Kleinman Center for Energy Policy

CALL FOR RESEARCH PROPOSALS

2026-2027 Energy and Climate Policy Grants

Overview

Each year, the Kleinman Center for Energy Policy awards up to $15,000 (one-year) and $20,000 (two-year) grants to support new research or supplement existing research in energy and climate policy.

We are seeking requests for proposals from University of Pennsylvania faculty and postdocs* for research projects that support the advancement of our mission.

This year, preference will be given to research on the following topics:

1. Artificial Intelligence
2. Energy Affordability
3. Market and Financial Mechanisms for Climate Action
4. Threats to Energy Infrastructure
5. Rearrangement of Global Trade
6. IRA Rollback and OBBBA Impacts
7. Risks and Rewards of Demonstration-Scale Technologies
8. Engaging Communities
9. New Paradigms for Utility Regulation

**Ph.D. candidates may apply but must include a PI-of-record statement from their faculty supervisor.*

Requirements

To apply, applicants must develop a two-page** proposal that includes:

1. **Problem Statement and Impact**: Include the goals of the project, and how they relate to this year's grant topics. We encourage applications that respond to multiple topics in the call.
2. **Proposed Work and Methodology**: Specify the tools, techniques, and theoretical framework you plan to use.
3. **Timeline:** Projects can be for one or two fiscal years. Justify your preferred

timeline, including any perceived challenges or contingencies you have for the project.

4. **Itemized Budget:** Up to $15k (one-year) or $20k (two-year). Cannot include faculty stipends. Permissible charges include but are not strictly limited to: RA hours, travel, data and software licensing, and convenings.
5. **Project Team:** Include titles and bios for the research team where possible. Interdisciplinary teams are strongly encouraged.
6. **Proposed Policy Digest Title and/or Event Format:** Must be completed within the project timeline.
7. **List of Target Readers**: i.e. legislators, committee, government, international agency, non-profits, etc. Please be as specific as possible.

***Proposals longer than two-pages may not be considered in their entirety by the review committee.*

Deadline

Complete and upload your proposal to this form by **February 6, 2026.** If you have any questions or issues uploading your proposal, please contact Arwen Kozak (arwenk@upenn.edu).

Eligibility

Our grant program is open to Penn faculty, postdocs, and doctoral candidates. All projects should have a strong and explicit energy or climate policy focus. Grantees must be able to offer coherent policy recommendations within the one- or two-year project timeline, so we encourage applicants with very early-stage projects to instead apply in a future grant cycle.

Selection Process

Eligible project submissions will be reviewed by a panel made up of Kleinman staff, faculty leadership, and faculty/senior fellows. Applications will be graded and discussed along the following criteria: novelty, consistency with KCEP mission, relevance to the grants call, methodology, policy impact, interdisciplinarity, budget articulation, preparation of the research team, and overall project strength.

Expected Outcomes

All grantees are responsible for delivering EITHER a policy digest OR a detailed event recap. Grantees receiving a two-year grant are encouraged to consider submitting both.

> **Policy Digest**: 8 months after grants are awarded, grantees must submit a draft of their introduction and methodology write-up. By the end of the grant period, the grantee will deliver a ~3,000-word policy digest tied to the grant-supported research. The policy digest format allows grantees to consider and connect their research to policy outcomes. All digests must adhere to our review process and guidelines. Final digests will be published on the Kleinman Center website in HTML and PDF formats.

> **Event Recap**: Grantees must organize a discussion-based event (seminar, roundtable, workshop, etc.) specific to the grant. Grantees and their departments are responsible for organizing, hosting, and promoting this event. Following this event, grantees will submit photos, quotes, and a 600-word event recap to be posted on the KCEP website. KCEP grant support should be acknowledged during the event.

All future presentations or publications* resulting from this research must include a Kleinman Center funding acknowledgement. Grantees will alert the Kleinman Center to these additional projects, so the center can provide further promotion.

** While a policy digest may cover the same topic and findings as a future journal article, it must be a separate work written for policymakers, not for republication.*

Energy and Climate Topics

This year's topics reflect the dynamics most visibly reshaping the energy and climate policy landscape. Rapid load growth driven by artificial intelligence, rising affordability challenges, and escalating threats to energy infrastructure are converging with major geopolitical realignments and significant shifts in federal policy. At the same time, debates about next-generation technologies, new regulatory models, and strategies for community engagement are becoming central to achieving deep decarbonization. As you frame your proposal, we encourage you to consider some of these avenues of research:

1. Artificial Intelligence

The need for data centers to power emerging artificial intelligence (AI) models is growing rapidly, generating enormous load growth for electricity markets. Despite substantial uncertainty about the future of data center demand growth, it is assumed that data centers will drive significant increases in power demand, regionally and around the globe.

While AI could positively impact key challenges in the energy transition (such as accelerating energy innovation and efficiency), this is far from certain. Despite aspirations for clean energy buildout, load growth is often met by gas generation, and in many cases the power capacity development can take longer than the data center projects they aim to supply.

AI can aid policy evaluation and communication by improving design, data access, analytics, and outreach and by helping to detect errors. However, it can also distort results, recommend solutions with opaque reasoning, and perpetuate misinformation. Artificial intelligence also heightens cybersecurity concerns for the electricity grid, both as a point of vulnerability and as a powerful tool in the hands of malicious actors.

Questions to Consider:

- *What are the challenges and opportunities of meeting data center energy demand?*
- *How can AI be used as a tool in managing challenges like load forecasting, event prediction and response, or grid modeling and optimization?*
- *What is the most secure, efficient, and affordable strategy for accommodating load growth from data centers (e.g. long duration storage, new capacity build out, demand flexibility, etc.)*

2. Energy Affordability

Millions of households in the U.S. face energy poverty and utility disconnections because of high electricity prices. In areas near data centers, wholesale electricity prices have nearly tripled in the last 5 year. Across the country, these costs are already being passed on to consumers via higher bills and rates.

Tariffs and disruptions to the global supply chain are poised to make U.S. energy supplies more expensive, further exacerbating issues of affordability.

As we approach the four-year anniversary of Russia's invasion of Ukraine, the war has had significant impacts on European energy markets. While the fuel mix has seen meaningful change, many countries have struggled to phase out Russian energy supplies. The conflict has also impacted electricity prices, with most countries (but not all) facing increased electricity prices.

Questions to Consider:

- *How do time-of-use and other pricing structures impact electricity use or household energy costs?*
- *How does the retirement or forced extension of fossil-fuel-based power plants impact electricity costs?*
- *How are global supply chain and tariff disruptions impacting consumers?*
- *Who is profiting from increased energy demand and higher prices? Who, besides the consumer, is losing out?*

3. Market and Financial Mechanisms for Climate Action

The global transition to low-carbon energy presents a defining challenge of the 21st century: while benefits are shared universally, the costs are often local, concentrated in specific industries, communities, and nations. To ensure a just and effective transition, new mechanisms are needed to globalize mitigation and adaptation investments while localizing environmental benefits.

Various innovative market and financial systems can be designed to redistribute the costs and gains of decarbonization more equitably. Tools such as carbon compliance markets, offsets, green bonds, and climate finance frameworks can mobilize capital flows and capture externalities. Through these mechanisms, emissions become financially accountable, and investments in clean energy and adaptation become more attractive and accessible.

Questions to consider:

- *How effective are current financial mechanisms in aligning market incentives with national or regional decarbonization goals?*
- *What policy or governance structures best enable scalable, transparent investment flows that balance global benefits with local costs?*
- *How can emerging market mechanisms be designed or reformed to improve equity, accountability, and long-term sustainability in climate finance?*

4. Threats to Energy Infrastructure

The world's energy systems face an unprecedented threat from natural disasters and hostile attacks. As a result, new instruments for financial risk transfer are necessary to accelerate new investment. Yet, the insurance industry as it stands is unprepared to handle such an influx of claims, resorting to increasing premiums or withdrawing coverage completely.

Both physical attacks and cyberattacks on energy infrastructure, as well as damage from flooding or fires can disrupt distribution and create cascading effects into other critical systems.

Questions to Consider:

- *How can energy infrastructure systems be designed and governed to enhance resilience to climate disruption, cyber threats, and acts of sabotage?*
- *How are geopolitical dynamics threatening global energy infrastructure?*
- *What role can insurance play in an increasingly uncertain and risky future?*

5. Rearrangement of Global Trade

The energy transition has the potential to deeply restructure the dynamics of international trade, geopolitical leverage, and domestic industrial policy as demand for critical minerals grows. As existing trade relationships (such as those between the U.S. and China, or the EU and Russia) evolve, new trade relationships and protectionist policies signal a profound shift away from decades of free trade.

Yet an increase in onshoring, nearshoring, and friendshoring sentiment is running headlong into the realities of global critical mineral distribution.

The energy transition has the potential to economically advance resource-rich regions of the world, but it could paradoxically slow growth and reduce welfare if demand for these resources opens the door to corruption, labor exploitation, and community disempowerment.

The countries that most successfully build a sustainable energy system will be those that face these tradeoffs head-on and find ways to accelerate decarbonization investments while also empowering the communities and workers most impacted by the transition.

Questions to consider:

- *What conditions determine economic and political outcomes for resource-rich regions in the energy transition era?*
- *How impactful can friendshoring and supply-chain diversification strategies be on China's market share in solar photovoltaics, battery production, and rare earth processing?*
- *How is energy security and affordability influencing trade negotiations and global conflict, and how do those considerations compete with decarbonization?*

6. IRA Rollback and OBBBA Impacts

The impact of the Inflation Reduction Act (IRA) rollbacks is expected to ripple through the economy, with significant job loss, GDP reduction, and widespread electricity price increases. Meanwhile, the One Big Beautiful Bill Act (OBBBA) is expected to increase oil and gas leasing and cut fossil fuel royalty rates.

These effects will not be felt equally across states, with Pennsylvania considered one of the most negatively impacted due to the combination of lost jobs and increased household energy costs.

With the cancellation of credits like the Federal Electric Vehicle Tax Credit (30D), the Residential Clean Energy Credit (25D), and the Energy Efficient Home Improvement Credit (25C), family decisions about household energy systems may be significantly changed. We have already seen impacts from the EV Tax Credit cancellation in September, and spillover effects are expected throughout the coming years. Examining the real-time economic, technological, and societal impacts of this enormous legislative change is vital.

Questions to consider:

- *How does the impact of IRA rollbacks differ across different technologies, state lines, and populations?*
- *What are some of the long-term impacts of the phase-out of green energy business credits?*
- *In what ways could evolving tax policies influence innovation and deployment in carbon management technologies?*

7. Risks and Rewards of Demonstration-Scale Technologies

A massive gap remains between current projections and the necessary emissions reduction needed to avert the most severe climate impacts. In closing this gap, there is still heated debate about the role of emerging energy technologies. Next generation nuclear, hydrogen, CCUS, geothermal, and even geoengineering offer solutions for hard-to-abate sectors where "traditional" renewable sources may not be appropriate tools, and for recovery after emissions overshoot. Each has alluring potential to address climate challenges but come with serious tradeoffs.

Central to this debate are issues of moral hazard and deep uncertainty. Every dollar invested in demonstrations of low technology-readiness-level (TRL) solutions reduces investment in established emissions-reducing renewable power. Yet a failure to support these emerging solutions leaves us unprepared for the unforeseen complications of the energy transition.

Project-level data and metrics for determining readiness, long-term decarbonization potential, and scalability are needed.

Questions to consider:

- *How can we evaluate the tradeoffs between electrification and alternative low-carbon approaches?*
- *What project-level data can improve insurer and investor confidence in FOAK decarbonization demonstrations?*

- *How can readiness "signals" be standardized so financiers and insurers can evaluate risk more consistently for demonstration-scale technologies?*
- *What evidence is required to move a FOAK project into a fully financeable and insurable NOAK?*
- *How do regional siting conditions, permitting pathways, infrastructure access, and state-level policy signals factor into siting and underwriting decisions?*
- *What data templates or transparency guidelines should developers adopt to accelerate learning, reduce uncertainty, and unlock capital?*

8. Engaging Communities

The energy transition is arguably the largest directed infrastructure project in human history. As such, it demands best practices for community and stakeholder engagement. As governments and private developers expand generation, electrification, grid modernization, and demand-side infrastructure projects, local communities increasingly serve as critical decision-makers, stakeholders, and beneficiaries. They also inherit the unforeseen consequences of poorly conceived projects. The social, economic, and geographic diversity of communities means that engagement strategies cannot be one-size-fits-all.

Rural and urban communities, especially, experience the energy transition in distinct ways, shaped by land-use patterns, economic structures, governance capacity, and historical relationships with infrastructure developers and the environment. Where rural transition raises questions about ownership, economic impacts, and noise pollution, for example, urban engagement may focus more on issues like air quality, displacement, and building retrofits.

Across both contexts, economic connectivity—that is, the degree to which a community is integrated into broader regional labor markets, supply chains, and industrial ecosystems—plays a central role in shaping perceptions of energy projects.

Questions to consider:

- *What engagement frameworks, tools, and methodologies are most effective in rural versus urban contexts, and why do they differ?*

- *How does a community's level of economic connectivity influence its capacity to shape project development or negotiate benefits?*
- *What strategies best ensure that the economic benefits of energy projects—jobs, revenue streams, local investments—are distributed equitably across different types of communities?*

9. New Paradigms for Utility Regulation

There is widespread agreement that public utility regulation is broken. Utilities in parts of the country that remain traditionally regulated routinely capture their regulators and squeeze extra earnings out of ratepayers. Yet portions of the country that have moved toward markets are delivering their own price shocks to consumers, failing to integrate new resources and facing severe supply constraints. The growth in electricity demand complicates regulatory schema across the country, contributing to what is widely viewed as an energy affordability crisis. Moreover, no mode of public utility regulation (traditional or market-oriented) appears capable of fully confronting the exigencies of the energy transition and state climate policies.

Questions to consider:

- *What are the most promising strategies for reforming public utility regulation to meet modern challenges and circumstances?*
- *What is working or failing in electricity markets?*
- *What is working or failing in traditional public utility regulation?*
- *What should a new public utility paradigm, capable of serving the public interest today, consist of?*