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	Methane Leaks from North American Natural Gas Systems. Science, 2014, 343, 733-735.	12.6	709
2	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
3	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
4	Bioenergy and climate change mitigation: an assessment. GCB Bioenergy, 2015, 7, 916-944.	5.6	494
5	Operational water consumption and withdrawal factors for electricity generating technologies: a review of existing literature. Environmental Research Letters, 2012, 7, 045802.	5.2	440
6	Life cycle water use for electricity generation: a review and harmonization of literature estimates. Environmental Research Letters, 2013, 8, 015031.	5.2	308
7	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
8	Life Cycle Greenhouse Gas Emissions of Crystalline Silicon Photovoltaic Electricity Generation. Journal of Industrial Ecology, 2012, 16, S122.	5.5	204
9	Global carbon intensity of crude oil production. Science, 2018, 361, 851-853.	12.6	196
10	Methane Leaks from Natural Gas Systems Follow Extreme Distributions. Environmental Science & Technology, 2016, 50, 12512-12520.	10.0	195
11	Research and development priorities for silicon photovoltaic module recycling to support a circular economy. Nature Energy, 2020, 5, 502-510.	39.5	188
12	Technoâ€“ecological synergies of solar energy for global sustainability. Nature Sustainability, 2019, 2, 560-568.	23.7	187
13	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
14	Bioenergy. , 2011, , 209-332.		162
15	Life Cycle Greenhouse Gas Emissions of Trough and Tower Concentrating Solar Power Electricity Generation. Journal of Industrial Ecology, 2012, 16, S93.	5.5	156
16	Life Cycle Greenhouse Gas Emissions of Utilityâ€Scale Wind Power. Journal of Industrial Ecology, 2012, 16, S136.	5.5	154
17	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
18	Life Cycle Greenhouse Gas Emissions of Coalâ€Fired Electricity Generation. Journal of Industrial Ecology, 2012, 16, S53.	5.5	137

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19	Life Cycle Greenhouse Gas Emissions of Nuclear Electricity Generation. Journal of Industrial Ecology, 2012, 16, S73.	5.5	123
20	A retrospective analysis of benefits and impacts of U.S. renewable portfolio standards. Energy Policy, 2016, 96, 645-660.	8.8	122
21	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
22	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
23	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
24	Life Cycle Greenhouse Gas Emissions of Electricity Generated from Conventionally Produced Natural Gas. Journal of Industrial Ecology, 2014, 18, 125-144.	5.5	85
25	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
26	Closing the methane gap in US oil and natural gas production emissions inventories. Nature Communications, 2021, 12, 4715.	12.8	77
27	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
28	Do We Need a New Sustainability Assessment Method for the Circular Economy? A Critical Literature Review. Frontiers in Sustainability, 2021, 1, .	2.6	70
29	Background and Reflections on the Life Cycle Assessment Harmonization Project. Journal of Industrial Ecology, 2012, 16, S8.	5.5	62
30	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
31	Renewable Energy in the Context of Sustainable Development. , 2011, , 707-790.		59
32	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
33	Role of the social factors in success of solar photovoltaic reuse and recycle programmes. Nature Energy, 2021, 6, 913-924.	39.5	57
34	Comparison of methane emission estimates from multiple measurement techniques at natural gas production pads. Elementa, 2017, 5, .	3.2	49
35	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
36	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

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37	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
38	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
39	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
40	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
41	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
42	Understanding the life cycle surface land requirements of natural gas-fired electricity. Nature Energy, 2017, 2, 804-812.	39.5	30
43	Comparing facility-level methane emission rate estimates at natural gas gathering and boosting stations. Elementa, 2017, 5, .	3.2	29
44	Technoeconomic analysis of high-value, crystalline silicon photovoltaic module recycling processes. Solar Energy Materials and Solar Cells, 2022, 238, 111592.	6.2	25
45	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
46	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
47	Life Cycle Assessment of Thermal Energy Storage: Two-Tank Indirect and Thermocline. , 2009, , .		18
48	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
49	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
50	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
51	Gathering pipeline methane emissions in Fayetteville shale pipelines and scoping guidelines for future pipeline measurement campaigns. Elementa, 2017, 5, .	3.2	14
52	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
53	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
54	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

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55	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
56	Regional representation of wind stakeholdersâ€™ end-of-life behaviors and their impact on wind blade circularity. IScience, 2022, 25, 104734.	4.1	8
57	Intake-to-delivered-energy ratios for central station and distributed electricity generation in California. Atmospheric Environment, 2007, 41, 9159-9172.	4.1	7
58	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
59	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
60	Photovoltaic Recycling Processes. , 2018, , .		6
61	Spatiotemporal energy infrastructure datasets for the United States: A review. Renewable and Sustainable Energy Reviews, 2021, 152, 111616.	16.4	6
62	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
63	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
64	Life Cycle Assessment of a Model Parabolic Trough Concentrating Solar Power Plant With Thermal Energy Storage. , 2010, , .		3
65	Life cycle water use for photovoltaic electricity generation: A review and harmonization of literature estimates. , 2014, , .		3
66	Potential Reductions in Emissions and Petroleum Use in Transportation. Transportation Research Record, 2013, 2375, 37-44.	1.9	2
67	Exploring Social Dynamics of Hard-Disk Drives Circularity with an Agent-Based Approach. , 2021, , .		2
68	Life Cycle Assessment of the Energy Independence and Security Act of 2007: Ethanolâ€”Global Warming Potential and Environmental Emissions. , 2009, , .		2
69	Life Cycle Water Use for Electricity Generation: Implications of the Distribution of Collected Estimates. , 2013, , .		1
70	Exploring PV circularity by modeling socio-technical dynamics of modulesâ€™ end-of-life management. , 2021, , .		1
71	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