherrer Institut 4Université de Sherbrooke

MO-309-20  Prospective marginal electricity supply mixes for consequential life cycle assessments
Laurent Vandepaer 1, Chris Mutel 2, Karin Treyer 2, Christian Bauer 3, Ben Amor 4

1Université de Sherbrooke 2Paul Scherrer Institut 3Université de Sherbrooke

MO-329-21  Incorporating resilient solutions in long-range energy planning for developing countries: case study of Uganda
Jacek Stankiewicz 1, Francesco Gardumi 2, Dimitrios Mentis 3, Mark Howells 2, Eduardo Zepeda 3, Yann Loic Tanvez 4

1Boson Energy, Luxembourg 2Royal Institute of Technology (KTH), Sweden 3OpTIMUS 4World Bank

MO-397-22  Understanding LCA practise and knowledge production in the Swedish Biofuel Industry
David Lazarevic 1, Katarina Buhr 2, Michael Martin 2, Johan Torén 3, Tomas Ekvall 2

1Finnish Environment Institute SYKE KTH - Royal Insitute of Technology 2IVL Swedish Environmental Research Institute 3RISE Research Institutes of Sweden

MO-403-23  Ecological driven Energy Management: how to build up the active load shifting in LCA
Cornelia Petermann 1, Stefan Bschorer 2, Jörn Guder 1, Jens-Christian Holst 1, Maren Kuschke 2, Kai Strunz 2

1Siemens AG, Germany 2Technical University of Berlin

MO-548-24  Prospective LCA applied to energy scenarios: methodology and case studies
Jade GARCIA 1, Florent QUERINI 2, Frédérique BOUVART 3, Emmanuel HACHE 3, Philippe OSSET 1

1SCORE LCA, France 2ECOSTATIS, France 3IFPEN, France
MO-569-25  **Designing sustainable biorefineries: insights from life cycle assessment**  
Xun Liao, Ayse Dilan, François Maréchal  
*EPFL, Switzerland*

MO-585-26  **YEARLY LIFE CYCLE INVENTORY OF THE ELECTRICITY PRODUCTION AND DISTRIBUTION IN CHILE: THE EVIDENCES OF THE TIME EFFECT**  
Mabel Vega, Claudio Zaror  
*Department of Chemical Engineering, University of Concepcion, Chile*

MO-589-27  **From attributional to consequential life cycle assessment: data conversion and modelling of an organic photovoltaic portable charger**  
Edis Glogic ¹³, Steffi Weyand ², Dieuwertje Schrijvers ³, Steven Young ¹, Guido Sonnemann ³, Liselotte Schebek ²  
¹University of Waterloo ²Technische Universität Darmstadt ³University of Bordeaux

MO-607-28  **Life cycle assessment of hydrogen production: Power to hydrogen vs Hydrocarbon reformation**  
Xun Liao ¹, Ligang Wang ², François Maréchal ²  
¹EPFL Switzerland, Quantis ²EPFL Switzerland
Using LCA and EPD in Public Procurement within the construction section

CHAIRS:  Kristian Jelse - EPD International  
Kristof Peerens - 3M

MO-188-29  Modelling solutions for implementing life cycle environmental impacts in road construction in the procurement process: A case study in Norway  
Reyn O'Born

University of Agder

MO-282-30  Evaluation of competitive design alternatives by the pre-verified LCA-tools  
Larissa Strömberg, Kristine Ek

NCC, Sweden

MO-357-31  How are Environmental Product Declarations used in practice? Perspectives of the Austrian construction sector.  
Gregor Schrank¹, Tobias Stern², Franziska Hesser³

¹University of Natural Resources and Life Sciences, Vienna, Austria ²Karl Franzens University Graz, Austria ³Kompetenzzentrum Holz GmbH, Austria

MO-394-32  Granularity in Environmental Product Declaration  
Development for Steel Construction Products  
Kirstine Schiebel¹, Sonny Crews², Simon Aumonier¹

²Environmental Resources Management (ERM) ²Gerdau Long Steel North America

MO-444-33  Limiting the complexity of data entries while maintaining robustness of the LCA model  
Jori Coustillas

PRé Consultants, Netherlands, The

MO-448-34  LCA for a glass wool producer: from site LCA to improvements associated with the choice raw materials and the final product use phase.  
Saïcha Gerbinet¹, Vincent Briard², Jean-Pierre Pigeolet², Carl Hampson², Sandra Belboom¹, Sylvie Gros lambert¹, Angel Merchan¹, Angélique Léonard¹

¹University of Liège, Belgium ²Knauf Insulation
Modelling mobility systems today and in the future

CHAIRS:  Christopher Lucien Mutel - *Paul Scherrer Institute*
          Jens-Christian Holst - *Siemens AG*

**MO-231-35** Electric Cars in the Energy Accumulation and Power Deficit Prevention System
Kazimierz Bieliński, Józef Flizikowski, Andrzej Tomporowski, Adam Mroziński, Robert Kasner
*University of Science and Technology in Bydgoszcz, Poland*

**MO-376-36** Achieving the shift to low-emission mobility through the deployment of seaweed feedstocks
Jonna Meyhoff Fry, Simon Aumonier
*Environmental Resources Management, United Kingdom*

**MO-440-37** Environmental assessment of the recovery of scarce technology metals from End-of-Life Vehicles
Arthur Haarman, Roland Hischier, Rolf Widmer
*Empa, Switzerland*

**MO-565-38** Prioritising LCA data updates through contribution and discernibility analysis: A case study of the Swiss transport sector
Didier Beloin-Saint-Pierre ¹, David Turner ¹, Brian Cox ², Christian Bauer ², Marcel Gauch ¹, Roland Hischier ¹
¹Empa, Switzerland ²PSI, Switzerland

**MO-592-39** Life cycle assessment of fossil vs. electric mobility: what we know and what we don’t know?
Xun Liao ¹, Denis Bochatay ²
¹EPFL Switzerland, Quantis ²Quantis
Potentials and limitations of combined life cycle approaches and multi-dimensional assessment

CHAIRS: Johanna Kristina Berlin - RISE Research Institutes of Sweden
Diego Iribarren - IMDEA Energy

MO-159-40 Integrating Urban Metabolism Analysis concept in the Environmental Assessment of Santiago de Compostela (Spain)
Sara Gonzalez-Garcia 1, Pedro Villanueva-Rey 1,2, Fernando García-Guaita 1, Gumersindo Feijoo 1, Maria Teresa Moreira 1

1Dept. of Chemical Engineering, Institute of Technology, University of Santiago de Compostela, 15782 Santiago de Compostela, Spain 2Centre of Environmental and Marine Studies (CESAM), Department of Environment and Planning, University of Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal.

MO-171-41 Assessing the eco-efficiency of fisheries: combined application of life cycle assessment and data envelopment analysis in the Cantabrian purse seining fleet
Jara Laso 1, Ian Vazquez-Rowe 2, Maria Margallo 1, Isabel García-Herrero 1, Angel Irabien 1, Ruben Aldaco 1

1Universidad de Cantabria, Avda. de los Castros s/n 39005 Santander, Spain 2Pontificia Universidad Católica del Perú, Departamento de Ingeniería, Red Peruana Ciclo de Vida. Avenida Universitaria 1801, San Miguel L0032, Lima, Perú

MO-172-42 Good practices in food waste management. Integrating economic, social and environmental criteria
Isabel Noya, Sara González-García, Gumersindo Feijoo, Maria Teresa Moreira, Pedro Villanueva-Rey

University of Santiago de Compostela, Spain

MO-179-43 Combined use of Data Envelopment Analysis and Life Cycle Assessment for gradual operational and environmental benchmarking in terms of continuous improvement
Diego Iribarren 1, Cristina Álvarez-Rodríguez 2, Mario Martín-Gamboa 1, Ian Vázquez-Rowe 3, Yago Lorenzo-Toja 4, Javier Dufour 1,2

1Systems Analysis Unit, Instituto IMDEA Energía, Spain 2Chemical and Environmental Engineering Group, Rey Juan Carlos University, Spain 3Peruvian LCA Network, Department of Engineering, Pontificia Universidad Católica del Perú, Peru 4Department of Chemical Engineering, University of Santiago de Compostela, Spain
MO-215-44  Propagating uncertainty in life cycle sustainability assessment into decision-making problems: a multiple criteria decision aid approach
Breno Barros Telles do Carmo 1,2, Manuele Margni 1,2, Pierre Baptiste 1

1Polytechnique Montréal, Canada 2CIRAIG, Montréal

MO-266-45  Integrated LCA approach applied to nanomaterials
Clara Valente, John Baxter, Andreas Brekke

Ostfold Research AS, Norway

MO-293-46  Why hybridise? Pitfalls and potential of integrating life cycle tools
Greg Peters 1,2, Yumi Kobayashi 3, Nicholas Ashbolt 4, Stuart Khan 2

1Chalmers University of Technology, Sweden 2University of New South Wales, Australia 3Universidade Federal do Espírito Santo, Brazil 4University of Alberta, Canada

MO-295-47  Social Hotspot analysis of a Boiler: pros and cons of the implementation.
Francesco Guarino 1, Marzia Traverso 2, Sonia Longo 1, Maurizio Cellura 1

1University of Palermo, Italy 2Italian Association Network of LCA, Italy

MO-335-48  Potentials and limitations of combined life cycle approaches and multi-dimensional assessment
SURJYA NARAYANA PATI

NICE, India

MO-361-49  Cherry picking in interdisciplinary policy assessment?
Tomas Ekvall

IVL Swedish Environmental Research Institute, Sweden

MO-393-50  A critical review of existing water accounting methodologies
Marlinde Knoope 1,2, Catherine Price 1, Christoph Balzer 1, Ernst Worrell 2

1Shell, United Kingdom 2Copernicus Institute of Sustainable Development, Utrecht University, the Netherlands

MO-412-51  Combination of material flow analysis and life cycle assessment for the evaluation of the plastics packaging waste management system in Austria.
Emile Van Eygen, David Laner, Johann Fellner

TU Wien, Austria
MO-413-52 Coupling the assessment of environmental performance and air quality in residential buildings in a decision making support tool
Alice Micolier 1,2, Philippe Loubet 1, Franck Taillandier 2, Guido Sonnemann 1

1CyVi, ISM, Université de Bordeaux, France 2GCE, I2M, Université de Bordeaux, France

MO-425-53 Early-stage LCA and EHS screening using in vivo zebrafish assays to assist green design: a case study of cellulose nanocrystal foam
Li Shen 1, Lianghui Tan 1, Steven Mandley 1, Willie Peijnenburg 2, Susanne Waaijers 3, Danniel Giesen 3, Jessica Legradi 4

1Utrecht University, Netherlands, The 2National Institute of Public Health and the Environment, Netherlands, The 3Deltares, Netherlands, The 4Vrije Universiteit Amsterdam, Netherlands, The

MO-532-54 Hotspots Analysis for Promoting Circular Economy
Yasushi Kondo 1, Koichi Tachio 2

1Waseda University, Japan 2Japan Environmental Sanitation Center, Japan

MO-537-55 RELCA: a ReGional Life Cycle inventory Approach for biobased networks
Sinèad O’Keeffe 1, Alberto Bezama 1, Daniela Thrän 1,2

1Helmholtz Centre for Environmental Research (UFZ), Department of Bioenergy, Permoserstraße 15, 04318 Leipzig, Germany 2Deutsches Biomasseforschungszentrum (DBFZ), Bioenergy Systems Department, Torgauer Straße 116, 04347 Leipzig, Germany

MO-544-56 Application of absolute consumption and consumer satisfaction as a unit of measurement in eco-efficiency: a case with book reading activity
Eri Amasawa, Tomohiko Ihara, Keisuke Hanaki

The University of Tokyo, Japan

MO-558-57 Multi-dimensional assessment perspectives for sustainable development: A case study of sericulture
Jitti Mungkalasiri, Ruthairat Wisansuwannakorn, Nongnuch Poolsawad

MTEC, National Science and Technology Development Agency, Thailand
MO-586-58 Evaluation of Product Impacts on Biodiversity in the context of sustainable production: The Product Biodiversity Footprint project
Caroline Catalan, Suzanne Rabaud, Hugo Anest, Benjamin Lévêque, Guillaume Neveux
I Care & Consult, France

MO-596-59 Towards better life cycle approaches through combined use of system-based methodologies: a case study of interrelationships among environmental sustainability, food systems and diet
Tianchu Lu, Anthony Halog
The University of Queensland, Australia

MO-613-60 SUPPLY RISK ASSESSMENT AND MATERIAL SYSTEM ANALYSIS APPROACHES TO INTEGRATE THE CRITICALITY ISSUE IN PRODUCT LIFE CYCLE ASSESSMENT
Augustin Chanoine, Mariane Planchon, Olivier Jan
Deloitte, France
Environmental assessment of energy related products and energy systems across their life cycle

CHAIRS: Nieves Espinosa - Universidad Politecnica de Cartagena
Anders Arvesen - Norwegian University of Science and Technology

Tobias Steinegger, René Itten, Matthias Stucki
Zurich University of Applied Sciences, Institute of Natural Resource Sciences, Switzerland

MO-195-62 Life Cycle Assessment in Early Stages of Technology Development. A Case for Rural Electrification
Ana Paulina Gual Rojas ¹, Kas Hemmes ², Valentina Prado ¹
¹Leiden University, Netherlands, The ²Delft University of Technology

MO-205-63 Managing choices of energyware by monetized impacts and resource values.
Bengt Steen
Chalmers University of Technology, Sweden

MO-207-64 High Efficient 3rd Generation Multi-Junction Solar Cells Using Silicon Heterojunction and Perovskite Technology: Life Cycle Based Environmental Impacts
René Itten, Matthias Stucki
Zurich University of Applied Sciences, Institute of Natural Resource Sciences, Wädenswil, Switzerland

MO-218-65 VARIOUS ASPECTS OF MANAGEMENT OF PHOTOVOLTAIC POWER PLANT COMPONENTS
Izabela Piasecka ¹, Zbigniew Klos ²
¹University of Science and Technology in Bydgoszcz, Poland ²Poznan University of Technology, Poland

MO-221-66 POSTER SPOTLIGHT - A Dream comes true - Use of CO2 for the production of plastics
Birgit Himmelreich
Covestro Deutschland AG, Germany
MO-229-67  Evaluation of benefits and ecological expenditures in wind power plant life cycle  
Józef Flizikowski, Andrzej Tomporowski, Robert Kasner, Weronika Kruszelnicka  
University of Science and Technology in Bydgoszcz, Poland  

MO-250-68  POSTER SPOTLIGHT - Is it useful to improve modeling of usage scenario to improve the environmental footprint of energy consumption product?  
Charlotte Heslouin, Lionel Pourcheresse, André Stumpf, Véronique Perrot Bernardet, Alain Cornier, Nicolas Perry  
1 Carrier Transicold Industries, 810 Route de Paris, FR-76520 Franqueville Saint Pierre  
2 Arts et Métiers Paristech - Institut de Chambéry, Savoie Technolac, BP 50295, F-73375 Le Bourget du Lac, Fr  
3 Arts et Métiers ParisTech, I2M, UMR 5295, F-33400 Talence, Fr  

MO-269-69  Comparative assessment of the environmental impacts of innovative technical solutions intended to optimise the offshore wind farm lifecycle  
Camilla Thomson, Maria del Mar Pintor Escobar, Carlo Paulotto, Gareth Harrison  
1 University of Edinburgh, United Kingdom  
2 Acciona Infraestructuras S. A., Spain  

MO-391-70  Robust Model for Building Thermal Insulation Planning Based on Life Cycle Assessment  
Menghua Sun, Alvin Wei Liang Ee, Harn Wei Kua, Tsan Sheng, Adam Ng, William Benjamin Haskell  
National University of Singapore, Singapore  

MO-400-71  ENVIRONMENTAL IMPACTS OF BIOMASS-TO-ENERGY CONVERSION TECHNOLOGIES: GRATE BOILERS AND FLUIDIZED BED BOILERS  
Tamiris Pacheco Costa, Paula Quinteiro, Luis Tarelho, Luís Arroja, Ana Cláudia Dias  
University of Aveiro, Portugal  

MO-405-72  Life Cycle Assessment of flexible printed batteries for innovative power applications  
Carme Hidalgo, Ariadna Claret, Marta Escamilla, Maria Rosa Riera  
LEITAT, Spain
MO-431-73  CONSEQUENTIAL LCA APPROACHES APPLIED TO SECOND GENERATION BIOMETHANE
Camille Jeandaux, Anne Prieur-Vernat
ENGIE, France

MO-459-74  Reducing industrial emissions: a technology-driven assessment model on the example of the Chinese cement sector
Katrin Mueller ¹, Florian Ansgar Jaeger ¹, Alexander Cremer ², Zhou Zheng ³, Xu Hua ³

¹Siemens AG, Germany ²Technical University of Berlin, Germany ³Siemens Ltd, China

MO-469-75  Environmental impact and social influence of an European underground research infrastructure related to Advanced Adiabatic Compressed Air Energy Storage (AA-CAES): RICAS2020 PROJECT.
Ariadna Claret, Maria Rosa Riera, Gertri Ferrer, Marta Escamilla

LEITAT Technological Center

MO-514-76  POSTER SPOTLIGHT - Design accompanying Life Cycle Assessment for the development of new energy-efficient window concepts
Almut Schmidt ¹, Lingqi Su ², Mathias Fraaß ², Lothar Wondraczek ³

¹EurA AG, Germany ²Beuth University of Applied Sciences, Germany ³Friedrich Schiller University Jena, Germany

MO-523-77  Exploring future scenarios of ethanol demand in Brazil and their land-use implications
Milton Aurelio Uba de Andrade Junior, Anthony Halog

The University of Queensland

MO-560-78  life-cycle greenhouse gas emissions and cost of an emerging CO2-mineralisation technology
Wenjie Liao

Sichuan University, China, People's Republic of
MO-566-79  **POSTER SPOTLIGHT - Consequential life cycle assessment of an organic photovoltaic portable solar charger applied in the context of European electricity mixes**

Steffi Weyand 1, Edis Glogic 2,3, Guido Sonnemann 2, Liselotte Schebek 1, Steven B Young 3

1Technische Universität Darmstadt, Germany 2University Bordeaux, France 3University of Waterloo, Ontario, Canada

MO-567-80  **POSTER SPOTLIGHT - Geographical resolution of LCI data on electricity production – the level of detail needed**

Tereza Lévová, Lucia Valsasina
ecoinvent Centre, Switzerland

MO-575-81  **Environmental assessment of bioenergy on the example of pilot projects using solid biomass**

Silvia Scherhauser 1, Gudrun Obersteiner 1, Yannis Fallas 2, Pol Arranz-Piera 3, Göran Gustavsson 4, Uwe Kies 5

1University of Natural Resources and Life Sciences, BOKU Vienna, Austria 2Cluster of Bioenergy and Environment of Western Macedonia, Kozani, Greece 3Universitat Politècnica de Catalunya, Barcelona, Spain 4Energikontor Sydost, Sweden 5Wald-Zentrum / International Institute of Forestry and Wood Industries e.V., Münster, Germany

MO-580-82  **Wind Shields: Wind Farms Reduce Growth Stress for Vegetation in Steppe Areas**

Pia Wiche

Ecoe, Chile

MO-582-83  **Carbon capture and storage (CCS) in a life cycle perspective based on a new damage-based LCA weighting method**

FREDRIK MOLTU JOHNSEN 1, SØREN LØKKE 2

1Østfoldforskning AS, Norway 2The Danish Centre for Environmental Assessment, Aalborg University, Denmark

MO-587-84  **Environmental impacts of electricity self-consumption in residential buildings: Case study of organic photovoltaic battery systems in Denmark**

Marios D. Chatzisideris 1, Alexis Laurent 2, Michael Z. Hauschild 2, Frederik C. Krebs 1

1Department of Energy Conversion and Storage, DTU Technical University of Denmark, Denmark 2Department of Management Engineering, DTU Technical University of Denmark, Denmark
Management of construction waste: LCA and complex system modeling

CHAIRS: Anne Ventura - Université de Nantes
        Maxime Trocmé - Vinci

MO-192-85 Can LCA tool alone conduct environmental performances of circular economy in construction sector? A case study of cement concrete demolition waste management
Marjan Mousavi 1, Anne Ventura 2, Nicolas Antheaume 3

1Université de Nantes, Research Institute in Civil Engineering and Mechanics, Chair civil engineering and eco-construction, IUT Saint-Nazaire, France
2Université de Nantes, Research Institute in Civil Engineering and Mechanics, Chair civil engineering and eco-construction, IUT Saint-Nazaire, France
3University of Nantes

MO-280-86 Modeling end-of-life pathways of construction and demolition debris in the United States
Briana Niblick 1, Wesley W. Ingwersen 1, Pradeep Jain 2, Justin L. Smith 2, Timothy G. Townsend 3, Ashley Edelen 3, David E. Meyer 1

1Office of Research and Development, National Risk Management Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, USA
2Innovative Waste Consulting Services LLC, Gainesville, Florida 32605, USA
3Oak Ridge Institute for Science and Education (ORISE), Cincinnati, Ohio 45268, USA

MO-385-87 Towards a tool to account for local specificities of raw materials and waste flows in the LCA of buildings, in order to support the circular economy in the construction sector
Nicoleta SCHIOPU 1, Antoine BEYLOT 2, Adélaïde MAILHAC 1, Pascale MICHEL 2, Manuel BAZZANA 1, Sébastien COLIN 2, Daniel MONFORT CLIMENT 2, Romain BONNET 3, Nathalie SEMENT 4, Anne – Sophie PERRISSIN FABERT 4

1Université Paris-Est, Centre Scientifique et Technique du Bâtiment (CSTB), France
2BRGM, France
3Bouygues Construction, France
4Association HQE France GBC, France

MO-525-88 LCM of construction waste towards circular economy of buildings: VALDEM project
Aubin ROY 1, Naem ADIBI 1, Vanessa PASQUET 1, Sylvie GROSLAMBERT 2, Angélique LEONARD 2

1Plateforme [avniR] by cd2e, (Rue de Bourgogne - Base 11/19 - 62750 Loos-en-Gohelle, France).
2University of Liège, Chemical Engineering – PEPs (Agora - Bat B6 - Sart Tilman - 4000 Liege – Belgium).
MO-564-89  Combining social, environmental and economic analysis to stimulate high-grade recycling of Construction & Demolition Waste
Andrea Di Maria, Johan Eyckmans, Karel Van Acker
KU Leuven, Belgium

MO-597-90  Carbonation: its implication on global warming potentials of cement
Xun Liao
EPFL Switzerland
Posters

TUESDAY, SEPTEMBER 5
09.00 am – 05.30 pm

LOCATION: POSTER AREA,
CONFERENCE MAIN HALL
Implementation and management of life cycle approaches in business – Challenges, opportunities, business learnings and best practice

CHAIRS: Lena Landström - Vattenfall and Swedish Life Cycle Center
Sara Palander - Swedish Life Cycle Center/Chalmers University of Technology

TU-206-1 From B2B communication to B2B value-adding engagement and partnerships for sustainability in the wind power sector
Jonas Pagh Jensen ¹, Kristen Skelton ¹, Gwényth Jones ², Sam Levine ², Sion Burnette ³, Stephen P. Williams ²

¹Aalborg University, Denmark & Siemens Wind Power, Denmark ²Bard College, New York, United States

TU-219-2 Lessons learnt from benchmarking Irish dairy processing with LCA
Mingjia Yan

University College Dublin, Ireland

TU-233-3 The development of a company level carbon footprint tool in Norway
Hogne Nersund Larsen, Christian Solli

Asplan Viak AS, Norway

TU-334-4 Data Uncertainty and Challenges in the Landscape of EU Waste and Recycling Reporting
Clayton Burger, Alexandra Pehlken, Andreas Solsbach

University of Oldenburg, Germany

TU-342-5 Defining and communicating regional carbon neutral policy targets
Maartje Sevenster ¹, Bruce Edgerton ²

¹Sevenster Environmental, Australia ²Australian Capital Territory Government, Waste Policy

TU-381-6 The EU minerals industry, an example of integrated innovation and along the entire value chain
Olivier Muller ¹, David Moseley ², Aurela Shtiza ³, Christian Binder ⁴, Michael Morris ², Robert Pardemann ⁴

¹PwC, France ²Imerys ³IMA Europe ⁴Outotec
TU-449-7  Methodologies, tools and indicators for cross-sectorial sustainability assessment in process industry – recommendations  
Tiina Pajula 1, Amy Peace 2, Dana Kralisch 3  
1VTT Technical Research Centre of Finland Ltd, Finland 2Britest Ltd, England 3Friedrich-Schiller-University Jena, Germany

TU-462-8  A sectoral approach to integrating Environmental Management with Life Cycle Thinking  
Lee Brankley 1, Ayhan Tugrul 3, Jane Anderson 2, David Knight 3  
1CARES, United Kingdom 2Thinkstep, United Kingdom 3One Planet, United Kingdom

TU-472-9  Measuring companies' readiness for Circular Economy: a self-assessment online tool  
Daniela C. A. Pigosso, Tim C. McAloone  
Technical University of Denmark, Denmark

TU-517-10  Carbon footprint as a first step towards LCA usage  
Wladimir Motta  
IBICT, Brazil

TU-520-11  Implementation of LCM along the value chain  
Fritz Balkau, Guido Sonnemann  
individual, France

TU-527-12  REFLECTION ON LCM IMPLEMENTATION IN SMES: RESULTS OF LIFE CYCLE IN PRACTICE (LCIP) PROJECT  
Aubin ROY 1, Vanessa PASQUET 1, Naeem ADIBI 1, Alice SALAMON 1, Crisina ROCHA 2, Jorge ALEXENDRE 2, Isabel GONZALES 2, Pierre ECHARD 3, Séverinne COPPEE 3, Eugenia ATIN 4, Raquel SERRANO 4  

TU-528-13  Can environmental labeling contribute to the effective use of LCA?  
Wladimir Motta  
IBICT, Brazil
TU-594-14  Engagement of sectoral organizations through Life Cycle Thinking: Success studies cases
Juliana Maria da Silva, Marcela Porto Costa
Fundação Espaço ECO/ BASF S.A, Brazil

TU-604-15  LCA as the tool to measure progress towards the Sustainable Development Goals
Mark Jacob Goedkoop, Elsa Valencia Martinez, Ilonka de Beer
PRé Consultants B.V., Netherlands, The

TU-615-16  Implementing LCM all along the supply chain: from compliance to collaborative value creation
Aubin ROY 1, Naeem ADIBI 1, Vanessa PASQUET 1, Stéphane MOREL 2

Raw materials supply chains in the light of the circular economy

CHAIRS:  Jo Dewulf - Ghent University
        Johannes Drielsma - EUROMINES

TU-158-17  Circular economy: Recycling glass fibre reinforced composites (GRP) according to EN 15804 Module D (End-of-Life) through applied LCA scenarios
        Victor Vladimirov
        HOBAS Pipes International, Austria and Technical University for Civil Engineering Doctoral School, Bucharest

TU-183-18  Circular supplies fueling wine sector
        Pedro Villanueva-Rey ¹,², Paula Quinteiro ², Luis Arroja ², Ana Cláudia Dias ²
        ¹University of Santiago de Compostela, Spain ²University of Aveiro, Portugal

TU-216-19  Assessing selected metals flows in France and their recycling potential
        Amelie THEVENOT ¹, Philippe LOUBET ², Guido SONNEMANN ¹, Jacques VILLENEUVE ³
        ¹University of Bordeaux, France ²ENSCBP Bordeaux INP, France ³French Geological Survey, France

TU-223-20  Carbon cycles in urban vertical farming from a circular economy approach
        Pere Llorach-Massana ¹,², Javier Peña ², Joan Rieradevall ¹, J.Ignacio Montero ³,¹
        ¹Sostenipra Research Group (SGR 01412), Institute of Environmental Sciences and Technology (ICTA), Z Building, Universitat Autònoma de Barcelona (UAB), Campus UAB, 08193 Bellaterra, Barcelona, Spain ²ELISAVA Barcelona School of Design and Engineering. La Rambla 30-32. 08002 Barcelona, Spain ³Institute of Food and Agricultural Research (IRTA), Carretera de Cabrils, km 2, 08348 Barcelona, Spain

TU-247-21  Raw material potential for biopolymers in Europe
        Andrea Thorenz, Lars Wietschel, Axel Tuma
        University Augsburg, Germany
TU-283-22  Industrial by-products and the circular economy: Optimising emerging technologies for valorisation of bauxite residue using LCA
Peter James Joyce 1, Tobias Hertel 2, Yiannis Pontikes 2, Anna Björklund 1

1KTH, Sweden 2KU Leuven, Belgium

TU-288-23  The Development of a Material Circularity Indicator software tool
Luca Petruccelli 1, Conny Bakker 2, Claes Fredriksson 1, Wendela Huisman 2

1Granta Design, United Kingdom 2Delft University of Technology, Netherlands

TU-298-24  Circularity through industrial symbiosis: Drivers, obstacles and effects of introducing secondary raw materials in construction products
Lisa Bolin 1, Ozge Yilmaz 2, Rickard Fornell 1, Emma Rex 1

1SP Technical Research Institute of Sweden 2Ekodenge AŞ, Turkey

TU-313-25  Integrated method to assess resource use in the context of sustainable development (ESSENZ +)
Vanessa Bach 1, Martin Henßler 2, Markus Berger 1, Klaus Ruhland 2, Laura Schneider 1, Matthias Finkbeiner 1

1Technische Universität Berlin, Chair of Sustainable Engineering, Germany 2Daimler AG, Group Environmental Protection, Stuttgart 70546, Germany

TU-328-26  Ecolonomy, Econology or The genesis of a massive weapon of construction
RAPHAEL PETIT

ECS-3.COM, Ukraine

TU-340-27  BLUBOX: Integrated Plant for Mixed Lamp and Flat Screen Recycling
Guilhem Grimaud 1,2, Andreas Krebs 3, Nicolas Perry 2, Bertrand Laratte 2,4

1MTB Recycling, France 2Arts & Métiers ParisTech, I2M, UMR 5295, Talence, France 3BLUBOX Trading AG, 5708 Birwil, Switzerland 4APESA, 23 Rue Hélène Boucher, 40220 Tarnos

TU-346-28  GLOBAL RESOURCE INDICATOR FOR LIFE CYCLE IMPACT ASSESSMENT: APPLIED IN WIND TURBINE CASE STUDY
Naeem ADIBI 1,2, Zoubeir LAFHAJ 2, Jerome PAYET 3,4

1[avniR] - cd2e, France 2Ecole Centrale de Lille, France 3Ecole Polytechnique Fédérale de Lausanne, Switzerland 4Cycleco, France
TU-379-29  Supporting the transition towards a more circular economy: opportunities in the built environment
Elisabeth Keijzer ¹, Jacco Verstraeten-Jochemsen ¹, Vigil Yangjinqi Yu ¹², Peter Kuindersma ¹, Sanne van Leeuwen ¹, Suzanne de Vos-Effting ²

¹TNO, The Netherlands ²Ellen MacArthur Foundation, United Kingdom

TU-411-30  Life-cycle based data management tools for sustainable aggregates planning
Silvia Bobba ¹, Valbusa Michele ², Alessandro Moltrer ², Gian Andrea Blengini ¹³, Erwin M. Shau ³

¹Politecnico di Torino, Italy ²Provincia Autonoma di Trento ³Joint Research Centre, European Commission

TU-435-31  Life cycle management for cobalt in the context of the circular economy
Jonna Meyhoff Fry ¹, Carol-lynne M. Pettit ², Simon Aumonier ¹

¹Environmental Resources Management, United Kingdom ²Cobalt Development Institute, United Kingdom

TU-452-32  Identification and Assessment of Second Life Applications of Permanent Magnets from Wind Power Plants
Dennis Goldner, Anika Regett
Forschungsstelle für Energiewirtschaft e.V., Germany

TU-506-33  Circular Economy and LCA Allocation methods: The Case Study of Plastics Recycling in Brazil.
Marina Santa Rosa Rocha, Rafael Freitas Funcia Lemme, Anna Bernstad Saraiva Schott, Alba Cánovas Creus, Rogerio de Aragão Bastos do Valle
Universidade Federal do Rio de Janeiro

TU-535-34  Towards an improved life-cycle modelling method for recycling: A case study on steel making
Zhilan Jiang ¹², Hongtao Wang ¹, Wenjie Liao ¹

¹Sichuan University, China, People’s Republic of ²IKE Environmental Technology Co., Ltd

TU-550-35  Characterizing global supply chains for responsible management of four metals
Steven Young
University of Waterloo, Canada
TU-584-36  Redesign of manufacturing processes by LCA - case of DMSO solvent recovery
Klara Szita Tóthné ¹, Anett Zajáros ², Károly Matolcsy ², Daniel Horváth ³

¹retired, Hungary ²ÉMI Nonprofit Ltd ³S-Metalltech Ltd.

TU-593-37  Consequential LCA as a tool for a sustainability assessment in an industrial context – A case study on the recycling of rare earth elements from fluorescent lamps
Dieuwertje Schrijvers ¹², Philippe Loubet ²³, Guido Sonnemann ¹²

¹University of Bordeaux, ISM, UMR 5255, France ²CNRS, ISM, UMR 5255, France ³Bordeaux INP - ENSCBP, ISM, UMR 5255, 33607 Pessac, France

TU-625-38  Copper’s critical role in the Circular Economy: Current and future contributions
Andrea J Vaccari ¹, Ladji Tikana ², Géraud Servin ³

¹International Copper Association, Ltd, United States of America ²Deutsches Kupferinstitut Berufsverband e.V., Germany ³International Copper Association c/o European Copper Institute, Belgium
LCM and Circular Economy Challenges for the textile sector

CHAIRS:  Keith James - WRAP
Julian Lings - The North Face

TU-227-39  Environmental analysis of the best available finishing products to provide water, oil and dirt repellency in the textile sector. A Life Cycle Assessment approach.
Julio Fierro, Cristina Martínez
Centro Tecnológico de Investigación Multisectorial (CETIM), Spain

Praganesh Shah¹, Abhishek Bansal¹, Rajesh Singh²
¹Arvind Limited ²thinkstep Sustainability Solutions Pvt. Ltd., India

TU-591-41  Flax clothes study: Definition of the use tipping point using LCA
Romain Benkirane¹,², Sébastien Thomassey¹,², Ludovic Koehl¹,², Anne Perwuelz¹,²
¹ENSAIT, France ²Université Lille, France
Sustainability of bio-based products: linking Life Cycle Thinking with standards, certification and labelling schemes

CHAIRS: Mauro Cordella - European Commission, JRC-IPTS
Oliver Wolf - European Commission

TU-487-42 POSTER SPOTLIGHT - Sustainability assessment of the Portuguese forest sector
Ana Dias ¹, Paula Quinteiro ¹, Tamíris Costa ¹, Luis Arroja ¹, Érica Castanheira ², Rita Garcia ², Pedro Marques ², João Malça ², Fausto Freire ²

¹Centre for Environmental and Marine Studies (CESAM) & Department of Environment and Planning, University of Aveiro, 3810-193 Aveiro, Portugal
²ADAI-LAETA, Department of Mechanical Engineering, University of Coimbra, Polo II Campus, Rua Luís Reis Santos, 3030-788 Coimbra, Portugal
Using LCM to create shared value through healthcare and pharmaceutical supply chains

CHAIRS:  
Wouter De Soete - Ghent University  
Keith Moore - Coalition for Sustainable Pharmaceuticals and Medical Devices

TU-209-43  Life cycle assessment of core-shell iron oxide nanoparticles for diagnostics  
Peter Weyell 1, Franziska Böhm 1, Christian Bergemann 2, Cordula Grütter 3, Heinz-Dieter Kurland 4, Frank Müller 4, Dana Kralisch 1

1Friedrich-Schiller-University, Department of Pharmaceutical Technology, Lessingstrasse 8, 07743 Jena, Germany  
2chemicell GmbH, Eresburgstrasse 22-23, 12103 Berlin, Germany  
3micromod Partikeltechnologie GmbH, Friedrich-Barnewitz-Strasse 4, 18119 Rostock, Germany  
4Friedrich-Schiller-University Jena, Otto Schott Institute of Materials Research (OSIM), Löbdergraben 32, 07743 Jena, Germany

TU-432-44  LCM as a tool to calculate the environmental performance of the intensification of pharmaceutical processes  
Carme Hidalgo, Marta Escamilla, Laia Puigmal, Maria Rosa Riera

LEITAT Technological Center, Spain

TU-627-45  The Centre of Excellence in Sustainable Pharmaceutical Engineering (CESPE) and its Role in Healthcare and Pharmaceutical Value Chains  
Wouter De Soete, Thomas De Beer, Jo Dewulf

Ghent University, Belgium

TU-628-46  Life Cycle Innovation within Resource Efficient Value Chains: the Sustainability Support and Information Centre (SSIC)  
Wouter De Soete

Ghent University, Belgium
Best practices for Sustainable Design: integrating LCM into the innovation processes

CHAIRS: Daniela C. A. Pigosso - Technical University of Denmark
Tammy Ayers - Steelcase

TU-160-47 Life cycle assessment of new construction materials based on geopolymers obtained from industrial waste
Rocio Pena 1, Paula Villar 1, Lorena Freire 1, M. Aguirre 2, Alejandro Souto 3

1AIMEN, Spain 2OHL S.A 3FerroAtlántica S.A

TU-267-48 Circular economy and life cycle management – complementary systems
Lise Lyngfelt Molander, Margarida Gama

thinkstep

TU-274-49 Introducing eco-ideation and creativity techniques to extend the applications of cork in the building sector from an environmental approach
Jorge Sierra-Pérez 1,2, Jesús Boschmonart-Rives 1,3, Xavier Gabarrell 1,4

1Sostenipra (ICTA – IRTA - Inèdit Innovació SL) 2014 SGR 1412. Institute of Environmental Science and Technology (ICTA), Unidad de excelencia «María de Maeztu» (MDM-2015-0552), Universitat Autònoma de Barcelona (UAB), 08193 – Cerdanyola del Vallès (Bellaterra), Barcelona, Spain. 2Centro Universitario de la Defensa. Ctra. de Huesca s/n, 50.090, Zaragoza, Spain 3Inèdit Innovació, S.L. Parc de Recerca de la Universitat Autònoma de Barcelona (UAB), 08193 – Cerdanyola del Vallès (Bellaterra), Barcelona, Spain 4Department of Environmental, Biological and Chemical Engineering (XBR), Universitat Autònoma de Barcelona (UAB), 08193 – Cerdanyola del Vallès (Bellaterra), Barcelona, Spain

TU-366-50 A synthesis of optimization approaches for LCA-integrated industrial process modeling: application to potable water production plants
Florin Capitanescu, Antonino Marvuglia, Enrico Benetto

Luxembourg Institute of Science and Technology (LIST), Luxembourg
TU-375-51 To Transport Waste or Transport Recycling Plant: Insights from Life-Cycle Analysis
Guilhem Grimaud 1,2 , Nicolas Perry 2 , Bertrand Laratte 2,3

1MTB Recycling, Trept, France 2Arts & Métiers ParisTech, I2M, UMR 5295, Talence, France 3APESA, 23 Rue Hélène Boucher 40220 Tarnos

TU-377-52 Modular Smartphones: Design Strategies Driven by Life Cycle Assessment Evidence
Karsten Schischke 1 , Marina Proske 1 , Miquel Ballester Salvà 2 , Laura Gerritsen 2 , Nikolai Richter 1 , Nils F. Nissen 1 , Klaus-Dieter Lang 1,3 , Christian Clemm 3

1Fraunhofer IZM, Germany 2Fairphone B.V., The Netherlands 3Technische Universität Berlin, Germany

TU-439-53 Using an original eco-innovation methodology to integrate LCM into the innovation processes of new energy technologies R&D: OpenGreen®.
Elise MONNIER (NAVEAUX) (1), Hélène TEULON 2 , Quentin BEZIER 2

1CEA Tech, Laboratory of Innovation for new Technologies for Energy and Nanomaterials (LITEN), Grenoble, France 2Gingko 21 - 1, rue Konrad Adenauer 91300 Massy Palaiseau, France, +33 (0)9 86 29 15 05

TU-474-54 Best practices for Sustainable Design: integrating LCM into the innovation processes
SURJYA NARAYANA PATI

NICE, India

TU-480-55 Innovation through design of more sustainable systems: eco-innovations arising from LCA
Wladmir Motta

IBICT, Brazil

TU-571-56 Plastic End-of-Life: Managing material choice without another impact category indicator
Takunda Yeukai Chitaka, Clare Rodseth, Harro von Blottnitz

Chemical Engineering Department, University of Cape Town, South Africa
TU-602-57  THE DESIGN OF A BIOBASED INSULATING MATERIAL FOR CONSTRUCTION IN CHILE
Mabel Vega 1, Claudia Muñoz 2,3, Ariel Bobadilla 2,3

1Department of Chemical Engineering, University of Concepcion, Chile
2Department of Construction Sciences, University of Biobío, Chile
3Research Centre of Construction Sciences, University of Biobío, Chile

TU-630-58  Integrated innovation and sustainability analysis of disinfection technologies. Integration of market and environmental perspectives.
Philipp Preiss

Institute for Industrial Ecology (INEC), Hochschule Pforzheim, Germany

TU-634-59  Integrating LCA in a modelling framework for Ecodesign of bio-chemical-processes
Ligia Barna, Aras Ahmadi

INSA Toulouse, France
Bio-based materials within the circular economy: opportunities and challenges?

CHAIRS: Birgit Brunklaus - RISE Research Institutes of Sweden
Ellen Riise - SCA (Swedish Cellulose Company)

TU-166-60 Framework for the assessment of renewable raw materials
Michal Kulak, Sarah Sim, Carina Mueller, Giles Rigarlsford, Lau Tambjerg, Tirma Garcia-Suarez, Edward Price, Philip McKeown, Henry King
Unilever, United Kingdom

TU-256-61 Estimating the emission mitigation potential of using wood as building construction material: a case study comparing Germany and Indonesia
Rio Aryapratama, Stefan Pauliuk
Industrial Ecology Research Group, Faculty of Environment and Natural Resources, University of Freiburg, Germany

TU-497-62 Supply Chain Life Cycle Management of Bio-based PE
Yuki Hamilton Onda Kabe, Luiz Gustavo Ortega
Braskem, Brazil

TU-534-63 One model for all approaches – Integrated Life Cycle Sustainability Assessment within the early design phase of 2nd generation bio-refinery for downstream production of bio-plastics
Michael Bruns, Marten Stock, Mieke Klein, Andreas Genest
ifu hamburg, Germany

TU-547-64 Environmental assessment of fiberboards made from coconut residues
Ana Lucia Feitosa Freire 1, Celso Pires Araújo Júnior 2, Morsyleide Freitas Rosa 3, José Adolfo Almeida Neto 4, Maria Cléa Brito Figueirêdo 5

1Federal Institute of Education, Science and Technology of Ceará, Brazil
2Federal University of Ceará, Brazil
3Embrapa Tropical Agroindustry, Brazil
4State University of Santa Cruz, Brazil
5Embrapa Tropical Agroindustry, Brazil
Improving interpretation, presentation and visualisation of LCA studies for decision making support

CHAIRS:  Serenella Sala - European Commission - Joint research centre
         Jessica Andreasson - Volvo Car Corporation

TU-174-65  Decision in LCA: a new approach introducing economic actors and sensitivity analysis
Anne Ventura

Research Institute in Civil Engineering and Mechanics (GeM) UMR 6183, UBL (Université Bretagne Loire), Université de Nantes, Chair in civil engineering and eco-construction

Anahí Patricia Grosse-Sommer, Thomas H Gruenenwald, Nicola S Paczkowski, Peter R Saling, Richard N van Gelder

BASF SE, Germany

TU-253-67  Gamification in LCA: A test case for an agricultural application.
Markus Frank 1, Torsten Rehl 2, Sebastian Schulze 2, Andreas Durst 2, Richard van Gelder 1

1BASF SE, Germany 2RIFCON GmbH, Germany

TU-254-68  Target group oriented and goal dependent impact assessment and interpretation in LCA: The example of the agri-food sector
Thomas Jan Nemecek, Andreas Roesch, Maria Bystricky, Gérard Gaillard

Agroscope, Switzerland

TU-257-69  Addressing the green water scarcity footprint of eucalypt production in Portugal
Paula Sofia Quinteiro 1, Sandra Rafael 1, Pedro Villanueva-Rey 2, Myriam Lopes 1, Luís Arroja 1, Ana Cláudia Dias 1

1University of Aveiro, Portugal 2University of Santiago de Compostela, Spain

TU-272-70  Arctic life cycle impact assessment – gaps in high north LCA
Johan Berg Pettersen, Xingqiang Song

UiT - The Arctic University of Norway, Norway
TU-353-71  Interpreting and communicating LCA results in models with high variability and uncertainty – the wider impact of the AQUAVALENS project
Carmen M Torres-Costa, Francesc Castells, Maria José Figueras

Universitat Rovira i Virgili, Spain

TU-421-72  Assessment of biodiversity in LCA – a novel approach to an elusive impact category
Torsten Rehl 1, Sebastian Schulze 1, Andreas Durst 1, Richard van Gelder 2, Markus Frank 2, Anita Hallmann 3

1Rifcon GmbH, Germany 2BASF SE, Germany 3thinkstep AG, Germany

TU-427-73  Automation of Life Cycle Assessment by combining energy management data and material information on the example of the automotive industry
Andreas Schiffleitner 1, Martina Prox 2, Jan Hedemann 2

1iPoint-Austria GmbH, Austria 2ifu Hamburg GmbH, Germany

TU-446-74  From scientific knowledge to business practice: how to bridge the LCA reporting strategy gap?
Monia Niero, Alexandra Bonou, Stig I Olsen

Technical University of Denmark, Denmark

TU-489-75  Credible LCA Communications: the yellow brick road to building budget and buy-in
Carole Dubois, Lori Gustavus, Sarah Mandlebaum, Natalia Stepanova

Quantis

TU-496-76  A Social Life Cycle Metrics guideline for Chemical Products
Olivier Muller 1, Andrea Brown 2, Jacobine das Gupta 3, Pierre Coers 4, Juliette Lefebure 1

1PwC, France 2WBCSD 3DSM 4Solvay

TU-498-77  What LCA Information to Communicate to Decision Makers?
Yuki Hamilton Onda Kabe, Luiz Gustavo Ortega, Kajiura Gustavo

Braskem, Brazil
TU-509-78  **Early phase design tool for non-LCA experts: a case study of integrating environmental assessment in the development of novel processing technology in food industry**  
**Christoffer Krewer, Jennifer Davis, Anna Woodhouse, Karin Östergren, Emma Holtz**  
*RISE Research Institutes of Sweden, Sweden*

TU-510-79  **Tools and its key elements for presenting results of LCA studies for Civil Society**  
**Julia Paglerani Monteiro de Andrade, Marcela Porto Costa, Rafael Selvaggio Viñas, Juliana Maria da Silva**  
*Fundação Espaço ECO/ BASF S.A, Brazil*

TU-533-80  **Using Life Cycle Knowledge to Inform and Inspire Action**  
**Sanjeevan Bajaj, Archana Datta**  
*FICCI, India*

TU-539-81  **Tailoring LCA results in monetary terms for decision support**  
**Tomas Ekvall¹, Lisbeth Dahllöf¹, Klas Hallberg², Rebecka Hallén Jorquera³, Maria Lindblad¹, Eileen Riise⁴, Mia Romare¹, Bengt Steen⁵**  
¹IVL Swedish Environmental Research Institute, Sweden ²AkzoNobel ³Swedish Life Cycle Center, Chalmers University of Technology ⁴SCA ⁵Chalmers University of Technology

TU-583-82  **Datavisualization: Bringing right information for right decision**  
**Florent Blondin**  
*Environmental Picture, France*
Sustainable Design of Complex Systems, Products and Services with Users integration into design

CHAIRS: Nicolas Perry - ENSAM - I2M  
        Julien Garcia - Groupe PSA

TU-162-83 Sustainability requirements in product design: sources and inclusion.  
Zbigniew Kłos, Koper Krzysztof  

Poznan University of Technology, Poland

TU-196-84 Life Cycle Assessment in Early Stages of Technology Development. A Case for Rural Electrification  
Ana Paulina Gual Rojas 1, Kas Hemmes 2, Valentina Prado 1

1Leiden University, Netherlands, The 2Delft University of Technology

TU-200-85 Flexible LCA for flexible packaging – this semi-automated tool is paving the way to efficient, accurate and flexible LCA calculation  
Thomas Greigeritsch 1, Therese Daxner 2

1Constantia Flexibles International GmbH 2Daxner & Merl GmbH

TU-246-86 Integration of environmental performance of usage in all the value chain of product.  
Charlotte Heslouin 1,2,3, Lionel Pourcheresse 1, André Stumpf 1, Véronique Perrot Bernardet 2, Alain Cornier 2, Nicolas Perry 3

1Carrier Transicold Industries, 810 Route de Paris, FR-76520 Franqueville Saint Pierre 2Arts et Métiers Paristech - Institut de Chambéry, Savoie Technolac, BP 50295, F-73375 Le Bourget du Lac, Fr 3Arts et Métiers ParisTech, I2M, UMR 5295, F-33400 Talence, Fr

Sergio Andres Brambila Macias 1, Lisbeth Dahllöf 1,2,3, Karin Eriksson 3, Tomohiko Sakao 1

1Linköping University, Sweden 2IVL Swedish Environmental Research Institute 3Volvo Group Trucks Technology
TU-323-88  Comparison of attributional and consequential life cycle assessment applied to urban projects
Bruno Peuportier 1, Charlotte Roux 1, Natalia Kotelnikova 2, Fabien Leurent 2

1ARMINES, France 2Ecole des Ponts ParisTech

TU-333-89  A framework for environmental life-cycle screening
Christine Roxanne Hung 1, Linda Ager-Wick Ellingsen 1, Guillaume Majeau-Bettez 1,2, Anders Hammer Strømman 1

1Norwegian University of Science and Technology (NTNU), Norway 2CIRAIG, École Polytechnique de Montréal, Canada

TU-339-90  The Integration of Life Cycle Assessment and Product Life Cycle Management – the next step in sustainable product design?
Johannes Auer 1,2, Michael Betz 3, Harald Florin 3

1Siemens AG, Process Industries and Drives Division, 90475 Nuremberg, Germany 2Department of Management Engineering, Technical University of Denmark, Kongens Lyngby, Denmark 3Material Compliance Management, Business Development, thinkstep AG, Stuttgart, Germany

TU-341-91  Exploring the circularity of new product-service business models: the case of Tarkett
François Saunier 1, Manuele Margni 1, Sophie Bernard 2, Russel Bennett 3

1CIRAIG, Polytechnique Montréal, Canada 2Polytechnique Montréal, Canada 3Tarkett North America

TU-356-92  Considering space debris related impacts into the LCA framework
Maury Thibaut 1,2, Loubet Philippe 1, Ouziel Jonathan 2, Saint-Amand Maud 2, Sonnemann Guido 1

1The CyVi group, University of Bordeaux 2Airbus Safran Launchers, Design for Environment

TU-576-93  Barriers for implementation Eco-design process in sustainable manufacturing using design structure matrix: A case of Finnish pulp and paper industry
Shqipe Buzuku 1, Usama Awan 1, Andrzej Kraslawski 1,2

1Lappeneenranta University of Technology, Finland 2Lodz University of Technology, Poland
Sustainable fair trade: Unleashing consumer power with decentralised network technology
Bo Pedersen Weidema \(^1\), Manuel Klarmann \(^2\)

\(^1\)Aalborg University, Denmark \(^2\)Eaternity, Zurich, Switzerland
Improving the life cycle performance of chemical products and materials through data exchange along the value chain

CHAIRS: Guido Sonnemann - University of Bordeaux
Carmen Alvarado Ascencio - AkzoNobel

TU-152-95 Life cycle atom economy – a case of dimethyl sulfate production
Hsien H KHOO

Institute of Chemical and Engineering Sciences, Singapore

TU-153-96 Environmental analysis of β-Galactosidase enzyme production from a LCA approach
Sara Feijoo, Sara Gonzalez-Garcia, Juan Lema, Gumersindo Feijoo, Maria Teresa Moreira

University of Santiago de Compostela, Spain

TU-163-97 LCA applied to a new Glycerol Biorefinery approach to produce high quality products
Erasmo CADENA 1, Kathleen MEISEL 2, Pierre RIGAULT 1, Jose GUTIERREZ 1, Antonio BARONA 1

1 VERTECH GROUP, France 2 DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Germany

TU-165-98 Quantifying environmental impacts associated to sodium alginate extraction from seaweed
Pedro Villanueva-Rey 1, Paula Pérez-López 1,2, Stephen K Herbert 3, Gumersindo Feijoo 1, Maria Teresa Moreira 1

1Department of Chemical Engineering, Institute of Technology, University of Santiago de Compostela. 15782 - Santiago de Compostela, Spain 2 MINES ParisTech, PSL Research University, Centre Observation, Impacts, Energie (O.I.E.), France 3 Office of Basic Energy Sciences SC-22.1/Germantown Building, U.S. Department of Energy. 1000 Independence Avenue, SW, Washington, D.C (United States)

TU-252-99 Supplier Engagement in the Together for Sustainability Program from Life Cycle Thinking: BASF’s Experience in Brazil
Taísa Cecília de Lima Caires 1, Rodolfo Walder Viana 1, Adriano Maia Oliveira 2, Ana Ingrid Almanca 2

1 Espaço ECO Foundation, Brazil 2 BASF SA, Brazil
From sustainability assessments to value proposition. Case study: bio-based solvents for agrochemicals
Ivana Dencic, Ana Morao, Diana Visser
Corbion Purac, Netherlands, The

IMPROVEMENT THE LIFE CYCLE PERFORMANCE OF THE UREA THROUGH THE COATING IN A SPOUTED BED
Tamiris Pacheco Costa 1, Ana Cláudia Dias 1, Gabriela Silveira da Rosa 2
1University of Aveiro, Portugal 2Federal University of Pampa, Brazil

Traceability of sustainable materials and manufactured products
Andreas Ciroth 1, Jutta Hildenbrand 2, Christoffer Krewer 3
1GreenDelta, Germany 2Swerea IVF, Sweden 3RISE Agrifood and Bioscience, Sweden

Life cycle assessment of space propellants and high-energetic chemicals: data barriers, solutions, uncertainty and confidentiality in an LCI database
Johan Berg Pettersen 1, Håvard Bergsdal 2, Eduardo João Silva 3, Jonathan Ouziel 4
1Sintef Raufoss Manufacturing 2Asplan Viak 3ISQ 4Airbus Safran Launchers
Posters

**WEDNESDAY, SEPTEMBER 6**
09.00 am – 05.30 pm

LOCATION: POSTER AREA, CONFERENCE MAIN HALL
Integrating the concept of Planetary Boundaries into decision making processes

CHAIRS: Marcial Vargas-Gonzalez - Quantis
        Michal Kulak - Unilever

WE-447-1 European and global consumption: to which extent are they surpassing planetary boundaries?
Serenella Sala, Lorenzo Benini, Eleonora Crenna, Michela Secchi

European Commission - Joint Research Centre, Italy
Greening agri-food value chains in emerging economies

CHAIRS: Matthias Stucki - Zurich University of Applied Sciences
        Anél Blignaut - South African Fruit and Wine Industry Initiative Confronting Climate Change (CCC)

WE-230-2 Sustainable Management Program: generating value in sustainability for small and medium-sized farmers in Brazil
Sara Juarez Sales, Camila Daniele Honório Marques, Tiago Egydio Barreto, Bruno Comelatto Frizzarin, Taisa Cecilia de Lima Caires
Espaco ECO Foundation, Brazil

WE-243-3 Making the transition to sustainable practices through life cycle management: the case of oil palm fertilization in Indonesia
Kiyotada Hayashi 1, Naoki Makino 2, Vita Dhian Lelyana 3, Koichi Shobatake 2, Erwinyah 3
1National Agriculture and Food Research Organization, Japan 2TCO2 Co., Ltd. 3Indonesian Oil Palm Research Institute

WE-264-4 Greening of agri-food value chains with insect composting of biowastes in emerging economies
Sergiy Smetana 1, Moritz Gold 2,3, Giancarlo Raschio 4, Alexander Mathys 2
1German Institute of Food Technologies (DIL-e.V.), Quakenbrück, Germany 2Sustainable Food Processing Laboratory, ETH Zurich, Zurich, Switzerland 3Swiss Federal Institute of Aquatic Sciences and Technology (Eawag), Dübendorf, Switzerland 4Ecosystem Services LLC, Lima, Peru

WE-292-5 Brazilian Sustainable Farm Award: evaluation and value chain engagement
Marcela P. Costa 1, Renato B. Arcas 1, Sueli O. Oliveira 1, Thais Fontes 1, Aline Aguiar 2, Fabio L. Guido 2, Viviane Taguchi 4
1Fundação Espaço ECO/ BASF S.A, Brazil 2Rabobank, Brazil 3WWF, Brazil 4Globo Rural - Ed.Globo, Brazil

WE-311-6 LCA of the packaging used in lychee production in Sul de Minas, Brazil
Andrea Franco Pereira 1, Alfredo Jefferson de Oliveira 2
1Universidade Federal de Minas Gerais, Brazil 2Pontifícia Universidade Católica do Rio de Janeiro, Brazil
WE-470-7  Life cycle assessment of animal protein produced in Brazil: impact of the carbon footprint in the value chain
Alexandre Yorikuni Kavati 1, Claudia Veiga Jardim 1, Beatriz Cristina Koszka Kiss 2, Matheus Fernandes 2

1JBS S.A. 2Center for Sustainability Studies (FGVces) of the São Paulo School of Business Administration, Getulio Vargas Foundation (FGV EAESP)

WE-475-8  Comparative Life Cycle Assessment of Vegetable Cultivation Utilizing Food Waste Compost: A Case Study of Suburban Farming
Naoki Yoshikawa, Tomoya Matsuda, Koji Amano
Ritsumeikan University, Japan

WE-502-9  Certified sustainable palm oil – what are the benefits? Is it a way forward for greening agri-food value chains in emerging economies?
Jannick Schmidt, Michele De Rosa
2.-0 LCA consultants, Denmark

WE-551-10  Alternatives to reduce environmental impacts in the Brazilian melon production
Tayane de Lima Santos 1, Ana Barbara Araujo Nunes 2, Viviane da Silva Barros 3, Vanderlise Giongo 4, Maria Cléa Brito Figueirêdo 5

1Federal University of Ceará, Brazil 2Federal University of Ceará, Brazil 3Embrapa Tropical Agroindustry, Brazil 4Embrapa Semi-arid, Brazil 5Embrapa Tropical Agroindustry, Brazil

WE-556-11  Sustainability of Agri-Food Products: Case Studies of Oil Palm, Cassava, Sugarcane, and Maize Value Chains in Thailand
Papitchaya Utanun, Saowalak Olarnrithinun, Thumrongrut Mungcharoen
National Science and Technology Development Agency, Thailand
Trends in life cycle thinking in regional development: methodological advances and challenges for the future

CHAIRS: Ian Vazquez Rowe - Pontificia Universidad Católica del Perú
          Valentina Prado - Leiden University

WE-185-12 Municipal solid waste management assessment in Galicia (NW Spain) throughout a self-sufficiency management indicator
          Pedro Villanueva-Rey 1,2, Sara Gonzalez-Garcia 1, Gumersindo Feijoo 1, Maite Moreira 1
          1University of Santiago de Compostela, Spain  2University of Aveiro, Portugal

WE-187-13 Sustainable Consumption and its different terminologies
          Roni Severis 1, Flavio Simioni 2, Rodrigo Alvarenga 3
          1UDESC (Brazil)  2UDESC (Brazil)  3UDESC (Brazil) / Ghent University (Belgium)

WE-191-14 Implementing Life Cycle Perspective on Environmental Impact Assessment process in Brazil
          Maycon Hamann 1, Rodrigo Alvarenga 2
          1UDESC (Brazil)  2UDESC (Brazil) / Ghent University (Belgium)

WE-363-15 The Ecological Scarcity Method: Approach for international application
          Nadine Jansky 1, Liselotte Schebek 1, Karina Fries 2, Steffen Wellge 3
          1Technische Universität Darmstadt, Germany  2Fraunhofer-Institut für Silicatforschung  3Volkswagen Group Research Environment

WE-370-16 Life Cycle Approaches for Zero Emission Neighbourhood Concepts
          Carine Lausselet, Anders Hammer Strømman, Annemie Wyckmans, Helge Brattebø

          Norwegian University of Science and Technology (NTNU), Norway

WE-443-17 Integrated climate change and biodiversity impacts following forest harvest operations in Norway
          Cristina-Maria Iordan, Francesca Verones, Francesco Cherubini

          Norwegian University of Science and Technology, Norway
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Tiago Emmanuel Nunes Braga 1, Cecília Leite 1, Gil Anderi 2, Cassia Marie L. Ugaya 3, Marília Folegatti Matsuura 4, Maria Aparecida Martinelli 5, Maria Teresa Rezende 6

1IBICT, Brazil 2USP, Brazil 3UTFPR, Brazil 4Embrapa, Brazil 5Inmetro, Brazil

WE-507-19 Towards a harmonized communication of products’ social impacts.
Marzia Traverso 1, Catherine Benoit-Norris 2, Faycal Boureima 3, Bettina Heller 3, Ian Fenn 3

1Joint Research Center of the European Commission 2New Earth 3United Nation Environment Programme

WE-577-20 Plans to establish Chinese LCA platform for business in China
Hongtao Wang 1,3, Boyang Li 2, Xiaoguang Chi 3, Qiang Fu 3, Wenjie Liao 1, Li Zhang 4, Zhilan Jiang 4

1Sichuan University, China, People’s Republic of 2China Center for Information Industry Development (CCID) 3Beijing Association of Green Design and Green Manufacturing Promotion (GDGM) 4IKE Environmental Technology Co. Ltd.

WE-595-21 Certified gold: what does it mean?
Steven Young

University of Waterloo, Canada
Turning the lens around: LCA Success Stories “outside-in”

CHAIRS: Eric Mieras - PRe Sustainability
        Alain Wathelet - Solvay

WE-321-22 Inclusion of LCA as a strategic theme in the Brazilian company Duratex
Fernanda Bueno Marcondes Vieira Miranda ¹, Matheus Henrique Novo Fernandes ², Beatriz Cristina Koszka Kiss ², Ricardo Dinato ²

¹Duratex S.A. ²Center for Sustainability Studies (FGVces) of the São Paulo School of Business Administration, Getulio Vargas Foundation (FGV EAESP), Brazil

WE-387-23 Implementing a sustainable strategy on the complete life-cycle: a manufacturer and a take-back system present operational projects supported by LCA
Ingrid Tams ¹, Thomas Van Nieuwenhuyse ², Pierre-Marie Assimon ²

¹Groupe SEB, France ²Eco-systèmes, France
I have a dream: Open Marketplace for Life Cycle approaches!

CHAIRS:  
Mark Jacob Goedkoop - PRé Consultants B.V.
Peter Rudolf Saling - BASF SE

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PlasticsEurope experience and perspectives in developing datasets for the LCA community

guy castelan
PlasticsEurope, France

WE-392-25  
UNEP/SETAC Initiative technical support on data review and conformance: a summary of learnings
Bruce Vigon 1, Guido Sonnemann 2, Anne Asselin 3, Andreas Ciroth 4, Tim Grant 5, Cristobal Loyola 6, Nongnuch Poolsawad 7, Jitti Mungkalasiri 7

1SETAC, Pensacola, Florida, USA  
2University of Bordeaux, France  
3Consultant, Paris area, France  
4Greendelta, Berlin, Germany  
5Australian Life Cycle Society, Australia
6Regenerativa, Santiago, Chile  
7National Metal and Materials Technology Center (MTEC), Bangkok, Thailand

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Data-based compliance management for sustainable supply chains – Current approaches and concepts for the circular economy
Andreas Schiffleitner 1, Rupert J. Baumgartner 2, Josef-Peter Schöggl 2, Morgane M.C. Fritz 2

1iPoint-Austria GmbH, Austria  
2University of Graz Institute of Systems Sciences, Innovation and Sustainability Research

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Alice Salamon 1, Vanessa Pasquet 1, Aubin ROY 1, Clémence Dubois 2, Christian Traisnel 2, Victor Ferreira 2, Naeem Adibi 1

1[avniR] Platform by cd2e, France  
2cd2e, France

WE-436-28  
On the road towards smart use of LCA data - A Swedish national strategy to provide reference data in key areas
Carl Karheiding 1, Sara Palander 1, Christoffer Krewer 2, Johan Tivander 3, Lisa Hallberg 4, Sven-Olof Ryding 5

1Chalmers University of Technology/Swedish Life Cycle Center, Sweden  
2RISE Research Institutes of Sweden AB  
3Chalmers University of Technology  
4IVL Swedish Environmental Research Institute  
5Swedish Environmental Protection Agency
WE-456-29 A shared and recognised support data standard as a necessary first step towards exchange of LCA data and information.
Yves Loerincik, Christophe Porté, Clémentine Maurice, Rainer Zah
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WE-464-30 Carbon footprint assessment of a wind power plant in Brazil: enhancing product value and life cycle management at Copel
Murilo Agio Nerone ¹, Raquele Cristina Moretti de Souza ¹, Matheus Fernandes ², Beatriz Cristina Koszka Kiss ³, Ricardo Dinato ²
¹Companhia Paranaense de Energia - COPEL ²Center for Sustainability Studies (FGVces) of the São Paulo School of Business Administration, Getulio Vargas Foundation (FGV EAESP)

WE-490-31 Highly aggregated vs. specific granularity – A database and software independent LCA modeling approach: An analysis and solution for copper inventory data
Ladji Tikana ¹, Michael Spielmann ², Diana Eggers ²
¹Deutsches Kupferinstitut Berufsverband e.V ²Quantis Deutschland

WE-540-32 A system for sharing life cycle models - implications
Andreas Ciroth, Greve Sebastian, Srocka Michael
GreenDelta, Germany

WE-619-33 Collaborative Life Cycle Activities (Co-LCA) to create Shared Meta-Analysis Dataset
Stéphane Morel ¹, Franck Aggeri ²
¹RENAULT, France ²MINES Paristech, Paris, France

WE-681-34 Roadmap Item: Inventory Model Description and Revision
Brandon Kuczenski ¹, Antonino Marvuglia ², Wesley W. Ingwersen ³, Barclay Satterfield ⁴, David P. Evers ⁵, Christoph Koffler ⁶, Tomás Navarrete ⁷, Lise Laurin ⁷
¹University of California, Santa Barbara ²Luxembourg Institute of Science and Technology ³US Environmental Protection Agency ⁴Eastman Chemical Company ⁵Hexion Inc. ⁶thinkstep Inc. ⁷EarthShift Global
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**CHAIRS:**  
Nicole Unger - University of Natural Resources and Life Sciences, Vienna (BOKU)  
Francesco Razza - Novamont

**WE-170-35**  
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Isabel García-Herrero ¹, Jara Laso ¹, María Margallo ¹, Pere Fullana ², Alba Bala ², Ian Vázquez-Rowe ³, Cristina Gazulla ⁴, M.J. González ¹, Ainoa Quiñones ¹, María Jesús Durá ¹, Carmen Sarabia ¹, R. Abajos ¹, Angel Irabien ¹, Ruben Aldaco ¹

¹Universidad de Cantabria, Avda. de los Castros s/n 39005 Santander, Spain  
²UNESCO Chair in Life Cycle and Climate Change, Escola Superior de Comerç International (ESCI), Universitat Pompeu Fabra (UPF), Passeig Pujades 1, 08003 Barcelona, Spain  
³Pontificia Universidad Católica del Perú, Departamento de Ingeniería, Red Peruana Ciclo de Vida. Avenida Universitaria 1801, San Miguel L0032, Lima, Perú  
⁴Lavola Cosostenibilidad. Rbla. Catalunya, 6, 08007 Barcelona, Spain

**WE-236-36**  
Environmental impact of food waste treatment in an EcoCleaner, a portable accelerated composter  
Sylvie Groslambert ¹, Angélique Léonard ¹, Sébastien Finet ²

¹Université de Liège, Belgium ²Biowaste Recycling
Life Cycle Approaches to Sustainable Regional Development

CHAIRS: Fritz Balkau - individual
      Timothy Grant - Life Cycle Australia

WE-268-37  Life Cycle Assessment of Water Treatment Processes - A tool for environmental decision-making in municipal water purification
            Alexander Adam Sobczyszyn Borg, Jon Brandt
            Asplan Viak AS, Norway

WE-437-38  A life cycle approach to support decent housing development in India
            Alessio Mastrucci, Narasimha Rao
            International Institute for Applied Systems Analysis (IIASA), Austria

WE-458-39  Promoting Material Flow Cost Accounting to enable SMEs to contribute to Sustainable Regional Development
            Mieke Klein, Andreas Genest, Michael Bruns, Marten Stock
            ifu Hamburg GmbH, Germany

WE-486-40  The Energy-Water-Food Nexus of Biodiesel Production in Thailand
            Worayut Saibuatrong 1,2, Thumrongrut Mungcharoen 3, Viganda Varabuntonvit 1,2
            1Chemical Engineering Department, Faculty of Engineering, Kasetsart University, Bangkok 10900, Thailand
            2The Center of Excellence on Petrochemical and Materials Technology, Chulalongkorn University Research Building, Phayathai Rd., Bangkok 10330, Thailand
            3Energy and Environment Cluster and Director of Sustainable Environment Program, National Science and Technology Development Agency (NSTDA), Pathum Thani 12120, Thailand

WE-515-41  ICVAQUA, a project towards sustainability in the sector of aquatic products in the Hauts de France Region
            Pierrette ETHUIN 1, Julie MANCINI 2, Thierry GRARD 1, Jérôme PAYET 3
            1Université du Littoral Côte d'Opale, France
            2Pôle Aquimer, France
            3Cycleco, France
Adapting regional indicators to Sustainable Development Goals - a framework to accelerate adoption in regions

Pia Wiche¹, Adriana Zacarías ², Juan Bello ², Francesco Gaetani ²

¹Ecoe, Chile ²UN Environment, Panama