**Alex Gilbert**

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303-625-3705 Washington, D.C. 20001

**ACADEMIC**

**PhD Student, Space Resources, Colorado School of Mines**, 2020-Present

* Research areas: space mining governance, space sustainability, space nuclear energy
* *PhD Space Resources* expected Fall 2023

**MS Student, Space Resources, Colorado School of Mines**, 2020-Present

* Select courses: Space Systems Engineering, Advanced Planetary Geology, Risk and Reliability Engineering
* *MS Space Resources* expected Spring 2022

**Adjunct Faculty, Energy and Climate Policy, Johns Hopkins University,** 2020-Present

* Course: “Nuclear Energy: Technology, Policy, and Regulations”

**Fellow, Payne Institute for Public Policy, Colorado School of Mines**, 2018-Present

* Collaborates with institute experts to research and write on outer space governance, energy markets, and energy security

**Fellow, Open Lunar Foundation**, 2021

* Research project: “Operationalizing Safety Zones for Lunar Activities”

**Master of Energy Regulation and Law (M.S.)**, **Certificate in Climate Law**, August 2013

**Vermont Law School**, South Royalton, VT

* *Summa Cum Laude*, Dean’s Scholar, Environmental Law Scholar

**B.A., Environmental Studies and International Relations, minor in Politics,** May 2012

**Lake Forest College**, Lake Forest, IL

* *Summa Cum Laude*, *Phi Beta Kappa*, Dean’s List, Honors in both majors
* *Distinction on Senior Thesis*: The Varieties of Environmental Management

**Research Fellow, Institute for Energy and the Environment, Vermont Law School,** 2013

**Research Fellow, Environmental Tax Policy Institute, Vermont Law School,** 2012-2013

* Assessed electric sector vulnerability to water shortages and technical mitigation options in U.S., China, India, and France for series of publications
* Evaluated the policy impacts of energy mandates and interactions with federal tax expenditures for renewable energy and low carbon resources

**Peer Teacher, Lake Forest College Environmental Studies Department**

ES 387 “Who Speaks for Animals?” (with Glenn Adelson), Spring 2012

* Selected readings for inclusion in syllabus, delivered regular lectures, identified guest speakers, assisted with class assignments

**Research Assistant, Biology Department, Lake Forest College,** 2011-2012

**Research Assistant, Environmental Studies Department, Lake Forest College,** 2010-2011

**HONORS AND AWARDS**

Environmental Law Scholar, Vermont Law School – 2012-2013

Senior Prize in Environmental Studies, Lake Forest College – 2012

Senior Prize in International Relations, Lake Forest College – 2012

Kemper Scholar – 2009-2011

Emma O. Haas Memorial Award for Merit in Scholarship – 2010

Richter Scholar – 2009

United States President’s Volunteer Service Award – 2008

**WORK EXPERIENCE**

**Project Manager, Nuclear Innovation Alliance,** Washington, D.C., June 2019 – Present

* Technical and policy expert on advanced nuclear energy innovation for climate mitigation
* Conceptualizes, conducts, and oversees project research on regulatory modernization, technology innovation, legislation, and commercialization
* Directs stakeholder outreach and engagement with Congress, Nuclear Regulatory Commission, Department of Energy, industry, non-government organizations, and media
* Lead author of “*U.S. Advanced Nuclear Energy Strategy: Domestic Prosperity, Climate Protection, National Security, and Global Leadership*”

**CEO and Cofounder, SparkLibrary, Inc.,** Washington, D.C. November 2015 – June 2019

* Performed data gathering, processing, and analysis for energy market, environmental policy, legal cases, and regulatory proceedings
* Published research reports on critical aspects of energy policy and markets, including renewable energy, natural gas, nuclear, and coal
* Planned and executed product development, programming backend, website design, and user interface for energy policy and market research application

**Nuclear Supply Analyst III, CNI Solutions,** Washington, D.C. February 2018 – June 2019

* Conducted bottom up and top down survey of US nuclear export industry to support agency rulemaking for international nuclear liability treaty
* Gathered and processed data, classified corporate operations, reviewed export license information, and reported on survey findings

**Energy Analyst, Haynes and Boone, LLP,** Washington, D.C. August 2013 – November 2015

* Wrote contributions for periodical publications examining operations, regulations, and prices in electricity (RTO/ISOs, rate-regulated), natural gas, and oil markets
* Investigated the impact of federal and state environmental regulations and legal decisions on operations and outcomes in energy markets
* Performed regulatory, technical, and financial analysis of applying carbon capture and storage (CCS) to fifteen existing coal-fired electric generating units

**ACADEMIC AND OTHER PUBLICATIONS**

**PEER-REVIEWED**

**Alexander Q. Gilbert** and Monica Vidaurri. “Major Federal Actions Significantly Affecting the Quality of the Space Environment: Applying NEPA to Federal and Federally Authorized Outer Space Activities.” Environs: Environmental Law and Policy Journal (2021).

Sam W. Kerber, **Alexander Q. Gilbert**, Mark R. Deinert, and Morgan D. Bazilian. “[Understanding the nexus of energy, environment and conflict: An overview](https://www.sciencedirect.com/science/article/abs/pii/S1364032121007541).” *Renewable and Sustainable Energy Reviews* 151 (2021).

**Alexander Q. Gilbert**. “[Enhancing Military and Commercial Spacepower through Nuclear Energy](https://thespaceforcejournal.com/issue-2-6-nuclear).” *The Space Force Journal* 2 (2021).

Joshua W. Busby, Kyri Baker, Morgan D. Bazilian, **Alex Q. Gilbert**, Emily Grubert, Varun Rai, Joshua D. Rhodes, Sarang Shidore, Caitlin A. Smith, and Michael E. Webber. “[Cascading risks: Understanding the 2021 winter blackout in Texas](https://www.sciencedirect.com/science/article/pii/S2214629621001997).” *Energy Research and Social Science* 77 (2021).

**Alexander Q. Gilbert** and Morgan D. Bazilian. “[The COVID-19 Pandemic: Energy Market Disruptions and Resilience.](https://www.ipsonet.org/publications/open-access/jcip/jcip-volume-1-number-2-fall-winter-2020)” *The Journal of Critical Infrastructure Policy*, p. 73-84 (2020).

**Alexander Q. Gilbert** and Morgan D. Bazilian. “[Can Distributed Nuclear Power Address Energy Resilience and Energy Poverty?](https://www.cell.com/joule/fulltext/S2542-4351(20)30351-2)” *Joule* (2020).

**Alexander Gilbert** and Benjamin Sovacool. “[Carbon pathways in the global gas market: An attributional lifecycle assessment of the climate impacts of liquefied natural gas exports from the United States to Asia](https://doi.org/10.1016/j.enpol.2018.05.063).” *Energy Policy* 120, p. 635-643 (2018).

**Alexander Gilbert** and Benjamin Sovacool. “[US Liquefied Natural Gas (LNG) Exports: Boom or Bust for the global climate?](https://doi.org/10.1016/j.energy.2017.11.098)” *Energy* 141, p. 1671-1680 (2017).

**Alexander Gilbert** and Benjamin Sovacool. “[Benchmarking natural gas and coal-fired electricity generation in the United States](https://doi.org/10.1016/j.energy.2017.05.194).” *Energy* 134, p. 622-628 (2017).

**Alexander Gilbert** and Benjamin Sovacool. “[Looking the wrong way: Bias, renewable electricity and energy modelling in the United States](https://doi.org/10.1016/j.energy.2015.10.135).” *Energy* 94, p. 533-541. (2016).

Sovacool, BK, S Imperiale, **A Gilbert**, J Eidsness, and B Thomson. “Troubled Water: The Quest for Electricity in Water-Constrained China, France, India, and the United States.” *NYU Environmental Law Journal* 21, 409 (2014).

Sovacool, BK, D Nugent, and **A Gilbert**. “[An International Comparative Assessment of Construction Cost Overruns for Electricity Infrastructure](https://www.sciencedirect.com/science/article/pii/S2214629614000942),” *Energy Research & Social Science* 3, p. 152-160. (2014).

Sovacool, BK, **A Gilbert**, and D Nugent. “[Risk, Innovation, Electricity Infrastructure and Construction Cost Overruns: Testing Six Hypotheses](https://doi.org/10.1016/j.energy.2014.07.070),” *Energy* 74, p. 906-917. (2014).

Sovacool, BK, D Nugent, and **A Gilbert**. “[Construction Cost Overruns and Electricity Infrastructure: An Unavoidable Risk?](https://doi.org/10.1016/j.tej.2014.03.015)” *Electricity Journal* 27(4) p. 112-120. (2014).

Sovacool, BK, **A Gilbert**, and B Thomson, “Innovations in Energy and Climate Policy: Lessons from Vermont,” *Pace Environmental Law Review* 31(2), p. 651-705. (2014).

Sovacool, BK and **A Gilbert**. “Developing Adaptive and Integrative Strategies for Managing the Electricity-Water Nexus,” *University of Richmond Law Review* 48 p. 997-1032. (2014).

**TECHNICAL COMMENTS**

**Alexander Gilbert**, Morgan Bazilian, and George Sowers. “[U.S. space policy: Multilateral mining](https://science.sciencemag.org/content/370/6520/1045.1?intcmp=trendmd-sci).” *Science* 370 p. 1045 (2020).

**Alexander Gilbert**, Benjamin Sovacool, Phil Johnstone, and Andy Stirling. “[Cost overruns and financial risk in the construction of nuclear power reactors: A critical appraisal](https://doi.org/10.1016/j.enpol.2016.04.001).” *Energy Policy* 102, p. 644-649 (2017).

**Alexander Gilbert** and Benjamin Sovacool. “[Emissions accounting for biomass energy with CCS](https://doi.org/10.1038/nclimate2633).” *Nature Climate Change* 5(6), p. 495-496 (2015).

**Alexander Gilbert** and Benjamin Sovacool. “[Shale Gas: Better Modeling for the Energy Mix](https://doi.org/10.1038/515198b).” *Nature* 515, p. 198 (2014).

**Alexander Gilbert**. [Comment on “Environmental Implications of United States Coal Exports: A Comparative Life Cycle Assessment of Future Power System Scenarios.”](https://doi.org/10.1021/es504394q) *Environmental Science & Technology* 48 (23), p. 14053-14054 (2014).

**BOOK CHAPTERS**

Sovacool, BK and **A Gilbert**. “Feed-in Tariffs and Other Support Mechanisms for Solar Energy.” Chapter in *Reference Module in Earth Systems and Environmental Sciences* (London: Elsevier, 2013), p. 1-35.

**OPEDS AND OTHER ARTICLES**

**Alex Gilbert.** “[Space exploration and development is essential to fighting climate change](https://www.thespacereview.com/article/4230/1).” *The Space Review*. August 2021.

**Alex Gilbert.** “[Identifying Governance Challenges for Nuclear Energy on the Moon](https://www.openlunar.org/library/identifying-governance-challenges-for-nuclear-energy-on-the-moon).” *Open Lunar Foundation*. May 2021.

**Alex Gilbert. “**[Mining in Space is Coming](https://www.milkenreview.org/articles/mining-in-space-is-coming).” *Milken Institute Review*. April 2021.

**Alex Gilbert** and Morgan Bazilian. “[The Texas electricity crisis and the energy transition](https://www.utilitydive.com/news/the-texas-electricity-crisis-and-the-energy-transition/595315/).” *Utility Dive*. February 2021.

**Alex Gilbert**. “[Sparking a Space Nuclear Power Revolution](https://space.nss.org/ad-astra-2020-winter/).” *Ad Astra* *Magazine*. Winter 2020.

Niko McMurray and **Alex Gilbert**. “[A Simpler, Dedicated Pathway for Advanced Nuclear Reactor Licensing.”](https://clearpath.org/our-take/a-simpler-dedicated-pathway-for-advanced-nuclear-reactor-licensing/) *ClearPath*. October 2020.

**Alex Gilbert** and Morgan Bazilian. “[The Era of Commercial Space Mining Begins](https://payneinstitute.mines.edu/wp-content/uploads/sites/149/2020/09/Payne-Institute-Commentary-The-Era-of-Commercial-Space-Mining-Begins.pdf).” *Payne Institute Commentary Series*. September 2020.

**Alex Gilbert** and Morgan Bazilian. “[California power outages underscore challenge of maintaining reliability during climate change, the energy transition](https://www.utilitydive.com/news/california-power-outages-underscore-challenge-of-maintaining-reliability-du/583727/).” *Utility Dive*. August 2020.

**Alex Gilbert** and Morgan Bazilian. “[The Geostrategic Importance of Outer Space Resources](https://nationalinterest.org/feature/geostrategic-importance-outer-space-resources-154746).” *The National Interest*. May 2020.

**Alex Gilbert**. “[Oil prices are negative: What does it mean and what comes next?](https://www.fastcompany.com/90493860/oil-prices-are-negative-what-does-it-mean-and-what-comes-next)” *Fast Company*. April 2020.

**Alex Gilbert** and Morgan Bazilian. “[The effects of coronavirus measures on electricity markets](https://www.utilitydive.com/news/the-effects-of-coronavirus-measures-on-electricity-markets/576296/).” *Utility Dive*. April 2020.

**Alex Gilbert** and Morgan Bazilian. “[The Oil Price Collapse Could Reshape Global Gas Markets](https://gjia.georgetown.edu/2020/03/27/the-oil-price-collapse-could-reshape-global-natural-gas-markets/).” *Georgetown Journal of International Affairs*. March 2020.

**Alex Gilbert**, Morgan Bazilian, and Julia Nesheiwat. “[The Complex Policy Questions Raised by Nuclear Energy’s Role in the Future of Warfare](https://www.justsecurity.org/69056/the-complex-policy-questions-raised-by-nuclear-energys-role-in-the-future-of-warfare/).” *Just Security*. March 2020.

**Alex Gilbert**, Morgan D. Bazilian, and Sterling Loza. “[The World’s Next Energy Bonanza](https://foreignpolicy.com/2020/01/09/fracking-oceanic-methane-hydrates-global-energy-landscape-bonanza/).” *Foreign Policy*. January 2020.

Morgan Bazilian, Ian Lange, Peter Aaen, and **Alex Gilbert**. “[The Emerging Competition for Space Solar Power](https://www.globalpolicyjournal.com/blog/21/10/2019/emerging-competition-space-solar-power).” *Global Policy Journal*. October 2019.

**Alexander Gilbert**. “[Best Practice Environmental Impact Assessments Guide Safe, Sustainable Space Development](https://spacegeneration.org/wp-content/uploads/2019/10/SGAC-Essay-Competition-Book_NEW_New.pdf).” *Space Generation Advisory Council 2019 Essay Contest*. September 2019.

**Alex Gilbert** and Morgan Bazilian. “[We Need a Space Resources Institute](https://blogs.scientificamerican.com/observations/we-need-a-space-resources-institute/).” *Scientific American*. April 2019.

Scot Anderson, Korey Christensen, Julia La Manna, Morgan Bazilian, and **Alex Gilbert**. “[The ‘Space Resources Institute Act’ and the Future of Space Mining](https://www.globalpolicyjournal.com/blog/16/04/2019/space-resources-institute-act-and-future-space-mining).” *Global Policy Journal.* April 2019.

**Alex Gilbert** and Morgan Bazilian. “[Much Ado About Nord Stream 2: Pipeline Politics and European Energy Security](https://www.globalpolicyjournal.com/blog/26/09/2018/much-ado-about-nord-stream-2-pipeline-politics-and-european-energy-security).” *Global Policy Journal.* September 2018.

**Alex Gilbert.** “[No, resiliency arguments won’t save coal](https://www.utilitydive.com/news/no-resiliency-arguments-wont-save-coal/505138/).” *Utility Dive*. September 2017.

Daniel Cohan and **Alex Gilbert**. “[An energy agency’s forecasting flaws](https://thehill.com/blogs/pundits-blog/energy-environment/274869-an-energy-agencys-forecasting-flaws).” *The Hill.* April 2016.

Sovacool, BK, S Imperiale, B Thomson, **A Gilbert**, J Eidsness, A Rao. “The Importance of Managing the Electricity-Water Nexus in China and India for a Sustainable Future.” *Asian Water* 29 (2) p. 20-23. (2013).

**ACADEMIC LECTURES**

* “Governance of Nuclear Energy in a Carbon-Constrained World.” *Payne Institute Spring Webinar Series*, Colorado School of Mines. March 2021.
* “Energy Megaprojects, Nuclear Cost Overruns, and Advanced Reactors.” *Economics of the Energy Transition* Class, Cornell University. December 2020.
* “Introduction to Nuclear Technology, Economics, and Policy.” *Energy Transitions and Policy* Class, University of Calgary. November 2020.

**PRESENTATIONS, PANELS, AND OTHER APPEARANCES**

* Presentation, “Safety Zones for Lunar Activities”, Moon Dialogs, 2021.
* Panelist, Open Lunar Fellowship Showcase, 2021.
* Panelist, Advanced Nuclear Technology Workshop, NARUC-DOE, 2021.
* Panelist, “Facilitating the Next-Generation Nuclear Renaissance.” Global America Business Institute, 2021.
* Lightening Talk, “Environmental Impact Analyses for Space Resources Activities.” Space Resources Roundtable/Planetary & Terrestrial Mining Sciences Symposium, 2021.
* Podcast: “[Nuclear Innovation in Space](https://www.celestialcitizen.com/podcasts/episode-111-nuclear-innovation-in-space).” *Celestial Citizen Podcast*, April 2021.
* Radio Guest: “Alex Gilbert on the Texas Blackouts.” *Sea Change Radio*, February 2021.
* Workshop panelist: “Internalizing Space Debris as a Risky, Accumulating Externality with Retroactive Liability Pooling.” Center for Orbital Debris Research and Education 2020, December 2020.
* Conference Presentation, “Adapting the Svalbard Model for Governance of Multi-National Space Bases.” *IASC 2021 Common in Space*, 2021.
* Video guest: “[Can Climate Change Increase the Risk of Nuclear War?](https://www.youtube.com/watch?v=zNrahMvbWVY)” *Council on Strategic Risks*, November 2020.
* Conference Presentation: “Establishing a Nuclear Fuel Cycle for Mars Exploration and Settlement.” *Mars Society Conference*, October 2020.
* Panelist: “Commercial Maritime Surface Vessel Nuclear Propulsion (CMNP).” *SHIPPINGInsight 20/20,* with River Bennett. October 2020.
* Podcast: “[Space Resources: Exploring the Final Frontier, with Alex Gilbert](https://www.resourcesmag.org/resources-radio/space-resources-exploring-final-frontier-alex-gilbert/).” *Resources Radio*, September 2020.
* Webinar presentation: “[Development and Commercialization of Microreactors](http://usaee.org/webinars/webinar_ruble.aspx).” *USAEE Webinar Series*, July 2020.
* Conference Presentation: “[Developing a Framework for Lunar Environmental Impact Analysis](https://www.youtube.com/watch?v=fb0gnFoV9Dc).” *2020 Lunar Development Conference,* July 2020.
* Poster and Presentation: “Developing an Environmentalism for Outer Space.” *Space Science in Context Conference*, May 2020.
* Radio Guest: “[How many barrels of oil are you willing to take?](https://whowhatwhy.org/2020/04/24/how-many-barrels-of-oil-are-you-willing-to-take/)” *Who.What.Why.* April 2020.
* Panelist: “Nuclear Innovations Policy Frontiers.” *Ecomodernism 2019*, September 2019.
* Presentation: “Policy and Governance Considerations for Methane Hydrate Extraction.” *University of Delaware Minerals Under Water Symposium*, August 2019.
* Podcast Guest: “[Energy Trade in Transition](https://xenetwork.org/ets/episodes/episode-88-energy-trade/).” *Energy Transition Show*, February 2019.
* Lecture: "The emerging economic, environmental, and geopolitical implications of changing U.S. energy trade." *Payne Institute Seminar Series*, October 2018.
* Radio Guest: “Environmental Roots of a Scandal.” *Sea Change Radio*, May 2017
* Panelist: “Emerging Trends in Energy Policy: Nuclear Energy - Old Peril or New Promise.” *Maui Energy Conference*, March 2017.
* Presentation: “Developing Adaptive and Integrated Strategies for Managing the Electricity-Water Nexus.” *University of Richmond Law Symposium*, October 2013.

**PEER REVIEWER**

* *Case Studies in the Environment*
* *Climate Policy*
* *Energy*
* *Energy Policy*
* *Energy Research and Social Science*
* *Environmental Science & Technology*
* *Renewable & Sustainable Energy Reviews*
* *Wind Energy*