

Brian Vad Mathiesen

List of Publications by Citations

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95
papers

14,856
citations

50
h-index

113
g-index

113
ext. papers

17,339
ext. citations

7.6
avg, IF

7.15
L-index

#	Paper	IF	Citations
95	4th Generation District Heating (4GDH): Integrating smart thermal grids into future sustainable energy systems. <i>Energy</i> , 2014 , 68, 1-11	7.9	1182
94	Battery energy storage technology for power systems—An overview. <i>Electric Power Systems Research</i> , 2009 , 79, 511-520	3.5	1054
93	A review of computer tools for analysing the integration of renewable energy into various energy systems. <i>Applied Energy</i> , 2010 , 87, 1059-1082	10.7	1013
92	Dimethyl ether (DME) as an alternative fuel. <i>Journal of Power Sources</i> , 2006 , 156, 497-511	8.9	868
91	Energy system analysis of 100% renewable energy systems—The case of Denmark in years 2030 and 2050. <i>Energy</i> , 2009 , 34, 524-531	7.9	715
90	Smart Energy Systems for coherent 100% renewable energy and transport solutions. <i>Applied Energy</i> , 2015 , 145, 139-154	10.7	649
89	The role of district heating in future renewable energy systems. <i>Energy</i> , 2010 , 35, 1381-1390	7.9	551
88	Heat Roadmap Europe: Combining district heating with heat savings to decarbonise the EU energy system. <i>Energy Policy</i> , 2014 , 65, 475-489	7.2	483
87	100% Renewable energy systems, climate mitigation and economic growth. <i>Applied Energy</i> , 2011 , 88, 488-501	10.7	450
86	Smart energy and smart energy systems. <i>Energy</i> , 2017 , 137, 556-565	7.9	437
85	From electricity smart grids to smart energy systems—A market operation based approach and understanding. <i>Energy</i> , 2012 , 42, 96-102	7.9	417
84	Smart Energy Europe: The technical and economic impact of one potential 100% renewable energy scenario for the European Union. <i>Renewable and Sustainable Energy Reviews</i> , 2016 , 60, 1634-1653	16.2	382
83	Exergy analysis of hydrogen production via steam methane reforming. <i>International Journal of Hydrogen Energy</i> , 2007 , 32, 4811-4820	6.7	331
82	The first step towards a 100% renewable energy-system for Ireland. <i>Applied Energy</i> , 2011 , 88, 502-507	10.7	300
81	Capture of carbon dioxide from ambient air. <i>European Physical Journal: Special Topics</i> , 2009 , 176, 93-106	2.3	253
80	The status of 4th generation district heating: Research and results. <i>Energy</i> , 2018 , 164, 147-159	7.9	244
79	Response to Burden of proof: A comprehensive review of the feasibility of 100% renewable-electricity systems— <i>Renewable and Sustainable Energy Reviews</i> , 2018 , 92, 834-847	16.2	238

78	CO ₂ -based methanol and DME Efficient technologies for industrial scale production. <i>Catalysis Today</i> , 2011 , 171, 242-250	5.3	225
77	Main routes for the thermo-conversion of biomass into fuels and chemicals. Part 2: Gasification systems. <i>Energy Conversion and Management</i> , 2009 , 50, 3158-3168	10.6	218
76	Energy savings in Danish residential building stock. <i>Energy and Buildings</i> , 2006 , 38, 618-626	7	212
75	Potential of renewable energy systems in China. <i>Applied Energy</i> , 2011 , 88, 518-525	10.7	210
74	Comparative analyses of seven technologies to facilitate the integration of fluctuating renewable energy sources. <i>IET Renewable Power Generation</i> , 2009 , 3, 190	2.9	184
73	A renewable energy scenario for Aalborg Municipality based on low-temperature geothermal heat, wind power and biomass. <i>Energy</i> , 2010 , 35, 4892-4901	7.9	173
72	Full energy system transition towards 100% renewable energy in Germany in 2050. <i>Renewable and Sustainable Energy Reviews</i> , 2019 , 102, 1-13	16.2	171
71	Practical operation strategies for pumped hydroelectric energy storage (PHES) utilising electricity price arbitrage. <i>Energy Policy</i> , 2011 , 39, 4189-4196	7.2	170
70	Wind power integration using individual heat pumps Analysis of different heat storage options. <i>Energy</i> , 2012 , 47, 284-293	7.9	168
69	The technical and economic implications of integrating fluctuating renewable energy using energy storage. <i>Renewable Energy</i> , 2012 , 43, 47-60	8.1	156
68	Large-scale integration of wind power into the existing Chinese energy system. <i>Energy</i> , 2011 , 36, 4753-4760	7.9	138
67	Planning for a 100% independent energy system based on smart energy storage for integration of renewables and CO ₂ emissions reduction. <i>Applied Thermal Engineering</i> , 2011 , 31, 2073-2083	5.8	135
66	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. <i>Renewable Energy</i> , 2018 , 123, 236-248	8.1	133
65	Uncertainties related to the identification of the marginal energy technology in consequential life cycle assessments. <i>Journal of Cleaner Production</i> , 2009 , 17, 1331-1338	10.3	132
64	Centralisation and decentralisation in strategic municipal energy planning in Denmark. <i>Energy Policy</i> , 2011 , 39, 1338-1351	7.2	131
63	Energy system analysis of marginal electricity supply in consequential LCA. <i>International Journal of Life Cycle Assessment</i> , 2010 , 15, 260-271	4.6	120
62	Heat Roadmap Europe: Large-Scale Electric Heat Pumps in District Heating Systems. <i>Energies</i> , 2017 , 10, 578	3.1	117
61	A comparison between renewable transport fuels that can supplement or replace biofuels in a 100% renewable energy system. <i>Energy</i> , 2014 , 73, 110-125	7.9	110

60	Testing a complete-diet model for estimating the land resource requirements of food consumption and agricultural carrying capacity: The New York State example. <i>Renewable Agriculture and Food Systems</i> , 2007 , 22, 145-153	1.8	110
59	Simulation versus Optimisation: Theoretical Positions in Energy System Modelling. <i>Energies</i> , 2017 , 10, 840	3.1	102
58	Heat roadmap China: New heat strategy to reduce energy consumption towards 2030. <i>Energy</i> , 2015 , 81, 274-285	7.9	97
57	Future district heating systems and technologies: On the role of smart energy systems and 4th generation district heating. <i>Energy</i> , 2018 , 165, 614-619	7.9	96
56	Limiting biomass consumption for heating in 100% renewable energy systems. <i>Energy</i> , 2012 , 48, 160-168	7.9	89
55	Techno-economic performance of energy-from-waste fluidized bed combustion and gasification processes in the UK context. <i>Chemical Engineering Journal</i> , 2009 , 146, 315-327	14.7	87
54	Integrated transport and renewable energy systems. <i>Utilities Policy</i> , 2008 , 16, 107-116	3.3	84
53	RDF production plants: I Design and costs. <i>Applied Thermal Engineering</i> , 2002 , 22, 423-437	5.8	84
52	The feasibility of synthetic fuels in renewable energy systems. <i>Energy</i> , 2013 , 57, 76-84	7.9	83
51	Modelling the existing Irish energy-system to identify future energy costs and the maximum wind penetration feasible. <i>Energy</i> , 2010 , 35, 2164-2173	7.9	79
50	The optimal production of biogas for use as a transport fuel in Ireland. <i>Renewable Energy</i> , 2005 , 30, 2111-2127	7.9	79
49	The role of Carbon Capture and Storage in a future sustainable energy system. <i>Energy</i> , 2012 , 44, 469-476	7.9	78
48	Large combined heat and power plants in sustainable energy systems. <i>Applied Energy</i> , 2015 , 142, 389-395	10.7	69
47	Evaluation of wind power planning in Denmark [Towards an integrated perspective. <i>Energy</i> , 2010 , 35, 5443-5454	7.9	54
46	Integration of renewables and reverse osmosis desalination [Case study for the Jordanian energy system with a high share of wind and photovoltaics. <i>Energy</i> , 2015 , 92, 270-278	7.9	49
45	Terminology used for renewable liquid and gaseous fuels based on the conversion of electricity: a review. <i>Journal of Cleaner Production</i> , 2016 , 112, 3709-3720	10.3	46
44	Modelling the transport system in China and evaluating the current strategies towards the sustainable transport development. <i>Energy Policy</i> , 2013 , 58, 347-357	7.2	45
43	Direct conversion from methane to methanol for high efficiency energy system with exergy regeneration. <i>Energy Conversion and Management</i> , 2002 , 43, 1459-1468	10.6	45

42	System and market integration of wind power in Denmark. <i>Energy Strategy Reviews</i> , 2013 , 1, 143-156	9.8	43
41	EnergyPLAN [Advanced analysis of smart energy systems. <i>Smart Energy</i> , 2021 , 1, 100007		43
40	Comprehensive assessment of the role and potential for solar thermal in future energy systems. <i>Solar Energy</i> , 2018 , 169, 144-152	6.8	40
39	Case study of the constraints and potential contributions regarding wind curtailment in Northeast China. <i>Energy</i> , 2016 , 110, 55-64	7.9	39
38	Improvement of fuel economy of a direct-injection spark-ignition methanol engine under light loads. <i>Fuel</i> , 2011 , 90, 1826-1832	7.1	38
37	Comparative analysis of the district heating systems of two towns in Croatia and Denmark. <i>Energy</i> , 2015 , 92, 435-443	7.9	37
36	Addressing the main challenges of energy security in the twenty-first century [Contributions of the conferences on Sustainable Development of Energy, Water and Environment Systems. <i>Energy</i> , 2016 , 115, 1504-1512	7.9	37
35	Synthetic fuel production costs by means of solid oxide electrolysis cells. <i>Energy</i> , 2014 , 76, 104-113	7.9	37
34	A roadmap for the introduction of gaseous transport fuel: A case study for renewable natural gas in Ireland. <i>Renewable and Sustainable Energy Reviews</i> , 2011 , 15, 4642-4651	16.2	37
33	Properties, Characteristics, and Combustion Performance of Sasol Fully Synthetic Jet Fuel. <i>Journal of Engineering for Gas Turbines and Power</i> , 2009 , 131,	1.7	37
32	Perspectives on fourth and fifth generation district heating. <i>Energy</i> , 2021 , 227, 120520	7.9	36
31	Heat Roadmap Europe: Towards EU-Wide, local heat supply strategies. <i>Energy</i> , 2019 , 177, 554-564	7.9	35
30	The role of biogas and biogas-derived fuels in a 100% renewable energy system in Denmark. <i>Energy</i> , 2020 , 199, 117426	7.9	33
29	2050 pathway to an active renewable energy scenario for Jiangsu province. <i>Energy Policy</i> , 2013 , 53, 267-278	7.8	31
28	Assessing the impact of energy saving measures on the future energy demand and related GHG (greenhouse gas) emission reduction of Croatia. <i>Energy</i> , 2014 , 76, 198-209	7.9	29
27	EU-28 Residential Heat Supply and Consumption: Historical Development and Status. <i>Energies</i> , 2020 , 13, 1894	3.1	27
26	Performance Analysis of a Hybrid District Heating System: a Case Study of a Small Town in Croatia. <i>Journal of Sustainable Development of Energy, Water and Environment Systems</i> , 2015 , 3, 282-302	1.9	25
25	Forecasting long-term energy demand of Croatian transport sector. <i>Energy</i> , 2013 , 57, 169-176	7.9	24

24	Gas-to-Liquid technology: Prospect for natural gas utilization in Nigeria. <i>Journal of Natural Gas Science and Engineering</i> , 2009 , 1, 190-194	4.6	24
23	Potentials for energy savings and long term energy demand of Croatian households sector. <i>Applied Energy</i> , 2013 , 101, 15-25	10.7	23
22	Beyond sensitivity analysis: A methodology to handle fuel and electricity prices when designing energy scenarios. <i>Energy Research and Social Science</i> , 2018 , 39, 108-116	7.7	23
21	Sustainable and cost-efficient energy supply and utilisation through innovative concepts and technologies at regional, urban and single-user scales. <i>Energy</i> , 2019 , 182, 254-268	7.9	20
20	The role of electrification and hydrogen in breaking the biomass bottleneck of the renewable energy system – A study on the Danish energy system. <i>Applied Energy</i> , 2020 , 275, 115331	10.7	18
19	Transitioning to a 100% renewable energy system in Denmark by 2050: assessing the impact from expanding the building stock at the same time. <i>Energy Efficiency</i> , 2019 , 12, 37-55	3	16
18	The direct interconnection of the UK and Nordic power market – Impact on social welfare and renewable energy integration. <i>Energy</i> , 2018 , 162, 1193-1204	7.9	15
17	Energy Vision Strategies for the EU Green New Deal: A Case Study of European Cities. <i>Energies</i> , 2020 , 13, 2194	3.1	15
16	From Carbon Calculators to Energy System Analysis in Cities. <i>Energies</i> , 2019 , 12, 2307	3.1	14
15	E85 and fuel efficiency: An empirical analysis of 2007 EPA test data. <i>Energy Policy</i> , 2008 , 36, 1233-1235	7.2	13
14	The role of biomass gasification in low-carbon energy and transport systems. <i>Smart Energy</i> , 2021 , 1, 100006		13
13	Sustainable Development of Energy, Water and Environment Systems. <i>Energy</i> , 2016 , 115, 1503	7.9	5
12	Modelling energy demand of Croatian industry sector. <i>International Journal of Environment and Sustainable Development</i> , 2014 , 13, 74	1.3	5
11	Perspectives on energy efficiency and smart energy systems from the 5th SESAAU2019 conference. <i>Energy</i> , 2021 , 216, 119260	7.9	5
10	Analysis: 100 Percent Renewable Energy Systems 2014 , 185-238		4
9	Energy efficient decarbonisation strategy for the Danish transport sector by 2045. <i>Smart Energy</i> , 2022 , 5, 100063		4
8	Recent advances in methods, policies and technologies at sustainable energy systems development. <i>Energy</i> , 2022 , 245, 123276	7.9	4
7	Electrification of the industrial sector in 100% renewable energy scenarios. <i>Energy</i> , 2022 , 254, 124339	7.9	4

6	Fuel-efficiency of hydrogen and heat storage technologies for integration of fluctuating renewable energy sources 2005 ,		2
5	Quantification of realistic performance expectations from trigeneration CAES-ORC energy storage system in real operating conditions. <i>Energy Conversion and Management</i> , 2021 , 249, 114828	10.6	1
4	Implementing large-scale heating infrastructures: experiences from successful planning of district heating and natural gas grids in Denmark, the United Kingdom, and the Netherlands. <i>Energy Efficiency</i> , 2021 , 14, 1	3	1
3	The four generations of district cooling - A categorization of the development in district cooling from origin to future prospect. <i>Energy</i> , 2022 , 253, 124098	7.9	1
2	Modeling and Simulation of Smart Energy Systems 2015 , 1-28		
1	Increasing RES Penetration and Security of Energy Supply by Use of Energy Storages and Heat Pumps in Croatian Energy System. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2010 , 159-171	0.3	