Garvin A Heath

List of Publications by Year
in descending order

71 papers	7,586 citations	101543 36 h-index	128289 60 g-index
99 all docs	99 docs citations	99 times ranked	7670 citing authors

#	Article	IF	Citations
1	An investigation of hard-disk drive circularity accounting for socio-technical dynamics and data uncertainty. Resources, Conservation and Recycling, 2022, 178, 106102.	10.8	12
2	Characterization factors and other air quality impact metrics: Case study for PM2.5-emitting area sources from biofuel feedstock supply. Science of the Total Environment, 2022, 822, 153418.	8.0	6
3	Technoeconomic analysis of high-value, crystalline silicon photovoltaic module recycling processes. Solar Energy Materials and Solar Cells, 2022, 238, 111592.	6.2	25
4	Biorefinery upgrading of herbaceous biomass to renewable hydrocarbon fuels, Part 2: Air pollutant emissions and permitting implications. Journal of Cleaner Production, 2022, 362, 132409.	9.3	7
5	Biorefinery upgrading of herbaceous biomass to renewable hydrocarbon fuels, part 1: Process modeling and mass balance analysis. Journal of Cleaner Production, 2022, , 132439.	9.3	4
6	A critical review of the circular economy for lithium-ion batteries and photovoltaic modules â€“ status, challenges, and opportunities. Journal of the Air and Waste Management Association, 2022, 72, 478-539.	1.9	16
7	Regional representation of wind stakeholdersâ€™ end-of-life behaviors and their impact on wind blade circularity. IScience, 2022, 25, 104734.	4.1	8
8	Do We Need a New Sustainability Assessment Method for the Circular Economy? A Critical Literature Review. Frontiers in Sustainability, 2021, 1, .	2.6	70
9	Exploring Social Dynamics of Hard-Disk Drives Circularity with an Agent-Based Approach. , 2021, , .		2
10	Exploring PV circularity by modeling socio-technical dynamics of modulesâ€™ end-of-life management. , 2021, , .		1
11	Closing the methane gap in US oil and natural gas production emissions inventories. Nature Communications, 2021, 12, 4715.	12.8	77
12	Role of the social factors in success of solar photovoltaic reuse and recycle programmes. Nature Energy, 2021, 6, 913-924.	39.5	57
13	Spatiotemporal energy infrastructure datasets for the United States: A review. Renewable and Sustainable Energy Reviews, 2021, 152, 111616.	16.4	6
14	Research and development priorities for silicon photovoltaic module recycling to support a circular economy. Nature Energy, 2020, 5, 502-510.	39.5	188
15	Design for Recycling Principles Applicable to Selected Clean Energy Technologies: Crystalline-Silicon Photovoltaic Modules, Electric Vehicle Batteries, and Wind Turbine Blades. Journal of Sustainable Metallurgy, 2020, 6, 761-774.	2.3	39
16	Bio-oil co-processing can substantially contribute to renewable fuel production potential and meet air quality standards. Applied Energy, 2020, 268, 114937.	10.1	35
17	Estimating carbon dioxide emissions from electricity generation in the United States: How sectoral allocation may shift as the grid modernizes. Energy Policy, 2020, 140, 111324.	8.8	13
18	Technoâ€“ecological synergies of solar energy for global sustainability. Nature Sustainability, 2019, 2, 560-568.	23.7	187

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19	The Product Environmental Footprint (PEF) of photovoltaic modulesâ€"Lessons learned from the environmental footprint pilot phase on the way to a single market for green products in the European Union. Progress in Photovoltaics: Research and Applications, 2018, 26, 553-564.	8.1	24
20	Photovoltaic Recycling Processes. , 2018, , .		6
21	Temporal variability largely explains top-down/bottom-up difference in methane emission estimates from a natural gas production region. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11712-11717.	7.1	87
22	Global carbon intensity of crude oil production. Science, 2018, 361, 851-853.	12.6	196
23	Energy Return on Energy Invested (ERoEI) for photovoltaic solar systems in regions of moderate insolation: A comprehensive response. Energy Policy, 2017, 102, 377-384.	8.8	59
24	Potential Air Pollutant Emissions and Permitting Classifications for Two Biorefinery Process Designs in the United States. Environmental Science & Technology, 2017, 51, 5879-5888.	10.0	14
25	Understanding the life cycle surface land requirements of natural gas-fired electricity. Nature Energy, 2017, 2, 804-812.	39.5	30
26	ENVIâ€PV: an interactive Web Client for multiâ€criteria life cycle assessment of photovoltaic systems worldwide. Progress in Photovoltaics: Research and Applications, 2017, 25, 484-498.	8.1	15
27	Comparing facility-level methane emission rate estimates at natural gas gathering and boosting stations. Elementa, 2017, 5, .	3.2	29
28	Gathering pipeline methane emissions in Fayetteville shale pipelines and scoping guidelines for future pipeline measurement campaigns. Elementa, 2017, 5, .	3.2	14
29	Comparison of methane emission estimates from multiple measurement techniques at natural gas production pads. Elementa, 2017, 5, .	3.2	49
30	Economic implications of incorporating emission controls to mitigate air pollutants emitted from a modeled hydrocarbonâ€fuel biorefinery in the United States. Biofuels, Bioproducts and Biorefining, 2016, 10, 603-622.	3.7	6
31	Long-term implications of sustained wind power growth in the United States: Potential benefits and secondary impacts. Applied Energy, 2016, 179, 146-158.	10.1	40
32	The environmental and public health benefits of achieving high penetrations of solar energy in the United States. Energy, 2016, 113, 472-486.	8.8	71
33	A retrospective analysis of benefits and impacts of U.S. renewable portfolio standards. Energy Policy, 2016, 96, 645-660.	8.8	122
34	Methane Leaks from Natural Gas Systems Follow Extreme Distributions. Environmental Science & Technology, 2016, 50, 12512-12520.	10.0	195
35	Air pollutant emissions inventory of largeâ€scale production of selected biofuels feedstocks in 2022. Biofuels, Bioproducts and Biorefining, 2016, 10, 56-69.	3.7	11
36	A review of water and greenhouse gas impacts of unconventional natural gas development in the United States. MRS Energy & Sustainability, 2015, 2, 1.	3.0	8

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37	Bioenergy and climate change mitigation: an assessment. GCB Bioenergy, 2015, 7, 916-944.	5.6	494
38	Integrated life-cycle assessment of electricity-supply scenarios confirms global environmental benefit of low-carbon technologies. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6277-6282.	7.1	508
39	Life Cycle Greenhouse Gas Emissions of Electricity Generated from Conventionally Produced Natural Gas. Journal of Industrial Ecology, 2014, 18, 125-144.	5.5	85
40	Harmonization of initial estimates of shale gas life cycle greenhouse gas emissions for electric power generation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E3167-76.	7.1	120
41	Ensuring benefits from North American shale gas development: Towards a research agenda. Journal of Unconventional Oil and Gas Resources, 2014, 7, 71-74.	3.5	22
42	Challenges in the estimation of greenhouse gas emissions from biofuelâ€induced global landâ€use change. Biofuels, Bioproducts and Biorefining, 2014, 8, 114-125.	3.7	44
43	Methane Leaks from North American Natural Gas Systems. Science, 2014, 343, 733-735.	12.6	709
44	Implications of high renewable electricity penetration in the U.S. for water use, greenhouse gas emissions, land-use, and materials supply. Applied Energy, 2014, 123, 368-377.	10.1	109
45	Life cycle water use for photovoltaic electricity generation: A review and harmonization of literature estimates. , 2014, , .		3
46	Thin-Film Photovoltaic Power Generation Offers Decreasing Greenhouse Gas Emissions and Increasing Environmental Co-benefits in the Long Term. Environmental Science & Technology, 2014, 48, 9834-9843.	10.0	61
47	Life cycle greenhouse gas emissions from Barnett Shale gas used to generate electricity. Journal of Unconventional Oil and Gas Resources, 2014, 8, 46-55.	3.5	32
48	Life Cycle Assessment of a Power Tower Concentrating Solar Plant and the Impacts of Key Design Alternatives. Environmental Science & Technology, 2013, 47, 5896-5903.	10.0	78
49	Life cycle water use for electricity generation: a review and harmonization of literature estimates. Environmental Research Letters, 2013, 8, 015031.	5.2	308
50	Potential Reductions in Emissions and Petroleum Use in Transportation. Transportation Research Record, 2013, 2375, 37-44.	1.9	2
51	Life Cycle Water Use for Electricity Generation: Implications of the Distribution of Collected Estimates. , 2013, , .		1
52	Operational water consumption and withdrawal factors for electricity generating technologies: a review of existing literature. Environmental Research Letters, 2012, 7, 045802.	5.2	440
53	Life Cycle Greenhouse Gas Emissions of Crystalline Silicon Photovoltaic Electricity Generation. Journal of Industrial Ecology, 2012, 16, S122.	5.5	204
54	Life Cycle Greenhouse Gas Emissions of Utilityâ€Scale Wind Power. Journal of Industrial Ecology, 2012, 16, S136.	5.5	154

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55	Life Cycle Greenhouse Gas Emissions of Coalâ€Fired Electricity Generation. Journal of Industrial Ecology, 2012, 16, S53.	5.5	137
56	Life Cycle Greenhouse Gas Emissions of Nuclear Electricity Generation. Journal of Industrial Ecology, 2012, 16, S73.	5.5	123
57	Life Cycle Greenhouse Gas Emissions of Trough and Tower Concentrating Solar Power Electricity Generation. Journal of Industrial Ecology, 2012, 16, S93.	5.5	156
58	What Can Metaâ€Analyses Tell Us About the Reliability of Life Cycle Assessment for Decision Support?. Journal of Industrial Ecology, 2012, 16, S3.	5.5	41
59	Background and Reflections on the Life Cycle Assessment Harmonization Project. Journal of Industrial Ecology, 2012, 16, S8.	5.5	62
60	Correction to Environmental and Sustainability Factors Associated With Next-Generation Biofuels in the U.S.: What Do We Really Know?. Environmental Science & Technology, 2011, 45, 9820-9820.	10.0	0
61	Life Cycle Assessment of a Parabolic Trough Concentrating Solar Power Plant and the Impacts of Key Design Alternatives. Environmental Science & Technology, 2011, 45, 2457-2464.	10.0	225
62	Bioenergy. , 2011, , 209-332.		162
63	Renewable Energy in the Context of Sustainable Development. , 2011, , 707-790.		59
64	Life Cycle Assessment of a Model Parabolic Trough Concentrating Solar Power Plant With Thermal Energy Storage. , 2010, , .		3
65	Life Cycle Environmental Impacts of Selected U.S. Ethanol Production and Use Pathways in 2022. Environmental Science & Technology, 2010, 44, 5289-5297.	10.0	145
66	Environmental and Sustainability Factors Associated With Next-Generation Biofuels in the U.S.: What Do We Really Know?. Environmental Science & Technology, 2009, 43, 4763-4775.	10.0	175
67	Life Cycle Assessment of Thermal Energy Storage: Two-Tank Indirect and Thermocline. , 2009, , .		18
68	Life Cycle Assessment of the Energy Independence and Security Act of 2007: Ethanolâ€"Global Warming Potential and Environmental Emissions. , 2009, , .		2
69	Intake-to-delivered-energy ratios for central station and distributed electricity generation in California. Atmospheric Environment, 2007, 41, 9159-9172.	4.1	7
70	Intake fraction assessment of the air pollutant exposure implications of a shift toward distributed electricity generation. Atmospheric Environment, 2006, 40, 7164-7177.	4.1	31
71	Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature. Indoor Air, 2005, 15, 27-52.	4.3	699