Volker Krey

List of Publications by Year in Descending Order

101 papers	15,516 citations	46 h-index	108 g-index
108 ext. papers	19,165 ext. citations	13.3 avg, IF	6.21 L-index

#	Paper	IF	Citations
101	Role of energy storage in energy and water security in Central Asia. *Journal of Energy Storage*, **2022**, 50, 104587	7.8	1
100	Net zero-emission pathways reduce the physical and economic risks of climate change. *Nature Climate Change*, **2021**, 11, 1070-1076	21.4	2
99	Cost and attainability of meeting stringent climate targets without overshoot. *Nature Climate Change*, **2021**, 11, 1063-1069	21.4	11
98	Air quality and health implications of 1.5 °C–2 °C climate pathways under considerations of ageing population: a multi-model scenario analysis. *Environmental Research Letters*, **2021**, 16, 045005	6.2	3
97	Evaluating process-based integrated assessment models of climate change mitigation. *Climatic Change*, **2021**, 166, 1	4.5	4
96	Emissions of electric vehicle charging in future scenarios: The effects of time of charging. *Journal of Industrial Ecology*, **2021**, 25, 1250	7.2	2
95	Integrated assessment model diagnostics: key indicators and model evolution. *Environmental Research Letters*, **2021**, 16, 054046	6.2	9
94	A framework for national scenarios with varying emission reductions. *Nature Climate Change*, **2021**, 11, 472-480	21.4	10
93	Energy system developments and investments in the decisive decade for the Paris Agreement goals. *Environmental Research Letters*, **2021**, 16, 074020	6.2	11
92	What future for primary aluminium production in a decarbonizing economy?. *Global Environmental Change*, **2021**, 69, 102316	10.1	5
91	Climate change scenario services: From science to facilitating action. *One Earth*, **2021**, 4, 1074-1082	8.1	2
90	Taking stock of national climate policies to evaluate implementation of the Paris Agreement. *Nature Communications*, **2020**, 11, 2096	17.4	108
89	The NExus Solutions Tool (NEST) v1.0: an open platform for optimizing multi-scale energy–water–land system transformations. *Geoscientific Model Development*, **2020**, 13, 1095-1121	6.3	19
88	Decarbonization pathways and energy investment needs for developing Asia in line with well below 2 °C. *Climate Policy*, **2020**, 20, 234-245	5.3	9
87	Reply to: Why fossil fuel producer subsidies matter. *Nature*, **2020**, 578, E5-E7	50.4	2
86	Early transformation of the Chinese power sector to avoid additional coal lock-in. *Environmental Research Letters*, **2020**, 15, 024007	6.2	10
85	Comparing transformation pathways across major economies. *Climatic Change*, **2020**, 162, 1787-1803	4.5	16

84	Integrated Solutions for the Water-Energy-Land Nexus: Are Global Models Rising to the Challenge?. *Water (Switzerland)*, **2019**, 11, 2223	3	14
83	A new scenario logic for the Paris Agreement long-term temperature goal. *Nature*, **2019**, 573, 357-363	50.4	153
82	Air Quality Improvement Co-benefits of Low-Carbon Pathways toward Well Below the 2 °C Climate Target in China. *Environmental Science & Technology*, **2019**, 53, 5576-5584	10.3	40
81	A multi-model assessment of food security implications of climate change mitigation. *Nature Sustainability*, **2019**, 2, 386-396	22.1	71
80	South Africa After Paris Bracking Its Way to the NDCs?. *Frontiers in Energy Research*, **2019**, 7,	3.8	3
79	A comparison of low carbon investment needs between China and Europe in stringent climate policy scenarios. *Environmental Research Letters*, **2019**, 14, 054017	6.2	12
78	The Nexus Solutions Tool (NEST): An open platform for optimizing multi-scale energy-water-land system transformations **2019**,		3
77	Co-designing Indus Water-Energy-Land Futures. *One Earth*, **2019**, 1, 185-194	8.1	24
76	Analysing interactions among Sustainable Development Goals with Integrated Assessment Models. *Global Transitions*, **2019**, 1, 210-225	8.4	65
75	Looking under the hood: A comparison of techno-economic assumptions across national and global integrated assessment models. *Energy*, **2019**, 172, 1254-1267	7.9	62
74	Balancing clean water-climate change mitigation trade-offs. *Environmental Research Letters*, **2019**, 14, 014009	6.2	29
73	The MESSAGE Integrated Assessment Model and the ix modeling platform (ixmp): An open framework for integrated and cross-cutting analysis of energy, climate, the environment, and sustainable development. *Environmental Modelling and Software*, **2019**, 112, 143-156	5.2	64
72	Scenarios towards limiting global mean temperature increase below 1.5 °C. *Nature Climate Change*, **2018**, 8, 325-332	21.4	456
71	Enhancing global climate policy ambition towards a 1.5 °C stabilization: a short-term multi-model assessment. *Environmental Research Letters*, **2018**, 13, 044039	6.2	36
70	Connecting the sustainable development goals by their energy inter-linkages. *Environmental Research Letters*, **2018**, 13, 033006	6.2	168
69	Limited emission reductions from fuel subsidy removal except in energy-exporting regions. *Nature*, **2018**, 554, 229-233	50.4	66
68	A multi-criteria model analysis framework for assessing integrated water-energy system transformation pathways. *Applied Energy*, **2018**, 210, 477-486	10.7	40
67	Residual fossil CO2 emissions in 1.5 °C pathways. *Nature Climate Change*, **2018**, 8, 626-633	21.4	219

66	Inclusive climate change mitigation and food security policy under 1.5 °C climate goal. *Environmental Research Letters*, **2018**, 13, 074033	6.2	26
65	Interaction of consumer preferences and climate policies in the global transition to low-carbon vehicles. *Nature Energy*, **2018**, 3, 664-673	62.3	69
64	A low energy demand scenario for meeting the 1.5 °C target and sustainable development goals without negative emission technologies. *Nature Energy*, **2018**, 3, 515-527	62.3	428
63	Global exposure and vulnerability to multi-sector development and climate change hotspots. *Environmental Research Letters*, **2018**, 13, 055012	6.2	100
62	Energy investment needs for fulfilling the Paris Agreement and achieving the Sustainable Development Goals. *Nature Energy*, **2018**, 3, 589-599	62.3	207
61	A Continental-Scale Hydroeconomic Model for Integrating Water-Energy-Land Nexus Solutions. *Water Resources Research*, **2018**, 54, 7511-7533	5.4	34
60	Improving the behavioral realism of global integrated assessment models: An application to consumers' vehicle choices. *Transportation Research, Part D: Transport and Environment*, **2017**, 55, 322-342	6.4	97
59	Understanding the origin of Paris Agreement emission uncertainties. *Nature Communications*, **2017**, 8, 15748	17.4	63
58	A reduced-form approach for representing the impacts of wind and solar PV deployment on the structure and operation of the electricity system. *Energy Economics*, **2017**, 64, 651-664	8.3	18
57	The marker quantification of the Shared Socioeconomic Pathway 2: A middle-of-the-road scenario for the 21st century. *Global Environmental Change*, **2017**, 42, 251-267	10.1	349
56	Shared Socio-Economic Pathways of the Energy Sector – Quantifying the Narratives. *Global Environmental Change*, **2017**, 42, 316-330	10.1	165
55	The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. *Global Environmental Change*, **2017**, 42, 153-168	10.1	1479
54	Representing spatial technology diffusion in an energy system optimization model. *Technological Forecasting and Social Change*, **2016**, 103, 350-363	9.5	18
53	Comparison and interactions between the long-term pursuit of energy independence and climate policies. *Nature Energy*, **2016**, 1,	62.3	36
52	Quantifying uncertainties influencing the long-term impacts of oil prices on energy markets and carbon emissions. *Nature Energy*, **2016**, 1,	62.3	29
51	Biophysical and economic limits to negative CO2 emissions. *Nature Climate Change*, **2016**, 6, 42-50	21.4	684
50	Impacts of Groundwater Constraints on Saudi Arabia's Low-Carbon Electricity Supply Strategy. *Environmental Science & Technology*, **2016**, 50, 1653-62	10.3	18
49	Carbon budgets and energy transition pathways. *Environmental Research Letters*, **2016**, 11, 075002	6.2	39

48	How climate metrics affect global mitigation strategies and costs: a multi-model study. *Climatic Change*, **2016**, 136, 203-216	4.5	7
47	A short note on integrated assessment modeling approaches: Rejoinder to the review of "Making or breaking climate targets – The AMPERE study on staged accession scenarios for climate policy" *Technological Forecasting and Social Change*, **2015**, 99, 273-276	9.5	10
46	Locked into Copenhagen pledges – Implications of short-term emission targets for the cost and feasibility of long-term climate goals. *Technological Forecasting and Social Change*, **2015**, 90, 8-23	9.5	222
45	The impact of near-term climate policy choices on technology and emission transition pathways. *Technological Forecasting and Social Change*, **2015**, 90, 73-88	9.5	49
44	Stranded on a low-carbon planet: Implications of climate policy for the phase-out of coal-based power plants. *Technological Forecasting and Social Change*, **2015**, 90, 89-102	9.5	93
43	Diagnostic indicators for integrated assessment models of climate policy. *Technological Forecasting and Social Change*, **2015**, 90, 45-61	9.5	81
42	Energy system transformations for limiting end-of-century warming to below 1.5 °C. *Nature Climate Change*, **2015**, 5, 519-527	21.4	541
41	How well do integrated assessment models represent non-CO2 radiative forcing?. *Climatic Change*, **2015**, 133, 565-582	4.5	15
40	Transport electrification: A key element for energy system transformation and climate stabilization. *Climatic Change*, **2014**, 123, 651-664	4.5	66
39	Limited impact on decadal-scale climate change from increased use of natural gas. *Nature*, **2014**, 514, 482-5	50.4	151
38	The role of renewable energy in climate stabilization: results from the EMF27 scenarios. *Climatic Change*, **2014**, 123, 427-441	4.5	148
37	Getting from here to there – energy technology transformation pathways in the EMF27 scenarios. *Climatic Change*, **2014**, 123, 369-382	4.5	146
36	The role of technology for achieving climate policy objectives: overview of the EMF 27 study on global technology and climate policy strategies. *Climatic Change*, **2014**, 123, 353-367	4.5	284
35	Uncertainty in an emissions-constrained world. *Climatic Change*, **2014**, 124, 459-476	4.5	14
34	Air-pollution emission ranges consistent with the representative concentration pathways. *Nature Climate Change*, **2014**, 4, 446-450	21.4	41
33	Global energy-climate scenarios and models: a review. *Wiley Interdisciplinary Reviews: Energy and Environment*, **2014**, 3, 363-383	4.7	69
32	A Time Step Energy Process Model for Germany - Model Structure and Results. *Energy Studies Review*, **2014**, 14,	0	25
31	Climate policies can help resolve energy security and air pollution challenges. *Climatic Change*, **2013**, 119, 479-494	4.5	105

30	Future capacity growth of energy technologies: are scenarios consistent with historical evidence?. *Climatic Change*, **2013**, 118, 381-395	4.5	83
29	The effect of financial constraints on energy-climate scenarios. *Energy Policy*, **2013**, 59, 562-572	7.2	20
28	Impacts of considering electric sector variability and reliability in the MESSAGE model. *Energy Strategy Reviews*, **2013**, 1, 157-163	9.8	68
27	WHAT DOES THE 2°C TARGET IMPLY FOR A GLOBAL CLIMATE AGREEMENT IN 2020? THE LIMITS STUDY ON DURBAN PLATFORM SCENARIOS. *Climate Change Economics*, **2013**, 04, 1340008	0.9	89
26	Risk Hedging Strategies Under Energy System and Climate Policy Uncertainties. *Profiles in Operations Research*, **2013**, 435-474	1	3
25	Regional energy system variation in global models: Results from the Asian Modeling Exercise scenarios. *Energy Economics*, **2012**, 34, S293-S305	8.3	33
24	The role of Asia in mitigating climate change: Results from the Asia modeling exercise. *Energy Economics*, **2012**, 34, S251-S260	8.3	113
23	Urban and rural energy use and carbon dioxide emissions in Asia. *Energy Economics*, **2012**, 34, S272-S283	8.3	89
22	Beyond Rio: Sustainable energy scenarios for the 21st century. *Natural Resources Forum*, **2012**, 36, 215-230	2.2	4
21	Synergies in the Asian energy system: Climate change, energy security, energy access and air pollution. *Energy Economics*, **2012**, 34, S470-S480	8.3	44
20	The representative concentration pathways: an overview. *Climatic Change*, **2011**, 109, 5-31	4.5	4540
19	RCP 8.5—A scenario of comparatively high greenhouse gas emissions. *Climatic Change*, **2011**, 109, 33-57	4.5	1707
18	Role of renewable energy in climate mitigation: a synthesis of recent scenarios. *Climate Policy*, **2011**, 11, 1131-1158	5.3	63
17	Modelling competition between natural gas pipeline projects to China. *International Journal of Global Environmental Issues*, **2010**, 10, 143	0.8	0
16	Determinants of household energy consumption in India. *Energy Policy*, **2010**, 38, 5696-5707	7.2	171
15	Gas hydrates: entrance to a methane age or climate threat?. *Environmental Research Letters*, **2009**, 4, 034007	6.2	60
14	Implications of delayed participation and technology failure for the feasibility, costs, and likelihood of staying below temperature targets—Greenhouse gas mitigation scenarios for the 21st century. *Energy Economics*, **2009**, 31, S94-S106	8.3	57
13	International climate policy architectures: Overview of the EMF 22 International Scenarios. *Energy Economics*, **2009**, 31, S64-S81	8.3	332

12	Compromises in energy policy—Using fuzzy optimization in an energy systems model. *Energy Policy*, **2008**, 36, 2983-2994	7.2	16
11	Effects of stochastic energy prices on long-term energy-economic scenarios. *Energy*, **2007**, 32, 2340-2349	7.9	38
10	Implications of high energy prices for energy system and emissions—The response from an energy model for Germany. *Energy Policy*, **2007**, 35, 4504-4515	7.2	31
9	Energy Primer99-150		22
8	Energy Pathways for Sustainable Development1205-1306		19
7	Technology Portfolios: Modelling Technological Uncertainty and Innovation Risks89-102		0
6	Renewable Energy and Climate Change161-208		13
5	Regional Low-Emission Pathways from Global Models. *SSRN Electronic Journal*,	1	1
4	Land-based implications of early climate actions without global net-negative emissions. *Nature Sustainability*,	22.1	4
3	Mitigation Potential and Costs791-864		26
2	Long-term economic benefits of stabilizing warming without overshoot—the ENGAGE model intercomparison		2
1	The Role of Bioenergy with Carbon Capture and Storage (BECCS) for Climate Policy1-19		2