Iain Staffell

List of Publications by Year
in descending order

95 papers	13,879 citations	46918 47 h-index	51492 86 g-index
100 all docs	100 docs citations	100 times ranked	12863 citing authors

#	Article	IF	Citations
1	The role of hydrogen and fuel cells in the global energy system. Energy and Environmental Science, 2019, 12, 463-491.	15.6	2,253
2	Future cost and performance of water electrolysis: An expert elicitation study. International Journal of Hydrogen Energy, 2017, 42, 30470-30492.	3.8	1,240
3	Long-term patterns of European PV output using 30 years of validated hourly reanalysis and satellite data. Energy, 2016, 114, 1251-1265.	4.5	873
4	Using bias-corrected reanalysis to simulate current and future wind power output. Energy, 2016, 114, 1224-1239.	4.5	771
5	The future cost of electrical energy storage based on experience rates. Nature Energy, 2017, 2, .	19.8	757
6	Hydrogen and fuel cell technologies for heating: A review. International Journal of Hydrogen Energy, 2015, 40, 2065-2083.	3.8	563
7	Projecting the Future Levelized Cost of Electricity Storage Technologies. Joule, 2019, 3, 81-100.	11.7	515
8	Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments. Chemical Society Reviews, 2022, 51, 4583-4762.	18.7	453
9	Current status of hybrid, battery and fuel cell electric vehicles: From electrochemistry to market prospects. Electrochimica Acta, 2012, 84, 235-249.	2.6	439
10	How to decarbonise international shipping: Options for fuels, technologies and policies. Energy Conversion and Management, 2019, 182, 72-88.	4.4	386
11	How does wind farm performance decline with age?. Renewable Energy, 2014, 66, 775-786.	4.3	328
12	Current status of automotive fuel cells for sustainable transport. Current Opinion in Electrochemistry, 2019, 16, 90-95.	2.5	269
13	A review of domestic heat pumps. Energy and Environmental Science, 2012, 5, 9291.	15.6	251
14	The importance of open data and software: Is energy research lagging behind?. Energy Policy, 2017, 101, 211-215.	4.2	245
15	Balancing Europeâ€™s wind-power output through spatial deployment informed by weather regimes. Nature Climate Change, 2017, 7, 557-562.	8.1	236
16	Current status of fuel cell based combined heat and power systems for residential sector. Journal of Power Sources, 2015, 293, 312-328.	4.0	212
17	The increasing impact of weather on electricity supply and demand. Energy, 2018, 145, 65-78.	4.5	202
18	Short-term integration costs of variable renewable energy: Wind curtailment and balancing in Britain and Germany. Renewable and Sustainable Energy Reviews, 2018, 86, 45-65.	8.2	188

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19	The shape of future electricity demand: Exploring load curves inÂ2050s Germany and Britain. Energy, 2015, 90, 1317-1333.	4.5	184
20	Opening the black box of energy modelling: Strategies and lessons learned. Energy Strategy Reviews, 2018, 19, 63-71.	3.3	168
21	Optimal design and operation of integrated wind-hydrogen-electricity networks for decarbonising the domestic transport sector in Great Britain. International Journal of Hydrogen Energy, 2016, 41, 447-475.	3.8	167
22	The cost of domestic fuel cell micro-CHP systems. International Journal of Hydrogen Energy, 2013, 38, 1088-1102.	3.8	152
23	Fuel cells for micro-combined heat and power generation. Energy and Environmental Science, 2009, 2, 729.	15.6	151
24	Impacts of Inter-annual Wind and Solar Variations on the European Power System. Joule, 2018, 2, 2076-2090.	11.7	137
25	Power capacity expansion planning considering endogenous technology cost learning. Applied Energy, 2017, 204, 831-845.	5.1	136
26	Rapid fuel switching from coal to natural gas through effective carbon pricing. Nature Energy, 2018, 3, 365-372.	19.8	130
27	Offshore wind competitiveness in mature markets without subsidy. Nature Energy, 2020, 5, 614-622.	19.8	114
28	Maximising the value of electricity storage. Journal of Energy Storage, 2016, 8, 212-225.	3.9	111
29	A systems approach to quantifying the value of power generation and energy storage technologies in future electricity networks. Computers and Chemical Engineering, 2017, 107, 247-256.	2.0	108
30	Divide and Conquer? ${k}$-Means Clustering of Demand Data Allows Rapid and Accurate Simulations of the British Electricity System. IEEE Transactions on Engineering Management, 2014, 61, 251-260.	2.4	104
31	Temporally explicit and spatially resolved global offshore wind energy potentials. Energy, 2018, 163, 766-781.	4.5	98
32	Quantifying the value of CCS for the future electricity system. Energy and Environmental Science, 2016, 9, 2497-2510.	15.6	91
33	Real-time carbon accounting method for the European electricity markets. Energy Strategy Reviews, 2019, 26, 100367.	3.3	86
34	Measuring the progress and impacts of decarbonising British electricity. Energy Policy, 2017, 102, 463-475.	4.2	84
35	Global levelised cost of electricity from offshore wind. Energy, 2019, 189, 116357.	4.5	84
36	Temporally-explicit and spatially-resolved global onshore wind energy potentials. Energy, 2017, 131, 207-217.	4.5	83

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37	The impact of climate change on the levelised cost of wind energy. Renewable Energy, 2017, 101, 575-592.	4.3	82
38	High-resolution large-scale onshore wind energy assessments: A review of potential definitions, methodologies and future research needs. Renewable Energy, 2022, 182, 659-684.	4.3	82
39	A parametric model for wind turbine power curves incorporating environmental conditions. Renewable Energy, 2020, 157, 754-768.	4.3	78
40	Energy and carbon payback times for solid oxide fuel cell based domestic CHP. International Journal of Hydrogen Energy, 2012, 37, 2509-2523.	3.8	74
41	The role of flexible CCS in the UK's future energy system. International Journal of Greenhouse Gas Control, 2016, 48, 327-344.	2.3	74
42	Cost targets for domestic fuel cell CHP. Journal of Power Sources, 2008, 181, 339-349.	4.0	64
43	Electricity in Europe: exiting fossil fuels?. Oxford Review of Economic Policy, 2016, 32, 282-303.	1.0	63
44	How can LNG-fuelled ships meet decarbonisation targets? An environmental and economic analysis. Energy, 2021, 227, 120462.	4.5	59
45	Impact of myopic decision-making and disruptive events in power systems planning. Nature Energy, 2018, 3, 634-640.	19.8	58
46	Comparative life cycle assessment of lithium-ion battery chemistries for residential storage. Journal of Energy Storage, 2020, 28, 101230.	3.9	53
47	Life cycle assessment of an alkaline fuel cell CHP system. International Journal of Hydrogen Energy, 2010, 35, 2491-2505.	3.8	50
48	Current energy landscape in the Republic of SouthÂAfrica. International Journal of Hydrogen Energy, 2015, 40, 16685-16701.	3.8	50
49	Estimating future prices for stationary fuel cells with empirically derived experience curves. International Journal of Hydrogen Energy, 2009, 34, 5617-5628.	3.8	49
50	Zero carbon infinite COP heat from fuel cell CHP. Applied Energy, 2015, 147, 373-385.	5.1	49
51	Is There Still Merit in the Merit Order Stack? The Impact of Dynamic Constraints on Optimal Plant Mix. IEEE Transactions on Power Systems, 2016, 31, 43-53.	4.6	43
52	From the geopolitics of oil and gas to the geopolitics of the energy transition: Is there a role for European supermajors?. Energy Research and Social Science, 2022, 88, 102634.	3.0	36
53	The NExus Solutions Tool (NEST) v1.0: an open platform for optimizing multi-scale energyâ€“waterâ€“land system transformations. Geoscientific Model Development, 2020, 13, 1095-1121.	1.3	31
54	Impact of climate change on the cost-optimal mix of decentralised heat pump and gas boiler technologies in Europe. Energy Policy, 2020, 140, 111386.	4.2	30

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55	Getting prices right in structural electricity market models. Energy Policy, 2019, 129, 1190-1206.	4.2	28
56	The value of electricity and reserve services in low carbon electricity systems. Applied Energy, 2017, 201, 111-123.	5.1	23
57	The future of coal investment, trade, and stranded assets. Joule, 2021, 5, 1462-1484.	11.7	23
58	The impact of the UKâ€™s COVID-19 lockdowns on energy demand and emissions. Environmental Research Letters, 2021, 16, 054037.	2.2	22
59	Hydrogen fuel cell hybrid vehicles (HFCHV) for Birmingham campus. Journal of Power Sources, 2011, 196, 325-330.	4.0	21
60	Quantifying the impact of policy on the investment case for residential electricity storage in the UK. Journal of Energy Storage, 2020, 27, 101140.	3.9	21
61	Understanding New Zealandâ€™s wind resources as a route to 100% renewable electricity. Renewable Energy, 2021, 170, 449-461.	4.3	18
62	Island in the Sea: The prospects and impacts of an offshore wind power hub in the North Sea. Advances in Applied Energy, 2022, 6, 100090.	6.6	18
63	UK microgeneration. Part I: policy and behavioural aspects. Proceedings of Institution of Civil Engineers: Energy, 2009, 162, 23-36.	0.5	17
64	Fuel-cell (hydrogen) electric hybrid vehicles. , 2014, , 685-735.		17
65	What is the Value of CCS in the Future Energy System?. Energy Procedia, 2017, 114, 7564-7572.	1.8	16
66	High solar photovoltaic penetration in the absence of substantial wind capacity: Storage requirements and effects on capacity adequacy. Energy, 2017, 137, 193-208.	4.5	16
67	Organic waste to energy: Resource potential and barriers to uptake in Chile. Sustainable Production and Consumption, 2021, 28, 1522-1537.	5.7	15
68	Elecxit: The cost of bilaterally uncoupling British-EU electricity trade. Energy Economics, 2020, 85, 104599.	5.6	14
69	Policy choices and outcomes for offshore wind auctions globally. Energy Policy, 2022, 167, 113000.	4.2	14
70	Levelised Value of Electricity - A Systemic Approach to Technology Valuation. Computer Aided Chemical Engineering, 2016, , 721-726.	0.3	13
71	Estimating country-specific space heating threshold temperatures from national gas and electricity consumption data. Energy and Buildings, 2019, 199, 368-380.	3.1	13
72	UK microgeneration. Part II: technology overviews. Proceedings of Institution of Civil Engineers: Energy, 2010, 163, 143-165.	0.5	12

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73	Comparison of Fuel Consumption and Fuel Cell Degradation Using an Optimised Controller. ECS Transactions, 2016, 71, 85-97.	0.3	12
74	Simulating price-aware electricity storage without linear optimisation. Journal of Energy Storage, 2018, 20, 78-91.	3.9	12
75	What if we never run out of oil? From certainty of â€œpeak oilâ€•to â€œpeak demandâ€• Energy Research and Social Science, 2022, 85, 102407.	3.0	12
76	Existing tools, user needs and required model adjustments for energy demand modelling of a carbon-neutral Europe. Energy Research and Social Science, 2022, 90, 102662.	3.0	12
77	On the socio-technical potential for onshore wind in Europe: A response to Enevoldsen et al. (2019), Energy Policy, 132, 1092-1100. Energy Policy, 2020, 145, 111693.	4.2	11
78	The contribution of taxes, subsidies, and regulations to British electricity decarbonization. Joule, 2021, 5, 2625-2645.	11.7	11
79	Grid-scale energy storage. , 2020, , 119-143.		9
80	Results from the Microcab fuel cell vehicle demonstration at the University of Birmingham. International Journal of Electric and Hybrid Vehicles, 2011, 3, 62.	0.2	8
81	Lower carbon cars by reducing dissipation in hydrogen hybrids. International Journal of Low-Carbon Technologies, 2012, 7, 10-15.	1.2	8
82	Electric vehicles. , 2020, , 145-163.		7
83	Fuel cell systems for small and micro combined heat and power (CHP) applications. , 2011, , 233-261.		6
84	Stabilisation wedges: measuring progress towards transforming the global energy and land use systems. Environmental Research Letters, 2021, 16, 064011.	2.2	6
85	Design of fuelâ€cell microâ€cogeneration systems through modeling and optimization. Wiley Interdisciplinary Reviews: Energy and Environment, 2012, 1, 181-193.	1.9	5
86	An MILP Modeling Approach to Systemic Energy Technology Valuation in the 21st Century Energy System. Energy Procedia, 2017, 114, 6358-6365.	1.8	5
87	A framework to evaluate how European Transmission System Operators approach innovation. Energy Policy, 2021, 158, 112555.	4.2	5
88	The role of the fuel in the operation, performance and degradation of fuel cells. , 2012, , 249-278.		3
89	Application of Coulomb's friction law to define energy consumption of new drive-trains. , 2013, , .		3
90	Atomic Models of Strong Solids Interfaces Viewed as Composite Structures. Applied Composite Materials, 2014, 21, 45-55.	1.3	3

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91	Wind, rain, fire and sun: Towards zero carbon electricity for New Zealand. Energy Policy, 2021, 150, 112109.	4.2	3
92	The Energy Landscape in the Republic of South Africa. SpringerBriefs in Energy, 2016, , .	0.2	2
93	Daily Marginal CO<inf>2</inf> Emissions Reductions from Wind and Solar Generation. , 2018, , .		2
94	Fuels and fuel processing for low temperature fuel cells. , 2012, , 3-26.		1
95	How Large Should a Portfolio of Wind Farms Be?. SSRN Electronic Journal, 0, , .	0.4	1