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SDU Life Cycle Engineering
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Research areas

Circular Economy, Industrial Ecology, Waste and Resources Management, Life Cycle Assessment

Professional experience

2022- Head of Programme for MSc. Engineering – Environmental Engineering
2021- Associate professor, Department of Green Technology, University of Southern Denmark
2019–2021 Postdoctoral fellow, funded by Independent Research Fund Denmark (IRFD) at the Norwegian University of Science and Technology (NTNU)
2016–2019 Postdoctoral fellow, SDU Life Cycle Engineering, University of Southern Denmark

Education

2016 PhD Energy and Environmental Efficient Technologies (March 2016), University of Southern Denmark. Dissertation: "Central Sorting Systems in Municipal Solid Waste Management"
2014 External research stay in the Department of Processing and Recycling, RWTH Aachen University, Germany
2013 MSc in Environmental Engineering, University of Southern Denmark

Research outputs

Tracking the post-1990 sociometabolic transitions in Eastern Europe with dynamic economy-wide material flow analysis
Zhu, W., Cimpan, C., Sun, K., Liu, Q., Veipa, A. & Liu, G., Dec 2023, In: Resources, Conservation and Recycling. 199, 10 p., 107280.

Ten questions concerning prospective LCA for decision support for the built environment
Bruhn, S., Sacchi, R., Cimpan, C. & Birkved, M., 15. Aug 2023, In: Building and Environment. 242, 11 p., 110535.

Exploring the Impact of Recycling on Demand–Supply Balance of Critical Materials in Green Transition: A Dynamic Multi-Regional Waste Input–Output Analysis
Bella, S. D., Sen, B., Cimpan, C., Rocco, M. V. & Liu, G., 18. Jul 2023, In: Environmental Science & Technology. 57, 28, p. 10221–10230

Effects of Circularity Interventions in the European Plastic Packaging Sector
Cimpan, C., Bjelle, E. L., Budzinski, M., Wood, R. & Strømman, A. H., 11. Jul 2023, In: Environmental Science & Technology. 57, 27, p. 9984–9995

Keep circularity meaningful, inclusive and practical: A view into the plastics value chain
Cimpan, C., Iacovidou, E., Rigamonti, L. & Thoden van Velzen, E. U., 1. Jul 2023, In: Waste Management. 166, p. 115-121

Plastic packaging flows in Europe: A hybrid input-output approach
Cimpan, C., Bjelle, E. L. & Strømman, A. H., Dec 2021, In: Journal of Industrial Ecology. 25, 6, p. 1572–1587

The living, the dead, and the obsolete: A characterization of lifetime and stock of ICT products in Denmark
Zhilyaev, D., Cimpan, C., Cao, Z., Liu, G., Askegaard, S. & Wenzel, H., Jan 2021, In: Resources, Conservation and Recycling. 164, 11 p., 105117.

How the Dead Storage of Consumer Electronics Creates Consumer Value

Nøjgaard, M., Smaniotto, C., Askegaard, S., Cimpan, C., Zhilyaev, D. & Wenzel, H., Jul 2020, In: Sustainability. 12, 14, 16 p., 5552.

Life Cycle Assessment of prospective MSW management based on integrated management planning in Campo Grande, Brazil

De Moraes Lima, P., Olivo, F., Paulo, P. L., Schalch, V. & Cimpan, C., 1. May 2019, In: Waste Management. 90, p. 59-71

The climate footprint of imports of combustible waste in systems with high shares of district heating and variable renewable energy

Pizarro Alonso, A. R., Cimpan, C. & Münster, M., Sept 2018, In: Waste Management. 79, p. 800-814

The economic value of imports of combustible waste in systems with high shares of district heating and variable renewable energy

Pizarro-Alonso, A., Cimpan, C., Ljunggren Söderman, M., Ravn, H. & Münster, M., Sept 2018, In: Waste Management. 79, p. 324-338

Electronic waste and informal recycling in Kathmandu, Nepal: challenges and opportunities

Parajuly, K., Thapa, K. B., Cimpan, C. & Wenzel, H., 2018, In: Journal of Material Cycles and Waste Management. 20, 1, p. 656-666

Environmental assessment of end-of-life textiles in Denmark

Koligkioni, A., Parajuly, K., Sørensen, B. L. & Cimpan, C., 2018, In: Procedia CIRP. 69, p. 962-967

Environmental assessment of existing and alternative options for management of municipal solid waste in Brazil

Lima, P. D. M., Colvero, D. A., Gomes, A. P., Wenzel, H., Schalch, V. & Cimpan, C., 2018, In: Waste Management. 78, p. 857-870

Integration of Energy Systems Analysis (ESA) with waste LCA to account consequences of present and future waste-to-energy (WtE)

Pizarro Alonso, A. R. & Cimpan, C., 2018.

Optimized collection of EoL electronic products for Circular economy: A techno-economic assessment

Angouria-Tsorochidou, E., Cimpan, C. & Parajuly, K., 2018, In: Procedia CIRP. 69, p. 986-991

Synergi i fynske ressourcestrategier – SYFRE: sammendrag

Cimpan, C., Sørensen, B. L., Mehlsen, T., Rabbani, R. A. & Wenzel, H., 20. Dec 2017, Odense: Syddansk Universitet. 32 p.

Future consequences of strategies for household waste management in Copenhagen, Denmark

Cimpan, C., Nedenskov, J., Leisner, I. & Wenzel, H., 28. Nov 2017.

Collection and recycling of waste from households on Funen: Status and analysis on the reference year 2014

Cimpan, C. & Wenzel, H., 25. Nov 2016, Centre for Life Cycle Engineering, SDU. 27 p.

Cost-efficient management of organic household waste: Collection, pre-treatment and digestion

Cimpan, C. & Wenzel, H., 25. Nov 2016, Centre for Life Cycle Engineering, SDU. 28 p.

Integration of Refuse Derived Fuel in District Heating Systems: Analysis for Svendborg and Odense District heating systems

Rabbani, R. A., Gabert, M. C., Gamborg, F., Pedersen, M. R., Cimpan, C. & Wenzel, H., 25. Nov 2016, Centre for Life Cycle Engineering, SDU. 71 p.

Implications of synergetic indirect effects and increased flexibility for municipal solid waste management within future framework conditions

Cimpan, C., Rothmann, M. & Wenzel, H., 20. Sept 2016. 1 p.

Techno-economic assessment of central sorting at material recovery facilities: the case of lightweight packaging waste

Cimpan, C., Maul, A., Wenzel, H. & Pretz, T., 20. Jan 2016, In: Journal of Cleaner Production. 112, 5, p. 4387–4397

Central sorting systems in Municipal Solid Waste management

Cimpan, C., 2016, Syddansk Universitet.

End-of-life resource recovery from emerging electronic products: a case study of robotic vacuum cleaners

Parajuly, K., Habib, K., Cimpan, C., Liu, G. & Wenzel, H., 2016, In: Journal of Cleaner Production. 137, p. 652-666

Materialestrømsanalyse, carbon footprint og økonomisk vurdering af alternative veje til indsamling og behandling af fynsk husholdningsaffald

Cimpan, C., Rothmann, M. & Wenzel, H., 26. Oct 2015, SDU Livscykluscenter. 111 p.

Towards increased recycling of household waste: Documenting cascading effects and material efficiency of commingled recyclables and biowaste collection

Cimpan, C., Rothmann, M., Hamelin, L. & Wenzel, H., 1. Jul 2015, In: Journal of Environmental Management. 157, 1 July, p. 69-83

Optimization of resource recovery from MSW by combining source separation and central sorting: a case study for Funen, Denmark

Cimpan, C., Rothmann, M. & Wenzel, H., Jul 2015. 1 p.

Insight into economies of scale for waste packaging sorting plants

Cimpan, C., Wenzel, H., Maul, A. & Pretz, T., 15. Mar 2015, *Proceedings of the 30th International Conference on Solid Waste Technology and Management*. Widener University, Department of Civil Engineering, p. 250-261 (International Conference on Solid Waste Technology. Proceedings).

Central sorting and recovery of MSW recyclable materials: A review of technological state-of-the-art, cases, practice and implications for materials recycling

Cimpan, C., Maul, A., Jansen, M., Pretz, T. & Wenzel, H., 2015, In: Journal of Environmental Management. 156, June, p. 181-199 19 p.

Material flow analysis, carbon footprint and economic assessment of alternative collection and treatment of domestic household waste from the region of Funen, Denmark

Cimpan, C., Rothmann, M. & Wenzel, H., 2015, Centre for Life Cycle Engineering, SDU. 111 p.

Karbon implikationer af sorteringsystemer - et KISS værktøj til strategiske beslutninger i affaldssektoren

Wenzel, H., Sørensen, B. L., Wesnæs, M., Cimpan, C., Leinikka Dall, O. & Hamelin, L., 24. Nov 2014.

Shredder Residues: Problematic substances in relation to resource recovery

Hyks, J., Oberender, A., Hjelm, O., Cimpan, C., Wenzel, H., Hu, G. & Cramer, J., 14. May 2014, Miljøstyrelsen. (Miljøprojekt; No. No. 1568).

Energy implications of mechanical and mechanical-biological treatment compared to direct waste-to-energy

Cimpan, C. & Wenzel, H., 2013, In: Waste Management. 33, p. 1648–1658

The effects of Dual-Stream commingled collection of recyclables from households in Sønderborg, Denmark: 2nd International Conference WASTES: Solutions, Treatments and Opportunities, September 11th-13th 2013

Cimpan, C. & Wenzel, H., 2013. 6 p.

Alternative Pathways of Future Energy and Materials Recovery from Mixed MSW. Proceedings of the International Conference "ISWA World Solid Waste Congress", 17th - 19th September 2012, in Florence, Italy.

Cimpan, C. & Wenzel, H., 2012, *Proceedings of the International Conference "ISWA World Solid Waste Congress", 17th - 19th September 2012, in Florence, Italy..* ISWA, 10 p.

Teaching and supervision

Eco-efficient Engineering

Cimpan, C.
01/09/2023 → 31/01/2024

Solid Waste Processing and Recycling (EM-SWPR)

Cimpan, C.
03/09/2018 → 31/01/2019

Waste Management - from Waste to Resources

Cimpan, C.
01/02/2023 → 30/06/2023