

Saturday 1 July



Sunday 2 July

Monday 3 July

Tuesday 4 July

Wednesday 5 July

9:00

Registration
(SGZ, from 8:00)

Parallel sessions
(KOG)

Parallel sessions
(KOG)

Parallel sessions
(KOG)

9:00

9:30

9:30

10:00

Pre-conference events:
(separate registration required)
SIEYP (Symposium on Industrial
Ecology for Young Professionals),
IRTC raw material risks workshop,
Symbiosis section symposium

Opening session
(SGZ)

coffee break
(KOG)

coffee break
(KOG)

coffee break

10:00

10:30

Plenary keynote
(SGZ)

Parallel keynotes
(KOG)

Parallel keynotes
(KOG)

Parallel sessions
(KOG)

10:30

11:00

coffee break
(SGZ)

Break

Break

11:00

11:30

Pre-registration:
Pick up your conference badge
at KOG between 12.00-17.00

Plenary keynote
(SGZ)

Short parallel sessions
(KOG)

Short parallel sessions
(KOG)

11:30

12:00

12:30

Poster sessions with Lunch
(Pieterskerk)

Poster sessions with Lunch
(Pieterskerk)

Lunch
(KOG)

Lunch
(SGZ)

12:30

13:00

13:30

14:00

Excursions,
individual time

Plenary keynote
(SGZ)

13:30

14:30

15:00

Welcome reception
(1st time slot)
(Leiden city hall)

Parallel sessions
(KOG)

Parallel sessions
(KOG)

Closing session
(SGZ)

14:30

15:30

16:00

coffee break
(KOG)

coffee break
(KOG)

15:30

16:30

Welcome reception
(2nd time slot)
(Leiden city hall)

Parallel sessions
(KOG)

Parallel sessions
(KOG)

16:00

16:30

17:00

17:30

Section Meetings
(KOG)

ISIE society events
(KOG)

17:30

18:00

18:30

19:00

19:30

Conference dinner
(Naturalis, until 23:00)

19:00

19:30

20:00

20:00



Saturday, 1 July

- 10:00 **Pre-conference events - check <https://isie2023netherlands.nl/main-program> for details**
SGZ (Stadsgehoorzaal)
- 12:00 **Arrived early? Pick up your conference badge at the KOG building between 12:00 - 17:00**
KOG (Kamerlingh Onnes Building)

Sunday, 2 July

- 08:00 **Registration**
SGZ (Stadsgehoorzaal)
- 10:00 **Opening Session**
SGZ (Stadsgehoorzaal)
- 10:45 **Keynote: Hans Bruyninckx: Sustainability transition from concept to policy approach: a resource use perspective.**
SGZ (Stadsgehoorzaal)
- 11:30 **Coffee break**
SGZ (Stadsgehoorzaal)
- 12:00 **Keynote: Janez Potočnik: Transitions in a World of Turmoil - The Role of Natural Resources Management for Sustainable Future**
SGZ (Stadsgehoorzaal)

Transitions in a World of Turmoil - The Role of Natural Resources Management for Sustainable Future

» Janez Potočnik

- 13:00 **Poster session 1 + lunch. See description for poster groups.**
Pieterskerk

Scroll down for the detailed posters list



Continued from **Sunday, 2 July**

Scroll down for the detailed posters list

15:00 **Parallel Sessions**
KOG (Kamerlingh Onnes Building)

15:00 **MFA case studies 1**
B0.13 KOG

15:00 **Substance Flow Analysis of Pathogens for Epidemics Control**
» [Gjalt Huppes](#), Ruben Huele



Continued from **Sunday, 2 July**

15:15 **Land use change drives nitrogen and phosphorus emissions and their imbalance**

» [Yuxi Tian](#), Limin Jiao, Yuanchao Hu

15:30 **Anthropogenic potassium metabolism and world trade network**

» [Yashar Perhat](#), Shinsuke Murakami

15:00 **Advancements in MFA methods 1**

B0.14 KOG

15:00 **A Framework of Digital Twin-driven Material Flow Analysis (DT-MFA): Demonstrated by Mapping Regional Nutrients Flow**

» [Wei Zhang](#), Thomas To-Hung TSUI, Purusothmn Nair, Bhawana Gupta, Nadja Yang, Saher Hasnain, Kok Siew Ng, Aidong Yang

15:15 **Digital twin by machine learning in MFA reconstruction of biomass valorization**

» [Thomas To-Hung TSUI](#), Wei Zhang, Kok Siew Ng, Aidong Yang

15:30 **COMPARISON OF MATERIAL AND ELEMENTAL FLOWS IN INDUSTRIAL NETWORKS OF TWO US REGIONS USING PIOT HUB - A NOVEL CLOUD BASED COMPUTATIONAL TOOL**

» [Apoorva Bademi](#), William Farlessyost, Shweta Singh

15:45 **Expert Elicitation and Data Noise Learning for Material Flow Analysis using Bayesian Inference**

» [Daniel Cooper](#), Shelie Miller, Jiankan Liao, Xun Huan

15:00 **LCA case studies 1**

B0.16 KOG

15:00 **Crab cravings in China causes environmental pressure**

» [Xin LIU](#)

15:15 **Recent trends in the carbon footprint of Peruvian dietary patterns based on the national household survey**

» [Ian Vazquez-Rowe](#), Joan Sanchez-Matos, Ramzy Kahhat

15:30 **Evaluating the environmental impacts of U.S. historical oil spill incidents from the life cycle perspective**

» [Yiming Liu](#), Hua Cai

15:45 **Modelling the complex environmental impacts of global freight transport in LCA**

» [Christopher Oberschelp](#), Jan Lordieck, Tobias Rieder, Andreas Froemelt, Akshat Sudheshwar, Ueli Haefeli

15:00 **Life Cycle Sustainability Assessment**

B0.17 KOG

15:00 **Holistic and Integrated Life Cycle Sustainability Assessment: Background, Methods and Results from Two Case Studies**

» [Walther Zeug](#), Alberto Bezama, Daniela Thrän

15:15 **Life Cycle Sustainability Assessment (LCSA) of substituting fossil-based with biogenic products under different conditions - a case study on two product systems in the region of Augsburg, Germany**

» [Felix Assies](#), Lukas Messmann, Andrea Thorenz, Axel Tuma

15:30 **Model-based LCSA**

» [Andreas Ciroth](#)

15:45 **Differentiated economic assessment of a battery supply chain in a life cycle-oriented analysis**

» [Jan-Linus Popien](#), Alexander Barke, Thomas S. Spengler

15:00 **Footprints 1**

B0.20 KOG

15:00 **Alternative food supply minimizes global environmental impacts of food system recovered from the Russia-Ukraine conflict**

» [Haoran Zhang](#), Limin Jiao, Yuanchao Hu



Continued from **Sunday, 2 July**

15:15 **Evaluating the Waste and CO2 Reduction Potential of Packaging by Reuse Model in Supermarkets in Taiwan**

» [Hsin-Tien Lin](#), Cian-Wei Chiang

15:30 **Redistribution does not necessarily increase emissions, overconsumption does**

» [Peter-Paul Pichler](#), Ingram Jaccard, Helga Weisz, Johannes Többen

15:45 **Material footprints for providing a decent standard living**

» [Johan Velez](#), Stefan Pauliuk

15:00 **Nexus studies**

B0.25 KOG

15:00 **Investigating sustainable alternative sanitation systems through the lens of Water-Wastewater-Waste-Energy-Food Nexus in Chilean and Indonesian communities**

» [Vanessa Bolivar Paypay](#), Dinar Suryandari, Juan Pablo Gallardo, Maryegli Fuss, Witold-Roger Pogonietz

15:15 **Household energy systems in the Global South: Tracing material flows from source to service in rural Ethiopia**

» [Harald Grabher](#), Karlheinz Erb, Simron Singh, Helmut Haberl

15:30 **Paving the way to circular infrastructure: Decoupling material demand from service provision in road and rail infrastructure**

» [Martijn van Engelenburg](#), Tomer Fishman, Sebastiaan Deetman, Paul Behrens, Ester van der Voet

15:45 **Stocks, Flows, Services and Practices: Nexus Approaches for Socio-metabolic Mobility Studies**

» [Helmut Haberl](#), Doris Virág, Sarah Matej, Willi Haas, Barbara Smetschka, Dominik Wiedenhofer, Henrike Rau

15:00 **Ecosystem Services**

B0.31 KOG

15:00 **Towards A Safe and Just Operating Space: An Ecosystem Services Approach**

» [Yazeed Aleissa](#), Bhavik Bakshi

15:15 **Optimizing building strategies for sustainable urban development: an analysis of material and ecosystem service flows.**

» [Janneke van Oorschot](#), Ester van der Voet, Benjamin Sprecher, Roy Remme, Mike Slootweg

15:30 **How can we assess the role of nature in the metabolic requirements of a city?: An integrated Urban Metabolism and Ecosystem Service analysis**

» [Ursula Cardenas Mamani](#), Daniela Perrotti

15:45 **Machine learning based approaches to elucidate the role of pollination ecosystem services for agricultural productivity**

» [Anaís Ostroski](#), Christina Grozinger, Vikas Khanna

15:00 **Social Dimensions 1**

B0.32 KOG

15:00 **Creating pluralistic pathways to city-level food waste management**

» [Azra Sungu](#), Weslynn Ashton, Maura Shea

15:15 **Gender and Plastics: Identifying gender issues in the plastic value chain and circular economy in the case of Korea**

» Hana Kim, Dawoon Jung, Munsol Ju, [Jooyoung Park](#)

15:30 **Integrating sustainable development objectives into Official Development Assistance: Exploring the effectiveness of French ODA in Vietnam to strengthen the country's capacity to adapt to and mitigate climate change**

» [Margaux DUHEM](#), Masachika Suzuki

15:45 **Sharing and consuming in space - what is important to know for the planning of a Sharing City?**

» [Divia Jimenez Encarnacion](#), Leonardo Rosado, Liane Thuvander



Continued from **Sunday, 2 July**

- 15:00 **Special Session: Plastics, Chemicals and Sustainability (Part 1)**
B0.41 KOG
 Chaired by: Fanran Meng
- 15:00 **Planet compatible pathways for transitioning the global chemical industry**
 » [Fanran Meng](#), Jonathan Cullen
- 15:15 **A dynamic material flow analysis of the global demand of polymers**
 » [Yunhu Gao](#), André Serrenho
- 15:30 **How to feed the global population with less greenhouse gas emissions from nitrogen fertilisers?**
 » Yunhu Gao, [André Serrenho](#)
- 15:45 **Driving a Net-Zero U.S. Ammonia Industry Considering Technology Evolutions and Policy Strategies**
 » Banafsheh Jabarivelisdeh, [Enze Jin](#), Phillip Christopher, Eric Masanet
- 15:00 **Special Session: Trans-continental research agenda for inclusive circular urban industrial innovation systems (Part 1)**
C0.04 KOG
 Chaired by: Martin de Jong
- 15:00 **Towards a framework for inclusive and circular urban waste management systems: regeneration as a binding element**
 » [Daan Schraven](#), Liang Dong
- 15:08 **A study on maximizing energy efficiency of manufacturing and disposal of plastics for the promotion of carbon-neutral plastic circular economy**
 » [Minoru Fujii](#), Satoshi Ohnishi, Seiya Maki, Kosuke Kawai, Liang Dong
- 15:16 **New Business Models in Post-Consumer Recycling in Urban China**
 » [Xin Tong](#)

- 15:24 **Analysis of efficient waste transportation methods to enable incineration heat supply to Japan's chemical industry**
 » [Makiko Doi](#), Katsuhiko YOSHIKAWA, Takashi Tsubouti, Masaki Murakami, Toshiro Bandai, Keitaro Ikeda, Toshiki Kitai, Minoru Fujii
- 15:32 **An evolutionary institutional framework to evaluate circular economy performance: Empirical findings from China and Hong Kong**
 » [Benjamin Steuer](#)
- 15:40 **Combining woody and waste biomass use for innovative urban symbiosis**
 » [Satoshi Ohnishi](#), Hidetoshi Kuramochi, Takuro Kobayashi, Shogo Nakamura, Minoru Fujii, Kei Gomi
- 15:48 **Development classification Model of Demand-Place Industries by Text Analysis Using Company Names and Estimated of Spatial Heat Supply Potential from Waste for Circular Economical Potential Evaluation -Case Study on Steam Supply-**
 » [Seiya Maki](#), Satoshi Ohnishi, Minoru Fujii, Naohiro Goto
- 16:00 **Coffee break**
KOG (Kamerlingh Onnes Building)
- 16:30 **Parallel Sessions**
KOG (Kamerlingh Onnes Building)
- 16:30 **Special Session: Applications of Machine Learning and Data Science in Industrial Ecology**
B0.13 KOG
 Chaired by: Qingshi Tu
- 16:30 **Data-centric discussion on machine learning applications to LCA**
 » Bu Zhao, Ming Xu, [Qingshi Tu](#)



Continued from **Sunday, 2 July**

- 16:45 **Generating Life Cycle Inventory for Industrial Systems in Developing Countries with Graph Neural Network: A Case Study on Electricity Production**
» [Hannah Wang](#), Yuan Yao
- 17:00 **Machine learning for prediction of life cycle inventory data: Exploring opportunities and challenges using a case study of the Canadian egg industry**
» [Ian Turner](#), Nathan Pelletier
- 17:15 **Global mining activities undermine substantial land carbon storage**
» [Bin Chen](#), Huajun Yu, Xuange Zhang, Peng Wang, Yutao Wang
- 17:30 **Predict chemical environmental impact using machine learning methods**
» [Chao-Hsu Yang](#), Zih-Ee Lin, Pei-Te Chiueh
- 17:45 **Data -driven estimation of floor area and building age for residential building stock modeling – A case study of Sweden**
» [Qiyu Liu](#), Maud Lanau, Johan Rootzén, Filip Johnsson
- 16:30 **Special Session: Assessing Progress Towards a Sustainable Circular Economy Across Scales (Part 1)**
B0.14 KOG
Chaired by: Dominik Wiedenhofer
- 16:30 **Cost of a linear plastic economy: A case study of Indonesia**
» [Satabdi Datta](#), Shreya Some, Jeeten Kumar, Joyashree Roy
- 16:45 **From material stocks to circular economy potential: integrating reusability assessment into built environment stock analysis (FOR SPECIAL SESSION: ASSESSING PROGRESS TOWARDS A SUSTAINABLE CIRCULAR ECONOMY ACROSS SCALES)**
» [Charles Gillott](#), Danielle Densley Tingley

- 17:00 **Just Copper? – Can a Circular Economy Balance Environmental and Social Concerns in the Metal-Energy Nexus**
» [Sina Leipold](#)
- 17:15 **Circularity strategies for China's building sector: a scenario analysis**
» [Alessio Mastrucci](#), Fei Guo, Bas van Ruijven
- 17:30 **Towards a system-wide and consistent understanding of material use in product- and sectoral stocks – insights from economy-wide, dynamic material flow analysis**
» [Jan Streeck](#), Hanspeter Wieland, Helmut Haberl, Fridolin Krausmann, Barbara Plank, Stefan Pauliuk, Dominik Wiedenhofer
- 17:45 **Circularity strategies for the provision of goods and services, and their synergies and trade-offs with climate change mitigation**
» [Eugénie Ioltreau](#), Elena Verdolini, Cristina Cattaneo
- 16:30 **Special Session: Assisting a Circularity Transition in the Timber Construction and Wood Sectors**
B0.16 KOG
- 16:30 **A systematic analysis for the wood value chain in Norway to define the potential and challenges of end- of-life management**
» [Roja Modaresi](#), Lone Ross, Daniel B. Müller, Lizhen Huang, Erik Trømborg, Hanne K. Sjølie
- 16:45 **Mapping qualities and quantities of waste wood in Norway**
» [Kristina Bringedal Gedde](#), Daniel Müller, Andreas Stenstad, Erik Larnøy, Lone Ross
- 17:00 **A novel data acquisition method for existing building information modelling**
» [Georgios Triantafyllidis](#), Lizhen Huang
- 17:15 **The impacts of combined forest management and wooden construction on carbon fixation in Japan**
» [Naho Yamashita](#), Tomer Fishman, Chihiro Kayo, Yuki Hiruta, Hiroaki Shirakawa, Hiroki Tanikawa



Continued from **Sunday, 2 July**

17:30 **Material flow analysis of wood in the UK from roundwood deliveries to finished product applications.**
 » [Rebeka Anspach](#), Michal Drewniok, Matt Roberts, Stephen Allen, Rick Lupton

16:30 **Special Session: Biodiversity loss and Impact Indicators in LCA**
B0.17 KOG
 Chaired by: Francesca Verones

16:30 **Land-based Mitigation Measures and the Kunming-Montreal Global Biodiversity Framework: Legal Limits to Large-scale BECCS, Forestry and Carbon Farming**
 » [Philipp Günther](#)

16:45 **Global freshwater eutrophication: regionalized characterization factors for phosphorus and nitrogen impacts on fish biodiversity**
 » [Jinhui Zhou](#), José Mogollón, Peter van Bodegom, Arthur Beusen, L. Scherer

17:00 **Biomass to Biodiversity: representing endpoint fishing impacts on marine ecosystems in LCIA**
 » [Chloe Stanford-Clark](#), L. Scherer, Francesca Verones, Arnaud Hélias

17:15 **Non-native species impacts on biodiversity in the framework of Life Cycle Assessment**
 » [Philip Gjedde](#), Jan Borgelt, Francesca Verones

17:30 **Addressing marine biodiversity loss with expanded impact assessment models**
 » [Jennifer Anderson](#), Sedona Anderson

17:45 **Modelling impacts of land use on functional diversity in Europe**
 » Francesca Rosa, L. Scherer, [Stephan Pfister](#), Peter van Bodegom, Stefanie Hellweg

16:30 **Special Session: Can we combine top-down and bottom-up material flow models to top up our assessments?**

B0.20 KOG
 Chaired by: Magdalena Klotz

16:30 **MFA case studies 2**
B0.25 KOG

16:30 **Urban Scale Evaluation of Building Integrated PV Waste: A Dynamic Material Flow Analysis**
 » [Julius Jandl](#), Helmut Rechberger, Bettina Mihalyi-Schneider, Abraham Yeziro, Sabrina Spatari

16:45 **Modelling the transition towards a low-carbon global aluminium cycle with technology-explicit material flow analysis**
 » [Moritz Langhorst](#), Romain Guillaume Billy, Christian Schwotzer, Felix Kaiser, Daniel B. Müller

17:00 **Bridging climate and circular economy related policy targets: Insights from material requirements in the Swedish renewable electricity system**
 » [Georgia Savvidou](#), Filip Johnsson

17:15 **What is the extent and fate of Fossil Carbon accumulation in our Technosphere?**
 » [Kaan Hidiroglu](#), Stefano Merciai, Franco Ruzzenenti, Klaus Hubacek

17:30 **Helium supply and demand: Material flow analysis of a noble gas**
 » Ankesh Siddhantakar, [Komal Habib](#), Steven B Young

17:45 **Plant-level transformation and joint supply-demand decarbonization pathways of China's steel industry**
 » [Xin Tian](#), Shuntian Xu

16:30 **LCA case studies 2**
B0.31 KOG



Continued from **Sunday, 2 July**

16:30 **Evaluation of Climate Impacts of Dietary Patterns Using Different Nutritional Functional Units: a Case Study of Canadian Provinces**

» [Basak Topcu](#), Goretty Dias

16:45 **REDEFINING NIGERIA'S RESIDENTIAL BUILDINGS IN THE FACE OF HUMAN DEVELOPMENT AND CLIMATE CHANGE CRISES**

» [Chibuikem Nwagwu](#), Sahin AKIN, Edgar Hertwich

17:00 **Embodied Carbon of Buildings – Review of Recent Policies and A case-study**

» [Rahman Azari](#)

17:15 **Improving the sustainability of the construction sector – Applying streamlined LCA in the planning process of timber houses**

» [Josef Huber](#), Magnus Fröhling

17:30 **Minimizing biodiversity trade-offs arising from hydroelectricity production using Life Cycle Assessment**

» [Sif de Visser](#), Francesca Verones, Martin Dorber

16:30 **IE education**

B0.32 KOG

16:30 **Drawing conclusions: The power of comics for critiquing and advancing industrial ecology**

» [John Mulrow](#), Christoph Hinske

16:45 **Racial Inequalities in Undertaking Doctoral Study in the UK: A Qualitative Analysis at Newcastle University**

» [Sebih Oruc](#), Rebekah Puttick, Michelle Palmer, Gail de Blaquiére, Hayley Fowler, Oliver Heidrich

17:00 **Teaching Industrial Symbiosis at Delft University of Technology**

» [Paola Ibarra Gonzalez](#), Jaco Quist, Dimitrios Xevgenos, Gijsbert Korevaar

17:15 **The role of community - based learning in teaching about industrial ecology and sustainability in the context of engineering education: A case study from the field**

» [Andrea Hicks](#)

17:30 **How can Industrial Ecology contribute to making the world more sustainable?**

» [Ichiro Daigo](#)

17:45 **A stepwise approach to teaching about wicked problems in industrial ecology**

» [Stefano Cucurachi](#)

16:30 **Plastics: MFA**

B0.41 KOG

16:30 **Plastics in the Indian economy: A 20-year update on data, issues and interventions**

» [Nargessadat Emami](#), Tim Baynes, Katherine Locock, Trinayana Kaushik, Mandavi Singh, Souvik Bhattacharjya

16:45 **A Markov chain model for evaluation of the global plastic waste management system**

» Elijah Smith, Melissa Bilec, [Vikas Khanna](#)

17:00 **How much mismanaged plastic waste is reaching the oceans? A methodology to estimate mismanaged plastic flows in emerging and developing nations**

» [Diana Ita-Nagy](#), Ian Vazquez-Rowe, Ramzy Kahhat

17:15 **Towards a Comprehensive MFA of Plastic Waste in the developing context – a case study of Chennai, India**

» [Sowmya Marriyapillai Ravisandiran](#), Nicolas Navarre, Stefano Cucurachi

17:30 **Circular Economy for Plastic Consumption in Australia: Opportunities and Challenges**

» [Sadegh Taskhiri](#), Heinz Schandl



Continued from **Sunday, 2 July**

- 17:45 **Opportunities for improving the circularity of plastic polymers. A Norwegian case study.**
» [Miguel Las Heras](#), Golnoush Abbasi, Marina Hauser, Kees Baldé, Evert Bouman
- 16:30 **Industrial Symbiosis 1**
C0.04 KOG
- 16:30 **The growing reach of industrial symbiosis**
» [Marian Chertow](#), Koichi Kanaoka
- 16:45 **A business value framework for industrial symbiosis**
» [Murat Mirata](#), Axel Lindfors, Marianna Lena Kambanou
- 17:00 **Developing curated Eco-Industrial Parks: A scoping review and framework**
» [Leonie Schlüter](#), Hamid Bekamiri, Lucia Mortensen, Lone Kørnøv, Allan Næs Gjerding
- 17:15 **A modelling workflow to advance collaboration and sustainability of industrial symbioses**
» Shane Carnohan, Rickard Fornell, Lovisa Harfeldt-Berg, Andrew Simons, [Elin Wallin](#), Andreas Nicolaidis
- 17:30 **Drivers of the Evolving Coal Gangue Power Industrial Symbiosis in China: a comparison with Kalundborg**
» [Wenting Jiao](#), Lei Shi, Ruitong Zhao, Changhong Li, Fangqin Cheng
- 17:45 **From the ground up: designing a greenfield eco-industrial park in rural Australia**
» [Tim Baynes](#), Jacob Fry
- 18:00 **Section Meetings**
KOG (Kamerlingh Onnes Building)

Monday, 3 July

- 09:00 **Parallel Sessions**
KOG (Kamerlingh Onnes Building)
- 09:00 **Special Session: Urban Climate Action toward Carbon Neutrality with enhanced Resource circularity (Part 1)**
B0.13 KOG
Chaired by: Yuli Shan
- 09:00 **Urban Carbon Inequality**
» [Klaus Hubacek](#), Giovanni Baiocchi, Kuishuang Feng, Yuli Shan
- 09:20 **Towards a Nexus Science for Zero-Carbon Cities with Health, Climate Resilience, and Equity Co-benefits**
» [Anu Ramaswami](#)
- 09:40 **Leveraging Opportunity of Low Carbon Transition by Super-Emitter Cities in China**
» [Heran Zheng](#), Jing Meng, Dabo Guan, Dan Moran, Kuishuang Feng
- 09:52 **Carbon Monitor Cities, Near-Real-Time Monitoring of Daily Fossil-Fuel CO2 Emissions from Cities Worldwide**
» [Da Huo](#), Zhu Liu, Philippe Ciais
- 10:05 **Assessment to city-level emissions and peak in China**
» [Jinghang Xu](#), Yuru Guan, Jonathan Oldfield
- 10:18 **The Landscape of City-Level GHG Emission Accounts in Africa**
» [Binyuan Liu](#), Klaus Hubacek, Riemer Kuik, Lazarus Chapungu



Continued from **Monday, 3 July**

09:00 **Special Session: Transitioning to a Sustainable Circular Economy: THEORY, METHODS and applications**

B0.14 KOG

Chaired by: Eva Quéheille

09:00 **Special Session: Bringing Industrial ecology and the Circular Economy into integrated assessment models (Part 1)**

B0.16 KOG

Chaired by: Vered Blass

09:00 **Lower energy and materials demand for net-zero GHG futures for industry – a critical review of the potentials, strategies, and modelling approaches required for transformative insights**

» [Dominik Wiedenhofer](#), Jan Streeck, Barbara Plank, Alessio Mastrucci, Bas van Ruijven, Benigna Boza-Kiss, Gamze Unlu, Leila Niamir, Volker Krey, Arnulf Gruebler, Maria Fernanda Godoy León, Yiyi Ju, Jonathan Norman, Leticia Magalar, Nuno Bento, Frauke Wiese, Elena Verdolini, Joni Jupesta, Akimoto Keigo, Ayami Hayashi, Stefan Pauliuk

09:15 **EXPLORING THE POTENTIAL OF DEMAND RESPONSE PARTICIPATION IN JAPAN'S INDUSTRIES BY 2050: SOFT-LINKING IAM AND IO**

» [Yiyi JU](#), Tao Cao, Firdaus Nur, Baixin Li

09:30 **The CIRCular Energy Economy model: reconciling Industrial Ecology and Economic concepts**

» [Darius Corbier](#), Laurent Drouet, Valentina Bosetti

09:45 **The role of chemicals in the transition towards a low-carbon and circular society: an integrated assessment modeling approach**

» [Gamze Unlu](#), Florian Maczek, Jihoon Min, Volker Krey

10:00 **Resource efficiency at the national level**

» [Jonathan Norman](#), John Barrett, Sam Betts-Davies, Rachel Carr-Whitworth, Alice Garvey, Elliott Johnson

09:00 **Special Session: Does space Matter? -transition of built environment towards circularity in a spatial context**

B0.17 KOG

Chaired by: Georg Schiller

09:00 **Circular economy conclusions based on a global analysis on Impacts of urbanisation on construction material consumption**

» [Georg Schiller](#), Julia Roscher

09:15 **A review of spatial characteristics influencing circular economy in the built environment**

» [Ning Zhang](#), Karin Gruhler, Georg Schiller

09:30 **Space and place - perspectives on a circular built environment**

» [Andreas Blum](#), Mustafa Selçuk Çıdık

09:45 **Mapping Storage Infrastructure for a Circular Economy**

» [Ling Min Tan](#)

10:00 **Investigating material recycling possibilities for different geographical scales and temporal windows. Opportunities for the Construction sector**

» [Jonathan Cohen](#), Leonardo Rosado, Jorge Gil, Maud Lanau

09:00 **Plastics: impacts**

B0.20 KOG

09:00 **The environmental potential of plastic recycling from a system perspective**

» [Magdalena Klotz](#), Melanie Haupt, Christopher Oberschelp, Cecilia Salah, Luc Subal, Stefanie Hellweg

09:15 **Quantifying the effect of the Basel Convention Plastic Waste Amendment: How did trade patterns and environmental impacts change?**

» [Kai Li](#), Hauke Ward



Continued from **Monday, 3 July**

- 09:30 **Do bio-based plastics have a lower environmental impact than petrochemical-based plastics?**
» [Linda Ritzen](#), Benjamin Sprecher, Conny Bakker, Ruud Balkenende
- 09:45 **Reducing Greenhouse Gas Emissions through Effective Waste Management in a 100% Bio-Based Plastic Market**
» [ELISABETH VAN ROIJEN](#), Sabbie Miller
- 10:00 **Global supply chain drivers of agricultural plastic pollution in China**
» [Chuan Zhao](#), Zhengyang Zhang, Kazuyo Matsubae
- 10:15 **USING DATA ENVELOPMENT ANALYSIS TO EVALUATE MARINE PLASTIC POLLUTION IN THE PERUVIAN INDUSTRIAL FISHERY.**
» [Alejandro Deville](#), Ian Vazquez-Rowe, Ramzy Kahhat
- 09:00 **Ex-ante LCA 1**
B0.25 KOG
- 09:00 **Well-to-Wake LCA of Liquid Hydrogen Jet Fuel**
» [T. Reed Miller](#), Marian Chertow, Edgar Hertwich
- 09:15 **Life Cycle Assessment of microfluidic devices for point-of-care testing: a comparative analysis of PDMS, paper and PLA**
» [Kristie Tjokro](#), Stefano Cucurachi, Alina Rwei, Justin Lian
- 09:30 **Closing the GHG mitigation gap with measures targeting conventional light-duty vehicles – A scenario-based analysis of the U.S. fleet**
» [Nadine Alzaghrini](#), Riddhiman Roy, Alexandre Milovanoff, Amir F.N. Abdul-Manan, Jon McKechnie, I. Daniel Posen, Heather L. MacLean
- 09:45 **Prospective LCA of Emerging Transportation Systems as demonstrated by the Electrification of a Regional Aircraft**
» [Susanne Hanesch](#), Liselotte Schebek

- 10:00 **Prospective life cycle assessment (pLCA) of emerging carbon capture technologies used in the steel industry**
» [Thomas Hennequin](#), Rosalie van Zelm, Mark A.J. Huijbregts

09:00 **Resources & Materials**
B0.31 KOG

- 09:00 **Environmental sustainability and climate resilient supply chains: the case of advanced biofuel production in the EU**
» [Lars Wietschel](#), Martin Bruckler, Lukas Messmann, Selina Sartor, Andrea Thorenz, Axel Tuma
- 09:15 **Lignocellulose Biomass as a Chemical Feedstock: Regional Availability and Environmental Impacts till 2050**
» [Jing Huo](#), Zhanyun Wang, Pekka Lauri, Gonzalo Guillén-Gosálbez, Stefanie Hellweg
- 09:30 **Can industrial agglomeration increase the wood resource efficiency?**
» [Chenlu Tao](#), Chang Yu
- 09:45 **Bulk Materials Supply in a Zero-Emission Future with Uncertain Technology Adoption**
» [Takuma Watari](#), Lukas Gast, André Serrenho
- 10:00 **Critical Raw Material demand modeling for substitutable materials and future technologies**
» [Christoph Helbig](#)
- 10:15 **Assessing the potential supply risk mitigation for strategic raw materials in the EU: Evaluation of the benchmarks from the Critical Raw Materials Act**
» [Jair SANTILLAN SALDIVAR](#), Anish KOYAMPARAMBATH, Guido SONNEMANN, Daniel MONFORT CLIMENT
- 09:00 **EVs and batteries**
B0.32 KOG



Continued from **Monday, 3 July**

- 09:00 **Reverse logistics of critical elements derived from electric vehicle lithium-ion batteries**
» [Abhimanyu Raj Shekhar](#), Miriam Stevens, Shweta Singh
- 09:15 **Towards a sustainable battery manufacturing modelling platform**
» [Daniel Perez Clos](#), Joris Baars, Felipe Cerdas, Sabrina Zellmer, Anders Hammer Strømman, Christoph Herrmann
- 09:30 **ESG reporting for Australian battery materials: comparing data requirements and quality for voluntary and regulatory mechanisms**
» [Rusty Langdon](#), Fiona Berry, Stephen Northey, Damien Giurco, Wen Li
- 09:45 **Evaluating the implication of cobalt free electric vehicle batteries on the potential for lifetime extension through repurposing in electricity markets**
» [Narjes Fallah](#), Colin Fitzpatrick
- 10:00 **Can second-use of EV batteries in Energy Storage Systems reduce demand for critical raw materials in Europe more than recycling?**
» [Deepiyoti Das](#), Maria Ljunggren, Duncan Kushnir
- 10:15 **Greenhouse gas, cost, material use and grid impacts of plug-in fast charging and electric roads for U.S. long-haul heavy-duty trucks in 2050**
» [Lih Wei Yeow](#), Heather L. MacLean, I. Daniel Posen

- 09:00 **Buildings & Infrastructure 1**
B0.41 KOG
- 09:00 **SDG scoring at building-level for Hong Kong using Big Data and Machine Learning approach**
» [Apoorva Maheshwari](#), Shauhrat Chopra
- 09:15 **Sensors instead of wall insulation? An evaluation of advanced building control as retrofit option**
» [Hannes Gauch](#), Scott Jeen, Jack Lynch, André Serrenho

- 09:30 **Identifying the geographical potential of rooftop systems: Space competition and synergy**
» Mike Slootweg, [Mingming Hu](#), Solmaria Halleck Vega, Maarten van 't Zelfde, Eveline van Leeuwen, Arnold Tukker
- 09:45 **Scaling building-level heat demand modelling to provide high-resolution insights in support of climate change mitigation and circularity policies across the European Union**
» [Nikola Milojevic-Dupont](#), Niko Heeren, Lukas Franken, Peter Berrill, Glenn Pitiot, Aicha Zekar, Felix Wagner, Florian Nachtigall, Marius Zumwald, Lynn Kaack, Peter-Paul Pichler, Felix Creutzig
- 10:00 **Estimating the construction material stocks in developing countries: Case study of Lahore, Pakistan**
» [Komal Habib](#)
- 10:15 **Achieving net-zero raw material consumption for future urban built environments**
» [Yupeng Liu](#), Kangning Huang, Wei-Qiang Chen, Karen Seto

10:30 **Coffee Break**
KOG (Kamerlingh Onnes Building)

11:00 **Parallel Keynotes**
KOG (Kamerlingh Onnes Building)

11:00 **Keynote: Ester van der Voet**
C1.31 KOG

11:00 **Keynote: Weiqiang Chen: Towards a more sustainable societal metabolism and an applied industrial ecology**
A1.44 KOG

11:45 **Break**
KOG (Kamerlingh Onnes Building)



Continued from **Monday, 3 July**

12:00 **Parallel Sessions**
KOG (Kamerlingh Onnes Building)

12:00 **Special Session: Urban Climate Action toward Carbon Neutrality with enhanced Resource circularity (Part 2)**
B0.13 KOG
Chaired by: Yuli Shan

12:00 **From Disruptions to Opportunities: The Impact of Covid-19 on Industrial Waste Trading in China**
» [Xiao Li](#), [Xuezhao Chen](#), Wen Liu, Dong Liu, Runlin Yang

12:15 **City-level inequalities in sustainable development**
» [Ruogqi Li](#), Yidan Zhou, Miaomiao Liu, Jun Bi

12:30 **Greenhouse gas emissions inventory of natural gas pipeline incidents in the United States and Canada from 1980s to 2021**
» [Hongfang Lu](#)

12:00 **Buildings and construction (short presentations)**
B0.14 KOG

12:00 **Global sand demand and supply and sustainability implications**
» [Shurong Zhuang](#), Qiance Liu, Ruishan Chen, Gang Liu

12:07 **Patterns of building material stocks' service provisioning and resource productivity across Europe's cities**
» [Tomer Fishman](#), Yoav Peled

12:14 **A comparative life cycle assessment of a cross-laminated timber and a lightweight steel frame building, a case study in the Netherlands**
» [Mingming Hu](#), Wesley Simon Grul, Bernhard Steubing, Mike Slootweg

12:21 **Estimating Embodied and Operational Emissions of Residential Building Stock in Western Asia and Northern Africa: A Comparative Study**
» [Sahin AKIN](#), Aida Eghbali, Chibuikem Nwagwu, Niko Heeren, Edgar Hertwich

12:28 **Assessing the Construction Materials Intensities in Buildings: A Historical Case Study in the City of Debrecen**
» [Faisal Aldebei](#), Attila Harangi

12:35 **Defining Pathways to Carbon Neutral Concrete: A Life Cycle Carbon Assessment of Biochar Concrete**
» [Harn Wei Kua](#), Alvin Wei liang Ee, Hsien Hui Khoo

12:00 **Circular economy (short presentations)**
B0.16 KOG

12:00 **Systems framework and quantitative methodology to assess polymer circularity**
» [Basuhi Ravi](#), Karan Bhuwalka, Richard Roth, Elsa Olivetti

12:07 **Modelling European steel scrap availability - Underlying assumptions, quality constraints and challenges for establishing a circular economy**
» [Carolin Hundt](#), Frank Pothén

12:14 **The need for LCA in proposed circular bioeconomy solutions**
» [Iyanuoluwa Filani](#), John Harvey, Alissa Kendall

12:21 **The environmental profile and cost benefit analysis of different linear and circular End-Of-Life management of PV Waste in South Korea**
» [Minhee Son](#), Kendra Ho, ojasvee arora

12:00 **Computational methods (short presentations)**
B0.17 KOG



Continued from **Monday, 3 July**

12:00 **HESTIA: An open-access platform for sharing harmonised agri-environmental data**
» [Patrik Henriksson](#), Joseph Poore, Valentina Caldart, Guillaume Royer

12:07 **ECOPT2: An adaptable life cycle assessment model for the environmentally constrained optimization of prospective technology transitions**
» [Christine Hung](#), Paul Kishimoto, Volker Krey, Anders Hammer Strømman, Guillaume Majeau-Bettez

12:14 **Refining a Hybrid Input-Output Model Built on Process-Driven Physical Data for Bioenergy Footprinting**
» [Miriam Stevens](#), Shweta Singh

12:21 **What are sustainable plastics? A review of interrelated problems and solutions.**
» [Sara Gonella](#), Vincent de Gooyert

12:28 **pacha: a python package for simulating agent-based models of socio-technical systems in sustainability research**
» [Gustavo Larrea-Gallegos](#), Antonino Marvuglia, Tomás Navarrete Gutiérrez, Enrico Benetto

12:00 **Consumption, Policy, and Products (short presentations)**
B0.20 KOG

12:00 **Gone too soon: A socio-economic analysis of product repair practices in Pakistan**
» [Hina Habib](#), Jo Dewulf

12:07 **What do people think is good for the environment, and how does LCA-based information influence that perception?**
» [Yoshinobu Hasegawa](#), Kiyo Kurisu, Kensuke Fukushi

12:14 **Product obsolescence: relationships with product lifetime, product type, and household characteristics**
» [Haruhisa Yamamoto](#), Masahiro Oguchi, Daisuke Nishijima, Shinsuke Murakami

12:21 **Using agent-based modeling to explore aquaponics**
» [Marissa Breitenstein](#), Elisabeth Bautista, Andrea Hicks

12:28 **Reuse, repair, recycle, or dead storage? Canadian consumers' behavior towards end-of-life electronics**
» [Sohani Withanage](#), Komal Habib

12:00 **Critical Raw Materials 1 (short presentations)**
B0.25 KOG

12:00 **Lithium-Sulfur Technology Reduces the Environmental Impact of Lithium-Ion Batteries**
» [Heng Yi Teah](#), Qi Zhang, Kotaro Yasui, Suguru Noda

12:07 **How Do Critical Materials Impact the Carbon-neutral and Fossil-free European Energy System?**
» [Fei Wu](#), Francesco Lombardi, Christian Moretti, Adrien Mellot, Jaco Quist, Stefan Pfenninger

12:14 **Quantitative assessment of global future Lithium supply: Simulating mining projects and predicting production start times**
» [Laura Buarque Andrade](#), Max Frenzel, Britta Bookhagen, Carolin Kresse

12:21 **Environmental potential of circular lithium-ion battery production from an overall European market perspective**
» [Raphael Ginster](#), Steffen Blömeke, Jan-Linus Popien, Jana Husmann, Christian Scheller, Felipe Cerdas, Christoph Herrmann, Thomas S. Spengler

12:28 **Trends in technological readiness, critical raw material use, and electricity consumption of water electrolysis technologies up to the year 2050 - prospective technological and environmental assessment**
» [Jan Christian Koj](#), Petra Zapp



Continued from **Monday, 3 July**

12:35 **Urban mining future of copper under the low-carbon transition of China's power sector**

» [Min Hao](#), Peng Wang, Wei-Qiang Chen

12:00 **IE and Industry (short presentations)**

B0.31 KOG

12:00 **Net-zero transition in the cement industry: a case study of China based on plant-level data**

» [Xinke Song](#), Can Wang, Gang Liu

12:07 **The Industrial Ecology Approach to Bioeconomy Monitoring**

» [Hanna Helander](#), Christian Lutz, Martin Distelkamp, Rüdiger Schaldach, Meghan Beck-O'Brien, Stefan Bringezu

12:14 **Net-zero transition of the chemical industry: framework and results**

» Amrita Sen, Vyom Thakker, George Stephanopoulos, [Bhavik Bakshi](#)

12:21 **Enabling sustainable chemical manufacturing from product to industrial ecosystem**

» [Yizheng Lyu](#), Jinping Tian, Lyujun Chen

12:28 **Assessing material and energy networks in symbiotic petrochemical clusters**

» [Michael Tan](#), Paola Ibarra Gonzalez, Igor Nikolic, Andrea Ramirez

12:35 **Transitions of China's value chain role of iron and steel industry**

» [Ludi Liu](#), Xin Tian

12:00 **New IE developments (short presentations)**

B0.32 KOG

12:00 **Recent developments in Hybrid Life Cycle Assessment - A systematic review**

» [Rosalie Hagenaars](#), Ranran Wang, Reinout Heijungs, Arnold Tukker

12:07 **SUSTAINABILITY ASSESSMENT OF EMERGING TECHNOLOGIES: TAILORING TO CONTEXT**

» [Gulnara Shavalieva](#), Henrikke Baumann

12:14 **Prospective life cycle assessment: the way forward**

» [Rosalie van Zelm](#), Mark Huijbregts, Thomas Hennequin, Anne Ottenbros, Emma Zuiderveen, Mitchell van der Hulst

12:00 **Food Systems (short presentations)**

B0.41 KOG

12:00 **The Efficiency of dietary sustainability and its global transition**

» [Pan He](#), Zhu Liu, Klaus Hubacek, Giovanni Baiocchi, Dabo Guan

12:07 **Opportunities for mitigating greenhouse gas emissions in U.S. beef production**

» [Rylie Pelton](#), Clare Kazanski, Shamitha Keerthi, Kelly Racette, Nathaniel Springer, Michael Wironen, Eugene Jacobsen, Sasha Gennet, Deepak Ray, Kris Johnson, Jennifer Schmitt

12:14 **Fingerprint 2 Footprint: Enhancing environmental sustainability of animal feed production by combining NIR spectroscopy and environmental footprinting**

» Maria Cairoli, [Anne Ottenbros](#), Sin Yong Teng, Mark Schoot, Steef Hanssen, Christiaan Kapper, Rosalie van Zelm, Mark Huijbregts, Jeroen Jansen

12:21 **Food delivery packaging in China: Environmental impact reduction potential from circular economy approaches**

» [PEIXIU CHEN](#), Benjamin Steuer

12:28 **The transition of sustainable food consumption: scenario analysis and psychological factors**

» [Yinglei WU](#), Kiyo Kurisu, Kensuke Fukushi

12:00 **Energy (short presentations)**

C0.04 KOG



Continued from **Monday, 3 July**

- 12:00 **Green hydrogen's greenhouse gas footprints beyond the horizon: production, conversion and transport**
» [Kiane de Kleijne](#), Mark A.J. Huijbregts, Rosalie van Zelm, Steef V. Hanssen
- 12:07 **Energy and feedstock: Material Flow Analysis of Fossil-based Chemical Production in China**
» [Yuheng Cao](#), Meng Jiang, Bing Zhu
- 12:14 **Analysis and Optimization of Energy Coproduct Opportunities within an Industrial Park: A case study of the Bécancour Industrial Park**
» [Leo Lamy-Laliberte](#), Simon Barnabé, Normand Mousseau, Jean-Marc Frayret
- 13:00 **Poster session 2 + lunch. See description for poster groups.**
Pieterskerk

Scroll down for the detailed posters list



Continued from **Monday, 3 July**

15:00

Parallel Sessions

KOG (Kamerlingh Onnes Building)

15:00

Special Session: Plastics, Chemicals and Sustainability (Part 2)

B0.13 KOG

Chaired by: Fanran Meng

15:00

Re-evaluation of end-of-life treatment options for plastics

» Fanran Meng, [Jonathan Cullen](#), André Serrenho

15:15

How consistent and complete is data on the global petrochemicals sector's emissions?

» [Rick Lupton](#), Georgie Wellock, Stephen Boyle, Fanran Meng, Luke Cullen, Jonathan Cullen

15:30

Mapping the greenhouse gas emissions of petrochemical production

» Fanran Meng, [Luke Cullen](#), Jonathan Cullen

15:45

The Scope of Change for a Circular and Low Carbon Petrochemical Sector in the Context of Economy-wide Energy and Material Flow Analysis

» [Carey King](#), Neeraj Hanumante

15:00

Special Session: Trans-continental research agenda for inclusive circular urban industrial innovation systems (Part 2)

B0.14 KOG

Chaired by: Martin de Jong

15:00

A large-N analysis of Circular Economy policy accumulation in China from 2006 to 2020

» [Wenting Ma](#), Thomas Hoppe, Martin de Jong



Continued from **Monday, 3 July**

15:08 **Promote the deep decarbonization development of Eco-Industrial Parks in China by considering the GHG emissions structures and characters**

» [LU SUN](#), Fufu Wang

15:16 **Impact Assessment on Direct Circulation of Positive Electrode Active Materials from Spent Lithium-ion Batteries Through Innovative Separation Technologies**

» [Yi Dou](#), Aya Heiho, Izuru Suwa, Yasunori Kikuchi

15:24 **A solution in household: Is there an alternative beyond the currently widespread pathways of food waste management?**

» [Hengxing Yin](#), Ling Han, Xin Tong

15:32 **Just transition: moving toward socio-ecological justice in the sustainable development era**

» [Yuhang Sun](#), Liang Dong

15:00 **MFA case studies 3**

B0.16 KOG

15:00 **Coexistence of improving material flow indicators and reducing carbon emissions in Japan**

» [Sho Hata](#), Keisuke Nansai, Kenichi Nakajima

15:15 **Dynamic material flow analysis of lithium-ion battery materials: The impact of vehicle sharing**

» [Daniel Johansson](#), Simon Davidsson Kurland, Johannes Morfeldt

15:30 **ASEAN4 EW-MFA with Perspectives on Well-Being Indicators**

» [\(Anthony\) Shun Fung Chiu](#), Liang Dong, Marianne Faith Martinico-Perez

15:45 **How much sorting is required for a circular low carbon aluminium economy?**

» [Julien Pedneault](#), Guillaume Majeau-Bettez, Manuele Margni

15:00 **Advances in MFa methods 2**

B0.17 KOG

15:00 **Taxes and crises: modeling time-dependent changes in lifetime**

» [Kamila Krych](#), Johan Pettersen

15:15 **Regional Sensitivity Analysis to determine the appropriate combination of CE strategies**

» Yusuke FUJII, Ken MATSUOKA, Ryu Koide, [Shinsuke Murakami](#)

15:30 **Parameter reconciliation for designing biophysically consistent socio-technical alternatives**

» Olivier Mauviel, [Jean-Yves Courtonne](#), Guillaume Mandil, Peter Sturm

15:00 **LCA case studies 3**

B0.20 KOG

15:00 **The Social Structure of Technology: Exploring the Potential of Social Accounting Matrices for Social Life-Cycle Analysis**

» [Carlos López-Morales](#), Miriam Boyer

15:15 **Social Life Cycle Assessment of formal and informal waste collectors using UNEP/SETAC guidelines - a case study in Uttara, Dhaka**

» [AZAD ASHRAF](#), Eugene Mohareb, Maria Vahdati, Elina Adam, Sruthi Udayakumar, Rohail Tahir

15:30 **The full picture: Life cycle assessment of Norwegian household MSW generation - Impacts and potential environmental benefits of the complete waste management system**

» [Kim Rainer Mattson](#), Johan Pettersen

15:00 **Urban Metabolism**

B0.25 KOG

15:00 **What does "urban metabolism" mean? A conceptual engineering approach**

» [Nicola Bertoldi](#), Daniela Perrotti



Continued from **Monday, 3 July**

- 15:15 **Integrating urban metabolism and smart cities technologies**
» [Federica Geremicca](#), Melissa Bilec
- 15:30 **Urban Bioeconomy: Mapping Organic Resource Streams and the Bio-Symbioses in Cities through Material Flow Analysis**
» [Nan-Hua Nadja Yang](#), Aidong Yang
- 15:45 **Teleconnections and spatial metabolic rifts in urban material circularity**
» [Thomas Elliot](#), Marie Vigier, Annie Levasseur
- 15:00 **Complex supply chains**
B0.31 KOG
- 15:00 **Mapping the economic complexity of green supply chains**
» [Yang Li](#)
- 15:15 **Assessing Supply Risks and Unveiling Holistic Insights: A Comprehensive Analysis of the Global Nickel Supply Chain**
» [Simone Della Bella](#), Burak Sen, Gang Liu
- 15:00 **EEIOA cases 1**
B0.32 KOG
- 15:00 **The exotic species footprint of traded commodities**
» [Jan Borgelt](#), Francesca Verones, Konstantin Stadler
- 15:15 **Tracing carbon footprints to supply chain intermediaries in the United Kingdom**
» [Diana Ivanova](#), Hanspeter Wieland
- 15:30 **Quantifying and understanding urban metabolism based on the national socioeconomic metabolism**
» [Sónia Cunha](#), [Paulo Ferrão](#)

- 15:45 **Evaluating the decoupling of economic growth from material consumption based on the socioeconomic metabolism characterization of European countries**
» [Sónia Cunha](#), Marta Abrantes, Patrícia Baptista, Paulo Ferrão
- 15:00 **Energy systems 1**
B0.41 KOG
- 15:00 **Delivery of energy sustainability: Applications of the “STAR” protocol to the Sustainable Development Goal 7 index and its interaction analysis**
» [Dandan Zhao](#), Olli Varis, Jialiang Cai, Lei Shei, Ayman Elshkaki, Junguo Liu
- 15:15 **Biogas potential studies: A review of their scope, approach and relevance**
» [Natasia Angel Setiawan Tjutju](#), Jonas Ammenberg, Axel Lindfors
- 15:30 **Towards a circular green hydrogen supply chain: a fieldwork research**
» [Pamela Salinas-Velarde](#), Ruth Carrasco-Gallego, Alberto Abánades
- 15:00 **Social Dimensions 2**
C0.04 KOG
- 15:00 **Status of Smartphone Garbage Applications Provided by Japanese Local Governments**
» [Seiji Hashimoto](#), Riki Yukawa
- 15:15 **Towards linking social metabolism with the behaviour of individual agents**
» [Raphael Asada](#), Julia Wenger, Claudia Mair-Bauernfeind, Michael Kriechbaum, Tobias Stern
- 15:30 **Impacts of working arrangements and lifestyle factor importance on environmental consciousness**
» [Andrew Chapman](#), Shamal Karmaker, Yosuke Shigetomi



Continued from **Monday, 3 July**

15:45 **Escaping the sustainability trap: why the world's survival depends on nature-positive language and measures**

» [Rochelle Bright](#), Mathilde Vlieg, Biji Kurup, Delwyn Jones

16:00 **Coffee break**

KOG (Kamerlingh Onnes Building)

16:30 **Parallel sessions**

KOG (Kamerlingh Onnes Building)

16:30 **Special Session: Assessing Progress Towards a Sustainable Circular Economy Across Scales (Part 2)**

B0.13 KOG

Chaired by: Dominik Wiedenhofer

16:30 **Comparative assessment of national indicator system towards a circular economy in Japan, China, the EU, and individual EU countries**

» [Chika Aoki-Suzuki](#), Seiji Hashimoto

16:45 **Assessing circular economy's compatibility with 'sustainable work'**

» [Anran Luo](#)

17:00 **ASSESSING THE IMPACT OF CIRCULAR ECONOMY STRATEGIES ON CO2 EMISSIONS IN THE UK TRANSPORT SECTOR**

» [Gabriel Carmona](#), Zeus Guevara, Kai Whiting, Jonathan Cullen

17:15 **Determining the Average Sustainable Performance of German and Danish Urban Resource Centres**

» [Vitor Souza](#), Magnus Fröhling, Pedro Lopes Cardoso de Mattos, Perla Calil Pongeluppe Wadhy Rebehy, Daniela Pigosso

17:30 **How can a city get circular? Comprehensively Monitoring Urban Circularity and Deriving Policy-Relevant Indicators. The case of Vienna, Austria.**

» [Nina Eisenmenger](#), Christian Dorninger, Willi Haas, Andreas Mayer, Lisa Kaufmann, André Baumgart, Dominik Wiedenhofer

16:30 **Special Session: Bringing Industrial ecology and the Circular Economy into integrated assessment models (part 2)**

B0.14 KOG

Chaired by: Vered Blass

16:30 **Modeling the energy-transport nexus in the Israel's economy using the MESSAGE model: combining bottom-up and top-down approaches**

» [Vered Blass](#), Ayelet Davidovitch, Paul KISHIMOTO, Rotem Izak, Anat Tchetchik

16:45 **Representing battery value chains for electromobility in MESSAGEix-Materials-Transport. Towards improved integration of industrial ecology data in IAMs.**

» [Lorenzo Usai](#), Anders Hammer Strømman, Gamze Unlu, Jihoon Min, Volker Krey

17:00 **An analytical framework to assess circular action contributing to climate change mitigation**

» [Oreane Edelenbosch](#), Detlef van Vuuren

17:15 **A round-trip around the world: Scenarios on circular material use in vehicles worldwide**

» [Sebastiaan Deetman](#), Ester van der Voet, Vassilis Daioglou, Martijn van Engelenburg, Oreane Edelenbosch, Detlef van Vuuren

17:30 **Adding Materials to the Climate Mitigation Picture: Material and Circular Economy Dynamics in Cost-Benefit Integrated Assessment Modeling**

» [Lucas Straub](#), Kaj-Ivar van der Wijst, Sebastiaan Deetman, Oreane Edelenbosch, Detlef van Vuuren



Continued from **Monday, 3 July**

16:30 **Special Session: Experiences and Impacts of User-Centric Research that can lead to much-needed Transition**

B0.16 KOG

Chaired by: Oliver Heidrich

16:30 **Identifying research diversity of the Living Labs across different sectors**

» [Shalini Nakkasunchi](#), Oliver Heidrich

16:45 **Making Data Analytics Less Biased: Applying the Wells-Du Bois Protocol for Achieving Systemic Equity**

» Ayushi Aggarwal, Tyrek Shepard, Thema Monroe-White, [Joe Bozeman III](#)

17:00 **What are circular economies without community input? Advancing and Scaling the Circularity Assessment Protocol**

» [Melissa Bilec](#), Jenna Jambeck, Nicole Bell, Madison Werner

17:15 **The Promise of Sustainable Transportation and Its Hidden Unintended Environmental Consequences**

» Wissam Kontar, [Andrea Hicks](#), Soyoungh Ahn

17:30 **Environmental risks and climate change adaptation and mitigation measures in a small island: The case of Rodrigues island.**

» [Vimi Dookhun](#), Franceau Grandcourt, Rudee Parmasse

17:45 **Understanding the Role of Value-Based Choice in Green Building and Neighbourhood Living Labs through Q-Methodology**

» [Darren McCauley](#), Kerry Pettigrew, Ryan Holmes, Inge Meems, Victoria Unverzagt

16:30 **Energy Systems 2**

B0.17 KOG

16:30 **The Change in Electricity Demand Structure after the COVID-19 Pandemic in the Greater Tokyo Area**

» [Yuki Hiruta](#), Naho Yamashita, Hiroaki Shirakawa, Hiroki Tanikawa

16:45 **Are global net-zero proposals feasible, given the limited availability of key Zero-Emissions Resources?**

» [Jennifer Hawkin](#), Julian Allwood

17:00 **Aligning policy responses to rising energy prices with the long-term climate neutrality objective**

» [Edgar Hertwich](#)

17:15 **Optimization of Regional Cooperation Among Municipalities for Renewable Energies in Japan**

» [Takahiko Date](#), Kiyo Kurisu, Kensuke Fukushi

17:30 **Environmental assessment of energy planning: the case of Spain 2015-2030**

» [Miquel Sierra](#), Joaquín Amenábar, Alexander de Tomás Pascual, Cristina Pérez-Sánchez, Cristina Madrid-López

17:45 **Decarbonisation of Corporate Electricity Procurement: Impact Assessment of the European Trade with Guarantees of Origin**

» [Aaron Paris](#), Ron-Hendrik Hechelmann, Nadja Buchenau

16:30 **Built environment MFA**

B0.20 KOG

16:30 **Development of building stock model for Thane City in India: Learnings for future stock management**

» [Namya Sharma](#), Pradip Kalbar, Muhammad Salman

16:45 **Material flow analysis of Great Britain's road network**

» [Daniel Grossegger](#), Kristen MacAskill

17:00 **A material flow analysis of sand use in the Netherlands**

» [Catrin Böcher](#), Tomer Fishman, José Mogollón, Ester van der Voet



Continued from **Monday, 3 July**

17:15 **Spatially-refined stock-flow modeling to reveal locational impacts of envelope improvements and climate change on China's housing energy use**

» [Zhi Cao](#)

17:30 **Building Decarbonisation at Scale: Dynamic Stock-Flow Modelling of Pathways Across Germany's 10,000+ Municipalities**

» [Jakob Napiontek](#), Tomer Fishman, Peter-Paul Pichler, Helga Weisz

17:45 **Unsaturated and Accelerating Material Stock Accumulation in China's Megacities as Urbanization Approaches 80%**

» [Chenling Fu](#), Yan Zhang, Ming Xu

16:30 **LCA and circularity**

B0.25 KOG

16:30 **Improved land management by growing wheat in rotation with lupine and fallow**

» SARA LAGO OLVEIRA, [Ricardo Rebolledo-Leiva](#), Fernando Almeida-García, María Teresa Moreira, Sara González-García

16:45 **Closing the NPK Cycle in Urban Areas. The Use of OMSW Compost for Peri-urban and Urban Agriculture.**

» [Juan David Arosemena](#), Susana Toboso, gara villalba

17:00 **Life Cycle Assessment and Techno-Economic Analysis of Waste-Based Enhanced Weathering in the United States**

» [Jennifer Kroeger](#), Bingquan Zhang, Noah Planavsky, Yuan Yao

17:15 **Environmental Consequences of Shifting Hardwood Utilization from Energy Use to Material Application - A Regional Case Study in Germany**

» [Anna Sander-Titgemeyer](#), Gabriele Weber-Blaschke

16:30 **Footprints 2**

B0.31 KOG

16:30 **Food nitrogen footprint of states and union territories in India**

» Aurup Ratan Dhar, Azusa Oita, Himadri Kaushik, Ananta Narayan Panda, Tapan Kumar Adhya, [Kazuyo Matsubae](#)

16:45 **THE EVOLUTION OF NITROGEN FOOTPRINT EMBEDDED IN THE GLOBAL FOOD SUPPLY CHAIN FROM 1986-2020**

» [Yue Xiao](#), Martin Bruckner, Stefan Trsek, Quanliang Ye, Anna Muntwyler

17:00 **Material-carbon nexus of urban systems**

» [Juudit Ottelin](#), Julia Sborz

17:15 **Green technological developments, sustainable consumption, and relocation strategies: relative effectiveness to reduce the carbon footprint of France by 2050**

» [Bruno Fontaine](#), Fanny Vicard, Antoine Teixeira, Julien Lefèvre

17:30 **Uncovering the household carbon footprint of people certified for long-term care in Japan**

» [Narumi Kira](#), Yosuke Shigetomi

17:45 **Avoiding turmoil. Achieving targets. Attempting NetZero: Perspectives from the Water Sector**

» [Anna Christy](#), Oliver Heidrich, Marwa Elnahass, Anthony Browne, Jaime Amezaga, Andrew Moore

16:30 **EEIOA cases 2**

B0.32 KOG

16:30 **Improving the Sustainability Assessment of the Olympic Games through Environmentally-Extended Input-Output Analysis**

» [Frederike Arp](#), Ranran Wang, Tomer Fishman

16:45 **Aligning nutrition with planetary boundaries: changing consumption alone is not enough**

» [Martin Bruckner](#), Stefan Trsek, Julia Kreimel



Continued from **Monday, 3 July**

- 17:00 **Sharing economy rebound: The case of peer-to-peer sharing of food waste**
» [Tamar Meshulam](#), David Font Vivanco, Vered Blass, Tamar Makov
- 17:15 **Risk of intact forest landscape loss goes beyond global agricultural supply chains**
» [Siyi Kan](#), Bin Chen, Martin Persson, Guoqian Chen, Yutao Wang, Jiashuo Li, Jing Meng, Heran Zheng, Rui Li, Mingxi Du, Thomas Kastner
- 17:30 **A model to assess the environmental, social, and financial performance of reusing buildings services**
» [Sébastien Loreau](#), André Stephan, Daniel Cooper, Anne-Laure Maerckx
- 17:45 **European Green Deal: The road to the European clean energy transition could be paved with its critical mineral resources**
» [Etienne Berthet](#), Julien Lavalley, Candy Deck, Fernanda Sophia Ballesteros, Konstantin Stadler, Ugur Soytaş, Michael Hauschild, Alexis Laurent
- 16:30 **Industrial symbiosis 2**
B0.41 KOG
- 16:30 **Facilitator functions for knowledge sharing during the emergence of IS networks**
» [Katrin Katana](#), Besma Glaa
- 16:45 **Uncovering industrial symbiosis in the United States: Statistical exploration of the Northeast and influencing factors**
» [Koichi Kanaoka](#)
- 17:00 **Pricing in industrial symbiosis: Challenges and solutions**
» [Marianna Lena Kambanou](#), Murat Mirata
- 17:15 **Waste inventory for industrial symbiosis: is it worth it? An Enterprise Input-Output approach**
» [Luca Fraccascia](#), Devrim Yazan, Vito Albino

- 17:30 **A location-based optimization model for development of agricultural greenhouses running by waste heat of industries to practice industrial symbiosis**
» FARZANEH REZAEI, Stephan Pfister, Vanessa Burg, Stefanie Hellweg, Ramin Roshandel
- 17:45 **Untangling spatiotemporal generation and recycling of solid waste in China's coal-fired electricity sector**
» [Hanbo Gao](#), Yang Guo, Haozhi Xu, Jinping Tian, Lyujun Chen
- 16:30 **Vehicles**
C0.04 KOG
- 16:30 **An ethnography of the automobile: A participatory tool for understanding human behavior in automotive recycling context**
» [Veronica Davidov](#), Ivan Cukeric
- 16:45 **US-Mexico Second-hand Vehicle Trade: Implications for North American EV circularity, infrastructure and regional policy**
» [Francisco Pares Olguin](#), Galym Iskakov, Alissa Kendall
- 17:00 **Decarbonising vehicle fleets - the case for hydrogen**
» [Simon Edwards](#), Philip Blythe
- 17:15 **End-of-Life Lithium-Ion Battery Management Including Safety Perspectives**
» [Atsushi Terazono](#), Masahiro Oguchi, Hiroyuki Akiyama, Hiromitsu Tomozawa, Toru Hagiwara, Miyuki Shintomi, Shingo Kano, Jo Nakayama
- 17:30 **CIRCULAR ECONOMY IN CAR ELECTRONICS - A CASE STUDY OF THE COMBIMETER AND THE INFOTAINMENT OF THE SEAT LEON II MODEL**
» [Abel Ortego](#), Alicia Valero, Antoinette van Schaik, Marta Iglesias, Markus Reuter, Samuel Alcoceba Pascual
- 18:00 **ISIE Society events**
KOG (Kamerlingh Onnes Building)



Tuesday, 4 July

- 09:00 **Parallel sessions**
KOG (Kamerlingh Onnes Building)
- 09:00 **Special Session: Tipping points towards sustainability: what role can industrial ecology play?**
B0.13 KOG
Chaired by: Claudia R. Binder
- 09:00 **Analyzing Tipping Points in Socio-Ecological Technical Systems**
» [Claudia R. Binder](#), Aristide Athanassiadis, Maria Anna Hecher
- 09:15 **Biophysical Economic Interpretation of the Great Depression: A Critical Episode of an Energy Transition**
» [Chris Kennedy](#)
- 09:30 **Fundamentals and challenges of modeling bifurcation and catastrophic transition dynamics in socio-ecological technical systems**
» [David Bristow](#)
- 09:00 **Special Session: Alternative Proteins and Cellular Agriculture**
B0.14 KOG
Chaired by: Tamar Makov
- 09:00 **Environmental Life Cycle Assessment of Cultivated Meat Burgers**
» [Sunghoon Kim](#), Bhavik Bakshi
- 09:15 **Environmental impacts of large-scale industrial production of cultured meat**
» [Tamar Meshulam](#), Tamar Makov

- 09:30 **Alternative proteins from a food systems perspective**
» [Alon Shepon](#)
- 09:45 **Environmental impact and resource use of alternative protein sources and meat substitutes**
» [Sergiy Smetana](#)
- 10:00 **The environmental impacts of a proposed 250kL cultured meat production facility, based on industrial data**
» [Benjamin Sprecher](#), Tamar Makov
- 10:15 **Environmental impacts of cellular agriculture**
» [Hanna Tuomisto](#)
- 09:00 **Special Session: The metabolism of Islands**
B0.16 KOG
Chaired by: Simron Singh
- 09:00 **A political-industrial ecology of houses and mining infrastructures in Svalbard**
» [Wendy Wuyts](#)
- 09:15 **Tools for a regenerative and inclusive circular economy: Applications at a European and at an island level**
» [Filippos Zisopoulos](#), Daan Schraven, Martin de Jong
- 09:30 **Socio-metabolic Risks and Tipping Points on Islands**
» [Simron Singh](#)
- 09:45 **Island circularity and Indigenous systems: the Hawaiian Ancestral Circular Economy and environmental justice in Hawai'i**
» [Kamanamaikalani Beamer](#), Kahiokala Elkington, Pua Souza, Axel Tuma, Andrea Thorenz, Sandra Köhler
- 10:00 **Interdisciplinary island metabolism: intersection of flows and socio-geography approaches to investigate vulnerability, waste colonialism and externalization in the cases of Comoros and New Caledonia.**
» [Jean-Baptiste Bahers](#)



Continued from **Tuesday, 4 July**

10:15 **Sustainable Textiles and Circularizing Organic Waste of Grenada (SIDS)**

» [Shannon Henry](#)

09:00 **Special Session: How Can Resource Classification Help Communicate the Future Availability of Raw Materials on the National level?**

B0.17 KOG

Chaired by: Christoph Helbig

09:00 **Dynamic Material Flow Analysis of Tantalum in the United States: a 19-Year (2002-2020) Perspective of Stocks and Flows**

» [Abraham J. Padilla](#), Nedal T. Nassar

09:15 **A practical approach for resource management using national level datasets for primary resources.**

» [Tom Bide](#)

09:30 **HOW CAN RESOURCE CLASSIFICATION HELP COMMUNICATE THE FUTURE AVAILABILITY OF RAW MATERIALS ON THE NATIONAL LEVEL?**

» [Soraya Heuss-Assbichler](#), Christoph Helbig, Ulrich Kral, Helmut Rechberger, Julia Stegemann, Patrick Wäger, Iman Dorri

09:00 **Ex-ante LCA 2**

B0.20 KOG

09:00 **Life-cycle Assessment Integration into Scalable Open-source Numerical models (LiAISON) for analyzing emerging low-carbon technologies**

» [Tapajyoti Ghosh](#), Patrick Lamers, Shubhankar Upasani, Romain Sacchi, Vassilis Daioglou

09:15 **Future environmental impacts of passenger vehicles**

» [JORIS ŠIMAITIS](#), Stephen Allen, Rick Lupton, Christopher Vagg, Isabela Butnar

09:30 **Learning curves: using historic trends in forecasting and backcasting environmental footprints**

» [Mitchell van der Hulst](#), Mark Huijbregts, Rosalie van Zelm, Mara Hauck

09:45 **Understanding the performance of a novel technology to produce hexanoic acid from CO2 and renewable electricity**

» [Jisiwei Luo](#), Mar Perez-Fortes, Adrie Straathof, Andrea Ramirez

10:00 **Evaluating the impact of background system on carbon capture and utilization (CCU) pathways in Canada from 2020-2050**

» [Mengqing Kan](#), Sylvia Sleep, Heather L. MacLean, I. Daniel Posen

09:00 **LCA methods 1**

B0.25 KOG

09:00 **Mind the incertitude: a call for mainstream adoption of global sensitivity analysis and Bayesian approaches in LCA**

» [Carlos Felipe Blanco](#), Stefano Cucurachi

09:15 **Influence of Irrelevant Alternatives on Choices with Environmental Attributes**

» Mirel Yavuz, Guia Bianchi, [Charles Corbett](#), Tayler Bergstrom, Aimee Drolet, Timothy Malloy, Deepak Rajagopal, Rakesh Sarin, Francesco Testa

09:30 **Towards intelligent Life Cycle Assessment: from heterogeneous tabular data to a unified knowledge graph**

» [Jianchuan Qi](#), Nan Li, Jing Guo, Ming Xu

09:45 **Characterizing impacts of macroplastic debris on marine biodiversity**

» [Marthe Alnes Høiberg](#), Francesca Verones, Konstantin Stadler

10:00 **Coupling Mobility Model and Life Cycle Assessment to Ecodesign Neighbourhood Project**

» [Cyrille Francois](#), Nicolas Coulombel



Continued from **Tuesday, 4 July**

- 10:15 **Guiding Technology Development for Economy-Wide Decarbonization with GREET Life Cycle Analysis and Scenario Modeling**
 » [Troy Hawkins](#), Uisung Lee, Farhad Masum, Pahola Thathiana Benavides, Saurajyoti Kar, Doris Oke, Udayan Singh, Peter Chen, Tai-Yuan Huang, Chris Kolodziej, Taemin Kim, Michael Wang
- 09:00 **Future resources**
B0.31 KOG
- 09:00 **Decoupling global environmental pressures from economic growth and human wellbeing: a preview of results of the Global Resources Outlook 2024**
 » [Heinz Schandl](#), Detlef van Vuuren, Petr Havlik, Yingying Lu, Sebastiaan Deetman
- 09:15 **Air quality benefits from decarbonization scenarios for the U.S. light-duty passenger vehicle fleet from 2022-2050.**
 » [Jean Schmitt](#), Marianne Hatzopoulou, I. Daniel Posen, Heather L. MacLean
- 09:30 **Quantifying material demand for the global solar photovoltaic supply chain in the terawatt era**
 » [Chengjian Xu](#), Olindo Isabella, Malte Vogt
- 09:45 **Estimating material use in the Netherlands in 2030 on the basis of physical supply-use tables; the appropriate level of detail**
 » [Arjan de Koning](#), S. Cap, L. Scherer
- 10:00 **The circular economy and upscaling potential of modular floating structures for urban development offshore**
 » [Gil Wang](#), Tomer Fishman, Lieke Bikker, Sebastian Schreier
- 09:00 **Food, agriculture, and biomass**
B0.32 KOG

- 09:00 **Characterization and sustainability analysis of the redistribution of unsold meals from collective catering to associations: role of new operators**
 » [Barbara Redlingshöfer](#), Hong-Minh Hoang
- 09:15 **A model to explore the option space for land system futures at regional to global scales**
 » [Andreas Mayer](#), Gerald Kalt, Lisa Kaufmann, Helmut Haberl, Christian Lauk, Sarah Matej, Nicolas Roux, Karlheinz Erb
- 09:30 **Dryland cropping: net-zero or resource efficiency?**
 » [M Sevenster](#), Lindsay Bell, Aaron Simmons
- 09:45 **Towards a holistic carbon accounting framework for harvested wood products at sub-national level units**
 » [Oludunsin Tunrayo Arodudu](#), Obste Therasme, Timothy Volk
- 10:00 **Optimized urban vegetable supply to reduce system-wide greenhouse gas emissions**
 » [Yuanchao Hu](#), Haoran Zhang
- 09:00 **Buildings & Infrastructure 2**
B0.41 KOG
- 09:00 **Forecasting embodied housing emissions and material efficiency scenarios in Ontario, Canada.**
 » [Keagan Hudson Rankin](#), Aldrick Arceo, Hatzav Yoffe, Kaan Isin, Shoshanna Saxe
- 09:15 **Promoting Actionable Science for Urban Sustainability**
 » Jens Peters, [Matan Mayer](#), Santiago Perez Rodriguez
- 09:30 **Assessment of climate change mitigation potential of wood-based construction and textiles**
 » [Elias Hurmekoski](#), Janni Kuntu, Tero Heinonen, Timo Pukkala, Heli Peltola



Continued from **Tuesday, 4 July**

09:45 **High-Resolution Mapping of the Material Stocks in Buildings and Infrastructures in China**

» [Bowen Cai](#), Helmut Haberl, Dominik Wiedenhofer, Zhenfeng Shao

10:00 **The environmental impacts of transitioning from fossil-based to agricultural-based feedstocks for cement**

» [Alyson Kim](#), ELISABETH VAN ROIJEN, Sabbie Miller

10:15 **Drivers and barriers of plastic circularity in the construction industry - the case of Sweden**

» [Shuang Wang](#), Leonardo Rosado, Maud Lanau, Magnus Österbring, Holger Wallbaum

09:00 **New questions, new methods**

C0.04 KOG

09:00 **CO2 utilization from biomethane production in Europe: potential and assessment of alternatives**

» [Stephanie Cordova](#), Marcus Gustafsson, Mats Eklund, Niclas Svensson

09:15 **Unraveling the impact of using alternative carbon sources in existing petrochemical clusters**

» [Andrea Ramirez](#), Mar Perez-Fortes, Paola Ibarra Gonzalez, Michael Tan, Tonny Manalal, Inna Stepchuk

09:30 **Utilization of Machine Learning for Satellite Image Analysis: the Land Use Change Induced by Copper Mining**

» [Junbin Xiao](#), Yoko Yamakata, Takeshi Komai, Kazuyo Matsubae

09:45 **Quantifying Biodiversity and Climate Security from Water and Carbon Capture**

» [Biji Kurup](#), Delwyn Jones

10:00 **OpenGHGMap And the Roadmap Toward High Spatial Resolution Models of the Economy**

» [Dan Moran](#)

10:15

Integrated assessment modeling shows environmental leakage of aggressive decarbonization goals

» Kaixin Huang, [Matthew Eckelman](#)

10:30

Coffee break

KOG (Kamerlingh Onnes Building)

11:00

Parallel Keynotes

KOG (Kamerlingh Onnes Building)

11:00

Keynote: Conny Bakker: Product Design in a Circular Economy

C1.31 KOG

11:00

Keynote: Björn Sanden: The role of transition thinking in environmental assessment and assessment in transition thinking: on the interplay between two fields of sustainability science.

A1.44 KOG

11:45

Break

KOG (Kamerlingh Onnes Building)

12:00

Parallel sessions

KOG (Kamerlingh Onnes Building)

12:00

Critical Raw Materials 2 (short presentations)

B0.13 KOG

12:00

Toward China's carbon neutrality: critical rare earth elements supply and demand

» [Shijiang Xiao](#)



Continued from **Tuesday, 4 July**

- 12:07 **A dynamic analysis of Rare Earth Elements in the UK electric vehicle stock**
» [Wan-Ting Hsu](#), Evi Petavratzi
- 12:14 **Tracking the Global Anthropogenic Gallium Cycle during 2000-2020: a Trade-Linked Multiregional Material Flow Analysis**
» [Ziyan Gao](#), Yong Geng, Meng Li, Jing-Jing Liang
- 12:21 **Towards Circularity for Copper: An Analysis of Regional Characteristics and Challenges from a Global Point of View**
» [Antonia Loibl](#), Luis Tercero Espinoza
- 12:28 **Battery mineral demands and recycling potentials from electric vehicles under 1.5-degree compatible scenario: an Australian case**
» [Haiwei Zhou](#), Wen Li, Prakash Singh
- 12:35 **Critical raw materials demand for green & digital pathways in Spain**
» [Martin Lallana](#), Jorge Torrubia, Alicia Valero
- 12:00 **Upcycling & Recycling (short presentations)**
B0.14 KOG
- 12:00 **Transforming landfill to a relative carbon-negative sector by mining its overlooked carbon stock**
» [Shijun Ma](#), Chuanbin Zhou
- 12:07 **Materials Catalogue for Novel and Responsive Materials**
» [Layla van Ellen](#), Ben Bridgens, Oliver Heidrich
- 12:14 **Leveraging Drone Technology and Data Analysis Techniques to Transform Illegal Waste Sites into Valuable Resources: An Exploratory Study**
» Adi Mager, [Vered Blass](#)

- 12:21 **Material Flow Analysis of the Portuguese plastic management**
» [João Serra](#), Paula Quinteiro, Ana Cláudia Dias
- 12:28 **Ex-ante LCA of new magnet recycling technology**
» [Sander van Nielen](#), Brenda Miranda Xicotencatl, René Kleijn
- 12:00 **Mitigation Policies (short presentations)**
B0.16 KOG
- 12:00 **Towards a comprehensive and inclusive European Carbon Border Adjustment Mechanism**
» Timothé Beaufils, [Hauke Ward](#), Michael Jakob, Leonie Wenz
- 12:07 **Challenges and opportunities of city-level Scope 3 emission reporting and policies**
» [Kaihui Song](#), Angel Hsu
- 12:00 **Urban IE (short presentations)**
B0.17 KOG
- 12:00 **Analysis of Urban GHG Mitigation progress - a Case Study of UK Local Authorities**
» [Eugene Mohareb](#), Thomas Butt, Kelvin Egbor, Arman Hashemi, Oliver Heidrich
- 12:07 **Bottom-up characterization of the urban metabolism of reusing electric vehicle batteries**
» [Mateo Sanclemente Crespo](#), Laura Talens Peiró, Xavier Gabarrell i Durany
- 12:14 **Beyond greenhouse gases – staying within planetary boundaries in urban and regional Australia**
» [Kylie Goodwin](#), Thomas Wiedmann, Mengyu Li
- 12:21 **A UM-LCA framework to estimate environmental impacts of regional and urban areas**
» [Joana Bastos](#), Riccardo Fraboni, Rita Garcia, Leonardo Rosado



Continued from **Tuesday, 4 July**

- 12:28 **The spatial dimension of urban metabolism. A design atlas of resource-sensitive urban archetypes.**
» [Daniel Otero Peña](#), Daniela Perrotti
- 12:35 **Supply chain Design and Spatial Optimization of Kitchen Waste compost as urban green space Fertilizer: Take Haidian District of Beijing as an example**
» Ling Han, [Wenrui Shen](#), Yilong Xiao, Xin Tong

12:00 **Water (short presentations)**
B0.20 KOG

- 12:00 **The more wastewater reclamation, the less water stress?**
» [Dan Wang](#), Reetik-Kumar Sahu, Taher Kahil, Ting Tang, Yuli Shan, Klaus Hubacek
- 12:07 **Life Cycle Environmental Impacts of Using Wastewater-derived Products**
» [Ka Leung Lam](#)
- 12:14 **The water-energy nexus in a drinking water supply system**
» [Francesco Arfelli](#), Luca Ciacci, Fabrizio Passarini
- 12:21 **Ecological network analysis of the life cycle impacts of drinking water and wastewater in Ukraine**
» [Oleksandr Galychyn](#), Brian Fath, Nikita Strelkovskii
- 12:28 **Carbon, water and economic benefits of infrastructure symbiosis between coal power and wastewater treatment**
» [Yang Guo](#), Denise Mauzerall, Yizheng Lyu, Wanqiu Hu, Jinping Tian, Lyujun Chen

12:00 **Flows and emissions (short presentations)**
B0.25 KOG

- 12:00 **Footprints of the wasteful dragon: Quantifying China's food loss and waste and embodied environmental impacts**
» [Li Xue](#), Gang Liu

- 12:07 **Carbon Emissions from China's Plastic Production and Consumption**
» [Yucheng Ren](#), Jian Jiang, Meng Jiang, Bing Zhu

- 12:14 **Global flow of timber embodied in trade from income-based perspective**
» [Chang Yu](#)

- 12:21 **Factors driving China's carbon emissions after the COVID-19 outbreak**
» [xinlu sun](#), Zhifu Mi

- 12:28 **Socioeconomic drivers of India's rising atmospheric mercury emissions**
» [Jetcharee](#), Sai Liang

- 12:35 **On the way to food self-sufficiency in 2030: The case of Singapore's food stock flow**
» Ludwig Paul Cabling, [Lynette Cheah](#)

12:00 **Scenarios (short presentations)**
B0.31 KOG

- 12:00 **Methodological framework for scenario analysis of national consumption-based greenhouse gas emissions**
» [Johannes Morfeldt](#), Jörgen Larsson, Daniel Johansson

- 12:07 **Dish-specific trade-off and scenario analysis can inform sustainable diet selection in Japan**
» [Yin Long](#), Liqiao Huang, Lie Sun

- 12:14 **Meaning before measure: A review and critique of reported methods to quantify SDG interlinkages**
» [Rega Sota](#), Sandra Venghaus



Continued from **Tuesday, 4 July**

12:21 **Scotland's Net Zero by 2045: Modeling metabolic potentials and scenarios toward emissions reductions.**

» [Jean Boucher](#), Keith Matthews

12:00 **Mobility (short presentations)**

B0.32 KOG

12:00 **How do active travel modes enhance transportation equity and why people don't use them?**

» [Utkuhan Genc](#), Hao Luo, Hua Cai

12:07 **Assessment of Environmental Impacts for Autonomous Vehicle Data Management**

» [Kendrick Hardaway](#), Oscar Teran, Hua Cai

12:14 **Vehicle electrification & fuel electrification: Two complementary paths to decarbonize China's passenger road fleet**

» [Jianxin Li](#), Xin Sun, Jon McKechnie, Amir F.N. Abdul-Manan, Li Fu, Xianhui Jiao, Jinlong Wu

12:21 **Undoing the lock-in of urban sprawl: integrated modelling of materials and GHG emissions of urban transformation for decreasing car dependency**

» [Laura Pérez Sánchez](#), Tomer Fishman, Paul Behrens

12:28 **Siting Solar Charging Stations for Shared Electric Bikes**

» Yue Li, [Hua Cai](#)

12:35 **Low Carbon Development Strategies and Transformation Pathways of Automotive Industry**

» [Xin Sun](#), Jianxin Li

12:00 **Transitions (short presentations)**

B0.41 KOG

12:00 **The impacts of beachcast harvest on the nitrogen flows on Gotland, Sweden.**

» [Vita Xu](#), Jiechen Wu, Daniel Franzen

12:07 **Using integrated MFA approaches to model industrial transformation: Case studies from the construction sector in Germany**

» [Ali Abdelshafy](#), Grit Walther

12:14 **Sustainable land transition through area neutrality in municipalities**

» [Natchiyar Balasubramanian](#), Aleksander Storebø Bachke, Emma Tagseth, Ottar Michelsen

12:00 **Impacts (short presentations)**

C0.04 KOG

12:00 **Evaluation of Per- and Polyfluoroalkyl Substances in Metal Shredder Residue: Preliminary Results**

» [Erin Bulson](#), Christina Remucal, Andrea Hicks

12:07 **Parametric model for the evaluation of environmental impacts of different earth construction techniques**

» [Paula HIGUERA](#)

12:14 **Systematically Assessing Environmental Impacts of Pharmaceuticals - Lessons Learned**

» [Lowik Pieters](#), Martijn van Bodegraven, Rosalie van Zelm

12:21 **Estimating dissipative losses in thermal spray applications: The current status and circular economy recommendations**

» [Mohamad Kaddoura](#), Guillaume Majeau-Bettez, Ben Amor, Manuele Margni

12:28 **APPLYING A HYBRID LCA FRAMEWORK TO QUANTIFY CONSTRUCTION PRODUCT CARBON FOOTPRINT IN SUPPORTING LOW-CARBON BUILT-ENVIRONMENT DESIGN: A CASE STUDY OF READY MIX CONCRETE**

» [Shih-Hsien Yang](#), Hoai-Nam TRAN, Han-Ruen Yue, Bo-Kai Chiou, Ching-Wei Yang



Continued from **Tuesday, 4 July**

- 12:45 **Lunch**
KOG (Kamerlingh Onnes Building)
- 14:00 **Excursions, Individual time**
B0.13 KOG
- 19:30 **Conference Dinner**
Naturalis

Wednesday, 5 July

- 09:00 **Parallel sessions**
KOG (Kamerlingh Onnes Building)
- 09:00 **Special Session: Backcasting and Scenarios for Sustainability Transitions**
B0.13 KOG
Chaired by: Jaco Quist
- 09:00 **A design framework of backcasting towards developing a users' guide**
» [Yusuke Kishita](#), [Mattias Höjer](#), [Jaco Quist](#)
- 09:15 **Backcasting and Visioning for Sustainability Transitions and Industrial Ecology: Comparing Methods, Cases and Impact**
» [Jaco Quist](#)
- 09:30 **Backcasting sustainable transport futures for Sweden 2035**
» [Mattias Höjer](#), [Jonas Åkerman](#), [Hampus Berg Mårtensson](#)

09:45 **Digitalizing Backcasting Scenario Design in Toyama City, Japan**
» [Taiki Yokota](#), [Yusuke Kishita](#), [Kazumasu Aoki](#)

10:00 **Renewable Energy Scenarios for South Kalimantan using Participatory Backcasting: Methodology and First Results**
» [Indra al Irsyad](#), [Jaco Quist](#), [Jannis Langer](#), [Kornelis Blok](#)

09:00 **Special Session: Secondary Raw material recovery and impacts**
B0.14 KOG
Chaired by: José Mogollón

09:00 **Waste flows and environmental impacts in Life Cycle Assessment: A macro-scale application of the WasteFootprint Python tool.**
» [Stewart Charles McDowall](#), [Elizabeth Lanphere](#), [Carlos Felipe Blanco](#), [Stefano Cucurachi](#)

09:15 **Sustainable Neodymium Recycling for Energy Transition: Insights from the SUSMAGPRO Project**
» [Brenda Miranda Xicotencatl](#), [Sander van Nielen](#), [René Kleijn](#)

09:30 **Techno-economic-environmental categorization of secondary raw material production processes**
» [Martin Hillenbrand](#), [Christoph Helbig](#)

09:45 **Developing a Model for Evaluating the Role of Refining Technologies in Increasing High-Value Recycling of End-of-Life Aluminum Scrap**
» [Alissa Tsai](#), [Yongxian Zhu](#), [Seyed Heidari](#), [Daniel Cooper](#)

10:00 **The regional circularity of zinc - A dynamic MFA approach**
» [Leon Rostek](#), [Antonia Loibl](#)

10:15 **Evaluating the costs and benefits of using recycled aggregate concrete in buildings: Does recycling lead to long-term sustainability for sure?**
» [Xiang Xie](#), [Haoyu Huang](#)



Continued from **Wednesday, 5 July**

09:00 **Special Session: Transition towards Sustainable Agri-Food systems: Can Financial Incentives Steer Dietary Behavior?**

B0.16 KOG

09:00 **Internalizing the environmental costs of food products: Effects on price-demand equilibria and environmental impacts**

» Carlo Schmid, [Lukas Messmann](#), Amelie Michalke, Arndt Feuerbacher

09:15 **True Cost Accounting of organic and conventional food production**

» Amelie Michalke, [Sandra Köhler](#), Lukas Messmann, Andrea Thorenz, Axel Tuma, Tobias Gaugler

09:30 **Customers' behavior towards true prices of food: lessons learnt from informational campaigning and factual intervention**

» [Amelie Michalke](#), Christoph Semken, Lennart Stein, Tobias Gaugler

09:45 **Towards True Prices in Food Retailing: The Value Added Tax as an Instrument for Agricultural Transformation**

» Benjamin Oebel, [Lennart Stein](#), Amelie Michalke, Tobias Gaugler

10:00 **Impact Measurement and Valuation: a way for businesses to contribute to sustainable transformation?**

» [Zoe Elsner](#), Amelie Michalke, Jakob Hafele, Tobias Gaugler

09:00 **Special Session: Part 1: Future raw material demand for vehicle batteries – Challenges and Opportunities**

B0.17 KOG

Chaired by: Romain Guillaume Billy

Evaluating strategies for reducing material use in lithium-ion batteries for electric vehicles

» Fernando Aguilar Lopez, Romain Guillaume Billy, [Daniel B. Müller](#)

Anticipating the Impacts of Global Second-Hand Electric Vehicle Trade Flows on Lower and Middle Income Countries

» [Alissa Kendall](#), Galym Iskakov, Nadiyah Helal, Francisco Pares Olguin, Margaret Slattery, Lewis Fulton

Using electric vehicle batteries to provide energy storage support for the electricity grid -- Case study for Europe

» Fernando Aguilar Lopez, [Dirk Lauinger](#), Francois Vuille, Daniel B. Müller

Analysing multiple reuse and recycling in a batteries-as-a-service case

» [Maria Ljunggren](#), Harald Helander

Economics-informed material flow analysis to assess and address battery mineral criticality: a case study on copper

» [John Ryter](#), Karan Bhuwalka, Richard Roth, Elsa Olivetti

09:00 **LCA methods 2**

B0.20 KOG

09:00 **Towards a multifunctional version of the ecoinvent 3.9.1 database**

» [Jeroen Guinée](#), Reinout Heijungs, Guillaume Bourgault

09:15 **Substitution coproduction modeling is actually compatible with attributional life-cycle assessment**

» [Arianne Provost-Savard](#), Guillaume Majeau-Bettez

09:30 **Solving multifunctionality in LCAs of circular systems: the case of building-integrated agriculture**

» [Joan Muñoz-Liesa](#), Jeroen Guinée, Anna Petit Boix, Xavier Gabarrell i Durany, Eva Cuerva, Santiago Gassó-Domingo

09:45 **Quantifying spatially and temporally explicit life cycle impacts of Midwestern US corn - cover crop - soybean systems to inform cover crop marketization initiatives**

» [Kathryn Phillips](#), Timothy Smith



Continued from **Wednesday, 5 July**

10:00 **Spatiotemporal analysis on the future carbon footprint of renewable energy by a dynamic life-cycle assessment: a case study on solar electricity in the United States**

» [Jiaqi Lu](#), Jing Tang, Rui Shan, Guanghui Li, Pinhua Rao, Nan Zhang

10:15 **Quantifying Collision and Electrocutation Impacts of the Electric Grid on Biodiversity**

» [Dafna Gilad](#), Roel May, Bård G. Stokke, Francesca Verones

09:00 **EEIOA methods**

B0.25 KOG

09:00 **Carbon Tax Design and Revenue Recycling in Line with National Redistribution Policy and Global Justice Principles**

» [Xiangjie Chen](#), Daniele Malerba, Kuishuang Feng, Yannick Oswald, Klaus Hubacek

09:15 **A Framework for Adding Novel Satellite Accounts to the EXIOBASE3 MRIO System**

» [Konstantin Stadler](#), Candy Deck, Richard Wood

09:30 **The Legacy Environmental Footprints of Capital Stocks**

» [Ranran Wang](#), Edgar Hertwich, Tomer Fishman, Sebastiaan Deetman, Paul Behrens, Wei-Qiang Chen, Arjan de Koning, Ming Xu, Kira Matus, Julie Zimmerman

09:45 **The trouble with energy accounts: a step towards a standardised procedure**

» [Kajwan Rasul](#), Richard Wood, Sarah Schmidt, Edgar Hertwich

10:00 **A Dynamic Agent-based Environmentally Extended Input-Output Model and Its Application to Firm-level Environmental Risks**

» [Shen Qu](#)

10:15 **Bridging the resolution gap - Linking MRIO environmental indicators to the HS6-level using economic complexity methods**

» [Berend Mintjes](#), Hauke Ward, Arjan de Koning, José Mogollón

09:00 **IE and business**

B0.31 KOG

09:00 **The roles of Regenerative businesses in Industrial and Urban Symbiosis development**

» [Kristina Nyström](#), Murat Mirata

09:15 **Challenges for military decarbonization: how Industrial Ecology can help**

» [Mohammad Ali Rajaeifar](#), Oliver Heidrich

09:30 **Climate Innovation: From carbon accounting to business integration**

» [Dara O'Rourke](#)

09:45 **Modernizing cement manufacturing in China leads to significant environmental gains**

» [beijia huang](#)

10:00 **The environmental costs of consumer product returns**

» [Tamar Makov](#), Rotem Rotem, Benjamin Sprecher, Shira Shabtai, Vered Blass

09:00 **Building & Infrastructure 3**

B0.32 KOG

09:00 **Embodied greenhouse gas reductions in single-family dwellings: Drivers of greenhouse gas emissions and variability between Toronto, Perth, and Luzon**

» Aldrick Arceo, [Shoshanna Saxe](#), Heather L. MacLean

09:15 **The Urban Stock in an Andean city and its comparison with coastal areas of Peru**

» [Ramzy Kahhat](#), Claudia Cucchi, Matias Gutierrez, Carlos Mesta, Samy Garcia, Alexis Dueñas, Johan Fellner

09:30 **Evaluating the Role of Embedded Materials in Fossil Fuel Infrastructure for the Energy Transition**

» [Yanan Liang](#), Sebastiaan Deetman, René Kleijn, Ester van der Voet



Continued from **Wednesday, 5 July**

09:45 **Society's material stocks as carbon storage: insights from a socio-metabolic perspective**

» [Lisa Kaufmann](#), Michaela Theurl, Christian Lauk, Zhi Cao, Dominik Wiedenhofer, Helmut Haberl

10:00 **Contaminant cycles in buildings and infrastructure: a case study on lead in PVC window recycling in Germany**

» [David Laner](#), Sarah Schmidt, Katrina-Magdalena Lindemann, Thomas Gibon

10:15 **Linking urban resource use, energy and emissions to urban typology and service provision: a conceptual framework**

» [Lisa Winkler](#), Stefan Pauliuk

09:00 **Integrating IE methods**

B0.41 KOG

09:00 **Towards an Integration of Material Flow Analysis and Life Cycle Assessment Databases: an Efficient Estimation of Flows and Compositions in Ecoinvent.**

» [Han De Wachter](#), Guillaume Majeau-Bettez

09:15 **MaLCAP: a flexible, open-source LCA-MFA process modelling framework**

» [Guillaume Majeau-Bettez](#)

09:30 **Total Material Requirement (TMR) of Vehicle Production in China: Integrating Trade-linked Material Flow Analysis and Life Cycle Assessment**

» [Binze Wang](#), Qiance Liu, Zhengyang Zhang, Gang Liu, Kazuyo Matsubae

09:45 **Life cycle risk assessment framework as an integrative method to establish effective solar technology companies worldwide**

» [Angela Ciotola](#), Richmond Kuleape, Maryegli Fuss, Witold-Roger Pogonietz, Simone Colombo

10:00 **Exploratory System Dynamics Modelling and Analysis of Metal Supply Chains**

» [Jessie Bradley](#), Benjamin Sprecher, René Kleijn, Jan Kwakkel, Willem Auping

10:15 **Mat-dp: An Open-Source Material Demand Projections Model and its Application To Energy and Transport**

» [Karla Cervantes Barron](#), Jonathan Cullen

09:00 **Social Dimensions 3**

C0.04 KOG

09:00 **Regional Structure, Inequality, and emission scenarios of India's household consumption of food, electricity, transport, and clothing needs.**

» [Shelly Bogra](#), Felix Creutzig, Peter-Paul Pichler

09:15 **Interdependencies of circular economy measures and societal inequality in the European residential building sector**

» [Christian Hauenstein](#), Stefan Pauliuk

09:30 **Inequality redistribution in eco-social policy narratives.**

» [Sam Betts-Davies](#), John Barrett, Paul Brockway

09:45 **Just and Sustainable Urban Systems - Urgent Research Priorities**

» Melissa Bilec, Joe Bozeman III, Hua Cai, [Shauhrat Chopra](#), Oliver Heidrich, Kangkang Tong

10:00 **Burden of the global energy price crisis on households**

» [Jin Yan](#), Yuru Guan, Yuli Shan, Klaus Hubacek

10:15 **"The Great Stagnation": Reflection on historical growth in a WISE view**

» [Kedi Liu](#), Ranran Wang, Rutger Hoekstra

10:30 **Coffee break**

KOG (Kamerlingh Onnes Building)



Continued from **Wednesday, 5 July**

11:00 **Parallel sessions**
KOG (Kamerlingh Onnes Building)

11:00 **Special Session: Low-Carbon lifestyles to meet the 1.5C Target**
B0.13 KOG
Chaired by: L. Scherer

11:00 **PROJECTING HOUSEHOLD CARBON FOOTPRINTS IN 2030 AND 2050 BY ADAPTING SUPPLY AND USE TABLES FOLLOWING SHARED SOCIO-ECONOMIC PATHWAYS**
» [S. Cap](#), Arjan de Koning, L. Scherer

11:15 **Assessing the Potential of Lifestyle Changes for a Low-Carbon Society: A Cross-Country Survey and Input-Output Analysis Approach**
» [Roberto Vaccaro](#), Abigail Alexander-Haw, Aurore Flipo

11:30 **THE CLIMATE PUZZLE – A TOOL FOR PLANNING 1.5-DEGREE LIFESTYLES**
» [Jari Kolehmainen](#), Michael Lettenmeier

11:45 **(PATH)WAYS TO SUSTAINABLE LIVING: THE INTENT AND IMPACT OF THE SLIM SCENARIOS ON LONG-TERM EMISSIONS**
» [Nicole van den Berg](#), Andries Hof, Detlef van Vuuren, lewis akenji, Vanessa Timmer, Nicole-anne Boyer

12:00 **BEHAVIOURAL CHANGE FOR THE CIRCULAR ECONOMY AND IT IMPACTS AT THE REGIONAL AND CITY LEVELS**
» [Olga Ivanova](#)

11:00 **Special Session: Industrial Ecologists in a world in Turmoil**
B0.14 KOG
Chaired by: Anastasia Papangelou

11:00 **Special Session: Socio-Economic Transitions and Life-Cycle Governance**
B0.16 KOG
Chaired by: Junming Zhu

11:00 **Socio-Economic Drivers of Material Efficiency: Evidence from a Panel of Countries**
» [Xiao Li](#), Xuezhao Chen, Haijia Shi, Ruichang Mao, Junming Zhu

11:15 **Evaluating the Supply Risk of Bulk Commodities: Based on the Perspective of Physical Trade**
» [Jianlimin Wei](#), Wei-Qiang Chen

11:30 **Nudging Household Sustainable Behavior: The Role of Life Cycle Impact and Social Norms**
» [Zhen Du](#), Junming Zhu

11:45 **Restoring the Incentives for Eco-design in Extended Producer Responsibility: The Challenges for Eco-modulation**
» [Reid Lifset](#), Harri Kalimo, Antti Jukka, Petrus Kautto, Mirella Miettinen

12:00 **Does a reduction in working time matter for the environment? The case of Japan**
» [Yosuke Shigetomi](#), Andrew Chapman

12:15 **Beyond market failure: a rationale for life cycle policymaking**
» [Stijn van Ewijk](#), Reid Lifset

11:00 **Special Session: Part 2: Sourcing the battery raw materials of tomorrow - Impact on mineral supply chains**
B0.17 KOG
Chaired by: Romain Guillaume Billy

11:00 **The battery demand for nickel creates supply bottlenecks and problem shifts, and increasing emissions**
» [Eric Young](#), Romain Guillaume Billy, Fernando Aguilar Lopez, Daniel B. Müller



Continued from **Wednesday, 5 July**

- 11:15 **How lithium-iron-phosphate batteries could affect food security and the global phosphorus cycle**
» [Fernando Aguilar Lopez](#), Anna Eide Lunde, Daniel B. Müller
- 11:30 **Limited lithium supply is likely to slow down the electrification of the transport sector**
» Brent McNeil, [Romain Guillaume Billy](#), Fernando Aguilar Lopez, Daniel B. Müller
- 11:45 **Is lithium from geothermal brines the sustainable solution for Europe?**
» [Vanessa Schenker](#), Christopher Oberschelp, Peter Bayer, Stephan Pfister, Stefanie Hellweg
- 12:00 **Participatory life cycle assessment of direct lithium extraction from geothermal brines**
» [Margaret Slattery](#), Alissa Kendall, William Evans, Nadiyah Helal, Kristi Dayemo
- 12:15 **Integrating trade-linked material flow analysis and shock propagation model for assessing global cobalt supply chain risks**
» Xin Ouyang, Qiance Liu, Litao Liu, [Wu Chen](#), Gang Liu
- 11:00 **LCA methods 3**
B0.25 KOG
- 11:00 **Development of an effect factor for marine plastics' impact on cultural ecosystem service**
» [Fei Song](#), Francesca Verones, Martin Dorber, Johan Pettersen
- 11:15 **Using Consumer Archetypes to Model the Use Phase of LCA with a Case Study on Urban vs. Rural E-Commerce**
» [Shelie Miller](#), Luyi Huang

- 11:30 **Towards a biodiversity-inclusive strategy for the extraction of raw materials**
» [Valerio Barbarossa](#), Alexandra Marques, Aafke Schipper, Mélanie Douziech
- 11:45 **Dynamic Life Cycle Analysis for Innovative Wood Products and Marginal Land Afforestation and Reforestation**
» Bingquan Zhang, Kai Lan, Thomas B. Harris, Mark S. Ashton, [Yuan Yao](#)
- 12:00 **Life Cycle Assessment for Nature-positive and Circularity Outcomes**
» [Delwyn Jones](#), Mathilde Vlieg, Shloka Ashar
- 11:00 **EEIOA cases 3**
B0.31 KOG
- 11:00 **Research on the impact of border carbon adjustments on climate justice in international trade**
» [Yanan Ren](#), Jinping Tian, Lvjun Chen
- 11:15 **Opportunities and limitations of increasing the geographical resolutions in input-output models**
» [Annie Kortleve](#), José Mogollón, Paul Behrens
- 11:30 **Why carbon emissions mismatch with economic gains? An explanation from value chain perspective**
» [Ailin Kang](#), Yiling Xiong, Xin Tian, Ludi Liu
- 11:45 **Global Carbon and Material Footprints of Machinery Capital**
» [Meng Jiang](#), Ranran Wang, Richard Wood, Edgar Hertwich
- 12:00 **Opportunities for Multi-Tier Global Supply Chain Emissions Mitigation**
» [Xilin Yang](#), Timothy Smith
- 12:15 **Assessing the environmental and economic impacts of deposit-return schemes for beverage packaging with EEIO**
» [António Lorena](#), Paulo Ferrão, Sofia Carvalho



Continued from **Wednesday, 5 July**

11:00 **IE and decision-making**
B0.32 KOG

11:00 **Empirically grounded agent-based simulation of circular economy strategies: product circularity, consumer behavior, and environmental consequences**
» [Ryu Koide](#), Haruhisa Yamamoto, Keisuke Nansai, Shinsuke Murakami

11:15 **Integrated System Analysis of Urban Vegetation and Agriculture (URBAG): an interdisciplinary and participatory decision approach to evaluate the design and implementation of green infrastructures in urban environments.**
» [gara villalba](#), David Camacho, Johannes Langemeyer

11:30 **Implementation of carbon pricing in an aging world calls for targeted protection schemes**
» [Peipei Tian](#), Kuishuang Feng, Heran Zheng, Klaus Hubacek, Jiashuo Li, Honglin Zhong, Xiangjie Chen, Laixiang Sun

11:45 **Measuring the impact of environmental policy on the sustainable supply of critical materials**
» [Karan Bhuwalka](#), John Ryter, Elsa Olivetti, Richard Roth

12:00 **Data driven decision-making for circular economy implementation in agro-food systems**
» [Bart van Hoof](#), Andres Medaglia, Alfaima L. Solano-Blanco, Carolina Mendez, Juan Riaño

11:00 **New indicators and measures**
B0.41 KOG

11:00 **Evaluating the impact of different CE strategies on future bulk and scarce material demand in Austria**
» [André Baumgart](#)

11:15 **Developping green supply chains in islands through circular desalination. The case study of Chios Island, in Greece**
» [Dimitrios Xevgenos](#), Riccardo Longo, Nogues Ollier, Marina Montero, Niels van Linden, Petros Kalogerakis

11:30 **The power of networks: A field data analysis of geographic network effects in the circular economy**
» [Christoph Ratay](#)

11:45 **Municipal Circular Economy Indicators: Do They Measure the Cities' Environmental Ambitions?**
» [Mira Kopp](#), Anna Petit Boix, Sina Leipold

12:00 **In Search of Lost Time - Measuring Material Services and Ultimate End at the Macro Level**
» Piroska Harazin, [Mihály Dombi](#), Andrea Karcagi-Kováts, Faisal Aldebei

12:15 **Outline of a material stock-oriented policy mix towards sustainability**
» [Mihály Dombi](#), Piroska Harazin, Andrea Karcagi-Kováts, Faisal Aldebei, Zhi Cao

11:00 **Mobility**
C0.04 KOG

11:00 **Influence of Urban Form on Car Ownership, Mode Choice, and Travel Distance in European Cities**
» [Peter Berrill](#), Felix Wagner, Nikola Milojevic-Dupont, Florian Nachtigall, Aneeque Javaid, Felix Creutzig

11:15 **Implications of the electrification of regional municipal transport: Exploring narratives and systemic effects**
» [Michael Martin](#), Sjoerd Herlaar, Philip Peck

11:30 **Air quality benefits from decarbonization scenarios for the U.S. light-duty passenger vehicle fleet from 2022-2050.**
» [Jean Schmitt](#), Marianne Hatzopoulou, I. Daniel Posen, Heather L. MacLean



Continued from **Wednesday, 5 July**

11:45 **Meeting U.S. light-duty vehicle fleet climate targets with electrofuels: Case study of vehicles using Fischer-Tropsch gasoline and electric vehicles**

» [Dijuan Liang](#), Alexandre Milovanoff, I. Daniel Posen, Heather L. MacLean

12:00 **How to plan shared mobility for a sustainable transportation system?**

» Hao Luo, [Hua Cai](#)

12:15 **Sustainable Resource Assessments of Residential Building and Transportation Infrastructures in Vietnam: From Stock-Flow-Service nexus Perspective**

» [Thi Cuc Nguyen](#), Junbeum Kim

12:45 **Lunch**

SGZ (Stadsgehoorzaal)

14:00 **Keynote: Aromar Revi**

SGZ (Stadsgehoorzaal)

» Aromar Revi

14:45 **Closing Session**

SGZ (Stadsgehoorzaal)

| Poster group | ID | Title | Presenter |
|--------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Critical materials | CM1 | The effects of social life cycle aspects on the criticality assessment of Lithium | Julius Ott, Graz University |
| | CM2 | Environmental impacts and potential improvements of rare earth mining | Maarten Koese, Leiden University, CML |
| | CM3 | Understanding the Key Routes of Global Dysprosium Cycle through a Trade-linked Regional Analysis | Disna Eheliyagoda, Aarhus University and Grundfos A/S |
| | CM4 | Linked Scenarios Provide New Insights into Critical Material Futures | Alessio Miatto, Yale University |
| | CM5 | In-use dissipation of technology-critical elements and their potential threats to human health in the urban sphere of Vienna, Austria | André Baumgart, Institute of Social Ecology (SEC), University of Natural Resources and Life Sciences, Vienna |
| | CM6 | Critical raw materials demand for green & digital pathways in Spain | Martin Lallana, CIRCE Institute – University of Zaragoza |
| | CM7 | Criticality assessment for a sustainable future | Ester van der Voet, Leiden University |
| | CM8 | An economic approach to material criticality assessment | Karan Bhuwalka, Massachusetts Institute of Technology |
| Metals | MT1 | Recycling potential of Aluminium used in passenger vehicles in Latin America | Estefania Orquera, Graduate School of Environmental Studies, Tohoku University |
| | MT2 | Assessing the Physical trade balance of metals | Sebastien Dente, Ritsumeikan University |
| | MT3 | The Criticality Mitigation Potential of the Circular Economy | Wiebke Hagedorn, Institute for Anthropogenic Material Cycles, RWTH Aachen University |
| | MT4 | The centennial gold cycle has widened its accumulation disparity in the Anthroposphere | Ling ZHANG, Nanjing Forestry University |
| | MT5 | Methodology for evaluating the circular use of secondary steel resources under the current steel consumption pattern | Han Gao, The University of Tokyo |
| | MT6 | A parametric life cycle assessment model for ductile cast iron components | Daniel Cooper, University of Michigan |
| | MT7 | Evaluation methodology of recycled content for metals | Taichi Suzuki, The University of Tokyo, UACJ Corporation |
| | MT8 | Estimation of alloying elements input through aluminum scrap to aluminum alloy production by alloy type | Kentaro Takeyama, The University of Tokyo |
| | MT9 | Modelling the regional transformation to hydrogen-based green steel: An integrative and prospective material flow analysis of the North Rhine-Westphalian steel industry | Ali Abdelshafy, Chair of Operations Management - RWTH Aachen University |
| | MT10 | Material Flow Analysis of the Tin Supply Chain | Jessie Bradley, Delft University of Technology |
| Circular economy | CE1 | The urban mine: the material basis for a circular Netherlands | Ester van der Voet, Leiden University |
| | CE2 | An economic complexity tool to analyze Circular Economy capabilities in global economy | Ilaria Lombani, Polytechnic University of Bari, Bari (Italy) |
| | CE3 | The sharing economy is not always greener: A Review and consolidation of empirical evidence | Tamar Meshulam, Ben Gurion University of the Negev |
| | CE4 | Non-optimal carbon mitigation from waste hierarchy | Xinyu HAO, Tongji University; City University of Hong Kong |
| | CE5 | Meta-analysis on greenhouse gas emission reduction potentials, backfire effects, and assessment methods of circular economy strategies | Ryu Koide, Material Cycles Division, National Institute for Environmental Studies |
| | CE6 | Hierarchical Bayesian analysis of consumer preferences for data-driven agent-based simulation of Circular Economy | Ryu Koide, Material Cycles Division, National Institute for Environmental Studies |
| | CE7 | Raw materials, global supply chains and local systems in an eco-industrial perspective. A case study from the wood industry | Raffaella Taddeo, Department of Economic Studies - University "G. d'Annunzio" of Chieti-Pescara |
| | CE8 | The Role of Reuse in Circular Economy: Quantifying the Spatial Flows of WEEE Reuse in China Based on Network Analysis | Tao Wang, Peking University |
| | CE9 | How much material can be recovered by improving curbside systems? Insights from a US municipality-level collection model | Karan Bhuwalka, Massachusetts Institute of Technology |
| | CE10 | CIRCULAR ECONOMY AND SUSTAINABILITY INDICATORS FOR THE VALORIZATION OF WINE PRODUCTION WASTE | Elena Cioffi, Dipartimento di Ingegneria, Università degli Studi della Campania "Luigi Vanvitelli", Aversa (CE), Italia |
| | CE11 | Towards Water Resource Recovery Facilities: An Integrated System Assessment of Emerging Sewage Sludge Management Technologies in Sweden | Harry Tibbetts, KTH Royal Institute of Technology |
| | CE12 | Disassembly analysis to promote rare earth permanent magnet recovery from end-of-life electric vehicle motors | Thomas Maani, Purdue University |
| BD | BD1 | The global building material stocks of 1.5 million cities and settlements | Tomer Fishman, Leiden University, Institute of Environmental Sciences (CML) |
| | BD2 | Sectoral Coordination Maximizes China's Provincial Building GHG Emission Mitigation | Qiance Liu, University of Southern Denmark |
| | BD3 | A multi-scale model of the environmental impacts of low-carbon construction in the City of Montreal | Felicity Meyer, McGill University |
| | BD4 | Provision of housing services within planetary limits: a methodological framework for the urban circular economy | Ankita Singhvi, HERUS Lab, EPFL |
| | BD5 | Efficiency Implications for Construction Material Use under Demographic Change – Case Study Evidence | Andreas Blum, Leibniz Institute of Ecological Urban and Regional Development |

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|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| BD6 | The potential for missing middle to provide more housing with less embodied emissions: quantifying and optimizing material efficiency in low-rise, multi-unit housing | Keagan Hudson Rankin, University of Toronto |
| BD7 | Urban Indian Residential Buildings: Now and in the future | Aishwarya Iyer, Center for Industrial Ecology, Yale School of the Environment, Yale University |
| BD8 | A new BIM-based method to promote Buildings Circular Economy at a neighborhood scale | Joana Fernandes, IN+ Center for Innovation, Technology and Policy Research, Instituto Superior Técnico, Lisbon, Portugal |
| BD9 | Building Design for Disassembly and Adaptability – LCA of Flexible Building Structural Systems | Lynette Cheah, Singapore University of Technology and Design |
| BD10 | The Adoption of Failure Mode and Effects Analysis (FMEA) to Assess Environmental Risks in Construction | Wahbi Albasyouni, PhD Student/Junior Research Fellow, Newcastle University |
| BD11 | Opportunities to achieve carbon neutrality in buildings in China | Lulu Song, Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences |
| BD12 | Exploring the impact of a circular economy: A model-based analysis of steel and cement demand for buildings | Meta Thurid Lotz, Fraunhofer Institute for System and Innovation Research ISI |
| BD13 | Material Stock-Flow-Service and Circularity Potential of Buildings in Singapore | Lynette Cheah, Singapore University of Technology and Design |
| BD14 | The conceptualisation of circular road construction: A case study in Norway | Alexander Grørdum Vetnes, University of Agder |
| BD15 | Construction material accounting of the Belt and Road Initiative projects | Lingli Hou, Institute of Environmental Sciences (CML) - Universiteit Leiden |
| BD16 | Economic and environmental performance of residential building envelopes in Israel | Vered Blass, Tel-Aviv University |
| BD17 | Evaluating resource use reduction effects of residence-related circular economy actions; differences among housing structures and regions | Teppe Kan, Ritsumeikan University |
| BD18 | Towards a Circular Built Environment: wasteful construction and demolition practices and how to overcome them | Mario Kolkwitz, Tampere University |
| BD19 | Impact Projection of Climate Change Adaptation Measures for Sustainable Urban Built Environment | Hiroki Tanikawa, Nagoya University |
| BD20 | Optimizing Building Material Identification through Integration of Remote Sensing and Machine Learning Techniques | Kun Sun, University of Southern Denmark |
| BD21 | Monitoring needs for a resource efficient construction aggregates cycle in Norway | Jonna Ljunge, Norwegian University of Science and Technology |
| BD22 | The environmental sustainability of green roofs through Life Cycle Assessment: a review of layers materials and purposes | Débora Fiorentin, University of Aveiro |
| BD23 | Impact of energy transition and low-carbon technologies on reduction of embodied carbon in the built environment | Kendra Ho, Energy Studies Institute, National University of Singapore |
| BD24 | Estimation of the material stocks of building in flood-hazard-area in Japan | Hiroaki Shirakawa, Nagoya University |
| BD25 | Cement life cycle analysis: what are the main factors influencing global warming? | Hiam Dahanni, University of Gustave Eiffel, GPEM-MAST, Campus of Nantes |
| BD26 | Estimation of Recycling Potential of Construction Materials: Five Approaches | Matan Mayer, IE University |
| BD27 | Material cadastre and its application to forward circularity in the building stock | Georg Schiller, Leibniz Institute of Ecological Urban and Regional Development |
| BD28 | A CONSTRUCTION PRODUCTS' CARBON FOOTPRINT DATABASE IN SUPPORTING ZERO CARBON INFRASTRUCTURE DESIGN: A METADATA ANALYSIS OF SIX CARBON FOOTPRINT DATABASES | Hoai-Nam TRAN, Duy Tan University |
| BD29 | Bayesian networks for bottom-up component modeling in building stocks | Nils Dittrich, Norwegian University of Science and Technology |
| BD30 | Design Solutions for Cost-Effective Passive Solar Housing in the United States | Jasmina Burek, University of Massachusetts Lowell |
| BD31 | Life cycle assessment of geopolymers made with tailings from ilmenite mining | Reyn O'Born, University of Agder |
| BD32 | Plant-level capacity optimization towards socioeconomic efficiency improvement and carbon neutrality in China's cement industry | Shuntian Xu, Beijing Normal University |
| BD33 | Potential of BREEAM-C to Support Building Circularity Assessment | Mingming Hu, Leiden University, CML |
| BD34 | Embodied emissions from building materials at risk of climate-driven flooding hazards | Xiaoyang Zhong, Leiden University |
| BD35 | Internal climate mitigation requirements for considerations of carbon-neutral infrastructure projects – a roadmap perspective towards net-zero carbon emissions in the construction supply chain | Ida Karlsson, Chalmers University of Technology |
| BD36 | The Missing Stock: Exploring Concrete Use in Trondheim's Residential Building Foundations | Pablo Ilgemann, Leiden University, CML |
| MF1 | The Impact of Public Lighting Systems on Mercury Emissions: A Case Study of Ireland's Street Luminaires | Mina Baojahmadi, Electronic and Computer Engineering Department, University of Limerick, Ireland |
| MF2 | Exploring demand reduction and circular economy strategies for bulk materials in China | Zhi Cao, University of Antwerp |
| MF3 | Dynamic nitrogen, phosphorus and potassium flow analysis of the food system in China for 2010-2019 | Jing-Yu Liu, Shanghai Jiao Tong University |
| MF4 | A timber flow analysis for the UK | Chi Zhang, University College London |

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| MFA case studies | MF5 | Comprehensive management of excavated soil and rock: A material flow analysis in Shenzhen, China | Hongzhou WANG, City University of Hong Kong |
| | MF6 | Estimating dissipative losses in thermal spray applications: The current status and circular economy recommendations | Mohamad Kaddoura, CIRAI, Polytechnique Montréal |
| | MF7 | Tracking the post-1990 sociometabolic transitions in Eastern Europe with dynamic economy-wide material flow analysis | Wensong Zhu, University of Southern Denmark |
| | MF8 | Closing the municipal solid waste recycling gap in the United States | Stijn van Ewijk, University College London |
| | MF9 | Material Flows and Efficiency | Jonathan Cullen, University of Cambridge |
| | MF10 | Modeling the current and future flow of post-consumer textile waste in Flanders and the Netherlands | Veerle Vermeyen, KU Leuven |
| | MF11 | Applying industrial ecology methods to fictional worlds: an example on the spice and water cycles on the planet Arrakis from Frank Herbert's Dune | Romain Guillaume Billy, Norwegian Univ. of Science and Technology |
| | WA1 | Prediction of China's municipal solid waste generation and carbon neutrality potential under the shared socioeconomic pathways | Huijuan Dong, Shanghai Jiao Tong University |
| | WA2 | The Wastepaper Collection System in Hong Kong: Perspectives from Stakeholders, Value Chain and Policy-price-behaviour | PEIXIU CHEN, The Hong Kong University of Science and Technology |
| | WA3 | Spatiotemporal Features of Municipal Solid Waste Generation in China | Xiaomei Jian, Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences |
| | Waste | WA4 | Unlocking the Environmental and Economic Potential of Agricultural Residues as Resources: Considering the Social Cost of Waste Management |
| WA5 | | Probability Distribution Analysis of Technical Parameters for Sewage Sludge Management System based on Unit process database | Huimin Chang, Tsinghua University |
| WA6 | | Testing multiple policies for organic waste separation at SMEs in cities using collaborative agent-based modelling | Kasper Lange, Amsterdam University of Applied Sciences |
| WA7 | | Estimation of hydrogen generation from Silicon sludge based on the Si-water-alkali reaction | Taisei Kagawa, Ritsumeikan University |
| IE1 | | Teaching life cycle assessment using counter intuitive examples | Andrea Hicks, Wisconsin |
| IE2 | | Teaching Industrial Ecology Through Disasters: Analysis of Student Reflections | Andrea Hicks, Wisconsin |
| Studying Industrial Ecology | | IE3 | Development of a "Co-learning" basis construction method for the realization of a "Beyond Zero-Carbon" society |
| | IE4 | How industrial ecology scholars may shape narratives to advance sustainability transitions | Sina Leipold, Helmholtz Centre for Environmental Research |
| | IE5 | Erasmus Mundus Master's Programme in Industrial Ecology: Analysis of its Master's Theses | Ralf Aschemann, University of Graz |
| | IE6 | Teaching life cycle assessment with campus-based projects | Monica Rodriguez Morris, University of Wisconsin-Madison |
| | IE7 | Establishment of an Online Sustainable and Resilient Circular Economy Laboratory: SRC-Lab | Devrim Yazan, University of Twente |
| | IE8 | A new IE textbook: Industrial Ecology and Sustainability | Matthew Eckelman, Northeastern University |
| | SC1 | eCommerce Value Chain Analysis in Reverse Logistics - Economic and Environmental Comparison | Shira Shabtai, Ben Gurion University of the Negev |
| | supply chains | SC2 | Revealing the hidden potentials of IoT - An integrated approach using agent-based modelling and system dynamics to assess sustainable supply chain performance |
| SC3 | | Financing high-cost measures for deep emission cuts in the basic material industry | Anna Hörbe Emanuelsson, Chalmers University of Technology |
| SC4 | | Drivers of fluctuating embodied carbon emissions in international services trade | Jingwen Huo, Tsinghua University |
| SC5 | | Net-zero transition of the chemical industry: framework and results | Bhavik Bakshi, The Ohio State University |
| IE and business | | BU1 | A Systematic Review of the Home Appliances Industry Sustainability Reports |
| | BU2 | THE INVESTMENT GAP IN THE INDUSTRIAL SECTOR: THE CASE OF THE CHLORINE CLUSTER IN THE PORT OF ROTTERDAM | laurens oei, Water & Energy Intelligence BV |
| | BU3 | Life Cycle Assessment – Just do it! | Jon Halfdanarson, Sintef Manufacturing AS |
| | BU4 | FootprintLab: Putting Footprints to Work | Tim Baynes, Australian National University |
| | BU5 | CEEG, an energy efficiency grade dataset for white goods in mainland China at regional and household levels | Chunyan Wang, Tsinghua University |
| Industrial symbiosis | IS1 | An industrial symbiosis and synergy matching information tool using company-level waste inputs and outputs in Taiwan | Pi-Cheng Chen, Department of Environmental Engineering, National Cheng Kung University, Tainan City, 70101, Taiwan |
| | IS2 | Progress in Eco-Industrial and Circular Business Parks: Updated framework and cases from the Netherlands | Jaco Quist, TU Delft |
| | IS3 | How industrial symbiosis contributes to carbon neutrality strategy and UN SDGs? An Empirical study on Asia-Pacific region | Liang Dong, City University of Hong Kong |
| | IS4 | Characterization of national Eco-Industrial Park projects in China, Korea, and Japan: Bibliometric analysis and systematic literature review | Agusta Samodra Putra, Department of Chemical Engineering, Ulsan College, Republic of Korea; Research Center for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia |

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| Industry | IS5 | Middle-out evolution of greenfield eco-industrial parks: The case of GreenLab Skive, Denmark | Leonie Schlüter, Aalborg University |
| | IS6 | Brine circularity in the desalination industry: case study of the Moroccan Atlantic coast | Hajar Abjeg, TU Delft |
| | IS7 | Business agreements in industrial symbiosis relationships – a categorisation and suggestions for practice and research | Murat Mirata, Linköping University |
| | IS8 | Unraveling economic-environmental nexus in China's petrochemical industry towards carbon peaking | Yingjie Liu, Tsinghua University |
| Electronics | EL1 | The evolution of electronic waste in Canada | Komal Habib, University of Waterloo |
| | EL2 | Product obsolescence: relationships with product lifetime, product type, and household characteristics | Haruhisa Yamamoto, National Institute for Environmental Studies |
| | EL3 | Expanding the United Nations Framework Classification for Resources (UNFC) to a National Level: A Swiss Case Study on Embedded Electronics | Manuele Capelli, Empa-Swiss Federal Laboratories for Materials Science and Technology, Technology and Society Laboratory |
| New methods and tools | NM1 | Gap-filling in greenhouse gas emissions datasets using machine learning: A how to guide. | Luke Cullen, University of Cambridge |
| | NM2 | An Interpretable Machine Learning Model for Sustainable Biochar Production and Applications | Hannah Wang, Yale University |
| | NM3 | What Can Industrial Ecology Learn from Process System Engineering | Bartolomeus Häussling Löwgren, Institute of Environmental Sciences (CML) Universiteit Leiden, VITO EnergyVille |
| | NM4 | Preliminary work towards a cross lifecycle design tool for increased high-quality metal recycling | Alissa Tsai, University of Michigan |
| | NM5 | Fingerprint 2 Footprint: Enhancing environmental sustainability of animal feed production by combining NIR spectroscopy and environmental footprinting | Anne Ottenbros, Department of Environmental Science, Radboud University, Nijmegen 6525AJ |
| | NM6 | Introduction of OpenSankey, a free and open-source online software for interactive Sankey diagram visualization | Jean-Yves Courtonne, STEEP team, Univ. Grenoble Alpes, CNRS, Inria, Grenoble INP, LJK, 38000 Grenoble, France |
| | NM7 | Beyond the Industrial Ecology Metaphor – A Complexity Research Agenda for Metabolism Changes | Charis Luedtke, University of Hamburg |
| | LC1 | Life cycle assessment of high-value biochemicals: systematic review and recommendations | Shiva Zargar, The University of British Columbia |
| | LC2 | Environmental Analysis of Returnable Packaging Systems in Different eCommerce Business Models and Returnable Packaging Management Models: Canadian Case Studies | Jonghun Park, Toronto Metropolitan University |
| | LC3 | The MRV Guidelines for Agricultural Products with Life-cycle Perspectives for Sustainable Agriculture | Solhee Kim, Seoul National University |
| | LC4 | Prospective life cycle assessment of hemp fiber production versus glass fiber production | Hanie Zarafshani, KUL |
| | LC5 | Offshore wind energy and marine biodiversity in the North Sea: life cycle impact assessment for benthic communities | Chen Li, CML Leiden |
| | LC6 | Evaluation of Climate-change Adaptation Measures from the Perspective of Co-benefits with Mitigation - Case Study of Logging Trees in River Channels - | Sotaro Takenaka, The University of Tokyo |
| | LC7 | Nexus of process integration and life-cycle assessment for industrial decarbonization | Jiaqi Lu, Shanghai University of Engineering Science |
| | LC8 | Environmental Impacts of Silver Nanowires and Their Applications | Zhengyin Piao, Center for the Industrial Ecology, Yale School of the Environment, Yale University |
| | LC9 | Quantifying the circularity gap: Life Cycle Assessment (LCA) and Circularity Assessment (CA) as complementary methods for the circular redesign of complex products: A case study of industrial footwear | Cris Garcia Saravia Ortiz de Montellano, Aachen-Maastricht Institute for Biobased Materials (AMIBM), Faculty of Science and Engineering, Maastricht University |
| | LC10 | Circular economy and CMC: a solution to reduce the environmental footprint of ceramic matrix composites | Florian Halter, University of Augsburg |
| | LC11 | Insight study of BIM-LCA Data Processing | Khin Su Su Kyaw, NTNU, Department of Manufacturing and Civil Engineering |
| LC12 | Environmental impacts of biochar production and usage: A review | Antônio Fonseca, University of Aveiro | |
| LC13 | When is repair environmentally beneficial? The case of high-voltage electric motors | Adeline Jerome, Chalmers University of Technology | |
| LCA case studies | LC14 | Knowledge Graph-based Intelligent Strategic Recommendation toward Low Carbon Industrial Design | Jing Guo, School of environment, Tsinghua University |
| | LC15 | On Toast - Environmental Impacts of High-Protein Options for Bread Toppings | Jessica Bosseaux, University of Reading |
| | LC16 | APPLICATION OF TRANSITION LCA METHOD ON CO2 CAPTURE AND UTILIZATION IN A CEMENT PLANT | Eva Quéheille, Université Gustave-Eiffel |
| | LC17 | A Study on the Life Cycle Assessment(LCA) Methodology of In-situ Carbonation Technology Using CO2 emissions from Cement Industry | Eunjin MOON, Korea Conformity Laboratories |
| | LC18 | The environmental sustainability of new ways to produce benzene, toluene and xylene | Emma Zuiderveen, Radboud University, Joint Research Centre, European Commission |

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| LC19 | Evaluating circular processes with life cycle assessment: the case of denim jeans | Rosalie van Zelm, Department of Environmental Science, Faculty of Science, Radboud University, Nijmegen 6525AJ Virginia Maiza, Universitat Autònoma de Barcelona |
| LC20 | Environmental assessment of source separated urine management. Comparison of three management scenarios in the ICTA-UAB building | |
| LC21 | LIFECYCLE ASSESSMENT AND DESIGN BY SEAMLESS ANALYSIS FROM MATERIAL TO SYSTEM; CASE STUDY OF MATERIAL SELECTION OF THERMAL ENERGY STORAGE SYSTEM | Shoma Fujii, The University of Tokyo |
| LC22 | Closing the concrete loop – how to make it eco-friendly? | Berfin Bayram, Institute of Anthropogenic Material Cycles (ANTS), RWTH Aachen University |
| LC23 | Implementing circular management practices in Mediterranean forests: an environmental assessment of a biorefinery plant | Joan Muñoz-Liesa, Sostenipra research group (2021SGR000734), Institut de Ciència i Tecnologia Ambientals (ICTA) (MdM 2015-0552; CEX2019-000940- M), Universitat Autònoma de Barcelona, C/de les columnes s/n, 08193 Bellaterra, Barcelona, Spain. |
| LC24 | Life Cycle Assessment (LCA) of a Bio-Fuel Cell Fed with Waste Biomass: Potential for Scale-Up and Process Optimization | Eleonora Rossi, Dipartimento di Chimica Industriale “Toso Montanari”, Alma Mater Università di Bologna, Viale del Risorgimento, 4, 40136 Bologna (BO) |
| LC25 | Bridging Critical Components Recycling Gaps: Comparative life cycle assessment of permanent magnet recycling processes | Lu Wang, Ganjiang Innovation Academy, Chinese Academy of Sciences |
| LC26 | Reconciling regional costs with global benefits: Lithium from Clays | Venkat Roy, Purdue University |
| LC27 | TEA and LCA of fuels and products from using industrial carbon capture and metabolic engineering | Anthony Roulier, Northeastern University |
| LC28 | Life cycle assessment of a common healthcare procedure - direct laryngoscopy | Grace Filley, Northeastern University |
| DE1 | Australian Aboriginal knowledge and alternative designs for the circular economy | Laura Vecoli, Leiden University, CML |
| DE2 | LCA Applications in the Developing World – Current Status, Challenges & Opportunities | Amma Asantewaa Agyei Boakye, Yale University |
| DE3 | Understanding the relationship between resource consumption and development levels | William Mikhelson, The University of Sheffield |
| DE4 | Towards ecological sustainability: A cultural ecosystem service pathway in regenerating Philippines’ urban green infrastructure | Eugene Mohareb, University of Reading |
| SO1 | Wellbeing provided by the building stock in Trondheim: Service level and service accessibility | JiaJia Li, Norwegian University of Science and Technology |
| SO2 | A conceptual model for linking wellbeing and prosperity to service provision in the energy service cascade | Stefan Pauliuk, Freiburg University |
| SO3 | Extended Producer Responsibility as enabler for circular value chain | Xin Tong, Peking University |
| SO4 | Capital, Energy, Water and Carbon in the Singapore Economy | Lynette Cheah, Singapore University of Technology and Design |
| SO5 | Sustainable land transition through area neutrality in municipalities | Natchiyar Balasubramanian, Norwegian Univ. of Science and Technology |
| SO6 | Assessing the Influence of Information Feedback on Energy-Efficient Behaviors of Households with Agent-Based Model – A Case Study in the Usage of Residential Air Conditioners | CHIA-KAI LOU, Graduate Institute of Environmental Engineering College of Engineering, National Taiwan University |
| SO7 | How does China’s emerging middle-income group reshape consumption patterns and carbon footprint? | Xinzhu Zheng, China University of Petroleum - Beijing |
| SO8 | Risk identification of labour exploitation in medical supply chains | Lihani Du Plessis, University of Cambridge |
| SO9 | Hospital sustainability indicators and actions – a systematic literature review and framework | Katerina Antimissaris, University of Augsburg, Resource Lab / Centre for Climate Resilience |
| SO10 | Energy-human wellbeing relationship moderated by urbanization: insights from subnational analyses in China | Kangkang Tong, Shanghai Jiao Tong University |
| SO11 | Nature Positive Ecolabelling with Life Cycle Impact and Benefit Assessment on Environmental Footprints | Mathilde Vlieg, MalaikaLCT |
| SO12 | Assessing the Social Dimension in Strategic Network Design for a Sustainable Development: The Case of Bioethanol Production in the EU | Lukas Messmann, Resource Lab / Center for Climate Resilience – Augsburg University, Germany |
| SO13 | Handprint assessment: measurement of the positive impact to sustainability. The case for cotton. | Mariana Ortega, Earth Shift Global |
| SO14 | The Short-Term Impact of Air Pollution on Healthcare Expenditures | haofan zhang, State Key Laboratory of Pollution Control and Resource Reuse, School of the Environment, Nanjing University, Nanjing, China |
| SO15 | Approaches to expand the use of the secondhand product: Analyzing the factors influencing consumer acceptability by product type | Dami Moon, Department of Urban Engineering, The University of Tokyo |
| SO16 | Theory of Common Conflicts: Conceptualizing emergent ethics based view of social-ecological systems | Saurabh Vij, City University of Hong Kong |
| SO17 | Expansion of Policy Domain of Sustainable Consumption and Production (SCP): Prospects for Envisioning-based Policy Making | Yasuhiko Hotta, Institute for Global Environmental Strategies |
| SO18 | The mineral basis of climate change mitigation technologies via the lens of patents | Yang Li, Harvard University |

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| SO19 | Sustainable consumption – moving from niche to mainstream | Göran Finnveden, KTH |
| SO20 | Metrics for absolute environmentally sustainable foods – case on tunicate burger | Lars Gunnar Furelid Tellnes, Østfold University College |
| SO21 | Generating Resilience in the Entrepreneurial Ecosystem: A Community-Based Approach | Haorui Wu, Dalhousie University |
| SO22 | Life Cycle Sustainability Management (LCSM) in SMEs – Learnings from electronics in the developing economies | Sonia Valdivia, World Resources Forum |
| SO23 | Enabling Shifts Towards Sustainable Circulation of Materials in Transportation Infrastructure: Development and Testing of an Approach Using Systems Thinking | Sara Malmgren, KTH Royal Institute of Technology |
| SO24 | A life cycle sustainability assessment of the miracle tree’s leaf powder and seed oil | Yoel Gebrai, University of South Florida |
| SO25 | Developing Mental Skills for Entrepreneurial Resilience: Identifying Best Practices | Erin Wynn, MindFrame Connect |
| SO26 | STiCH: Sustainability Tools in Cultural Heritage | Matthew Eckelman, Northeastern University |
| SO27 | Socio-ecological contagion in urban metabolism | Thomas Elliot, École de technologie supérieure |

| Poster group | ID | Title | Presenter |
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| Batteries | BA1 | Life Cycle Assessment of Gum Waste Batteries | Afsoon Mansouri Aski, Bavarian Center for Battery Technology (BayBatt), University of Bayreuth, Bayreuth, Germany |
| | BA2 | Life cycle assessment of electric vehicle battery repurpose use cases | Benedikte Wralsen, University of Agder |
| | BA3 | Policy measures towards advancing battery reuse and recycling in Norway | Chloe Depledge, University of Agder |
| | BA4 | Lithium-Sulfur Technology Reduces the Environmental Impact of Lithium-Ion Batteries | Heng Yi Teah, Waseda University |
| | BA5 | Development and assessment of biodegradable and compostable primary batteries | Joan Muñoz-Liesa, Sostenipra research group (2021SGR000734), Institut de Ciència i Tecnologia Ambientals (ICTA) (MdM 2015-0552; CEX2019-000940- M), Universitat Autònoma de Barcelona, C/de les columnes s/n, 08193 Bellaterra, Barcelona, Spain. |
| | BA6 | Value chains and process-based modelling of Li-ion batteries production and their environmental impacts | Lorenzo Usai, NTNU |
| | BA7 | Estimating the material flow of used lithium-ion batteries in Japan | Masahiro Oguchi, National Institute for Environmental Studies |
| | BA8 | Material flow analysis of end-of-life electric vehicle batteries using agent-based modeling | Miriam Stevens, Purdue University |
| | BA9 | Future greenhouse gas emissions of sodium ion batteries | Shan Zhang, Swedish University of Agricultural Sciences |
| | BA10 | Raw material provisions and recycling of Lithium-ion Batteries | Shannon Davies, Newcastle University |
| | BA11 | Critical raw-material requirements for lithium-ion batteries for the electrification of the Swedish passenger car fleet | Simon Davidsson Kurland, Uppsala University |
| | BA12 | Prediction of the end-of-life NCM batteries considering elongation of lifespan in China until 2035 | Wenjing Gong, The University of Tokyo |
| | BA13 | Life-cycle assessment of Li-ion batteries with focus on water risks related to critical metals | Yan Du, Chemical and Environmental Engineering, Yale University |
| EEIO | IO1 | Disassemblability, recyclability and ecodesign assessment to promote the circular economy in the automotive sector | Abel Ortego, CIRCE Institute – Universidad de Zaragoza, Spain |
| | IO2 | The Belt and Road Initiative countries play an increasingly important role in global value chains with high carbon emission costs | Ailin Kang, Beijing Normal University |
| | IO3 | Strategic scenario analysis of EU CBAM | Bertram F. de Boer, Institute of Environmental Sciences (CML) - Universiteit Leiden |
| | IO4 | Pattern of carbon peaking for China's urban agglomerations | Chengqi Xia, Tsinghua University |
| | IO5 | Global spread of water scarcity risk through trade | Chenyang Shuai, Chongqing University |
| | IO6 | Socioeconomic driving forces of industrial hazardous waste generation within industrial supply chain | Daye Lee, University of Bordeaux |
| | IO7 | Multi-model assessments for anticipated agricultural non-CO2 footprints reduction driven by the demand of non-food commodities | Haoran Zhang, University College London |
| | IO8 | A Top-Down approach for downscaling sectoral emission budgets. A case study of Canada's construction sector | Hatzav Yoffe, University of Toronto |
| | IO9 | The consequences of consumer behaviors and environmental consciousness among various races on household carbon footprints in the United States | Jiahuan Wang, Nagasaki University |
| | IO10 | Unveiling the nexus profile of embodied water–energy–carbon–value flows of the Yellow River Basin in China | Lei Cheng, School of environment, Tsinghua University |
| | IO11 | Consumption-based Regional Emissions Budgeting Framework - A case study of the South Yorkshire | Ling Min Tan, The University of Sheffield |
| | IO12 | Global trading impact on Biodiversity loss in Africa | Ludi Liu, Beijing Normal University |
| | IO13 | Methodological Comparison of Prospective LCAs and EE-MRIO for Modelling Circular Economy Measures: A Case Study on Smartphones in Germany | Malte Besler, Fraunhofer Institute for System and Innovation Research ISI |
| | IO14 | Substitution of joint-production processes in a sustainable future | Max Koslowski, NTNU |
| | IO15 | Assessing the Global Sustainability Impacts of Energy Procurement Switching Strategies: the case of Italy during the Russia-Ukraine war | Michele De Nicolo', Department of Mechanics, Mathematics, and Management, Polytechnic University of Bari |
| | IO16 | Advancing Sector Footprint Monitoring: Integrating Bottom-Up data into Top-Down Approaches for Estimating the Environmental Impacts of Healthcare | Michelle Steenmeijer, Centre for Sustainability, Environment and Health, RIVM Dutch National Institute for Public Health and the Environment, Bilthoven, The Netherlands |
| | Energy and resources | IO17 | The Effect of City-Level Circular Economic Strategies on Reducing Carbon Footprints: A Case Study of Seoul |
| IO18 | | The energy footprint of a city: comparing supply- and use-extended input-output models for the case of Vienna, Austria. | Oleksandr Galychyn, Finnish Environmental Institute (SYKE) |
| IO19 | | Factors driving China's carbon emissions after the COVID-19 outbreak | xinlu sun, University College London |
| EN1 | | A systematic comparison of low carbon hydrogen production pathways that align with net zero roadmaps. What are the trade-offs to consider? | Alice Bennett, University of Cambridge |
| EN2 | | Digesting fossil infrastructure: producing hydrogen with repurposed materials | Hauke Schlesier, Empa - Swiss Federal Laboratories for Materials Science and Technology, Technology and Society Laboratory |
| EN3 | | Could solar PV adoption in rural Africa catalyse charcoal production – an examination of rural Zambia | Hillary Chanda, University of Reading |
| EN4 | | The rapid energy transition and resource extraction lock-in | John Mulrow, Purdue University |
| EN5 | | A circular economy potential for Solar photovoltaic in the South East Asian region – Using Life Cycle Assessment and Material Flow Analysis approach | Minhee Son, Energy Studies Institute, National University of Singapore |
| EN6 | | Ecological footprint of critical material requirements for the US energy transition | Miriam Stevens, Purdue University |

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| EN7 | Uncovering the spatiotemporal evolution of the global wind energy system: A high spatial resolution material stock and flow analysis | Shangjun Ke, University of Southern Denmark |
| EN8 | Environmental Impacts Assessment of Future Hydrogen Production | Shijie Wei, Leiden University, CML |
| EN9 | Dynamic analysis of the critical material requirements and recycling opportunities of the U.S. energy transition | Tessa Lee, Yale University |
| EN10 | Economic and environmental feasibility of hydrogen production from gasifying mixed plastic waste with carbon capture and storage | Yuan Yao, Center for Industrial Ecology, Yale School of the Environment, Yale University |
| SY1 | Integrating environmental parameters in energy system modeling | Alexander de Tomás Pascual, LIVEN Lab, Sostenipra Group. Institute of Environmental Science and Technology (ICTA-UAB), Maria de Maeztu Unit (CEX2019-0940-M) |
| SY2 | Demand and deployment of hydrogen liquefaction plants in Europe | Alicia Torres Gomez, University of Cambridge |
| SY3 | Transport dependence on oil: Could transport electrification offset near-future strains on net energy flows from liquid fossil fuels? | Antonin Berthe, Inria |
| SY4 | Carbon Footprint of Household Energy Use in the United States | Benjamin Goldstein, McGill University |
| SY5 | Comparative Analysis of Energy Transportation Modes: Economic and Environmental Considerations for the Low-Carbon Energy Transition | Ella Jennings, University of Cambridge |
| SY6 | Low-carbon hydrogen production, integration, and impacts in oil refineries | Erik Lopez Basto, Technical University Delft |
| SY7 | A life-cycle perspective on the benefits of renewable electricity generation in the EU27 | Evert Bouman, Climate and Environmental Research Institute NILU |
| SY8 | Market and Grid Required for Renewables-Dominated Electricity Systems | Gjalt Huppes, Leiden University, CML |
| SY9 | The spatiotemporal evolution of carbon emissions and resource inequality in China's interprovincial coal trade | Guangying Pu, School of Environment, Tsinghua University, Beijing, China |
| SY10 | The impact of energy transition policies on land use changes affects regional ecosystem services | Hungxin Chen, National Taiwan University |
| SY11 | Study of Vehicle-to-Grid introduction to reduce curtailment of renewable energy in a remote Island in Japan : Case Study of Tanegashima island | Kazuki IGARASHI, Shibaura Institute of Technology |
| SY12 | Analysis to identify key parameters for estimating generation of used PV panels | Ken MATSUOKA, The University of Tokyo |
| SY13 | Current and prospective environmental consequences of integrated vs added photovoltaic roof applications | Mara Hauck, TNO, Climate, Air and Sustainability |
| SY14 | Linny-R: Elegant diagram-based modeling and simulation of (smart) clusters, energy grids and markets | Pieter Bots, Delft University of Technology |
| SY15 | Charging toward decarbonized electrification: Revisiting Beijing's power system | Qian Zhang, Queen's University |
| SY16 | LIFE CYCLE ASSESSMENT OF DIMETHYL ETHER produced from algal biomass | Raja Chowdhury, Indian Institute of Technology, Roorkee, India |
| SY17 | Developing an Optimal Energy Supply System to Support the Regional Decarbonization: A Case Study from Kitakyushu City, Japan | Richao Cong, The University of Kitakyushu |
| SY18 | Accounting of Greenhouse Gas Emissions in China's Electricity Generation and Consumption | Ruoxi Xiong, School of environment, Tsinghua University |
| SY19 | Contributions of key countries, enterprises and refineries to greenhouse gas emissions in global oil refining 2000-2021 | Shijun Ma, University College London |
| FO1 | Quantifying material flows to integrate tomato greenhouse horticulture into a circular industrial ecosystem | Alexander van Tuyl, Wageningen University & Research, Business Unit Greenhouse Horticulture |
| FO2 | Environmental performance of trawling fishing | Ana Cláudia Dias, University of Aveiro |
| FO3 | Tracing nitrogen flows associated with beef supply chains in the United States: a consumption-based perspective | Anais Ostroski, University of Pittsburgh |
| FO4 | Subnational trade flows of nitrogen for the Japanese agriculture-related consumption | Azusa Oita, National Agriculture and Food Research Organization (NARO) |
| FO5 | Deriving Product Nutrient Inventories from Nitrogen and Phosphorus Flow Accounting of U.S. Agricultural commodities | Christine Costello, Pennsylvania State University |
| FO6 | Evaluating the sustainability potential of Black soldier fly meal for laying hens' feed using LCA | Daniela Dominguez Aldama, The University of British Columbia |
| FO7 | Nitrogen and Phosphorus Footprints of the Agriculture Sector in Indonesia | Farah Wirasenjaya, Graduate School of Environmental Studies, Tohoku University |
| FO8 | Land-free Bioenergy from Circular Agroecology -- A Diverse Option Space | Fei Wu, ETH Zurich |
| FO9 | Environment-Health performance of culinary patterns in traditional recipes across the China | fengyin xiong, University of Southern Denmark |
| FO10 | Can circular strategies contribute to sustainable food production in cities? The case of nutrients circulation in a metropolitan area for urban agriculture. | gara villalba, Universitat Autònoma de Barcelona |
| FO11 | The Potential of Controlled Environment Agriculture in Canada: A life cycle assessment of container farming and aquaponics | Gorety Dias, School of Environment, Enterprise, and Development, University of Waterloo |
| FO12 | Food demands transition in China's ageing society challenges planetary boundary | Han Zhang, Northwest A & F University |
| FO13 | Unpacking domains and trends in food environments - a bibliometric analysis | Isaac Guzman Estrada, University of Reading |
| FO14 | An Assessment of Emissions from the United Kingdom Food System | Jedidiah Oru-Bo, University of Reading |
| FO16 | Global assessment of plate food waste in schools | lei feng, Chongqing University |
| FO17 | Change in nitrogen inputs to the Chesapeake Bay watershed with the introduction of herbaceous feedstock | Lucas de Lima Casseres dos Santos, The Pennsylvania State University |
| FO18 | Sustainable and fair transitions in agriculture: the case for leveraging native maize in Mexico | Mariana Ortega-Ramírez, Alianza por Nuestra Tortilla |
| FO19 | Challenges in aquaponic food production – considering the social paradigm of sustainability | Marissa Breitenstein, University of Wisconsin-Madison |

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| FO20 | Assessing the environmental implications of sustainable and circular public procurement food | Michael Martin, IVL Swedish Environmental Research Institute |
| FO21 | Assessing the environmental performance of a containerized vertical farm: Case study from IKEA | Michael Martin, KTH |
| FO22 | Could Norway supply its own fertilizer? A high-resolution analysis of the agricultural phosphorus cycle. | Miguel Las Heras, Climate and Environmental Research Institute NILU |
| FO23 | Assessing Agricultural Environmental Impacts using EE-MRIO Multipliers | Mohamed Badr, NTNU |
| FO24 | Overconsumption of freshwater hidden in agricultural production and international trade | Nguyen Tien Hoang, Research Institute for Humanity and Nature |
| FO25 | Food waste-Energy-Water-Emissions (FEWE) Nexus in the Food Service Sector: Comparative Life Cycle Assessment of Locally Produced vs Imported Meal | Paschal Milindi, City University of Hong Kong |
| FO26 | Sustainability trade-offs among blue foods in North Sumatra | Patrik Henriksson, Stockholm University |
| FO27 | Environmental sustainability of oyster production in Portugal | Paula Quinteiro, University of Aveiro |
| FO28 | How to improve efficiency of coupled crop-livestock farming system? | Qian Zhang, College of Land Science and Technology, China Agricultural University, Beijing, China |
| FO29 | Sustainable Aquafeeds: Using Aquafarmer Preference to Inform a Multi-criteria Decision Analysis | Ramin Ghamkhar, Associate Consultant of Sustainability |
| FO30 | A novel technique for mapping material and information flow in food traceability systems | Samantha Islam, University of Cambridge |
| FO31 | Digital food sharing and food insecurity in the COVID-19 era | Tamar Makov, Ben Gurion University of the Negev |
| FO32 | Revealing and addressing the pesticide tradeoff of sustainable diets | Xinhan Yin, Chongqing University |
| FO33 | Comparing Biodiversity Impacts of Recipes across the World | Yeqing Zhang, Norwegian Univ. of Science and Technology |
| FO34 | The strategies to improve the circularity of Taiwan's food system: Findings from nitrogen and phosphorus flows | Yi-Hsiang Lee, Graduate Institute of Environmental Engineering, National Taiwan University |
| FO35 | Decarbonisation of Food Loss and Waste: A Case Study of Chicken Feet Supply Chain in the UK | Yiming Sui, University of Reading |
| FO36 | The societal and environmental opportunities of reducing sugar consumption | Zhongxiao Sun, College of Land Science and Technology, China Agricultural University, Beijing, China |
| FO37 | Life cycle assessment of swine breeding and manure management: A case study in Yunlin county, Taiwan | Zih-Ee Lin, National Taiwan University |
| LM1 | Decarbonizing future cement production: A prospective Life Cycle Assessment using global Scenarios from an Integrated Assessment Model | Amelie Mueller, Leiden University, Institute of Environmental Sciences (CML) |
| LM2 | A parametrized approach to regionalizing recycling life-cycle assessment inventories | Arianne Provost-Savard, CIRAI, Polytechnique Montréal |
| LM3 | Normalization factor database for life cycle impact assessment in China | beijia huang, University of Shanghai for Science and Technology |
| LM4 | Life cycle assessment of demand-side management in energy systems: A system-wide perspective | Benedikt Nilges, Institute of Technical Thermodynamics, RWTH Aachen University |
| LM5 | Absolute Environmental Sustainability Assessment of Chemical Products – transgression level of nature's carrying capacity and potential for nature-based solutions | Bhavik Bakshi, The Ohio State University |
| LM6 | Spatially explicit LCA of silicon production: the importance of system levels in environmental assessments. | Elisa Pastor Vallés, Norwegian Univ. of Science and Technology |
| LM7 | Reviewing life cycle assessments of carbon capture and utilisation - unclear goals lead to unclear results | Evelina Nyqvist, Environmental Systems Analysis, Chalmers University of Technology, 412 96 Gothenburg, Sweden |
| LM8 | A theoretical method to evaluate and compare changes in energy consumption reduction of vehicles | Guillaume Majeau-Bettez, CIRAI, Polytechnique Montréal |
| LM9 | Regionalization of water scarcity characterization factors to Peruvian basins using the AWARE method | Joan Sanchez-Matos, Pontificia Universidad Católica del Perú |
| LM10 | Methodology development for decision on the allocation factor considering recycling effect | Junxi LIU, Department of Materials Engineering, School of Engineering, The University of Tokyo, Japan |
| LM11 | A software for recommending weighting method(s) tailored to LCA studies | L. Scherer, Leiden University, CML |
| LM12 | Contribution Analysis: What is it and which questions does it answer? | Marc van der Meide, CML - Leiden University |
| LM13 | Improving the Modelling Framework for Terrestrial Acidification in Life Cycle Impact Assessment | Marion Lebrun, NTNU |
| LM14 | Going beyond generic LCA: A framework for mass-deployment of customized semi-automated carbon footprinting | Marit Salome Rognan, CIRAI, Polytechnique Montréal |
| LM15 | Nature-positive LCA of Production and Consumption Systems | Mathilde Vlieg, MalaikaLCT |
| LM16 | Prospective life cycle assessment to avoid unintended consequences of net-zero solutions and its challenges | Mohammad Ali Rajaeifar, School of Engineering, Newcastle University, Newcastle Upon Tyne, NE1 7RU, United Kingdom |
| LM17 | Assessing the greenhouse gas tradeoffs of alternative agrivoltaics technologies in the U.S. Midwest: connecting biophysical input-output and prospective life-cycle assessment | Nathaniel Springer, University of Minnesota, Institute on the Environment |
| LM18 | Integration of chemical engineering models in waste management LCA: Case of composting | Nomena Ravoahangy, Université de Technologie de Compiègne, ESCOM, TIMR ; Polytechnique Montréal, CIRAI |
| LM19 | Net Positive LCA Beyond Negative Realms | Olivia Manzart, The Evah Institute, Tamborine Mountain QLD |
| LM20 | Capturing "More-good" and "less bad" social impacts: the methodology revealed | Pasan Dunuwila, The University of Tokyo |
| LM21 | Prospective life cycle assessment: the way forward | Rosalie van Zelm, Department of Environmental Science, Faculty of Science, Radboud University, Nijmegen 6525AJ |
| LM22 | Prospective Life Cycle Inventories for Rapid Innovation Technologies: A hotspot scenario analysis for global integrated circuit manufacturing | Rylie Pelton, LEIF |
| LM23 | Development of a spatially explicit model to evaluate widespread impacts of reduced ocean pH and calcite saturation levels | Sedona Anderson, NTNU |

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| LM24 | WasteFootprint: A Python tool in the Brightway2 framework to categorise and quantify waste flows in LCA | Stewart Charles McDowall, CML Leiden |
| LM25 | Dynamic Life Cycle Assessment (dLCA) of a Biorefinery Employing Bakery Waste Oil for Sphorolipids Production with Evolving Technologies | Yahui Miao, City University of Hong Kong |
| MO1 | Leading the transition of the European automotive supply chain towards a circular future - TREASURE | Abel Ortego, CIRCE Institute – Universidad de Zaragoza, Spain |
| MO2 | Future material demand for electrification of the UK Light Duty Vehicle Fleet | Ben Davies, Sustainable Process Technologies, Faculty of Engineering, University of Nottingham, Nottingham NG7 2RD |
| MO3 | Light-Duty Passenger Vehicle Electrification in China and Associated Greenhouse Gas Emissions from 2021 to 2050: A Dynamic Fleet Perspective | Bin Shui, City University of Hong Kong |
| MO4 | Analysis of the transport sector to establish deep-decarbonization strategies in Peruvian cities | Claudia Cucchi, Pontificia Universidad Católica del Perú |
| MO5 | Smart Mining Fleet Dispatching System to Reduce Greenhouse Gas Emissions Using Deep Reinforcement Learning | Da Huo, University of Toronto |
| MO6 | What is the Greenest Last-mile Delivery Option for Consumers' Online Purchases | Davide Alessi, University of Trento |
| MO7 | Would you Change your Travel Mode if you know its Carbon Footprint? | Erin Bulson, University of Wisconsin-Madison |
| MO8 | Levelized cost of inter-city electric vehicles charging option in China | HAO HAN, City University of Hong Kong |
| MO9 | TranSensusLCA: Developing a harmonized LCA approach for E-mobility | Hazem Eltohamy, Institute of Environmental Sciences (CML) - Universiteit Leiden |
| MO10 | Siting Solar Charging Stations for Shared Electric Bikes | Hua Cai, Purdue University |
| MO11 | Using different transport modes: an opportunity to reduce UK passenger transport emissions? | Hugh Thomas, University of Cambridge |
| MO12 | Material efficiency and carbon emission reduction strategies of passenger vehicles: a case study of the Yangtze River Delta region | Huimei Li, Faculty of Environment and Natural Resources, University of Freiburg |
| MO13 | Environmental Impacts of Residential Relocation in the Autonomous Vehicle Era | Kendrick Hardaway, Purdue University |
| MO14 | Sustainability assessment of heavy duty transport using the multi-criteria analysis (MCA) | Konrad Smolarczyk, Environmental Technology and Management, Department of Management and Engineering, Linköping University, SE-581 83 Linköping, Sweden |
| MO15 | Undoing the lock-in of urban sprawl: integrated modelling of materials and GHG emissions of urban transformation for decreasing car dependency | Laura Pérez Sánchez, Universitat Autònoma de Barcelona |
| MO16 | Stocks and flows analysis of settlements in the Greater Oslo: an investigation of Resource Efficiency Strategies | Lola Rousseau, Norwegian Univ. of Science and Technology |
| MO17 | Sustainable Mobility in Times of Crises | Mira Kopp, Friedrich Schiller University Jena |
| MO18 | Establishing the potential contribution of public transport to climate neutrality based on high resolution urban environment modeling | Patrícia Baptista, IN+ Center for Innovation, Technology and Policy Research, LARSyS, Instituto Superior Técnico, Universidade de Lisboa, Portugal |
| MO19 | Carbon neutrality of China's passenger car sector requires coordinated short-term behavioral changes and long-term technological solutions | Wu Chen, University of Southern Denmark |
| MO20 | Robust comparative LCA of circular pavement designs using a probabilistic approach | Zhaoxing Wang, University of Antwerp |
| MO21 | Life cycle greenhouse gas emissions and mitigation opportunities of High Speed Railway in China | Zimeng Cai, School of environment, Tsinghua University |
| MO22 | Understanding Interconnection in Resilient Multimodal Public Transportation Networks: A Case Study from Hong Kong | Zizhen Xu, City University of Hong Kong |
| PL1 | A Dynamic Probabilistic Material Flow Analysis of the Norwegian Plastic Cycle and its Associated Environmental Emissions | Ahmed Marhoon, Norwegian University of Science and Technology |
| PL2 | Consumer Preference Evaluation of Plastic Container Recovery Systems Using Conjoint Analysis | Atsushi Fujiyama, The University of Kitakyushu |
| PL3 | Quantifying the stocks and flows of microplastics across Canada | Cassandra Sherlock, University of Waterloo |
| PL4 | Environmental and Human Health Implications of Bioplastic Production Using CO ₂ as Feedstock | Danyi Feng, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, Madison, WI, 53706, USA |
| PL5 | Willingness-to-pay for Bioplastic Bottles | Danyi Feng, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, Madison, WI, 53706, USA |
| PL6 | Plastics have lower greenhouse gas emissions than their alternatives in most current applications | Fanran Meng, University of Cambridge |
| PL7 | Analyzing the effect of promoting reusable containers for takeaway food through policies in Taiwan | Hsin-Tien Lin, National Cheng Kung University |
| PL8 | Material Flow Analysis of the Portuguese plastic management | João Serra, University of Aveiro |
| PL9 | Trade-offs between material efficiency and environmental performance for managing plastics packaging waste | John Laurence Esguerra, Linköping University |
| PL10 | Linking resource circulation of plastics with the industry-wide decarbonization through life cycle thinking | Jun Nakatani, The University of Tokyo; National Institute for Environmental Studies, Japan |
| PL11 | Scenario analysis of the environmental impact and economic feasibility of expanding bio-based and bio-degradable PHBH production | Kota Chida, Department of Chemical System Engineering, The University of Tokyo |
| PL12 | LIFE CYCLE ASSESSMENT OF THREE NOVEL TECHNIQUES FOR REJUVENATING "OLD PVC": REMADYL CASE STUDY, CHALLENGES AND BENEFITS | Luigi D'Elia, eLoop s.r.l, V.le A. Gramsci 17/B, Napoli 80122, Italy; Department of Chemical Sciences, University of Naples Federico II, Naples 80126, Italy; |
| PL13 | Human Behavior at Point of Disposal of PLA | Monica Rodriguez Morris, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, Madison, WI, 53706, USA |
| PL14 | Effect factors for ecotoxicity from plastic additives in the aquatic ecosystem | Naiara Casagrande, MARE - Marine and Environmental Sciences Centre ARNET - Aquatic Research Network Associate Laboratory, NOVA School of Science and Technology, NOVA University Lisbon |
| PL15 | A life cycle perspective of the second-generation polylactic acid and its integration with chemical recycling | Ricardo Rebolledo-Leiva, Universidade de Santiago de Compostela |