Tom Brown

List of Publications by Year in descending order

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52 papers	2,915 citations	218677 26 h-index	254184 43 g-index
52 all docs	52 docs citations	52 times ranked	1970 citing authors

#	Article	IF	Citations
1	Synergies of sector coupling and transmission reinforcement in a cost-optimised, highly renewable European energy system. Energy, 2018, 160, 720-739.	8.8	402
2	Solar photovoltaics is ready to power a sustainable future. Joule, 2021, 5, 1041-1056.	24.0	265
3	PyPSA: Python for Power System Analysis. Journal of Open Research Software, 2018, 6, 4.	5.9	254
4	The benefits of cooperation in a highly renewable European electricity network. Energy, 2017, 134, 469-481.	8.8	219
5	Opening the black box of energy modelling: Strategies and lessons learned. Energy Strategy Reviews, 2018, 19, 63-71.	7.3	168
6	PyPSA-Eur: An open optimisation model of the European transmission system. Energy Strategy Reviews, 2018, 22, 207-215.	7.3	157
7	The role of storage technologies throughout the decarbonisation of the sector-coupled European energy system. Energy Conversion and Management, 2019, 201, 111977.	9.2	138
8	Early decarbonisation of the European energy system pays off. Nature Communications, 2020, 11, 6223.	12.8	123
9	Cost optimal scenarios of a future highly renewable European electricity system: Exploring the influence of weather data, cost parameters and policy constraints. Energy, 2018, 163, 100-114.	8.8	102
10	Cost-optimal power system extension under flow-based market coupling. Energy, 2014, 66, 654-666.	8.8	81
11	The near-optimal feasible space of a renewable power system model. Electric Power Systems Research, 2021, 190, 106690.	3.6	71
12	The role of hydro power, storage and transmission in the decarbonization of the Chinese power system. Applied Energy, 2019, 239, 1308-1321.	10.1	70
13	The impact of climate change on a cost-optimal highly renewable European electricity network. Applied Energy, 2018, 230, 1645-1659.	10.1	67
14	Linear optimal power flow using cycle flows. Electric Power Systems Research, 2018, 158, 126-135.	3.6	55
15	The strong effect of network resolution on electricity system models with high shares of wind and solar. Applied Energy, 2021, 291, 116726.	10.1	52
16	Decreasing market value of variable renewables can be avoided by policy action. Energy Economics, 2021, 100, 105354.	12.1	49
17	Optimal heterogeneity in a simplified highly renewable European electricity system. Energy, 2017, 133, 913-928.	8.8	48
18	Speed of technological transformations required in Europe to achieve different climate goals. Joule, 2022, 6, 1066-1086.	24.0	45

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19	Optimising the European transmission system for 77% renewable electricity by 2030. IET Renewable Power Generation, 2016, 10, 3-9.	3.1	38
20	atlite: A Lightweight Python Package for Calculating Renewable Power Potentials and Time Series. Journal of Open Source Software, 2021, 6, 3294.	4.6	36
21	The role of spatial scale in joint optimisations of generation and transmission for European highly renewable scenarios. , 2017, , .		35
22	Transmission network loading in Europe with high shares of renewables. IET Renewable Power Generation, 2015, 9, 57-65.	3.1	33
23	Impact of CO2 prices on the design of a highly decarbonised coupled electricity and heating system in Europe. Applied Energy, 2019, 236, 622-634.	10.1	33
24	Modeling all alternative solutions for highly renewable energy systems. Energy, 2021, 234, 121294.	8.8	33
25	Correlators, probabilities and topologies in Script N = 4 SYM. Journal of High Energy Physics, 2007, 2007, 072-072.	4.7	32
26	Dual Theory of Transmission Line Outages. IEEE Transactions on Power Systems, 2017, 32, 4060-4068.	6.5	28
27	Growth in Wind and Sun: Integrating Variable Generation in China. IEEE Power and Energy Magazine, 2015, 13, 40-49.	1.6	26
28	Flexibility From Energy Systems Integration: Supporting Synergies Among Sectors. IEEE Power and Energy Magazine, 2019, 17, 67-78.	1.6	25
29	Mitigating heat demand peaks in buildings in a highly renewable European energy system. Energy, 2021, 231, 120784.	8.8	25
30	Sectoral Interactions as Carbon Dioxide Emissions Approach Zero in a Highly-Renewable European Energy System. Energies, 2019, 12, 1032.	3.1	24
31	Using validated reanalysis data to investigate the impact of the PV system configurations at high penetration levels in European countries. Progress in Photovoltaics: Research and Applications, 2019, 27, 576-592.	8.1	20
32	Future operation of hydropower in Europe under high renewable penetration and climate change. IScience, 2021, 24, 102999.	4.1	20
33	Hourly-resolution analysis of electricity decarbonization in Spain (2017â€“2030). Applied Energy, 2019, 233-234, 674-690.	10.1	19
34	Assessments of linear power flow and transmission loss approximations in coordinated capacity expansion problems. Applied Energy, 2022, 314, 118859.	10.1	16
35	The role of photovoltaics in a sustainable European energy system under variable CO₂emissions targets, transmission capacities, and costs assumptions. Progress in Photovoltaics: Research and Applications, 2020, 28, 483-492.	8.1	15
36	Modeling Curtailment in Germany: How Spatial Resolution Impacts Line Congestion. , 2020, , .		13

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37	Counter-intuitive behaviour of energy system models under CO2 caps and prices. Energy, 2019, 170, 22-30.	8.8	12
38	A high-resolution hydro power time-series model for energy systems analysis: Validated with Chinese hydro reservoirs. MethodsX, 2019, 6, 1370-1378.	1.6	11
39	A comparison of clustering methods for the spatial reduction of renewable electricity optimisation models of Europe. Energy Informatics, 2022, 5, .	2.3	8
40	Flow-Based Analysis of Storage Usage in a Low-Carbon European Electricity Scenario. , 2018, , .		6
41	Heuristics for Transmission Expansion Planning in Low-Carbon Energy System Models. , 2019, , .		6
42	CO2 quota attribution effects on the European electricity system comprised of self-centred actors. Advances in Applied Energy, 2021, 2, 100012.	13.2	6
43	The Relevance of Grid Expansion under Zonal Markets. Energy Journal, 2017, 38, 129-152.	1.7	6
44	Topology-based approximations for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e571" altimg="si311.svg"><mml:mrow><mml:mi mathvariant="script">N</mml:mi><mml:mo linebreak="goodbreak" linebreakstyle="after">â^’</mml:mo><mml:mn>1</mml:mn></mml:mrow></mml:math> contingency constraints in power transmission networks. International Journal of Electrical Power and Energy Systems, 2022, 137, 107702.	5.5	6
45	Moving beyond transportation. , 2015, , .		5
46	Improving Energy Transition Analysis Tool through Hydropower Statistical Modelling. Energies, 2021, 14, 98.	3.1	4
47	Principal flow patterns across renewable electricity networks. Europhysics Letters, 2018, 124, 18005.	2.0	3
48	Exploring flexibility of near-optimal solutions to highly renewable energy systems. , 2021, , .		2
49	Principal spatiotemporal mismatch and electricity price patterns in a highly decarbonized networked European power system. IScience, 2022, 25, 104380.	4.1	2
50	Early Decarbonisation of the European Energy System Pays Off. SSRN Electronic Journal, 0, , .	0.4	1
51	Dataset: A proxy for historical CO2 emissions related to centralised electricity generation in Europe. Data in Brief, 2021, 36, 107016.	1.0	0
52	Transmission Expansion Planning Using Cycle Flows. , 2020, , .		0