Jonathan M Cullen

List of Publications by Year
in descending order

53 papers	4,095 citations	186265 28 h-index	182427 51 g-index
57 all docs	57 docs citations	57 times ranked	3967 citing authors

#	Article	IF	Citations
1	A low energy demand scenario for meeting the 1.5â€‰Â°C target and sustainable development goals without negative emission technologies. Nature Energy, 2018, 3, 515-527.	39.5	733
2	Options for Achieving a 50% Cut in Industrial Carbon Emissions by 2050. Environmental Science & Technology, 2010, 44, 1888-1894.	10.0	366
3	Taking the Circularity to the Next Level: A Special Issue on the Circular Economy. Journal of Industrial Ecology, 2017, 21, 476-482.	5.5	223
4	Circular Economy: Theoretical Benchmark or Perpetual Motion Machine?. Journal of Industrial Ecology, 2017, 21, 483-486.	5.5	192
5	Mapping Global Flows of Chemicals: From Fossil Fuel Feedstocks to Chemical Products. Environmental Science & Technology, 2018, 52, 1725-1734.	10.0	189
6	The efficient use of energy: Tracing the global flow of energy from fuel to service. Energy Policy, 2010, 38, 75-81.	8.8	188
7	Mapping the Global Flow of Aluminum: From Liquid Aluminum to End-Use Goods. Environmental Science & Technology, 2013, 47, 3057-3064.	10.0	183
8	Mapping the Global Flow of Steel: From Steelmaking to End-Use Goods. Environmental Science & Technology, 2012, 46, 13048-13055.	10.0	176
9	Theoretical efficiency limits for energy conversion devices. Energy, 2010, 35, 2059-2069.	8.8	159
10	Understanding and overcoming the barriers to structural steel reuse, a UK perspective. Journal of Cleaner Production, 2017, 148, 642-652.	9.3	150
11	Toward a sustainable materials system. Science, 2018, 360, 1396-1398.	12.6	143
12	Demand-side solutions to climate change mitigation consistent with high levels of well-being. Nature Climate Change, 2022, 12, 36-46.	18.8	133
13	Assessing the potential of yield improvements, through process scrap reduction, for energy and CO2 abatement in the steel and aluminium sectors. Resources, Conservation and Recycling, 2011, 55, 1185-1195.	10.8	122
14	Reducing Energy Demand: What Are the Practical Limits?. Environmental Science & Technology, 2011, 45, 1711-1718.	10.0	116
15	The sponge effect and carbon emission mitigation potentials of the global cement cycle. Nature Communications, 2020, 11, 3777.	12.8	97
16	Potential reduction of carbon emissions by performance improvement: A cement industry case study. Journal of Cleaner Production, 2016, 135, 1327-1339.	9.3	90
17	Designing Climate Change Mitigation Plans That Add Up. Environmental Science & Technology, 2013, 47, 8062-8069.	10.0	69
18	The use of energy in China: Tracing the flow of energy from primary source toÂdemand drivers. Energy, 2012, 40, 174-188.	8.8	67

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19	Food traceability: A generic theoretical framework. Food Control, 2021, 123, 107848.	5.5	59
20	Options to make steel reuse profitable: An analysis of cost and risk distribution across the UK construction value chain. Journal of Cleaner Production, 2018, 183, 102-111.	9.3	52
21	Plastics and climate changeâ€"Breaking carbon lock-ins through three mitigation pathways. One Earth, 2022, 5, 361-376.	6.8	52
22	How resource-efficient is the global steel industry?. Resources, Conservation and Recycling, 2018, 133, 132-145.	10.8	51
23	Real and perceived barriers to steel reuse across the UK construction value chain. Resources, Conservation and Recycling, 2017, 126, 118-131.	10.8	46
24	The Role of Washing Machines in Life Cycle Assessment Studies. Journal of Industrial Ecology, 2009, 13, 27-37.	5.5	42
25	The Need for Robust, Consistent Methods in Societal Exergy Accounting. Ecological Economics, 2017, 141, 11-21.	5.7	41
26	The influence of UK emissions reduction targets on the emissions of the global steel industry. Resources, Conservation and Recycling, 2016, 107, 174-184.	10.8	36
27	Exergy: A universal metric for measuring resource efficiency to address industrial decarbonisation. Sustainable Production and Consumption, 2019, 20, 151-164.	11.0	34
28	Global material flow analysis of glass: From raw materials to end of life. Journal of Industrial Ecology, 2021, 25, 333-343.	5.5	33
29	Calculating the chemical exergy of materials. Journal of Industrial Ecology, 2021, 25, 274-287.	5.5	23
30	Regularity and optimisation practice in steel structural frames in real design cases. Resources, Conservation and Recycling, 2018, 134, 294-302.	10.8	21
31	Leveraging material efficiency as an energy and climate instrument for heavy industries in the EU. Energy Policy, 2018, 120, 533-549.	8.8	17
32	A marginal abatement cost curve for material efficiency accounting for uncertainty. Resources, Conservation and Recycling, 2019, 144, 39-47.	10.8	16
33	Wind Turbine Blades Using Recycled Carbon Fibers: An Environmental Assessment. Environmental Science & Technology, 2022, 56, 1267-1277.	10.0	16
34	Visualising food traceability systems: A novel system architecture for mapping material and information flow. Trends in Food Science and Technology, 2021, 112, 708-719.	15.1	15
35	Control data, Sankey diagrams, and exergy: Assessing the resource efficiency of industrial plants. Applied Energy, 2018, 218, 232-245.	10.1	14
36	Exergy and network analysis of chemical sites. Sustainable Production and Consumption, 2019, 19, 270-288.	11.0	13

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37	Do technical improvements lead to real efficiency gains? Disaggregating changes in transport energy intensity. Energy Policy, 2019, 134, 110991.	8.8	12
38	Modelling transport emissions in an uncertain future: What actions make a difference?. Transportation Research, Part D: Transport and Environment, 2020, 89, 102614.	6.8	12
39	Useful energy balance for the UK: An uncertainty analysis. Applied Energy, 2018, 228, 176-188.	10.1	11
40	Technical limits for energy conversion efficiency. Energy, 2020, 192, 116228.	8.8	10
41	A Hybrid Traceability Technology Selection Approach for Sustainable Food Supply Chains. Sustainability, 2021, 13, 9385.	3.2	10
42	A General Nonlinear Least Squares Data Reconciliation and Estimation Method for Material Flow Analysis. Journal of Industrial Ecology, 2016, 20, 1038-1049.	5.5	8
43	Unlocking Plant-level Resource Efficiency Options: A Unified Exergy Measure. Procedia CIRP, 2016, 48, 122-127.	1.9	7
44	Material Flows and Efficiency. Annual Review of Materials Research, 2022, 52, 525-559.	9.3	7
45	A new method to estimate the lifetime of longâ€life product categories. Journal of Industrial Ecology, 2021, 25, 321-332.	5.5	6
46	Material efficiency for climate change mitigation. Journal of Industrial Ecology, 2021, 25, 254-259.	5.5	6
47	Dynamic exergy analysis: From industrial data to exergy flows. Journal of Industrial Ecology, 0, , .	5.5	6
48	Probabilistic model allocating primary energy to end-use devices. Energy Procedia, 2017, 142, 2441-2447.	1.8	5
49	A corridors and power-oriented perspective on energy-service demand and needs satisfaction. Sustainability: Science, Practice, and Policy, 2021, 17, 162-172.	1.9	5
50	Resource efficiency in steelmaking: energy and materials combined. Energy Procedia, 2017, 142, 2429-2434.	1.8	4
51	Selection criteria for planning cold food chain traceability technology enabling industry 4.0. Procedia Computer Science, 2022, 200, 1695-1704.	2.0	2
52	Creating a Water Quality Scale Methodology Using California as a Case Study. Journal of Sustainable Water in the Built Environment, 2021, 7, 05021001.	1.6	1
53	From control data to real-time resource maps in a steel-making plant. Energy Procedia, 2017, 142, 2377-2383.	1.8	0