Thomas Fruergaard Astrup

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Life cycle assessment (LCA) of electricity generation technologies: Overview, comparability and limitations. Renewable and Sustainable Energy Reviews, 2013, 28, 555-565.	16.4	535
2	Life cycle assessment of thermal Waste-to-Energy technologies: Review and recommendations. Waste Management, 2015, 37, 104-115.	7.4	241
3	Environmental impacts of food waste: Learnings and challenges from a case study on UK. Waste Management, 2018, 76, 744-766.	7.4	212
4	Municipal solid waste composition: Sampling methodology, statistical analyses, and case study evaluation. Waste Management, 2015, 36, 12-23.	7.4	210
5	Landfilling of waste: accounting of greenhouse gases and global warming contributions. Waste Management and Research, 2009, 27, 825-836.	3.9	200
6	Plastic waste from recycling centres: Characterisation and evaluation of plastic recyclability. Waste Management, 2019, 95, 388-398.	7.4	194
7	Incineration and co-combustion of waste: accounting of greenhouse gases and global warming contributions. Waste Management and Research, 2009, 27, 789-799.	3.9	175
8	Life cycle assessment of construction and demolition waste management. Waste Management, 2015, 44, 196-205.	7.4	157
9	Life cycle costing of waste management systems: Overview, calculation principles and case studies. Waste Management, 2015, 36, 343-355.	7.4	141
10	Life cycle assessment of biofuel production from brown seaweed in Nordic conditions. Bioresource Technology, 2013, 129, 92-99.	9.6	135
11	Systematic Evaluation of Uncertainty in Material Flow Analysis. Journal of Industrial Ecology, 2014, 18, 859-870.	5.5	127
12	Quantification of the resource recovery potential of municipal solid waste incineration bottom ashes. Waste Management, 2014, 34, 1627-1636.	7.4	127
13	Waste paper for recycling: Overview and identification of potentially critical substances. Waste Management, 2015, 45, 134-142.	7.4	126
14	Recycling of post-consumer plastic packaging waste in the EU: Recovery rates, material flows, and barriers. Waste Management, 2021, 126, 694-705.	7.4	122
15	Mechanical–biological treatment: Performance and potentials. An LCA of 8 MBT plants including waste characterization. Journal of Environmental Management, 2013, 128, 661-673.	7.8	118
16	Quality Assessment and Circularity Potential of Recovery Systems for Household Plastic Waste. Journal of Industrial Ecology, 2019, 23, 156-168.	5.5	115
17	Composition and leaching of construction and demolition waste: Inorganic elements and organic compounds. Journal of Hazardous Materials, 2014, 276, 302-311.	12.4	114
18	Food waste from Danish households: Generation and composition. Waste Management, 2016, 52, 256-268.	7.4	112

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19	Geochemical Modeling of Leaching from MSWI Air-Pollution-Control Residues. Environmental Science & Technology, 2006, 40, 3551-3557.	10.0	111
20	LCA of biomass-based energy systems: A case study for Denmark. Applied Energy, 2012, 99, 234-246.	10.1	110
21	Life cycle assessment of waste incineration in Denmark and Italy using two LCA models. Waste Management and Research, 2011, 29, S78-S90.	3.9	109
22	Let's Be Clear(er) about Substitution: A Reporting Framework to Account for Product Displacement in Life Cycle Assessment. Journal of Industrial Ecology, 2017, 21, 1078-1089.	5.5	105
23	Recycling of plastic: accounting of greenhouse gases and global warming contributions. Waste Management and Research, 2009, 27, 763-772.	3.9	103
24	Bioenergy Production from Perennial Energy Crops: A Consequential LCA of 12 Bioenergy Scenarios including Land Use Changes. Environmental Science & amp; Technology, 2012, 46, 13521-13530.	10.0	103
25	A global approach for sparse representation of uncertainty in Life Cycle Assessments of waste management systems. International Journal of Life Cycle Assessment, 2016, 21, 378-394.	4.7	103
26	Environmental implications of the use of agroâ€industrial residues for biorefineries: application of a deterministic model for indirect landâ€use changes. GCB Bioenergy, 2016, 8, 690-706.	5.6	101
27	Environmental life cycle cost assessment: Recycling of hard plastic waste collected at Danish recycling centres. Resources, Conservation and Recycling, 2019, 143, 299-309.	10.8	101
28	Life cycle assessment of resource recovery from municipal solid waste incineration bottom ash. Journal of Environmental Management, 2015, 151, 132-143.	7.8	98
29	Application of LCA modelling in integrated waste management. Waste Management, 2020, 118, 313-322.	7.4	93
30	Organic waste biorefineries: Looking towards implementation. Waste Management, 2020, 114, 274-286.	7.4	91
31	Life-Cycle Costing of Food Waste Management in Denmark: Importance of Indirect Effects. Environmental Science & Technology, 2016, 50, 4513-4523.	10.0	88
32	Life cycle assessment of orange peel waste management. Resources, Conservation and Recycling, 2017, 127, 148-158.	10.8	85
33	Long-term leaching from MSWI air-pollution-control residues: Leaching characterization and modeling. Journal of Hazardous Materials, 2009, 162, 80-91.	12.4	81
34	GHG emission factors for bioelectricity, biomethane, and bioethanol quantified for 24 biomass substrates with consequential life-cycle assessment. Bioresource Technology, 2016, 208, 123-133.	9.6	79
35	Immobilization of Chromate from Coal Fly Ash Leachate Using an Attenuating Barrier Containing Zero-valent Iron. Environmental Science & amp; Technology, 2000, 34, 4163-4168.	10.0	77
36	Life-cycle assessment of selected management options for air pollution control residues from waste incineration. Science of the Total Environment, 2010, 408, 4672-4680.	8.0	76

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37	Environmental assessment of different management options for individual waste fractions by means of life-cycle assessment modelling. Resources, Conservation and Recycling, 2011, 55, 995-1004.	10.8	75
38	Material Cycles and Chemicals: Dynamic Material Flow Analysis of Contaminants in Paper Recycling. Environmental Science & Technology, 2016, 50, 12302-12311.	10.0	66
39	Statistical analysis of solid waste composition data: Arithmetic mean, standard deviation and correlation coefficients. Waste Management, 2017, 69, 13-23.	7.4	65
40	Environmental exposure assessment framework for nanoparticles in solid waste. Journal of Nanoparticle Research, 2014, 16, 2394.	1.9	64
41	A Full-scale Study on the Partitioning of Trace Elements in Municipal Solid Waste Incineration—Effects of Firing Different Waste Types ^{â€} . Energy & Fuels, 2009, 23, 3475-3489.	5.1	60
42	Leaching of metals from copper smelter flue dust (Mufulira, Zambian Copperbelt). Applied Geochemistry, 2011, 26, S263-S266.	3.0	60
43	Waste prevention for sustainable resource and waste management. Journal of Material Cycles and Waste Management, 2017, 19, 1295-1313.	3.0	60
44	Phosphorus in Denmark: National and regional anthropogenic flows. Resources, Conservation and Recycling, 2015, 105, 311-324.	10.8	58
45	Dynamic Material Flow Analysis of PET, PE, and PP Flows in Europe: Evaluation of the Potential for Circular Economy. Environmental Science & Technology, 2020, 54, 16166-16175.	10.0	58
46	Stochastic and epistemic uncertainty propagation in LCA. International Journal of Life Cycle Assessment, 2013, 18, 1393-1403.	4.7	57
47	Resource quality of wood waste: The importance of physical and chemical impurities in wood waste for recycling. Waste Management, 2019, 87, 135-147.	7.4	57
48	Dynamic accounting of greenhouse gas emissions from cascading utilisation of wood waste. Science of the Total Environment, 2019, 651, 2689-2700.	8.0	57
49	Environmental impacts of future low-carbon electricity systems: Detailed life cycle assessment of a Danish case study. Applied Energy, 2014, 132, 66-73.	10.1	55
50	Physico-chemical characterisation of material fractions in household waste: Overview of data in literature. Waste Management, 2016, 49, 3-14.	7.4	54
51	A Holistic Sustainability Framework for Waste Management in European Cities: Concept Development. Sustainability, 2018, 10, 2184.	3.2	54
52	Contribution of individual waste fractions to the environmental impacts from landfilling of municipal solid waste. Waste Management, 2010, 30, 433-440.	7.4	52
53	Evaluation of Externality Costs in Life-Cycle Optimization of Municipal Solid Waste Management Systems. Environmental Science & amp; Technology, 2017, 51, 3119-3127.	10.0	52
54	Pretreatment and utilization of waste incineration bottom ashes: Danish experiences. Waste Management, 2007, 27, 1452-1457.	7.4	51

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55	Leaching from MSWI bottom ash: Evaluation of non-equilibrium in column percolation experiments. Waste Management, 2009, 29, 522-529.	7.4	51
56	Global warming factors modelled for 40 generic municipal waste management scenarios. Waste Management and Research, 2009, 27, 871-884.	3.9	50
57	Extended producer responsibility: How to unlock the environmental and economic potential of plastic packaging waste?. Resources, Conservation and Recycling, 2020, 162, 105030.	10.8	48
58	Quantitative sustainability assessment of household food waste management in the Amsterdam Metropolitan Area. Resources, Conservation and Recycling, 2020, 160, 104854.	10.8	45
59	Lead Distribution and Mobility in a Soil Embankment Used as a Bullet Stop at a Shooting Range. Journal of Soil Contamination, 1999, 8, 653-665.	0.5	44
60	Influence of operational conditions, waste input and ageing on contaminant leaching from waste incinerator bottom ash: A full-scale study. Chemosphere, 2009, 76, 1178-1184.	8.2	44
61	An environmental and economic assessment of bioplastic from urban biowaste. The example of polyhydroxyalkanoate. Bioresource Technology, 2021, 327, 124813.	9.6	44
62	Impact Assessment of Abiotic Resources in LCA: Quantitative Comparison of Selected Characterization Models. Environmental Science & Technology, 2014, 48, 11072-11081.	10.0	42
63	Valorisation of surplus food in the French retail sector: Environmental and economic impacts. Waste Management, 2019, 90, 141-151.	7.4	40
64	Life cycle assessment of the Danish electricity distribution network. International Journal of Life Cycle Assessment, 2014, 19, 100-108.	4.7	38
65	Energy recovery from plastic and biomass waste by means of fluidized bed gasification: A life cycle inventory model. Energy, 2018, 165, 299-314.	8.8	38
66	Incinerator performance: effects of changes in waste input and furnace operation on air emissions and residues. Waste Management and Research, 2011, 29, S57-S68.	3.9	37
67	COMBUSTION AEROSOLS FROM MUNICIPAL WASTE INCINERATIONâ€"EFFECT OF FUEL FEEDSTOCK AND PLANT OPERATION. Combustion Science and Technology, 2007, 179, 2171-2198.	2.3	36
68	Environmental Multiobjective Optimization of the Use of Biomass Resources for Energy. Environmental Science & Technology, 2017, 51, 3575-3583.	10.0	36
69	High-value products from food waste: An environmental and socio-economic assessment. Science of the Total Environment, 2021, 755, 142466.	8.0	36
70	Construction and demolition waste: Comparison of standard up-flow column and down-flow lysimeter leaching tests. Waste Management, 2015, 43, 386-397.	7.4	34
71	Physico-chemical characterisation of material fractions in residual and source-segregated household waste in Denmark. Waste Management, 2016, 54, 13-26.	7.4	34
72	Applying Fuzzy and Probabilistic Uncertainty Concepts to the Material Flow Analysis of Palladium in Austria. Journal of Industrial Ecology, 2015, 19, 1055-1069.	5.5	33

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73	LCA of management strategies for RDF incineration and gasification bottom ash based on experimental leaching data. Waste Management, 2016, 47, 285-298.	7.4	32
74	A Quantitative Sustainability Assessment of Food Waste Management in the European Union. Environmental Science & Technology, 2021, 55, 16099-16109.	10.0	31
75	Biogenic carbon in combustible waste: Waste composition, variability and measurement uncertainty. Waste Management and Research, 2013, 31, 56-66.	3.9	30
76	Priority of domestic biomass resources for energy: Importance of national environmental targets in a climate perspective. Energy, 2017, 124, 295-309.	8.8	30
77	Environmental optimization of biomass use for energy under alternative future energy scenarios for Switzerland. Biomass and Bioenergy, 2018, 119, 462-472.	5.7	29
78	Preparing the ground for an operational handling of long-term emissions in LCA. International Journal of Life Cycle Assessment, 2015, 20, 1444-1455.	4.7	28
79	Influence of test conditions on solubility controlled leaching predictions from air-pollution-control residues. Waste Management and Research, 2007, 25, 457-466.	3.9	26
80	CO2 emission factors for waste incineration: Influence from source separation of recyclable materials. Waste Management, 2011, 31, 1597-1605.	7.4	26
81	Bioenergy, material, and nutrients recovery from household waste: Advanced material, substance, energy, and cost flow analysis of a waste refinery process. Applied Energy, 2014, 121, 64-78.	10.1	26
82	Compositional analysis of seasonal variation in Danish residual household waste. Resources, Conservation and Recycling, 2018, 130, 70-79.	10.8	26
83	Quality of recycling: Urgent and undefined. Waste Management, 2022, 146, 11-19.	7.4	26
84	Energy and environmental analysis of a rapeseed biorefinery conversion process. Biomass Conversion and Biorefinery, 2013, 3, 127-141.	4.6	25
85	Pyrolysis and gasification of meat-and-bone-meal: Energy balance and GHG accounting. Waste Management, 2013, 33, 2501-2508.	7.4	25
86	A process-oriented life-cycle assessment (LCA) model for environmental and resource-related technologies (EASETECH). International Journal of Life Cycle Assessment, 2020, 25, 73-88.	4.7	25
87	An operational framework for sustainability assessment including local to global impacts: Focus on waste management systems. Resources, Conservation and Recycling, 2020, 162, 104964.	10.8	25
88	Environmental performance of dewatered sewage sludge digestate utilization based on life cycle assessment. Waste Management, 2022, 137, 210-221.	7.4	25
89	Soil retention of hexavalent chromium released from construction and demolition waste in a road-base-application scenario. Journal of Hazardous Materials, 2015, 298, 361-367.	12.4	24
90	Material Resources, Energy, and Nutrient Recovery from Waste: Are Waste Refineries the Solution for the Future?. Environmental Science & amp; Technology, 2013, 47, 130725155216007.	10.0	23

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91	Semi-quantitative analysis of solid waste flows from nano-enabled consumer products in Europe, Denmark and the United Kingdom – Abundance, distribution and management. Waste Management, 2016, 56, 584-592.	7.4	23
92	Assessment of tetrabromobisphenol-A (TBBPA) content in plastic waste recovered from WEEE. Journal of Hazardous Materials, 2020, 390, 121641.	12.4	23
93	Leaching from waste incineration bottom ashes treated in a rotary kiln. Waste Management and Research, 2011, 29, 995-1007.	3.9	22
94	Dynamics of bisphenol A (BPA) and bisphenol S (BPS) in the European paper cycle: Need for concern?. Resources, Conservation and Recycling, 2018, 133, 278-287.	10.8	22
95	An MFA-based optimization model for increased resource efficiency: Phosphorus flows in Denmark. Resources, Conservation and Recycling, 2017, 122, 1-10.	10.8	21
96	Linking Data Choices and Context Specificity in Life Cycle Assessment of Waste Treatment Technologies: A Landfill Case Study. Journal of Industrial Ecology, 2018, 22, 1039-1049.	5.5	21
97	Sustainability assessment of organic waste management in three EU Cities: Analysing stakeholder-based solutions. Waste Management, 2021, 132, 44-55.	7.4	19
98	Source segregation of food waste in office areas: Factors affecting waste generation rates and quality. Waste Management, 2015, 46, 94-102.	7.4	18
99	The effect of data structure and model choices on MFA results: A comparison of phosphorus balances for Denmark and Austria. Resources, Conservation and Recycling, 2016, 109, 166-175.	10.8	18
100	Stability and leaching of cobalt smelter fly ash. Applied Geochemistry, 2013, 29, 117-125.	3.0	17
101	The influence of recycling schemes on the composition and generation of municipal solid waste. Journal of Cleaner Production, 2021, 295, 126439.	9.3	17
102	Environmental and Socioeconomic Impacts of Poly(ethylene terephthalate) (PET) Packaging Management Strategies in the EU. Environmental Science & Technology, 2022, 56, 501-511.	10.0	17
103	Assessment of long-term pH developments in leachate from waste incineration residues. Waste Management and Research, 2006, 24, 491-502.	3.9	16
104	Estimation of marginal costs at existing waste treatment facilities. Waste Management, 2016, 50, 364-375.	7.4	16
105	Combustible waste collected at Danish recycling centres: Characterisation, recycling potentials and contribution to environmental savings. Waste Management, 2019, 89, 354-365.	7.4	16
106	Resource recovery from residual household waste: An application of exergy flow analysis and exergetic life cycle assessment. Waste Management, 2015, 46, 653-667.	7.4	15
107	Long-term sampling of CO ₂ from waste-to-energy plants: ¹⁴ C determination methodology, data variation and uncertainty. Waste Management and Research, 2014, 32, 115-123.	3.9	14
108	Life Cycle Assessment of Waste Management: Are We Addressing the Key Challenges Ahead of Us?. Journal of Industrial Ecology, 2018, 22, 1000-1004.	5.5	14

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109	GHG sustainability compliance of rapeseed-based biofuels produced in a Danish multi-output biorefinery system. Biomass and Bioenergy, 2015, 75, 83-93.	5.7	12
110	The challenge of chemicals in material lifecycles. Waste Management, 2016, 56, 1-2.	7.4	12
111	Temporal and geographical patterns of solid waste collected at recycling centres. Journal of Environmental Management, 2019, 245, 384-397.	7.8	11
112	A life cycle assessment framework for large-scale changes in material circularity. Waste Management, 2021, 135, 360-371.	7.4	10
113	IMPLEMENTATION STAGE FOR CIRCULAR ECONOMY IN THE DANISH BUILDING AND CONSTRUCTION SECTOR. Detritus, 2021, , 26-30.	0.9	8
114	Pyrolysis and Gasification. , 2010, , 502-512.		7
115	Data representativeness in LCA: A framework for the systematic assessment of data quality relative to technology characteristics. Journal of Industrial Ecology, 2021, 25, 51-66.	5.5	6
116	Process-oriented life cycle assessment modelling in EASETECH. Waste Management, 2021, 127, 168-178.	7.4	6
117	Effect of drying on leaching testing of treated municipal solid waste incineration APC-residues. Waste Management and Research, 2008, 26, 400-405.	3.9	5
118	Quality and generation rate of solid residues in the boiler of a waste-to-energy plant. Journal of Hazardous Materials, 2014, 270, 127-136.	12.4	4
119	Carbon in solid waste: is it a problem?. Waste Management and Research, 2011, 29, 453-454.	3.9	3
120	Biomass waste – the way ahead. Waste Management and Research, 2012, 30, 999-1000.	3.9	3
121	Treatment and Disposal of Incineration Residues. , 2018, , 157-178.		2
122	Influences of ammonia contamination on leaching from air-pollution-control residues. Waste Management and Research, 2014, 32, 1169-1177.	3.9	0