

# Overview of posters

Monday, September 6th

\*titles and authors as submitted in the abstract submission tool

# MO.1.A Life Cycle Approaches in the Raw Materials Sector



LCM  
2021

**Prospective analysis of supply and reserve of critical raw materials in photovoltaic solar energy**

*Tornero, Pablo; Garraín, Daniel*

**Life Cycle Assessment of silicon metal by aluminothermic reduction**

*Pastor Vallés, Elisa; Ma, Yan; Pettersen, Johan Berg*

**Socio-Environmental Capacity Building in Coal Mining Concession Area During Pandemic COVID-19:  
A Sharing From Trubaindo Coal Mining, East Borneo, Indonesia**

*Permatasari, Dewi; Herlambang, Sony; Cahyono, Budhi; Rahadin, Puji; Messias, Fx Firman; Sugiharto, Deddy*

**Introducing H2020 project 'ReCreate': Reusing precast concrete for a circular economy**

*Huuhka, Satu*

**Life cycle assessment applied to exploration tools for pegmatites**

*Smith, Kate; Pell, Robert; Yan, Xiaoyu; Wall, Frances*

**Life Cycle Assessment of the modified Pedersen method – challenges of an alternative alumina production route**

*Preveniou, Athina; Ma, Yan; Pettersen, Johan Berg; Kladis, Anastasios; van der Eijk, Casper*

**Circular Economy of phosphorus – challenges and findings in performing comparable LCA-studies of phosphorus-recycling**

*Meyer, Roland; Luthin, Anna*

**Environmental and economic analyses to support the sustainable valorisation of sulphidic mine residues**

*Di Maria, Andrea; Khoshkloo, Mohammad; Berse, Richard; Teigler, Ernst; Sand, Anders*

**Environmental Impacts of Novel Routes for Sc Production From Bauxite Residues and TiO<sub>2</sub> Production Wastes**

*Hengevoss, Dirk; Lenz, Markus; Misev, Victor; Feigl, Vitoria*

# MO.1.B Transformation Towards Future Mobility



## **Developing a Framework for Life Cycle Assessment of Green Transportation Infrastructure (Railway and Super pavements)**

*Shokri, Manouchehr; Nangah Mankaa, Rose*

## **LCA of vehicle components: how weight reduction could influence the environmental impact**

*Gerbinet, Saïcha; Gros Lambert, Sylvie; Fraselle, Justin; Koutla, Ioanna; Stroobants, Jan; Effing, Michael; de Bruijn, Freek; Heijster, Jean-Pierre; Eyckens, Philip; Cambier, Frédérik; Duysinx, Pierre*

## **Comparison of conventional and electric aircraft for short-haul flights regarding environmental and socio-economic impacts - A cradle-to-grave assessment**

*Barke, Alexander; Thies, Christian; Spengler, Thomas S.*

## **Evaluating circularity potential of various recycling technologies for biocomposites waste from the aircraft industry**

*Mehta, Rajesh; Lardiés Miazza, Nora; van Harmelen, Toon; Ferrero Aguar, Pablo*

## **Design and material based Sustainable Mobility**

*Tikana, Ladj; Nuno, Fernando; Jezdinsky, Tomas; Gonzales, Manuel*

## **SE:Kond2Life - ecosystem for reuse of automotive components**

*Lindén, Hanna; Mackrisson, Mats; Hildenbrand, Jutta; Jonasson, Christian; Schaller, Vincent; Sundin, Erik; Kurilova, Jelena; Kowalkowski, Christian; Lundin, Peter*



# MO.1.C Achieving Sustainability Goals on the Regional, National and International Level



**Eco-efficiency Assessment of Pork production through Life Cycle Assessment and Product System Value in South Africa**  
*Qalase, Chule; Harding, Kevin*

**Sustainability assessment of a more efficient concentrated solar power plant: CAPTure project**  
*Banacloche, Santacruz; Garraín, Daniel; Lechón, Yolanda*

**Investigating the integration between life cycle thinking, green chemistry principles and sustainability policies**  
*Camana, Daniela; Toniolo, Sara; Manzardo, Alessandro*

**Responsibility for regional sustainability of water resources – Findings from the national water footprint analysis of Japan**  
*Motoshita, Masaharu; Pfister, Stephan; Sasaki, Takao; Nansai, Keisuke; Hashimoto, Seiji; Yokoi, Ryosuke; Finkbeiner, Matthias*

**Prospective LCA for energy scenarios with parameterized models adapted to isolated territories.**  
*Besseau, Romain; Perez-Lopez, Paula; Blanc, Isabelle*

**Comparative Life Cycle Assessment of Direct Air Capture Technologies**  
*Madhu, Kavya; Pauliuk, Stefan; Dhathri, Sumukha; Creutzig, Felix*

**Modelling material flows from the end of life of wind turbine blades in Denmark through the year 2050**  
*Sohn, Joshua; Govindan, Kannan; Birkved, Morten*

**A Water Footprint Assessment for Determining the Best-regionalized Strategies for Food Loss and Waste Management in Spain**  
*Hoehn, Daniel; Margallo, María; Laso, Jara; Ruiz-Salmón, Israel; Dias, Ana-Cláudia; Bala, Alba; Batlle-Bayer, Laura; Fullana-i-Palmer, Pere; Aldaco, Rubén; Quinteiro, Paula*

**Sustainable urban wastewater treatment incorporating LCA**  
*Pesqueira, Joana; Silva, Adrián M. T.; Pereira, Manuel F. R.*

# MO.1.D Land Use and Biodiversity in Life Cycle Management



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## **Biodiversity Impacts of Integrated Pest Management (IPM) solutions – a life cycle based assessment comparing two approaches**

*Lindner, Jan Paul; Kirchdorfer, Roman; Maier, Stephanie*

## **Can biodynamic wines become even more sustainable? The eco-efficiency evaluation based on LCA and LCC analysis.**

*Wojnarowska, Magdalena; Muradin, Magdalena; Pink, Małgorzata*

## **Ocean renewable energies and their potential impacts on marine biodiversity**

*Ruiz Méndez, Dora Yesenia; Güereca Hernández, Leonor Patricia*

## **Comparison of the biodiversity impact of natural and synthetic production of vanilla flavor**

*Karg, Jonas; Stellmach, Kimberly; Lindner, Jan Paul*

## MO.1.E and MO.2.E

# What Gets Measured, Gets Improved – Impact Assessment and Environmental Labeling Along the Production Chain I & II



### **Climbing Ropes - Environmental Hotspots in Their Life Cycle and Potentials for Optimization**

*Bradford, Sebastian; Rupf, Reto; Stucki, Matthias*

### **Certifications in circularity: Practices and perceptions on ecolabel use by circular economy frontrunners in Finland**

*Suikkanen, Johanna; Saarinen, Iina; Näyhä, Annukka*

### **Impacts on fuel producers and customers of conflicting rules for LCA**

*Poulikidou, Sofia; Rydberg, Tomas; Wikström, Anna; Ekvall, Tomas; Nojpanya, Pavinee; Jogner, Carolina; Ekman Nilsson, Anna; Davis, Jennifer; Brandão, Miguel; Nilsson, Johan*

### **Co-Creating a Standard for Circularity: An iterative, collaborative approach.**

*Vanacore, Emanuela; Boyer, Robert H. W.; Carlsson, Raul; Diener, Derek; Lindahl, Mattias; Carlson, Annelie*

### **Introductory analysis for conducting Life Cycle Assessment of Brazilian silk yarn**

*Bortoloto Damasceno Barcelos, Silvia Mara; Oiko, Olívia*

## MO.2.A Life Cycle Approaches in the Raw Materials Sector II



### **Sustainable Intelligent Mining Systems**

*Gustafsson, Jan; Dahlström, Niclas*

### **From cradle to grave - a sustainable approach to recover critical raw materials applying the concept of circular economy**

*Arias, Andrea; Fierro, Julio; Loureiro-Gammariello, Noelia; Martínez, Cristina; Ruíz, Maite*

### **Sustainability Assessment of an Innovative Flotation Technology for Recovering Valuable Fine Particles**

*Rigamonti, Lucia; Cecere, Giuseppe*

### **Sustainability of newly developed recovery routes for steel slags**

*Boonen, Katrien; Vercalsteren, An; Buyle, Matthias; Christis, Maarten; Nys, Charlotte; Oorts, Koen*

### **ERA-MIN 3: Raw Materials for the Sustainable Development and the Circular Economy**

*Marchamalo, Julio; Carrilho, Dina; Sotelo, Jorge; Gómez, Beatriz*

## MO.2.B Decarbonized Mobility Along the Value Chain



### **Next Level Lightweight Production (NeLiPro)**

*Jurgeleit, Eva Sophie; Meilinger, Stefanie; Stieglitz, André*

### **Environmental assessment of weight-optimized components with complex geometries for trucks and other heavy machinery in the transport sector.**

*Arcos, Raul; Berzosa, Joan; Espí, José Jorge; Parareda, Sergi; Clarens, Frederic; Larsson, Jan; Sieurin, Henrik*

### **An integrated method to assess the environmental sustainability of gasification catalytic conversion process for the bioethanol production from sugarcane bagasse based on a life cycle perspective: a case of study for Mexico.**

*Zurita-García, Lizbeth; Santoyo-Castelazo, Edgar; Camacho-Luengas, Dumar Andres*

### **Life-cycle Assessment of different power system configurations to decarbonise inland ship: A case study of sightseeing barge Natalia**

*Wang, Yifan; Wright, Laurie*

### **Towards Sustainable Cruise Ships – Accompanying Socio-Ecological Assessment of Innovative Ship Cabins**

*Tippe, Mareike; Brand, Urte; Vogt, Thomas*

### **Assessing the Applicability of Battery Electric Vehicles in Indonesia Based on Life Cycle Assessment**

*Soehardinata, Ruth; Nugroho, Rizqi; Tiogana, Vincent; Hanafi, Jessica); Jobiliong, Eric*

### **Methane from renewable energies for the transportation sector – an environmental analysis of the crucial value chain**

*Lozanovski, Aleksandar; Graf, Roberta; Held, Michael*

### **Comparison of cost and GHG emissions of various hydrogen import pathways to Germany from various European countries and overseas**

*Schwenk, Markus; Faltenbacher, Michael*



# MO.2.C Transfer Towards Climate Neutrality – Scenarios, Options and Valuation



**Valuation of energy transition: development of a methodology from life cycle assessment to a multi-criteria approach**

*Hartmann, Didier; Teixeira, Maxime*

**Green Steel LCA - Direct Reduction**

*Möller, Lisa; Schwalb, Michael; Garvens, Hans J.; Wohlgemuth, Volker*

**Prospective life cycle assessment of European cement industry**

*Georgiades, Maria; Shah, Izhar Hussain Myers, Rupert J.*

# MO.2.D Carbon Inventory and Management of Bio-Based Materials for a Post-Fossil Bioeconomy



**Techno-economic and life cycle assessment of a wood chips-based organosolv biorefinery concept for the production of value-added phenolic monomers from lignin using an optimized base-catalysed-depolymerisation (BCD) approach.**

*Zeilerbauer, Lukas; Lindorfer, Johannes; Suess, Raphaela; Kamm, Birgit*

**Novel carbonate production process designed in the light of a life cycle assessment**

*Sparenberg, Marie-Charlotte; Sangsefidi, Vida; Luis, Patricia*

**Carbon Footprint of Japanese professional football team in 2020**

*Takahashi, Kiichiro; Itsubo, Norihiro; Sakuma, Satoru; Sawada, Haruki*

**Life cycle assessment of Austrian and Slovenian raw wood production**

*Schau, Erwin M.; Asada, Raphael; Slavec, Ana; Cardellini, Giuseppe*

**The use of green roofs to improve wood buildings for a future bioeconomy**

*Brunklaus, Birgit; Schade, Jutta; Mukkavaara, Jani*

**Balances of biogenic carbon accounting within and across lives of polymer product systems:**

**A case study approach towards standardization of LCA and GHG accounting frameworks**

*Sekar, Ananda*

**Carbon footprint of soybean products in the Brazilian context - a business case**

*Novo Fernandes, Matheus Henrique; Scachetti, Michelle*

**Framework for a viable life-cycle and end-of-life modelling of bio-composite structures for sustainable buildings: a comparative life-cycle assessment approach**

*Elbasdi, Gulay; Blok, Rijk; Teuffel, Patrick*

## MO.1.E and MO.2.E

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### **Co-Creating a Standard for Circularity: An iterative, collaborative approach.**

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### **Introductory analysis for conducting Life Cycle Assessment of Brazilian silk yarn**

*Bortoloto Damasceno Barcelos, Silvia Mara; Oiko, Olívia*

# MO.3.A Developing Sustainable Chemicals and Materials Based on Innovation and Digitalization



## **Environmental comparison of hydrogen production technologies**

*Schropp, Elke; Gaderer, Matthias*

## **Conducting the Product Carbon Footprint of the steel industry**

*Scharpenberg, Christina; Dumeier, Marcel; Zacharopoulos, Leon; Sprecher, Marten; Geldermann, Jutta; Janz, Andreas*

## **Allocating Recycling Benefits in Lifecycle Assessment for Plastics: Categorization and Use of Product Property Specifications as per Value Chain**

*Golkaram, Milad; Mehta, Rajesh*

## **Life cycle assessment of laminated glass recycling into high added-value products**

*Arias, Andrea; Fierro, Julio; Martínez, Cristina*



# MO.3.B Prospective Life Cycle Sustainability Assessment of Energy Technologies



**Using sunlight for high-value chemicals production:  
Sustainability analysis of FlowPhotoChem System from a life cycle perspective**  
*Leão, Susana; Escamilla, Marta*

**Development of Hybrid Cooling System with Thermoelectric Coolers and Phase Change Material for Solar Module and to Study its Effects on Module Efficiency**  
*Singh, Deeksha; Monga, Aditi; Parvez, Yusuf*

**Prospective life-cycle assessment of geothermal district heating and cooling networks**  
*Pratiwi, Astu Sam; Trutnevyte, Evelina*

**Combined Prospective Economic and Environmental Assessment of Energy Technologies Using the Example of Hybrid Battery Storage Systems**  
*Willenbrock, Clemens; Draheim, Patrick; Wigger, Henning; Gomez Trillos, Juan Camilo; Brand, Urte; Vogt, Thomas*

**Using industrial default values for prospective modeling of new materials production – the case of photon upconversion materials for solar modules**  
*Arvidsson, Rickard; Wickerts, Sanna; Sandén, Björn; Peters, Gregory*

**Life-cycle economic impacts of geothermal district heating networks: a decision tree analysis**  
*Pratiwi, Astu Sam; Trutnevyte, Evelina*

**Sustainability risks and consequences of innovative redox flow battery electrolytes**  
*Mair-Bauernfeind, Claudia; Schlemmer, Werner; Rudelstorfer, Georg; Spirk, Stefan; Stern, Tobias*

**How to assess ecological impacts of energy storage integration to the grid – the example of stationary battery systems**  
*Göllner-Völker, Laura; Schebek, Liselotte*

**Life Cycle Assessment (LCA) of Wind Energy Systems Considering Current Technology Developments**  
*Hengstler, Jasmin*

# MO.3.C Circularity and Life Cycle Aspects of Recycling Technologies



**Sustainability and circularity indexes of end-of-life scenarios of photovoltaic modules**

*Garraín, Daniel*

**A Life Cycle based approach for the assessment of Circular Economy strategies for Composite Construction Materials**

*Bayram, Berfin*

**Life Cycle Management of Advanced Wastewater Recycling Technology in Textile Industry**

*Sieti, Natalia; Vlysidis, Anestis; Gkika, Anastasia; Petrakli, Foteini; Walser, Tobias; Studer, Christoph; Braun, Gregor; Hischier, Roland; Koumoulos, Elias*

**Plastic packaging waste recycling in Finland now and in the carbon-neutral future: a scenario analysis**

*Judl, Jáchym; Horn, Susanna*

**Life Cycle Environmental Impacts and Circularity on a Product Level:  
The Case of Metal and Carton Food Packaging**

*Furberg, Anna; Lyng, Kari-Anne; Raadal, Hanne Lerche*

**Recycling of platinum group metals from spent auto-catalyst using “dry aqua regia”**

*Yoshimura, Akihiro; Matsuno, Yasunari*

**Benefits of Retaining Materials and Their Quality in a Circular Economy**

*Adibi, Naeem; Lapalus, Stella; Szablewski, Carolina; Andrews, Deborah; Carpentier, Victor; Traisnel, Christian; Pereira, Soline; Schrijvers, Dieuwertje; Kerwin, Kristina; Thomas, Christian*

# MO.3.D Addressing Marine Litter Within Life Cycle Assessment and Management



**Measurement of controlled release fertilizers rice farming in Japanese water environment**

*Suzuki, Hayato; Abeynayaka, Amila; Fukunaga, Yuu; Kojima, Fujio; Itsubo, Norihiro*

## MO.3.E Life Cycle Metrics in Sustainable Finance



**Life cycle assessment for green bond certified office buildings**

*Kitami, Tomoya*

**Towards Country Wide Circular Economy**

*Salminen, Vesa; Ruohomaa, Heikki*

**Defining Sustainable Business Models – a qualitative approach towards a multi-criteria canvass**

*Mancinelli, Raimondo; Wehrmeyer, Walter; Lee, Jacquetta; Arena, Noemi; Reeves, Kevin; Embley, Tim*



# Overview of posters

Tuesday, September 7th

\*titles and authors as submitted in the abstract submission tool

# TU.1.A Circular Economy Buildings – from Research to Practice



**Circular economy in the construction sector. Advancing environmental performance through systemic and holistic thinking**

*Sparrevik, Magnus*

**How circular can we get? Technical and regulatory challenges for the implementation of Circular Economy strategies for timber construction**

*Göswein, Verena; Zea Escamilla, Edwin; Habert, Guillaume*

**Challenges to use the harmonized EPDs in the European market**

*Szablewski, Carolina; Bolle, Clément; Adibi, Naeem*

**Circular Economy Buildings - BIM-based life cycle concepts in planning practice**

*Meier, Klara*

**Material characterization allowing the realization of multi-scale circular economy studies: from research to practice**

*Tirado, Fabian; Deanira, Rafaela*

# TU.1.B Future Sustainable Lifestyles – Urban Structure and Individual Choices



**Tools to improve the carbon footprint of individuals living in Germany**

*Jungbluth, Niels; Meili, Christoph*

**Decisional units allow life cycle-based decision making for consumer choices**

*Jungbluth, Niels; Meili, Christoph*

**Substituting traditional foods and beverages with innovative legume-based alternatives: a consequential life cycle assessment of diet change in Europe.**

*Saget, Sophie; Porto Costa, Marcela; Williams, Michael; Styles, David*

# TU.1.D Life Cycle Thinking in Companies and Organizations



**Evaluation of Circular Economy implementation in a Research and Technology Organization:**

**The Indicator Circular Economy Tool (ICE-T) - Methodology and Application**

*Cor, Emmanuelle; Guerid, Josua; Desrousseaux, Stéphanie; Monnier, Elise*

**LCA of a coated textile: conventional production and new process developments**

*Gerbinet, Saïcha; Groslambert, Sylvie; Justin, Fraselle; Ghislard, Olivier; Bruneel, Jan; Léonard, Angélique*

**Life Cycle Emissions of Natural Gas Transported via TurkStream**

*van Rootselaar, Sander; Hengstler, Jasmin*

**Assessment of Life Cycle Management Maturity and Priorities in Latin American Companies**

*Wiche, Pia; Granato, Danilo*



# TU.1.E Digital Technologies for a Circular Economy



## **Digital Ecosystems as a Basis for Circular Business Networks**

*Braun, Anja-Tatjana; Steinbiß, Kristina*

## **A data-driven approach to support the remanufacturing of automotive parts from end-of-life vehicles**

*Schaller, Vincent; Jonasson, Christian; Engblom, Tom; Bogert, Björn; Lindén, Hanna*

## **A Knowledge-based Product Design Assistance for the Advanced Circular Economy**

*Wallat, Phillip; Lawrenz, Sebastian; Lohrengel, Armin*

## **Environmental Life Cycle Assessment of Variable Rate Nitrogen Application Using a Ground-Based Optical Crop Sensor**

*Medel Jimenez, Francisco*

## TU.2.A Mainstreaming Construction LCA – Based on an Open Data Network



**ENPERAS – innovative LCA tool for EPDs development customized to specific PCRs and for exploratory environmental assessment of products**

*Plancke, Luc; Thuring, Mihaela*

## TU.2.B Future Sustainable Lifestyles – Urban Structure



### **Science-Practice collaboration as leverage for Green Hospitals**

*Keller, Regula; Stucki, Matthias; Abplanalp, Jan-Reto*

### **Impact of E-scooter on Sustainable Transportation in a German Student community: A Cohort Investigation**

*Jose, Davis; Nangah Mankaa, Rose*

### **Improving runoff water quality through an innovative and sustainable drainage system**

*Arias, Andrea; Arufe, Sainza; Recarey, Montse; Fierro, Julio; Martínez, Cristina; Fernández, Isaac*

## TU.2.C The Role of Industry in Sustainable Supply Chains



**Understanding the role of disruptions in the assessment of the sustainability of a supply network:  
a case of study on the Peruvian fishmeal production sector**

*Larrea Gallegos, Gustavo; Benetto, Enrico; Marvuglia, Antonino; Navarrete Gutiérrez, Tomás*

## TU.2.D Sustainability Assessments in Industry Creating Meaningful Information



**Life cycle environmental analysis and life cycle costing of high wear-resistant rubber hoses**

*Dong, Yahong; Zhao, Yating; Liu, Peng*

**LCA results profiling and visualization applied to R&D in the Powder Metallurgy sector to facilitate information assimilation and eco-design actions**

*Cor, Emmanuelle; Baffie, Thierry; Monnier, Elise*

**Environmental and economic performance of Swiss farming products can be simultaneously improved**

*Pedolin, Dario; Six, Johan; Nemecek, Thomas*

**Prospective LCA of innovative pharmaceuticals using transgenic silkworms**

*Nakamura, Hiroyuki; Sezutsu, Hideki; Itsubo, Norihiro*

**Use of LCSA for analysing potential sustainability impacts related to circular use of wood**

*Pihkola, Hanna; Pajula, Tiina; Järnefelt, Vafa; García Uriarte, Ainara; Bianchi, Marco; Recio Paule, Raquel; Rätty, Tarmo; vom Berg, Christopher; Kähler, Ferdinand*



## TU.2.E Tools, Metrics and Labels for a Circular Economy



### **Energy foot-printing of seafood products based on the Water-Energy-Seafood Nexus**

*Villanueva Rey, Pedro; Poceiro, Lucia; Quiñoy, Diego; Perez, Concepcion; Rodriguez, Eduardo*

### **Identifying Product Life Cycle Stage of Hard Carbon Anode Materials**

*Liu, Huiting*

### **Designing of Circular Economy solutions and sustainability of agricultural products with life cycle assessment**

*Nitkiewicz, Tomasz; Cappelletti, Giulio Mario; Russo, Carlo*

### **Assessing Circularity Potentials and Customer Education to Drive Ecologically and Economically Effective Materials Design for Circular Economy - A Case Study**

*Wielopolski, Mateusz; Guerreschi, Asia*

### **The Packaging-Index (PIX) for industry**

*Scagnetti, Carla; Lorenz, Manuel; Albrecht, Stefan*

### **Mass balance approach for chemical processes**

*Bechtle, Miriam; Himmelreich, Birgit*

### **Future availability of secondary raw materials for alternative concrete production in a circular economy**

*Komkova, Anastasija; Andersen, Birgitte Holt; Habert, Guillaume*

### **Life cycle assessment and circularity indicators**

*Rigamonti, Lucia; Mancini, Eliana; Bellan, Martina*

### **Method for strategic design in the food packaging system**

*Huerta, Oscar; Melo, Carolina*

## **TU.3.A Building Information Modeling (BIM) and Life Cycle Assessment**



**greenBIM, a BIM-based LCA integration using a dynamic approach based on the example of the Swiss sustainability standard Minergie-ECO**

*Naneva, Anita; Sintzel, Barbara*

**Investigation of the Environmental Impacts of a Tiny House**

*İlipinar, Damlanur; Yazıcıoğlu, Gülin*

**Parametric Building Life-Cycle Assessment and multi-objective design optimization**

*Kalfountzos, Vasilis; Pasanen, Panu*

**A workflow to integrate operational and embodied aspects when implementing Life Cycle Sustainability Assessment in Building Information Modelling**

*Soust-Verdaguer, Bernardette; Llatas, Carmen; Ayala Carmona, Alejandro*

## **TU.3.B Life Cycle Data Data Supporting Supply Chain Management and Procurement**



### **Interpretation of Prospective LCA - a non-linear Distance to Target Approach**

*Garvens, Hans J.; Garvens, Hans J.*

### **Green and circular procurement in public organizations – from single use to reuse of furniture and prolonging lifetime of electronics**

*Brunklaus, Birgit; Börjesson, Emma; Pedersen, Lisa*

### **A Procurement Tool for streamlined Input-Output Sustainability Assessment**

*Quell, Antonia; Scholz, Richard; Forin, Silvia*

## TU.3.C Operationalising Life Cycle Sustainability Assessment



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2021

**Towards integration of LCA and LCC as a driver for decision-making by municipalities for sustainable renovation of existing buildings**

*AbuGhaida, Haitham; Andersen, Lars Vabbersgaard; Wandahl, Søren; Kamari, Aliakbar*

**A framework for Sustainability Assessment of Road Pavements in Europe**

*Lo Presti, Davide; Buttitta, Gabriella; Jiménez del Barco Carrión, Ana; Parry, Tony; Keijzer, Elisabeth; Kalman, Bjorn; Mantalovas, Konstantinos*

**Different perspectives on human toxicity assessment for LCA with the ProScale approach**

*Saling, Peter*

**Towards an Integrated Approach for Life Cycle Sustainability Assessment**

*Di Carolo, Francesca; Lagioia, Rocco*

**Integration of distributive justice into LCA - the foundation**

*Ko, Nathanael*

## TU.3.D Life Cycle Innovation to Drive Sustainability and Business Performance



**Developing a Circular Economy for the Data Centre industry – how the CEDaCI project contributes to sustainable decision making**

*Kristina, Kerwin; Andrews, Deborah; Adibi, Naeem; Whitehead, Beth; Bienge, Katrin; Szablewski, Carolina; Chenadec, Julie; Ponugubati, Manoj*

**Rapid environmental footprint calculation of animal production using the new tool “APS Footprint”**

*Létinois, Ulla; Durlinger, Bart; Kok, Bjorn*

**People-centred Ecodesign in Latin America**

*Suppen, Nydia; Ariza, Raquel; Chacón, Alejandro*



# Overview of posters

Wednesday, September 8th

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# WE.1.A Life Cycle Sustainability in Construction and Renovation of Buildings



**Simplified procedure for defining science-based climate change targets for absolute sustainable building design**

*Sørensen, Lise Hvid Horup; Ryberg, Morten Walbech; Birgisdóttir, Harpa*

**Correlation between modular construction and sustainability in the building life cycle**

*Schnell, Peter*

**Comparative life cycle analysis for bridges made of conventional steel and stainless steel in the early design phases - Developing a parametric multi-perspective approach**

*Syu, Fu-Siang*

**Using RecyclingGraphs to decide the applicability of module D data in the LCA of functional wall structures**

*Schwede, Dirk; Ruf, Lavinia; Bui, Quoc-Bao; Stergiaropoulos, Konstantinos*

**Improving the sustainability of existing buildings in Nordic countries through energy system optimization**

*Eloranta, Vilppu; Woszczek, Aleksandra; Grönman, Aki*

**The study of LCA based indicators to evaluate the pressure on mineral resources in the building sector**

*Bendahmane, Nada*

**Managing GHG emissions of buildings with a lifecycle-based “Climate Action Roadmap”**

*Geiselmann, Dietmar; Braune, Anna; Kreißig, Johannes; Quante, Kathrin*

# WE.1.B SDG as a Basis for Sustainability Assessments of Products and Companies



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2021

**Practical guideline for cities and municipalities on an SDG-based assessment of innovations for urban surfaces using life cycle thinking**

*Henzler, Kristina; Maier, Stephanie; Jäger, Michael*

# WE.1.C Methodological Approaches to Assess Life Cycle Consequences



**A proposal for the derivatization of characterization factors for CdTe Quantum dots that integrates changing particle sizes throughout their life cycle**

*Blázquez Sánchez, Maria; Ligthart, Tom; Corral, Beatriz; Rosenbaum, Ralph; Cajaraville, Miren P.*

**The risk of Product Environmental Footprints incorrectly recommending energy recovery**

*Ekvall, Tomas; Gottfridsson, Marie; Nilsson, Johan; Nellström, Maja; Rydberg, Maria; Rydberg, Tomas*

**New methods for understanding uncertainty in life-cycle assessment:  
Application to geothermal heating in Geneva, Switzerland**

*Jaxa-Rozen, Marc; Pratiwi, Astu Sam; Trutnevyte, Evelina*

**A methodology to evaluate the sustainability of equipment lifecycle extension strategies**

*Fontana, Alessandro; Barni, Andrea; Rossi, Ludovica; Leone, Deborah*

**A framework for linking the planetary boundaries to organizational LCAs**

*Oosterhoff, Hendrik; Golsteijn, Laura; Blondel, Elise; Gavrilă, Ionela*

**Product performance and functionality: LCA's perspective**

*Motta, Wladimir; Xavier, Amanda; Mangia, Leonardo*

**Are thermodynamic based indicators the silver bullet for assessing circularity?**

*Bizarro, Diana; Hauck, Mara; van Harmelen, Toon*



# WE.1.D Sustainability of Business Models and Innovations



## **Life cycle management in the bakery sector**

*Monteiro, Nathalie Barbosa Reis; Moita Neto, José; Silva, Elaine Aparecida*

## **The WiTra web platform – Efficient knowledge transfer for sustainable innovation in industry**

*Pfeuffer, Simon; Wehner, Daniel; Lenz, Katrin; Borschewski, David*

## **Innovation through design of more sustainable systems: LCA and the use of TRIZ**

*Motta, Wladimir; Fandiño, Sergio; Maruyama, Úrsula; Xavier, Narjara*

## **Environmental life cycle assessment (LCA) of innovative advanced material solutions in Concentrated Solar Thermal technology as a tool for decision making and to drive sustainability**

*Claret, Ariadna; Escamilla, Marta*

## **LCA: Convergences with Eco-Innovation and Ecodesign**

*Motta, Wladimir; Prado, Patricia*



## WE.1.E Green-Lean-Digital



**An extended maturity model to integrate digitization and sustainability-related measures in small and medium-sized manufacturing enterprises**

*Süße, Marian; Münnich, Marc; Stange, Maximilian; Roth, Lukas; Ihlenfeldt, Steffen*

**LCA of cognitive manufacturing applied to energy-intensive industries**

*Fernández Astudillo, Miguel*

# WE.2.A Life Cycle Sustainability in Construction and Renovation of Buildings II



**Life Cycle Sustainability Assessment in the construction sector – actual application and future outlook**

*Backes, Jana Gerta; Traverso, Marzia*

**Ex-ante LCA on an emerging electro-mass separation technology:**

**The importance of the background system**

*Maes, Ben; Audenaert, Amaryllis; Craeye, Bart; Buyle, Matthias*

## WE.2.B Social Life Cycle Assessment of Products



**The social life cycle assessment applied to the production of sustainable synthetic fuel products**

*Claret, Ariadna; Escamilla, Marta*

**Managing the Environmental and Societal Life as Part of the Cement-Padang Manufacturing's Contribution in West Sumatra amid the COVID-19 Pandemic**

*Permatasari, Dewi; Nasra, Musytaqim; Delfa, Andria; Firdaus*

**Towards social sustainability effective supply chains of innovative and established products: defining the human wellbeing to support**

*Lindkvist, Mathias; Ekener, Elisabeth*

**Social Life Cycle Assessment: a forecasting approach to assess the socio-economic improvement potential during the R&D phase. A case study on agricultural wood-based innovations**

*Fürtner, Daniela; Hesser, Franziska*

**Social life cycle assessment of renewable natural gas**

*Martín-Gamboa, Mario; Dufour, Javier; Iribarren, Diego*

**Socioeconomic Life Cycle Assessment of the Food Loss and Waste Management Strategies in Spain: A Regionalized Approach**

*Hoehn, Daniel; Margallo, María; Laso, Jara; Ruiz-Salmón, Israel; Bala, Alba; Batlle-Bayer, Laura; Fullana-i-Palmer, Pere; Aldaco, Rubén*

**Towards Social Life Cycle Assessment of Energy Systems: case study on offshore wind farms from companies' perspective**

*Lehmann, Jérémie; Fofack-Garcia, Rhoda; Perez-Lopez, Paula*

**Social impacts in the transition to Single-Use Plastics' alternatives in a circular economy system: An international airline case**

*Ligthart, Tom; Mesa Alvarez, Catalina*

## WE.2.D Business Life Cycle Networks



### **Matching the Supply and Demand within the Circular Economy for Used Electrical and Electronic Equipment Applying Condition Assessment**

*Rudolf, Sina; Lawrenz, Sebastian; Blömeke, Steffen; Mennenga, Mark; Herrmann, Christoph; Rausch, Andreas*

### **Supporting start-ups and SME with life cycle assessment – network based information and planning for change**

*Tellnes, Lars G. F; Friedrich, Mathilde Fogh; Kjøniksen, Anna-Lena; Koch, Christian*

### **Matchmaking for constructing circular value chains**

*Diener, Derek; Vanacore, Emanuela; Fallahi, Sara; Nyström, Thomas; Sallén, Josefina*

# WE.2.E Mobilizing LCA Resources Through Digital Collaboration



## **Improvement of Reliability of LCA for Air Conditioners Using HEMS Data and Artificial Intelligence**

*Sugiyama, Genta; Honda, Tomonori; Itsubo, Norihiro*

## **Automated Data Acquisition for farm LCA**

*Weik, Jan*

## **5D+: BIM-based integrated carbon and cost estimation for construction projects**

*Papakosta, Athina; Kindler, Maciej; Dorrell, Peter*



## WE.3.A Business Models for a Circular Economy



**Future of Plastic: Analysis of material issues and strategic action among stakeholders**

*Silva, Max*

**The Circular Business Model of Multi-Trophic Aquaculture Systems: The Case of IMPAQT Project**

*Sanchez, Inma; Checa, Daniel; Escamilla, Marta; Leão, Susana*

**Circular Business Model based on biofuels production from organic wastes**

*Muradin, Magdalena; Harazin, Paulina; Kulczycka, Joanna; Verhe, Roland; Clerq, Gilles*

**Business Models for a Circular Economy – Challenges and opportunities for Data Centre Industry**

*Wynne, Astrid; Chenadec, Julie; Andrews, Deborah; Adibi, Naeem; Workum, Arjen; van der Veer, Martijn*

**Refurbished electronics must become part of our future**

*Kaminski, Kilian*

## **WE.3.C Benefits of Retaining Materials and Their Quality in a Circular Economy – Case studies**



### **Sustainability Evaluation of Pyrolysis of Waste Mattresses: A Comparison with Alternative End of Life Treatments**

*Mehta, Rajesh; Golkaram, Milad*

### **Innovative façade panels based on waste mineral wool applied as secondary material environmental assessment**

*Malovrh Rebec, Katja; Lešek, Anja; Knez, Friderik; Pavlin, Majda; Ducman, Vilma; Kaiser, Anne; Pavlin, Alenka*

### **A framework for evaluating minor metal recyclability and circularity opportunities**

*van Nielen, Sander; Kleijn, René; Sprecher, Benjamin; Miranda Xicotencatl, Brenda*

### **Future projection of greenhouse gas emissions associated with metal production based on shared socio-economic pathways**

*Yokoi, Ryosuke; Watari, Takuma; Motoshita, Masaharu*

### **Life Cycle Management at Italmatch Chemicals**

*Pasi, Maria Cristina; Galeano, Carlos; Iorio, Matteo; Lomazzi, Eleonora; Rapf, Matthias*

### **Life Cycle Analysis for the Ecodesign of a Cotton Baby Garments Collection in Chile**

*Pequeño Leclerc, Felipe; Granato, Danilo; Wiche, Pia*

### **Production of white phosphorus from secondary resources: The H2020 project “FlashPhos – Complete Thermochemical Recycling of Sewage Sludge”**

*Rapf, Matthias; Schmid, Max; Pasi, Maria Cristina; Lomazzi, Eleonora*

# WE.3.D Life Cycle Management in Education and Capacity Building



**On Conducting a Life Cycle Assessment of Network Traffic:  
A Qualitative Analysis of Current Challenges and Possible Solutions**

*Billstein, Tova; Rydberg, Tomas; Björklund, Anna*

**Sustainability in the cultural sector. Factors to foster the circular economy in the opera's scenography processes**

*Albertí, Jaume; Roca, Mercè; Bala, Alba; Batlle-Bayer, Laura; Fullana-i-Palmer, Pere*

## **WE.3.E Applied Digital Solutions – Connecting Green and Digital Transformations?**



**Developing an optimized early stage LCA tool for buildings with a user perspective for the Swedish context**

*Tjäder, Maria; Hollberg, Alexander; Ingelhart, Gerda; Wallbaum, Holger*

**Recommendations for the LCA of connected devices and services**

*Lees-Perasso, Etienne; Delmas-Orgelet, Julie; Ouffou, Georges; Garcia, Jade; Osset, Philippe*

**Mobile-based Application to Induce human behavioural modification toward sustainability**

*Adiwijaya, David; Hanafi, Jessica; Angelica, Fabiola; Sulistio, Calvin*

**Advancing in the digitalization of data for a better analysis of electrical and electronic equipment**

*Talens Peiró, Laura; Gabarrell Durany, Xavier*

**Digital Lifecycle Record for the Circular Economy**

*Hagedorn, Tabea; Plociennik, Christiane; Schebek, Liselotte; Vogelgesang, Malte; Pourjafarian, Monireh; Rickert, Julian; Ciroth, Andreas; Benner, Wladislaw*