Brian Vad Mathiesen

List of Publications by Year
in descending order

98 papers	19,750 citations	26567 56 h-index	26548 107 g-index
114 all docs	114 docs citations	114 times ranked	14041 citing authors

#	Article	IF	Citations
1	4th Generation District Heating (4GDH). Energy, 2014, 68, 1-11.	4.5	1,548
2	Battery energy storage technology for power systemsâ€”An overview. Electric Power Systems Research, 2009, 79, 511-520.	2.1	1,379
3	A review of computer tools for analysing the integration of renewable energy into various energy systems. Applied Energy, 2010, 87, 1059-1082.	5.1	1,244
4	Dimethyl ether (DME) as an alternative fuel. Journal of Power Sources, 2006, 156, 497-511.	4.0	1,014
5	Smart Energy Systems for coherent 100% renewable energy and transport solutions. Applied Energy, 2015, 145, 139-154.	5.1	873
6	Energy system analysis of 100% renewable energy systemsâ€"The case of Denmark in years 2030 and 2050. Energy, 2009, 34, 524-531.	4.5	865
7	Smart energy and smart energy systems. Energy, 2017, 137, 556-565.	4.5	679
8	The role of district heating in future renewable energy systems. Energy, 2010, 35, 1381-1390.	4.5	644
9	Heat Roadmap Europe: Combining district heating with heat savings to decarbonise the EU energy system. Energy Policy, 2014, 65, 475-489.	4.2	607
10	100% Renewable energy systems, climate mitigation and economic growth. Applied Energy, 2011, 88, 488-501.	5.1	583
11	Smart Energy Europe: The technical and economic impact of one potential 100% renewable energy scenario for the European Union. Renewable and Sustainable Energy Reviews, 2016, 60, 1634-1653.	8.2	549
12	From electricity smart grids to smart energy systems â€" A market operation based approach and understanding. Energy, 2012, 42, 96-102.	4.5	520
13	Exergy analysis of hydrogen production via steam methane reforming. International Journal of Hydrogen Energy, 2007, 32, 4811-4820.	3.8	411
14	The status of 4th generation district heating: Research and results. Energy, 2018, 164, 147-159.	4.5	395
15	The first step towards a 100% renewable energy-system for Ireland. Applied Energy, 2011, 88, 502-507.	5.1	377
16	Response to â€˜Burden of proof: A comprehensive review of the feasibility of 100% renewable-electricity systemsâ€™. Renewable and Sustainable Energy Reviews, 2018, 92, 834-847.	8.2	354
17	Capture of carbon dioxide from ambient air. European Physical Journal: Special Topics, 2009, 176, 93-106.	1.2	333
18	Full energy system transition towards 100% renewable energy in Germany in 2050. Renewable and Sustainable Energy Reviews, 2019, 102, 1-13.	8.2	307

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19	CO2-based methanol and DME â€“ Efficient technologies for industrial scale production. Catalysis Today, 2011, 171, 242-250.	2.2	286
20	Potential of renewable energy systems in China. Applied Energy, 2011, 88, 518-525.	5.1	259
21	Main routes for the thermo-conversion of biomass into fuels and chemicals. Part 2: Gasification systems. Energy Conversion and Management, 2009, 50, 3158-3168.	4.4	248
22	Energy savings in Danish residential building stock. Energy and Buildings, 2006, 38, 618-626.	3.1	237
23	Comparative analyses of seven technologies to facilitate the integration of fluctuating renewable energy sources. IET Renewable Power Generation, 2009, 3, 190.	1.7	231
24	Matching demand with supply at low cost in 139 countries among 20 world regions with 100% intermittent wind, water, and sunlight (WWS) for all purposes. Renewable Energy, 2018, 123, 236-248.	4.3	216
25	Practical operation strategies for pumped hydroelectric energy storage (PHES) utilising electricity price arbitrage. Energy Policy, 2011, 39, 4189-4196.	4.2	210
26	A renewable energy scenario for Aalborg Municipality based on low-temperature geothermal heat, wind power and biomass. Energy, 2010, 35, 4892-4901.	4.5	201
27	Wind power integration using individual heat pumps â€“ Analysis of different heat storage options. Energy, 2012, 47, 284-293.	4.5	197
28	EnergyPLAN â€“ Advanced analysis of smart energy systems. Smart Energy, 2021, 1, 100007.	2.6	188
29	The technical and economic implications of integrating fluctuating renewable energy using energy storage. Renewable Energy, 2012, 43, 47-60.	4.3	182
30	Simulation versus Optimisation: Theoretical Positions in Energy System Modelling. Energies, 2017, 10, 840.	1.6	168
31	Heat Roadmap Europe: Large-Scale Electric Heat Pumps in District Heating Systems. Energies, 2017, 10, 578.	1.6	163
32	Large-scale integration of wind power into the existing Chinese energy system. Energy, 2011, 36, 4753-4760.	4.5	156
33	Centralisation and decentralisation in strategic municipal energy planning in Denmark. Energy Policy, 2011, 39, 1338-1351.	4.2	156
34	Planning for a 100% independent energy system based on smart energy storage for integration of renewables and CO2 emissions reduction. Applied Thermal Engineering, 2011, 31, 2073-2083.	3.0	155
35	Uncertainties related to the identification of the marginal energy technology in consequential life cycle assessments. Journal of Cleaner Production, 2009, 17, 1331-1338.	4.6	154
36	Perspectives on fourth and fifth generation district heating. Energy, 2021, 227, 120520.	4.5	149

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37	Future district heating systems and technologies: On the role of smart energy systems and 4th generation district heating. Energy, 2018, 165, 614-619.	4.5	147
38	Energy system analysis of marginal electricity supply in consequential LCA. International Journal of Life Cycle Assessment, 2010, 15, 260-271.	2.2	142
39	A comparison between renewable transport fuels that can supplement or replace biofuels in a 100% renewable energy system. Energy, 2014, 73, 110-125.	4.5	140
40	Heat roadmap China: New heat strategy to reduce energy consumption towards 2030. Energy, 2015, 81, 274-285.	4.5	130
41	Testing a complete-diet model for estimating the land resource requirements of food consumption and agricultural carrying capacity: The New York State example. Renewable Agriculture and Food Systems, 2007, 22, 145-153.	0.8	126
42	Limiting biomass consumption for heating in 100% renewable energy systems. Energy, 2012, 48, 160-168.	4.5	114
43	The role of Carbon Capture and Storage in a future sustainable energy system. Energy, 2012, 44, 469-476.	4.5	106
44	The feasibility of synthetic fuels in renewable energy systems. Energy, 2013, 57, 76-84.	4.5	105
45	Techno-economic performance of energy-from-waste fluidized bed combustion and gasification processes in the UK context. Chemical Engineering Journal, 2009, 146, 315-327.	6.6	104
46	RDF production plants: I Design and costs. Applied Thermal Engineering, 2002, 22, 423-437.	3.0	103
47	Integrated transport and renewable energy systems. Utilities Policy, 2008, 16, 107-116.	2.1	102
48	Modelling the existing Irish energy-system to identify future energy costs and the maximum wind penetration feasible. Energy, 2010, 35, 2164-2173.	4.5	90
49	The optimal production of biogas for use as a transport fuel in Ireland. Renewable Energy, 2005, 30, 2111-2127.	4.3	87
50	Large combined heat and power plants in sustainable energy systems. Applied Energy, 2015, 142, 389-395.	5.1	85
51	The role of biogas and biogas-derived fuels in a 100% renewable energy system in Denmark. Energy, 2020, 199, 117426.	4.5	78
52	Integration of renewables and reverse osmosis desalination â€“ Case study for the Jordanian energy system with a high share of wind and photovoltaics. Energy, 2015, 92, 270-278.	4.5	72
53	Evaluation of wind power planning in Denmark â€“ Towards an integrated perspective. Energy, 2010, 35, 5443-5454.	4.5	62
54	Terminology used for renewable liquid and gaseous fuels based on the conversion of electricity: a review. Journal of Cleaner Production, 2016, 112, 3709-3720.	4.6	62

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55	EU-28 Residential Heat Supply and Consumption: Historical Development and Status. Energies, 2020, 13, 1894.	1.6	62
56	Comprehensive assessment of the role and potential for solar thermal in future energy systems. Solar Energy, 2018, 169, 144-152.	2.9	58
57	Heat Roadmap Europe: Towards EU-Wide, local heat supply strategies. Energy, 2019, 177, 554-564.	4.5	58
58	Improvement of fuel economy of a direct-injection spark-ignition methanol engine under light loads. Fuel, 2011, 90, 1826-1832.	3.4	55
59	Modelling the transport system in China and evaluating the current strategies towards the sustainable transport development. Energy Policy, 2013, 58, 347-357.	4.2	55
60	Direct conversion from methane to methanol for high efficiency energy system with exergy regeneration. Energy Conversion and Management, 2002, 43, 1459-1468.	4.4	52
61	Synthetic fuel production costs by means of solid oxide electrolysis cells. Energy, 2014, 76, 104-113.	4.5	52
62	System and market integration of wind power in Denmark. Energy Strategy Reviews, 2013, 1, 143-156.	3.3	49
63	Case study of the constraints and potential contributions regarding wind curtailment in Northeast China. Energy, 2016, 110, 55-64.	4.5	47
64	Addressing the main challenges of energy security in the twenty-first century â€“ Contributions of the conferences on Sustainable Development of Energy, Water and Environment Systems. Energy, 2016, 115, 1504-1512.	4.5	47
65	Recent advances in methods, policies and technologies at sustainable energy systems development. Energy, 2022, 245, 123276.	4.5	46
66	A roadmap for the introduction of gaseous transport fuel: A case study for renewable natural gas in Ireland. Renewable and Sustainable Energy Reviews, 2011, 15, 4642-4651.	8.2	45
67	Comparative analysis of the district heating systems of two towns in Croatia and Denmark. Energy, 2015, 92, 435-443.	4.5	44
68	Properties, Characteristics, and Combustion Performance of Sasol Fully Synthetic Jet Fuel. Journal of Engineering for Gas Turbines and Power, 2009, 131, .	0.5	42
69	Electrification of the industrial sector in 100% renewable energy scenarios. Energy, 2022, 254, 124339.	4.5	42
70	2050 pathway to an active renewable energy scenario for Jiangsu province. Energy Policy, 2013, 53, 267-278.	4.2	41
71	Sustainable and cost-efficient energy supply and utilisation through innovative concepts and technologies at regional, urban and single-user scales. Energy, 2019, 182, 254-268.	4.5	40
72	The role of biomass gasification in low-carbon energy and transport systems. Smart Energy, 2021, 1, 100006.	2.6	39

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73	Review and validation of EnergyPLAN. Renewable and Sustainable Energy Reviews, 2022, 168, 112724.	8.2	38
74	Assessing the impact of energy saving measures on the future energy demand and related GHG (greenhouse gas) emission reduction of Croatia. Energy, 2014, 76, 198-209.	4.5	36
75	Energy efficient decarbonisation strategy for the Danish transport sector by 2045. Smart Energy, 2022, 5, 100063.	2.6	35
76	The four generations of district cooling - A categorization of the development in district cooling from origin to future prospect. Energy, 2022, 253, 124098.	4.5	35
77	The role of sustainable bioenergy in a fully decarbonised society. Renewable Energy, 2022, 196, 195-203.	4.3	33
78	Smart energy Denmark. A consistent and detailed strategy for a fully decarbonized society. Renewable and Sustainable Energy Reviews, 2022, 168, 112777.	8.2	33
79	Forecasting long-term energy demand of Croatian transport sector. Energy, 2013, 57, 169-176.	4.5	32
80	Beyond sensitivity analysis: A methodology to handle fuel and electricity prices when designing energy scenarios. Energy Research and Social Science, 2018, 39, 108-116.	3.0	32
81	The role of electrification and hydrogen in breaking the biomass bottleneck of the renewable energy system â€“ A study on the Danish energy system. Applied Energy, 2020, 275, 115331.	5.1	32
82	Gas-to-Liquid technology: Prospect for natural gas utilization in Nigeria. Journal of Natural Gas Science and Engineering, 2009, 1, 190-194.	2.1	30
83	Performance Analysis of a Hybrid District Heating System: a Case Study of a Small Town in Croatia. Journal of Sustainable Development of Energy, Water and Environment Systems, 2015, 3, 282-302.	0.9	27
84	Potentials for energy savings and long term energy demand of Croatian households sector. Applied Energy, 2013, 101, 15-25.	5.1	26
85	Energy Vision Strategies for the EU Green New Deal: A Case Study of European Cities. Energies, 2020, 13, 2194.	1.6	25
86	Transitioning to a 100% renewable energy system in Denmark by 2050: assessing the impact from expanding the building stock at the same time. Energy Efficiency, 2019, 12, 37-55.	1.3	23
87	Quantification of realistic performance expectations from trigeneration CAES-ORC energy storage system in real operating conditions. Energy Conversion and Management, 2021, 249, 114828.	4.4	23
88	The direct interconnection of the UK and Nordic power market â€“ Impact on social welfare and renewable energy integration. Energy, 2018, 162, 1193-1204.	4.5	21
89	From Carbon Calculators to Energy System Analysis in Cities. Energies, 2019, 12, 2307.	1.6	20
90	E85 and fuel efficiency: An empirical analysis of 2007 EPA test data. Energy Policy, 2008, 36, 1233-1235.	4.2	18

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91	Editorial: Sustainable development of energy, Water and Environment Systems. Energy, 2020, 190, 116432.	4.5	17
92	Perspectives on energy efficiency and smart energy systems from the 5th SESAAU2019 conference. Energy, 2021, 216, 119260.	4.5	9
93	Heat Roadmap Europe: strategic heating transition typology as a basis for policy recommendations. Energy Efficiency, 2022, 15, .	1.3	9
94	Sustainable Development of Energy, Water and Environment Systems. Energy, 2016, 115, 1503.	4.5	7
95	Implementing large-scale heating infrastructures: experiences from successful planning of district heating and natural gas grids in Denmark, the United Kingdom, and the Netherlands. Energy Efficiency, 2021, 14, 1.	1.3	7
96	Modelling energy demand of Croatian industry sector. International Journal of Environment and Sustainable Development, 2014, 13, 74.	0.2	6
97	Fuel-efficiency of hydrogen and heat storage technologies for integration of fluctuating renewable energy sources. , 2005, , .		2
98	Increasing RES Penetration and Security of Energy Supply by Use of Energy Storages and Heat Pumps in Croatian Energy System. NATO Science for Peace and Security Series C: Environmental Security, 2010, , 159-171.	0.1	0