



Behavior and Energy

Fischhoff B: Making behavioral science integral to climate science and action. *Behavioural Public Policy* 2021, 5(4):439-453.

Carbon and Climate

Anderson J, Rode D, Zhai H, Fischbeck P: Reducing carbon dioxide emissions beyond 2030: Time to shift US power-sector focus. *Energy Policy* 2021, 148:111778.

Anderson JJ, Rode D, Zhai H, Fischbeck P: A techno-economic assessment of carbon-sequestration tax incentives in the US power sector. *International Journal of Greenhouse Gas Control* 2021, 111:103450.

Anderson JJ, Rode D, Zhai H, Fischbeck P: Transitioning to a carbon-constrained world: Reductions in coal-fired power plant emissions through unit-specific, least-cost mitigation frontiers. *Applied Energy* 2021, 288:116599.

Anderson JJ, Rode DC, Zhai H, Fischbeck PS: Fossil-Fuel Options for Power Sector Net-Zero Emissions with Sequestration Tax Credits. *Environmental Science & Technology* 2022.

Davidson M, Karplus VJ, Zhang D, Zhang X: Policies and Institutions to Support Carbon Neutrality in China by 2060. *Economics of Energy & Environmental Policy* 2021, 10(2):7-25.

Ralston Fonseca F, Craig M, Jaramillo P, Berges M, Severnini E, Loew A, Zhai H, Cheng Y, Nijssen B, Voisin N *et al*: Climate-Induced Tradeoffs in Planning and Operating Costs of a Regional Electricity System. *Environmental Science & Technology* 2021, 55(16):11204.

Ralston Fonseca F, Craig M, Jaramillo P, Berges M, Severnini E, Loew A, Zhai H, Cheng Y, Nijssen B, Voisin N *et al*: Effects of Climate Change on Capacity Expansion Decisions of an Electricity Generation Fleet in the Southeast U.S. *Environmental Science & Technology* 2021, 55(4):2522.

Rode DC, Anderson JJ, Zhai H, Fischbeck PS: Many Hands Make Light Work: Widening the US Path Forward from COP26. *Environmental Science & Technology* 2021, 56(1):10-12.

Carbon Capture and Sequestration

Mur A, Daley TM, Harbert W: Tracking Subsurface Supercritical CO₂ Using Advanced Reflection Seismic and Well Log-Based Workflows Incorporating Fluid Density and Pore Pressure Effects: Relevance to Reservoir Monitoring and CO₂ EOR. *Geophysical Monitoring for Geologic Carbon Storage* 2022:197-209.

Roussanaly S, Berghout N, Fout T, Garcia M, Gardarsdottir SO, Nazir SM, Ramirez A, Rubin ES: Towards Improved Cost Evaluation of Carbon Capture, Transport and Storage From Industry. *Transport and Storage From Industry (March 30, 2021)* 2021.

Wang Z, Dilmore RM, Bacon DH, Harbert W: Evaluating probability of containment effectiveness at a GCS site using integrated assessment modeling approach with Bayesian decision network. *Greenhouse Gases: Science and Technology* 2021, 11(2):360-376.

White D, Daley TM, Paulsson Br, Harbert W: Borehole seismic methods for geologic CO₂ storage monitoring. *The Leading Edge* 2021, 40(6):434-441.

Zhai H, Rubin ES: It is Time to Invest in 99% CO₂ Capture. *Environmental Science & Technology* 2022, 56(14):9829-9831.

Developing Nation Electrification

Allee A, Williams NJ, Davis A, Jaramillo P: Predicting initial electricity demand in off-grid Tanzanian communities using customer survey data and machine learning models. *Energy for Sustainable Development* 2021, 62:56.

Sackey CV-H, Levin T, Nock D: Latent demand for electricity in sub-Saharan Africa: a review. *Environmental Research: Infrastructure and Sustainability* 2022.

Sackey CV-H, Nock D: The need for agricultural productive uses in the national electrification plan of sub-Saharan African countries: a call to action for Ethiopia. *Environmental Research: Infrastructure and Sustainability* 2022, 2(2):023001.

Sengupta S, Spencer T, Rodrigues N, Pachouri R, Thakare S, Adams PJ, Tongia R, Azevedo IML: Current and Future Estimates of Marginal Emission Factors for Indian Power Generation. *Environmental Science & Technology* 2022, 56(13):9237-9250.

Tongia R: Balancing India's 2030 Electricity Grid Needs Management of Time Granularity and Uncertainty: Insights from a Parametric Model. *Transactions of the Indian National Academy of Engineering* 2022:1-24.

Udeani C, Jaramillo P, Williams NJ: A techno-economic and environmental assessment of residential rooftop solar - Battery systems in grid-connected households in Lagos, Nigeria. *Development Engineering* 2021, 6:100069.

Demand Response and Energy Efficiency

Adekanye OG, Davis A, Azevedo IML: Do LED lightbulbs save natural gas? Interpreting simultaneous cross-energy program impacts using electricity and natural gas billing data. *Environmental Research Communications* 2021, 3(1):015003.

Thornburg J, Krogh BH: A tool for assessing demand side management and operating strategies for isolated microgrids. *Energy for Sustainable Development* 2021, 64:15-24.

Electrification

Bruchon MB, Michalek JJ, Azevedo IML: Effects of Air Emission Externalities on Optimal Ridesourcing Fleet Electrification and Operations. *Environmental Science & Technology* 2021, 55(5):3188.

Holland SP, Mansur ET, Muller NZ, Yates AJ: The environmental benefits of transportation electrification: Urban buses. *Energy Policy* 2021, 148:111921.

Lathwal P, Vaishnav P, Morgan MG: Environmental and health consequences of shore power for vessels calling at major ports in India. *Environmental Research Letters* 2021, 16(6):064042.

Emissions

Clay K, Muller NZ, Wang X: Recent Increases in Air Pollution: Evidence and Implications for Mortality. *Review of Environmental Economics and Policy* 2021, 15(1):154.

Garcia Rivera P, Dinkelacker BT, Kioutsioukis I, Adams PJ, Pandis SN: Source-resolved variability of fine particulate matter and human exposure in an urban area. *Atmospheric Chemistry and Physics* 2022, 22(3):2011-2027.

Pond ZA, Hernandez CS, Adams PJ, Pandis SN, Garcia GR, Robinson AL, Marshall JD, Burnett R, Skyllakou K, Garcia Rivera P: Cardiopulmonary Mortality and Fine Particulate Air Pollution by Species and Source in a National US Cohort. *Environmental Science & Technology* 2021, 56(11):7214-7223.

Pond ZA, Saha PK, Coleman CJ, Presto AA, Robinson AL, Pope III CA: Mortality risk and long-term exposure to ultrafine particles and primary fine particle components in a national US cohort. *Environment International* 2022:107439.

Roth MB, Adams PJ, Jaramillo P, Muller NZ: Policy spillovers, technological lock-in, and efficiency gains from regional pollution taxes in the US. *Energy and Climate Change* 2022, 3:100077.

Skyllakou K, Rivera PG, Dinkelacker B, Karnezi E, Kioutsioukis I, Hernandez C, Adams PJ, Pandis SN: Changes in PM 2.5 concentrations and their sources in the US from 1990 to 2010. *Atmospheric Chemistry and Physics* 2022, 21(22):17115-17132.

Energy Models and Forecasting

Ku AL, Qiu YL, Lou J, Nock D, Xing B: Changes in hourly electricity consumption under COVID mandates: A glance to future hourly residential power consumption pattern with remote work in Arizona. *Applied Energy* 2022, 310:118539.

Marcy C, Goforth T, Nock D, Brown M: Comparison of temporal resolution selection approaches in energy systems models. *Energy* 2022, 251:123969.

Nock D: Closing the void in energy planning modeling: Integrating local realities. *Joule* 2021, 5(5):1031.

Savage T, Davis A, Fischhoff B, Morgan MG: A strategy to improve expert technology forecasts. *Proceedings of the National Academy of Sciences* 2021, 118(21):e2021558118.

Energy Equity

Cong S, Nock D, Qiu YL, Xing B: Unveiling hidden energy poverty using the energy equity gap. *Nature communications* 2022, 13(1):1-12.

Lou J, Qiu YL, Ku AL, Nock D, Xing B: Inequitable and heterogeneous impacts on electricity consumption from COVID-19 mitigation measures. *IScience* 2021, 24(11):103231.

Fuel Cells

Whiston MM, Azevedo IML, Litster S, Samaras C, Whitefoot KS, Whitacre JF: Expert elicitation on paths to advance fuel cell electric vehicles. *Energy Policy* 2022, 160:112671.

Whiston MM, Azevedo IML, Litster S, Samaras C, Whitefoot KS, Whitacre JF: Paths to market for stationary solid oxide fuel cells: Expert elicitation and a cost of electricity model. *Applied Energy* 2021, 304:117641.

Grid Architecture and Control

Agarwal A, Donti PL, Kolter JZ, Pileggi L: Employing adversarial robustness techniques for large-scale stochastic optimal power flow. *Electric Power Systems Research* 2022, 212:108497.

Agarwal A, Pileggi L: Efficient steady state analysis of the grid using electromagnetic transient models. *Electric Power Systems Research* 2022, 213:108408.

Agarwal A, Pileggi L: Large Scale Multi-Period Optimal Power Flow With Energy Storage Systems Using Differential Dynamic Programming. *IEEE Transactions on Power Systems* 2021, 37(3):1750-1759.

Foster E, Pandey A, Pileggi L: Three-phase infeasibility analysis for distribution grid studies. *Electric Power Systems Research* 2022, 212:108486.

Han F, Ashton PM, Li M, Pisica I, Taylor G, Rawn B, Ding Y: A Data Driven Approach to Robust Event Detection in Smart Grids Based on Random Matrix Theory and Kalman Filtering. *Energies* 2021, 14(8):2166.

McNamara T, Pandey A, Agarwal A, Pileggi L: Two-stage homotopy method to incorporate discrete control variables into AC-OPF. *Electric Power Systems Research* 2022, 212:108283.

Moutis P, Alizadeh-Mousavi O: Digital Twin of Distribution Power Transformer for Real-Time Monitoring of Medium Voltage From Low Voltage Measurements. *IEEE Transactions on Power Delivery* 2021, 36(4):1952.

Moutis P, Sriram U: PMU-Driven Non-Preemptive Disconnection of Overhead Lines at the Approach or Break-Out of Forest Fires. *IEEE Transactions on Power Systems* 2022.

Life-cycle Analysis

Bozeman III JF, Nobler E, Nock D: A Path Toward Systemic Equity in Life Cycle Assessment and Decision-Making: Standardizing Sociodemographic Data Practices. *Environmental Engineering Science* 2022.

Markets and Trading

Groh S, Karplus VJ, von Hirschhausen C: Decentral Electrification, Network Interconnection, and Local Power Markets-An Introduction. *Economics of Energy & Environmental Policy* 2022, 11(1).

Lavin L, Apt J: The importance of peak pricing in realizing system benefits from distributed storage. *Energy Policy* 2021, 157:112484.

Rode DC, Fischbeck PS: The levelized cost of energy and regulatory uncertainty in plant lifetimes. *The Engineering Economist* 2021, 66(3):187-205.

Nuclear

Stein A, Fischbeck P, Talabi S, Marciulescu C: Nuclear Power Plant Evacuation: Gaps, Strategies, and Activity Scheduling. *Nuclear Science and Engineering* 2022.

Natural Gas

Smillie S, Muller N, Griffin WM, Apt J: Greenhouse Gas Estimates of LNG Exports Must Include Global Market Effects. *Environmental Science & Technology* 2022, 56(2):1194-1201.

Freeman GM, Apt J, Blumsack S, Coleman T: Could on-site fuel storage economically reduce power plant-gas grid dependence in pipeline constrained areas like New England? *The Electricity Journal* 2021, 34(5):106956.

Renewables

Caceres AL, Jaramillo P, Matthews HS, Samaras C, Nijssen B: Hydropower under climate uncertainty: Characterizing the usable capacity of Brazilian, Colombian and Peruvian power plants under climate scenarios. *Energy for Sustainable Development* 2021, 61:217.

Caceres AL, Jaramillo P, Matthews HS, Samaras C, Nijssen B: Potential hydropower contribution to mitigate climate risk and build resilience in Africa. *Nature Climate Change* 2022:1-9.

Lavi Y, Apt J: Using PV inverters for voltage support at night can lower grid costs. *Energy Reports* 2022, 8:6347-6354.

Magfirra D, Cohon JL, Jaramillo P, Morgan MG: Optimizing an equitable micro-hydropower deployment: Application of a multi-objective method for rural Indonesia. *Journal of Multi-Criteria Decision Analysis* 2022, 29(3-4):218-229.

Pfeiffer O, Nock D, Baker E: Wind energy's bycatch: Offshore wind deployment impacts on hydropower operation and migratory fish. *Renewable and Sustainable Energy Reviews* 2021, 143:110885.

Wang H, Whitacre JF: Inhomogeneous aging of cathode materials in commercial 18650 lithium ion battery cells. *Journal of Energy Storage* 2021, 35:102244.

Reliability, Resiliency, and Security

Bohman AD, Abdulla A, Morgan MG: Individual and Collective Strategies to Limit the Impacts of Large Power Outages of Long Duration. *Risk Analysis* 2021, n/a(n/a).

Storage

Appleberry MC, Kowalski JA, Africk SA, Mitchell J, Ferree TC, Chang V, Parekh V, Xu Z, Ye Z, Whitacre JF: Avoiding thermal runaway in lithium-ion batteries using ultrasound detection of early failure mechanisms. *Journal of Power Sources* 2022, 535:231423.

Burke S, Whitacre JF: Chemically induced delithiation and phase change of lithium rich nickel manganese oxides. *Electrochimica Acta* 2022, 407:139817.

He G, Kar S, Mohammadi J, Moutis P, Whitacre JF: Power System Dispatch With Marginal Degradation Cost of Battery Storage. *IEEE Transactions on Power Systems* 2021, 36(4):3552.

He G, Michalek J, Kar S, Chen Q, Zhang D, Whitacre JF: Utility-Scale Portable Energy Storage Systems. *Joule* 2021, 5(2):379.

Liu T, Wu X, Zhu S, Lorandi F, Ni L, Li S, Sun M, Bloom BP, Waldeck DH, Viswanathan V: Polymer-Stabilized Liquid Metal Nanoparticles as a Scalable Current Collector Engineering Approach Enabling Lithium Metal Anodes. *ACS Applied Energy Materials* 2022, 5(3):3615-3625.

Lorandi F, Liu T, Fantin M, Manser J, Al-Obeidi A, Zimmerman M, Matyjaszewski K, Whitacre JF: Comparative performance of ex situ artificial solid electrolyte interphases for Li metal batteries with liquid electrolytes. *iScience* 2021, 24(6):102578.

Pace GT, Wang H, Whitacre JF, Wu W: Comparative study of water-processable polymeric binders in LiMn₂O₄ cathode for aqueous electrolyte batteries. *Nano Select* 2021, 2(5):939-947.

Water and Energy

Zhai H, Rubin ES, Grol EJ, O'Connell AC, Wu Z, Lewis EG: Dry cooling retrofits at existing fossil fuel-fired power plants in a water-stressed region: Tradeoffs in water savings, cost, and capacity shortfalls. *Applied Energy* 2022, 306:117997.