Adam Hawkes

List of Publications by Year
in descending order

134 papers	9,458 citations	70961 41 h-index	39575 94 g-index
136 all docs	136 docs citations	136 times ranked	9244 citing authors

#	Article	IF	Citations
1	Future cost and performance of water electrolysis: An expert elicitation study. International Journal of Hydrogen Energy, 2017, 42, 30470-30492.	3.8	1,240
2	The future cost of electrical energy storage based on experience rates. Nature Energy, 2017, 2, .	19.8	757
3	Energy systems modeling for twenty-first century energy challenges. Renewable and Sustainable Energy Reviews, 2014, 33, 74-86.	8.2	735
4	Hydrogen and fuel cell technologies for heating: A review. International Journal of Hydrogen Energy, 2015, 40, 2065-2083.	3.8	563
5	Projecting the Future Levelized Cost of Electricity Storage Technologies. Joule, 2019, 3, 81-100.	11.7	515
6	How to decarbonise international shipping: Options for fuels, technologies and policies. Energy Conversion and Management, 2019, 182, 72-88.	4.4	386
7	Levelized cost of CO₂mitigation from hydrogen production routes. Energy and Environmental Science, 2019, 12, 19-40.	15.6	330
8	An assessment of CCS costs, barriers and potential. Energy Strategy Reviews, 2018, 22, 61-81.	3.3	284
9	Modelling high level system design and unit commitment for a microgrid. Applied Energy, 2009, 86, 1253-1265.	5.1	281
10	An inter-model assessment of the role of direct air capture in deep mitigation pathways. Nature Communications, 2019, 10, 3277.	5.8	267
11	Cost-effective operating strategy for residential micro-combined heat and power. Energy, 2007, 32, 711-723.	4.5	251
12	A review of domestic heat pumps. Energy and Environmental Science, 2012, 5, 9291.	15.6	251
13	Estimating marginal CO2 emissions rates for national electricity systems. Energy Policy, 2010, 38, 5977-5987.	4.2	181
14	Fuel cells for micro-combined heat and power generation. Energy and Environmental Science, 2009, 2, 729.	15.6	151
15	Societal Transformations in Models for Energy and Climate Policy: The Ambitious Next Step. One Earth, 2019, 1, 423-433.	3.6	113
16	Impacts of temporal precision in optimisation modelling of micro-Combined Heat and Power. Energy, 2005, 30, 1759-1779.	4.5	112
17	Methane emissions: choosing the right climate metric and time horizon. Environmental Sciences: Processes and Impacts, 2018, 20, 1323-1339.	1.7	104
18	The Natural Gas Supply Chain: The Importance of Methane and Carbon Dioxide Emissions. ACS Sustainable Chemistry and Engineering, 2017, 5, 3-20.	3.2	101

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19	Temporally explicit and spatially resolved global offshore wind energy potentials. Energy, 2018, 163, 766-781.	4.5	98
20	Long-run marginal CO2 emissions factors in national electricity systems. Applied Energy, 2014, 125, 197-205.	5.1	89
21	Global levelised cost of electricity from offshore wind. Energy, 2019, 189, 116357.	4.5	84
22	Temporally-explicit and spatially-resolved global onshore wind energy potentials. Energy, 2017, 131, 207-217.	4.5	83
23	Solid oxide fuel cell micro combined heat and power system operating strategy: Options for provision of residential space and water heating. Journal of Power Sources, 2007, 164, 260-271.	4.0	76
24	A greener gas grid: What are the options. Energy Policy, 2018, 118, 291-297.	4.2	75
25	Characterising the distribution of methane and carbon dioxide emissions from the natural gas supply chain. Journal of Cleaner Production, 2018, 172, 2019-2032.	4.6	70
26	Solid oxide fuel cell systems for residential micro-combined heat and power in the UK: Key economic drivers. Journal of Power Sources, 2005, 149, 72-83.	4.0	69
27	A multi-model analysis of long-term emissions and warming implications of current mitigation efforts. Nature Climate Change, 2021, 11, 1055-1062.	8.1	69
28	Fuel cell micro-CHP techno-economics: Part 1 â€“ model concept and formulation. International Journal of Hydrogen Energy, 2009, 34, 9545-9557.	3.8	66
29	Techno-economic assessment of biogas-fed solid oxide fuel cell combined heat and power system at industrial scale. Applied Energy, 2018, 211, 689-704.	5.1	63
30	Fuel cell micro-CHP techno-economics: Part 2 â€“ Model application to consider the economic and environmental impact of stack degradation. International Journal of Hydrogen Energy, 2009, 34, 9558-9569.	3.8	60
31	Performance assessment of tariff-based air source heat pump load shifting in a UK detached dwelling featuring phase change-enhanced buffering. Applied Thermal Engineering, 2014, 71, 809-820.	3.0	60
32	Techno-economic modelling of a solid oxide fuel cell stack for micro combined heat and power. Journal of Power Sources, 2006, 156, 321-333.	4.0	59
33	How can LNG-fuelled ships meet decarbonisation targets? An environmental and economic analysis. Energy, 2021, 227, 120462.	4.5	59
34	Perspective of comprehensive and comprehensible multi-model energy and climate science in Europe. Energy, 2021, 215, 119153.	4.5	57
35	Integration of biomass into urban energy systems for heat and power. Part I: An MILP based spatial optimization methodology. Energy Conversion and Management, 2014, 83, 347-361.	4.4	52
36	Assessing the Feasibility of Global Long-Term Mitigation Scenarios. Energies, 2017, 10, 89.	1.6	51

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37	A dynamic model of global natural gas supply. Applied Energy, 2018, 218, 452-469.	5.1	49
38	Fair electricity transfer price and unit capacity selection for microgrids. Energy Economics, 2013, 36, 581-593.	5.6	47
39	Estimation of inter-fuel substitution possibilities in China's transport industry using ridge regression. Energy, 2015, 88, 260-267.	4.5	47
40	An agent-based model for energy investment decisions in the residential sector. Energy, 2019, 172, 752-768.	4.5	47
41	The carbon credentials of hydrogen gas networks and supply chains. Renewable and Sustainable Energy Reviews, 2018, 91, 1077-1088.	8.2	46
42	The appropriate use of reference scenarios in mitigation analysis. Nature Climate Change, 2020, 10, 605-610.	8.1	45
43	The role of advanced demand-sector technologies and energy demand reduction in achieving ambitious carbon budgets. Applied Energy, 2019, 238, 351-367.	5.1	40
44	Spatially resolved model for studying decarbonisation pathways for heat supply and infrastructure trade-offs. Applied Energy, 2018, 210, 1051-1072.	5.1	39
45	The policy implications of an uncertain carbon dioxide removal potential. Joule, 2021, 5, 2593-2605.	11.7	37
46	On policy instruments for support of micro combined heat and power. Energy Policy, 2008, 36, 2973-2982.	4.2	35
47	Exploring the Feasibility of Low-Carbon Scenarios Using Historical Energy Transitions Analysis. Energies, 2017, 10, 116.	1.6	35
48	Long-term development of the industrial sector â€" Case study about electrification, fuel switching, and CCS in the USA. Computers and Chemical Engineering, 2020, 133, 106602.	2.0	35
49	The role of energy storage in the uptake of renewable energy: A model comparison approach. Energy Policy, 2021, 151, 112159.	4.2	34
50	Clustered spatially and temporally resolved global heat and cooling energy demand in the residential sector. Applied Energy, 2019, 250, 48-62.	5.1	33
51	Assessing the impact of future greenhouse gas emissions from natural gas production. Science of the Total Environment, 2019, 668, 1242-1258.	3.9	32
52	Challenges in the harmonisation of global integrated assessment models: A comprehensive methodology to reduce model response heterogeneity. Science of the Total Environment, 2021, 783, 146861.	3.9	32
53	Hydrogen supply chain optimisation for the transport sector â€" Focus on hydrogen purity and purification requirements. Applied Energy, 2022, 305, 117740.	5.1	31
54	Confronting mitigation deterrence in low-carbon scenarios. Environmental Research Letters, 2021, 16, 064099.	2.2	29

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55	The impact of liquefied natural gas and storage on the EU natural gas infrastructure resilience. Energy, 2020, 209, 118367.	4.5	28
56	The effect of spatial resolution on outcomes from energy systems modelling of heat decarbonisation. Energy, 2018, 155, 339-350.	4.5	27
57	A novel energy systems model to explore the role of land use and reforestation in achieving carbon mitigation targets: A Brazil case study. Journal of Cleaner Production, 2019, 232, 796-821.	4.6	27
58	Where is the EU headed given its current climate policy? A stakeholder-driven model inter-comparison. Science of the Total Environment, 2021, 793, 148549.	3.9	26
59	Cost reductions in renewables can substantially erode the value of carbon capture and storage in mitigation pathways. One Earth, 2021, 4, 1588-1601.	3.6	26
60	Methane emissions along biomethane and biogas supply chains are underestimated. One Earth, 2022, 5, 724-736.	3.6	26
61	Life cycle environmental impacts of natural gas drivetrains used in UK road freighting and impacts to UK emission targets. Science of the Total Environment, 2019, 674, 482-493.	3.9	25
62	A geographic information system-based global variable renewable potential assessment using spatially resolved simulation. Energy, 2020, 193, 116630.	4.5	25
63	The capacity credit of micro-combined heat and power. Energy Policy, 2008, 36, 1457-1469.	4.2	23
64	The value of electricity and reserve services in low carbon electricity systems. Applied Energy, 2017, 201, 111-123.	5.1	23
65	Spatially-resolved urban energy systems model to study decarbonisation pathways for energy services in cities. Applied Energy, 2020, 262, 114445.	5.1	23
66	The quantification of methane emissions and assessment of emissions data for the largest natural gas supply chains. Journal of Cleaner Production, 2021, 320, 128856.	4.6	23
67	A two-step optimization model for quantifying the flexibility potential of power-to-heat systems in dwellings. Applied Energy, 2018, 228, 215-228.	5.1	22
68	The Contribution of Non-CO2 Greenhouse Gas Mitigation to Achieving Long-Term Temperature Goals. Energies, 2017, 10, 602.	1.6	21
69	Key findings from the core North American scenarios in the EMF34 intermodel comparison. Energy Policy, 2020, 144, 111599.	4.2	21
70	Demand side flexibility from residential heating to absorb surplus renewables in low carbon futures. Renewable Energy, 2019, 138, 598-609.	4.3	20
71	Hydrogen emissions from the hydrogen value chain-emissions profile and impact to global warming. Science of the Total Environment, 2022, 830, 154624.	3.9	20
72	Modelling the natural gas dynamics in the Southern Cone of Latin America. Applied Energy, 2017, 201, 219-239.	5.1	19

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73	UK microgeneration. Part I: policy and behavioural aspects. Proceedings of Institution of Civil Engineers: Energy, 2009, 162, 23-36.	0.5	17
74	Impact of dynamic aspects on economics of fuel cell based micro co-generation in low carbon futures. Energy, 2018, 155, 874-886.	4.5	17
75	Going smart, staying confused: Perceptions and use of smart thermostats in British homes. Energy Research and Social Science, 2019, 57, 101228.	3.0	17
76	Assessing domestic heat storage requirements for energy flexibility over varying timescales. Applied Thermal Engineering, 2018, 136, 602-616.	3.0	16
77	Simulating the game-theoretic market equilibrium and contract-driven investment in global gas trade using an agent-based method. Energy, 2018, 160, 820-834.	4.5	15
78	North American energy system responses to natural gas price shocks. Energy Policy, 2021, 149, 112046.	4.2	15
79	Organic waste to energy: Resource potential and barriers to uptake in Chile. Sustainable Production and Consumption, 2021, 28, 1522-1537.	5.7	15
80	Methane detection and quantification in the upstream oil and gas sector: the role of satellites in emissions detection, reconciling and reporting. Environmental Science Atmospheres, 2022, 2, 9-23.	0.9	15
81	Modelling cost-effective pathways for natural gas infrastructure: A southern Brazil case study. Applied Energy, 2019, 255, 113799.	5.1	14
82	The impact of demand uncertainties and China-US natural gas tariff on global gas trade. Energy, 2019, 175, 205-217.	4.5	14
83	Agent-based scenarios comparison for assessing fuel-switching investment in long-term energy transitions of the Indiaâ€™s industry sector. Applied Energy, 2020, 274, 115295.	5.1	14
84	Reply to â€œHigh energy and materials requirement for direct air capture calls for further analysis and R&Dâ€. Nature Communications, 2020, 11, 3286.	5.8	13
85	UK microgeneration. Part II: technology overviews. Proceedings of Institution of Civil Engineers: Energy, 2010, 163, 143-165.	0.5	12
86	Modelling the technical potential of bioelectricity production under land use constraints: A multi-region Brazil case study. Renewable and Sustainable Energy Reviews, 2020, 123, 109765.	8.2	12
87	Strategic natural gas storage coordination among EU member states in response to disruption in the trans Austria gas pipeline: A stochastic approach to solidarity. Energy, 2021, 235, 121426.	4.5	12
88	Solidarity measures: Assessment of strategic gas storage on EU regional risk groups natural gas supply resilience. Applied Energy, 2022, 308, 118356.	5.1	12
89	The Impact of Shale Gas on the Cost and Feasibility of Meeting Climate Targetsâ€"A Global Energy System Model Analysis and an Exploration of Uncertainties. Energies, 2017, 10, 158.	1.6	11
90	An agent-based modelling approach to simulate the investment decision of industrial enterprises. Journal of Cleaner Production, 2020, 267, 121835.	4.6	11

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91	Private landlords and energy efficiency: Evidence for policymakers from a large-scale study in the United Kingdom. Energy Policy, 2020, 142, 111446.	4.2	11
92	Pathways to commercialisation of biogas fuelled solid oxide fuel cells in European wastewater treatment plants. Applied Energy, 2021, 282, 116127.	5.1	11
93	The Techno-Economics of Small-Scale Residential Heating in Low Carbon Futures. Energies, 2017, 10, 1915.	1.6	10
94	Supply Chain Mixed Integer Linear Program Model Integrating a Biorefining Technology Superstructure. Industrial & Engineering Chemistry Research, 2018, 57, 9849-9865.	1.8	10
95	Optimal mix of climate-related energy in global electricity systems. Renewable Energy, 2020, 160, 955-963.	4.3	10
96	Low-cost emissions cuts in container shipping: Thinking inside the box. Transportation Research, Part D: Transport and Environment, 2021, 94, 102815.	3.2	10
97	Role of fuel cell based micro-cogeneration in low carbon heating. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2011, 225, 198-207.	0.8	9
98	Can Carbon Capture and Storage Unlock â€˜Unburnable Carbonâ€™?. Energy Procedia, 2017, 114, 7504-7515.	1.8	9
99	A Simple Assessment of Housing Retrofit Policies for the UK: What Should Succeed the Energy Company Obligation?. Energies, 2018, 11, 2070.	1.6	9
100	Asset stranding in natural gas export facilities: An agent-based simulation. Energy Policy, 2019, 132, 132-155.	4.2	9
101	Thermodynamic and thermal comfort optimisation of a coastal social house considering the influence of the thermal breeze. Building and Environment, 2019, 155, 224-246.	3.0	9
102	Assessment of Greenhouse Gases and Pollutant Emissions in the Road Freight Transport Sector: A Case Study for SÃ£o Paulo State, Brazil. Energies, 2020, 13, 5433.	1.6	8
103	Spatially Resolved Optimization for Studying the Role of Hydrogen for Heat Decarbonization Pathways. ACS Sustainable Chemistry and Engineering, 2018, 6, 5835-5842.	3.2	7
104	Translating observed household energy behavior to agent-based technology choices in an integrated modeling framework. IScience, 2022, 25, 103905.	1.9	7
105	The life cycle environmental impacts of negative emission technologies in North America. Sustainable Production and Consumption, 2022, 32, 880-894.	5.7	7
106	Fuel cell systems for small and micro combined heat and power (CHP) applications. , 2011, , 233-261.		6
107	A bottom-up appraisal of the technically installable capacity of biogas-based solid oxide fuel cells for self power generation in wastewater treatment plants. Journal of Environmental Management, 2021, 279, 111753.	3.8	6
108	What is the future potential of CCS in Brazil? An expert elicitation study on the role of CCS in the country. International Journal of Greenhouse Gas Control, 2021, 112, 103503.	2.3	6

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109	Design of fuelâ€cell microâ€cogeneration systems through modeling and optimization. Wiley Interdisciplinary Reviews: Energy and Environment, 2012, 1, 181-193.	1.9	5
110	An Optimisation Study on Integrating and Incentivising Thermal Energy Storage (TES) in a Dwelling Energy System. Energies, 2018, 11, 1095.	1.6	5
111	Carbon Sequestration Potential from Large-Scale Reforestation and Sugarcane Expansion on Abandoned Agricultural Lands in Brazil. Polytechnica, 2019, 2, 9-25.	2.1	5
112	Results from Industrial Size Biogas-Fed SOFC Plant (DEMOSOFC Project). ECS Transactions, 2019, 91, 107-116.	0.3	5
113	Life cycle assessment of negative emission technologies for effectiveness in carbon sequestration. Procedia CIRP, 2022, 105, 357-361.	1.0	5
114	Optimal selection of generators for a microgrid under uncertainty. , 2010, , .		4
115	Feasibility of domestic micro combined heat and power units with Real Time Pricing. , 2010, , .		4
116	Techno-economic assessment of small and micro combined heat and power (CHP) systems. , 2011, , 17-41.		4
117	Decarbonisation of the Industrial Sector by means of Fuel Switching, Electrification and CCS. Computer Aided Chemical Engineering, 2018, , 1311-1316.	0.3	4
118	Geospatial and temporal estimation of climatic, end-use demands, and socioeconomic drivers of energy consumption in the residential sector in Ecuador. Energy Conversion and Management, 2022, 261, 115629.	4.4	4
119	Impact of Drilling Costs on the US Gas Industry: Prospects for Automation. Energies, 2018, 11, 2241.	1.6	3
120	The role of CCS and biomass-based processes in the refinery sector for different carbon scenarios. Computer Aided Chemical Engineering, 2018, 43, 1365-1370.	0.3	2
121	Open Sugarcane Process Simulation Platform. Computer Aided Chemical Engineering, 2018, 44, 1819-1824.	0.3	2
122	Modelling Future Agricultural Mechanisation of Major Crops in China: An Assessment of Energy Demand, Land Use and Emissions. Energies, 2020, 13, 6636.	1.6	2
123	University-industry-government partnership working on sustainable development goals in Brazil. International Journal of Intellectual Property Management, 2022, 12, 42.	0.2	2
124	Geospatial Big Data analytics to model the long-term sustainable transition of residential heating worldwide. , 2021, , .		2
125	A framework for modelling investment decisions in gas infrastructures. Computer Aided Chemical Engineering, 2016, 38, 259-264.	0.3	1
126	Analysis of power production and emission reduction through the use of biogas and carbon capture and storage. Computer Aided Chemical Engineering, 2017, 40, 2635-2640.	0.3	1

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127	An optimization method to estimate the SOFC market in waste water treatment. Computer Aided Chemical Engineering, 2018, 43, 415-420.	0.3	1
128	Decision making to book oil reserves for different Brazilian fiscal agreements using dependence structure. Energy Strategy Reviews, 2019, 26, 100377.	3.3	1
129	A Simulator to Determine the Evolution of Disparities in Food Consumption between Socio-Economic Groups: A Brazilian Case Study. Sustainability, 2020, 12, 6132.	1.6	1
130	Implications of Future Natural Gas Demand on Sugarcane Production, Land Use Change and Related Emissions in Brazil. Journal of Sustainable Development of Energy, Water and Environment Systems, 2020, 8, 304-327.	0.9	1
131	An optimisation model to determine the capacity of a distributed energy resource to contract with a balancing services aggregator. Applied Energy, 2022, 306, 117984.	5.1	1
132	A Multi-period Mixed Integer Linear Program for Assessing the Benefits of Power to Heat Storage in a Dwelling Energy System. Computer Aided Chemical Engineering, 2018, 43, 1451-1456.	0.3	0
133	Distributed Optimization for a Cost Efficient Operation of a Network of Island Energy Systems. , 2018, , .		0
134	Techno-economic assessment of the effects of biogas rate fluctuations on industrial applications of solid-oxide fuel cells. Computer Aided Chemical Engineering, 2017, , 895-900.	0.3	0