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	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
2	Assessments of linear power flow and transmission loss approximations in coordinated capacity expansion problems. Applied Energy, 2022, 314, 118859.	10.1	16
3	A comparison of clustering methods for the spatial reduction of renewable electricity optimisation models of Europe. Energy Informatics, 2022, 5, .	2.3	8
4	Principal spatiotemporal mismatch and electricity price patterns in a highly decarbonized networked European power system. IScience, 2022, 25, 104380.	4.1	2
5	Speed of technological transformations required in Europe to achieve different climate goals. Joule, 2022, 6, 1066-1086.	24.0	45
6	The near-optimal feasible space of a renewable power system model. Electric Power Systems Research, 2021, 190, 106690.	3.6	71
7	CO2 quota attribution effects on the European electricity system comprised of self-centred actors. Advances in Applied Energy, 2021, 2, 100012.	13.2	6
8	Solar photovoltaics is ready to power a sustainable future. Joule, 2021, 5, 1041-1056.	24.0	265
9	Dataset: A proxy for historical CO2 emissions related to centralised electricity generation in Europe. Data in Brief, 2021, 36, 107016.	1.0	0
10	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
11	atlite: A Lightweight Python Package for Calculating Renewable Power Potentials and Time Series. Journal of Open Source Software, 2021, 6, 3294.	4.6	36
12	Exploring flexibility of near-optimal solutions to highly renewable energy systems. , 2021, , .		2
13	Decreasing market value of variable renewables can be avoided by policy action. Energy Economics, 2021, 100, 105354.	12.1	49
14	Mitigating heat demand peaks in buildings in a highly renewable European energy system. Energy, 2021, 231, 120784.	8.8	25
15	Future operation of hydropower in Europe under high renewable penetration and climate change. IScience, 2021, 24, 102999.	4.1	20
16	Modeling all alternative solutions for highly renewable energy systems. Energy, 2021, 234, 121294.	8.8	33
17	Improving Energy Transition Analysis Tool through Hydropower Statistical Modelling. Energies, 2021, 14, 98.	3.1	4
18	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

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19	Early decarbonisation of the European energy system pays off. Nature Communications, 2020, 11, 6223.	12.8	123
20	Modeling Curtailment in Germany: How Spatial Resolution Impacts Line Congestion. , 2020, , .		13
21	Transmission Expansion Planning Using Cycle Flows. , 2020, , .		0
22	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
23	Flexibility From Energy Systems Integration: Supporting Synergies Among Sectors. IEEE Power and Energy Magazine, 2019, 17, 67-78.	1.6	25
24	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
25	Sectoral Interactions as Carbon Dioxide Emissions Approach Zero in a Highly-Renewable European Energy System. Energies, 2019, 12, 1032.	3.1	24
26	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
27	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
28	Heuristics for Transmission Expansion Planning in Low-Carbon Energy System Models. , 2019, , .		6
29	Counter-intuitive behaviour of energy system models under CO2 caps and prices. Energy, 2019, 170, 22-30.	8.8	12
30	Hourly-resolution analysis of electricity decarbonization in Spain (2017â€“2030). Applied Energy, 2019, 233-234, 674-690.	10.1	19
31	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
32	Linear optimal power flow using cycle flows. Electric Power Systems Research, 2018, 158, 126-135.	3.6	55
33	Opening the black box of energy modelling: Strategies and lessons learned. Energy Strategy Reviews, 2018, 19, 63-71.	7.3	168
34	Principal flow patterns across renewable electricity networks. Europhysics Letters, 2018, 124, 18005.	2.0	3
35	Flow-Based Analysis of Storage Usage in a Low-Carbon European Electricity Scenario. , 2018, , .		6
36	PyPSA-Eur: An open optimisation model of the European transmission system. Energy Strategy Reviews, 2018, 22, 207-215.	7.3	157

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37	The impact of climate change on a cost-optimal highly renewable European electricity network. Applied Energy, 2018, 230, 1645-1659.	10.1	67
38	Synergies of sector coupling and transmission reinforcement in a cost-optimised, highly renewable European energy system. Energy, 2018, 160, 720-739.	8.8	402
39	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
40	PyPSA: Python for Power System Analysis. Journal of Open Research Software, 2018, 6, 4.	5.9	254
41	Dual Theory of Transmission Line Outages. IEEE Transactions on Power Systems, 2017, 32, 4060-4068.	6.5	28
42	Optimal heterogeneity in a simplified highly renewable European electricity system. Energy, 2017, 133, 913-928.	8.8	48
43	The benefits of cooperation in a highly renewable European electricity network. Energy, 2017, 134, 469-481.	8.8	219
44	The role of spatial scale in joint optimisations of generation and transmission for European highly renewable scenarios. , 2017, , .		35
45	The Relevance of Grid Expansion under Zonal Markets. Energy Journal, 2017, 38, 129-152.	1.7	6
46	Optimising the European transmission system for 77% renewable electricity by 2030. IET Renewable Power Generation, 2016, 10, 3-9.	3.1	38
47	Moving beyond transportation. , 2015, , .		5
48	Transmission network loading in Europe with high shares of renewables. IET Renewable Power Generation, 2015, 9, 57-65.	3.1	33
49	Growth in Wind and Sun: Integrating Variable Generation in China. IEEE Power and Energy Magazine, 2015, 13, 40-49.	1.6	26
50	Cost-optimal power system extension under flow-based market coupling. Energy, 2014, 66, 654-666.	8.8	81
51	Correlators, probabilities and topologies in Script N = 4 SYM. Journal of High Energy Physics, 2007, 2007, 072-072.	4.7	32
52	Early Decarbonisation of the European Energy System Pays Off. SSRN Electronic Journal, 0, , .	0.4	1