DE-FOA-0002811: REQUEST FOR INFORMATION (RFI): BIPARTISAN INFRASTRUCTURE LAW CLEAN ENERGY DEMONSTRATION PROGRAM ON CURRENT AND FORMER MINE LAND

Institution Name: Kentucky Energy and Environment Cabinet

Technical Contact:

Jay Cunningham, Env. Scientist Consultant Sr, Department for Natural Resources
jay.cunningham@ky.gov

Kenya Stump, Executive Director Kentucky Office of Energy Policy
Kenya.stump@ky.gov

Phone:

502-564-7192 (Office of Energy Policy)
502-564-6940 (Department for Natural Resources)

Category 1: Mine Land Development
1A: Development Barriers and Needs

1) What are the major barriers (regulatory, technical, environmental, or socioeconomic) to clean energy development on current and former mine land? What strategies have overcome these barriers in successful clean energy development on mine land?

   The Surface Mining Control and Reclamation Act of 1977 (SMCRA), is separated into two different Titles: Title IV regulates Abandoned Mine Lands programs related to areas mined prior to the Federal Act in 1977 and/or the establishment and approval of any primacy program, whereas; Title V is related to currently permitted areas.

In terms of concerns or hurdles related to both Title IV and V mine sites, Kentucky provides the following observations:

Site suitability:

With most of the clean energy programs, large areas of land are needed, with generally flat land to expand and build. In Kentucky, there are two coal fields (Eastern and Western). The Eastern coal fields encompasses areas within the Appalachian Mountains, which do not have a flat topography; and Western Kentucky provides flat land, but much of this land is large-scale agricultural land.

Eastern Coal Fields

A vast majority of title IV lands encompass small surface disturbances generally associated with underground mining and small surface mining activities. These disturbances generally include highwall[1]. These highwalls will be small in both acreage and height, and often have dwellings located near the base of the wall, as that flat land at the base of the highwall may be suitable for construction.

In regards to Title V permits, one of the foundations of SMCRA is “approximate original contour” (AOC), which requires permittees to eliminate open highwall and conduct backfilling and grading

[1] Highwall meaning: a mining cut used to extract coal, similar to that a road cut used for large scale road construction that leaves a “highwall” exposed, though the mine highwall is typically only on one side of the cut.

operations that blend the mined areas into the surrounding topography. This often results in a loss of flat land suitable to construct dwellings and other commercial land uses. The only variance for AOC requirements under the Kentucky primacy program and the Federal SMCRA program is that of a pre-law mining variance[2].

In addition, another consideration for both Titles of SMCRA is the location of level land. In Eastern Kentucky coal fields, level or flat land is often near the flood plain–which is typically not feasible for any development.

Western Coal Fields

In the Western Coal fields, the topography lends itself to different mining methods than that of the Eastern Coal Fields. With level ground, most surface mining methods utilize large drag-line operations or underground mining with a shaft entry[3]. As such, the amount of reclamation is generally smaller in scale for Title IV and V permits. While the western coal fields provide the general topography needed for clean energy, much of this area is utilized for large-scale farming due to it being prime farm land.

Land Owner Involvement

Land Owner - the second pillar to SMCRA - requires land owner involvement and approval related to post mining land use (PMLU)

Title IV

Under Title IV of SMCRA, landowners' comments and approval to how their land is reclaimed is a requirement. If the landowner does not approve of a clean energy or reclamation practice necessary for clean energy project implementation, then the Title IV program will not reclaim as such. Most landowners want their land reclaimed back to a useable condition.

Title V

Under Title V of SMCRA, Kentucky is already implementing a solar project in Martin County. However, similar to Title IV, the landowner must consent to the approved PMLU of industrial/ commercial. This requires landowner comments and public advertisement. It should be noted that under Kentucky's primacy program, an individual entity and/or business does not have to be identified.

Socioeconomic

From a socioeconomic standpoint, coal has been commercially mined in Kentucky since the mid- to late 1890's. This is either directly or indirectly a way of life for many communities. There are some in the region who see clean energy transition largely as the cause of economic hardships in the community due to the movement away from coal as a fuel of choice. The number one question is how many jobs will be brought to communities and the salary of those jobs as it compared to the salary of the coal employment. Small

[2] Pre-Law mining variance related to re-permitting pre-law areas and not taking "second" cuts related to the exposed highwall.
[3] Shaft entry is where the permittee drills an entry from the surface to the mine works. This is largely used below drainage underground works.

communities and the culture were built around coal employment. Local governments were reliant on this tax base to maintain infrastructure. These communities will require a greater amount of time and assistance in understanding any new energy development because some may see this development as the primary causation of their downward economies and high unemployment, or as just another project that will use the land and the community resources. Others may see it as a new opportunity for economic growth and development. Facilitating these discussions at the local level is a critical step before any project can move forward.

Regulatory Hurdles under Title V of SMCRA

Approximate Original Contour and Highwall Elimination

As noted earlier, under Title V of SMCRA, highwall elimination, in addition to backfilling and grading to AOC, are regulatory requirements. However, the Permittee may apply for an "experimental practice" under the permit approval package. The requirements of an experimental practice or "EP" requires the permittee to seek approval for either a new mining technology or to provide justification that the PMLU cannot be implemented and seek a variance from the regulation(s) preventing this implementation. These approvals are reviewed and approved by the federal Office of Surface Mining and Reclamation (OSMRE) and the primacy program—assuming the state has obtained primacy. The primary hurdles associated with such proposals include: obtaining approval from both state and federal regulators, requirements to demonstrate highwall stability from natural weathering and erosion of the highwall, and assurance that the PMLU will result in a feasible use.

Post Mining Land Use (PMLU)

Most of the PMLU's associated with mining operations are those that surround the mining site, such as fish and wildlife development, forestland, hay/cropland. Again, surface owner comments and involvement are required in addition to public advertisement.

Release of SMCRA jurisdiction

Such implementation of clean energy development may result in conflicts with SMCRA. For example, geothermal energy. Permittees are required to seal and case any ventilation hole, wells, etc. they create.

Other regulatory hurdles

- Zoning requirements based upon any local, county, or other government requirements.
- Endangered species and protection plans. These would present a hurdle, as Permittees are required to plant specific species for habitat requirements. This often involves tree species required to implement a PMLU.
- Prime farmland restoration requirements require Permittees to restore prime farmland (Western Coal) back to prime farmland. As such, this requirement would reduce the amount of surface land for clean energy development.
- Sealing and plugging of drilled wells and holes is a requirement under SMCRA, unless the surface owner approves to retain them and assumes liability until complete bond release.

Utility Regulatory Processes

While not a barrier, it is a consideration, for states like Kentucky where the electric utilities are regulated by the Kentucky Public Service Commission, any large-scale clean energy project would either be secured via a long-term power purchase agreement by an existing utility with an independent developer or be developed by the utility. Utility projects require a CPCN be filed at the Kentucky Public Service Commission. In the case of independent developers wanting to sell into either of the two regional transmission organizations, PJM or MISO, the developer would have to go through the Electric Transmission Siting Board process for project approval and the interconnection process.

In addition, any project that would be selling into the regional wholesale energy markets or to a regulated utility would require interconnection studies. For the wholesale markets, the backlog of interconnection queues has delayed project development.

Each utility has the ability to engage in demonstration or research projects but required approval from the Kentucky Public Service Commission with the exception of municipal utilities and those utilities of the TVA operating in Kentucky.

2)

a. What planning or operational choices could an active mine operator make to improve a mine site's potential to host clean energy before, during, or after mine operation?

   Backfilling and grading configurations to promote a gentle slope and flat land to build upon, while still adhering to the SMCRA regulations such as AOC requirements. These operational choices would be dictated by the approved SMCRA permit and should ensure the following:

   - The plan must describe the proposed final grading, installation of utilities, and construction of public access, and describe how these are appropriate for the proposed type of industrial or commercial use.

   - The application must describe how the site will be maintained until a business entity occupies the site.

   Maintaining the existing electrical infrastructure is essential for these sites to be considered for future energy development. In many instances the electrical infrastructure is removed or decommissioned. Ensuring that substations and distribution lines remain adds value to the site and reduces development costs in the future.

b. What planning or operational decisions would reduce a mine site's potential to host clean energy, and should be avoided?

   This would largely depend on the type of mining operation (surface, underground, prep-plant, etc.) the approved Post Mining Land Use; surface ownership desire in regards to PMLU; backfilling and grading plans, and sealing of wells/drilled holes. As such, any clean energy related to geo-thermal may present conflicts with the SMCRA program.

Decision to keep existing utility infrastructure in place and maintained should be encouraged.

3) How should reclamation activities be adapted when reclaiming a site for a clean energy development post-mining land use?

Final backfilling grades should be at a gentle slope, but also meet regulatory requirements. Generally, the PMLU would be industrial/commercial, for which the Cabinet has current guidance (Reclamation Advisory Memorandum (RAM) 127) related to how Permittees achieve complete release pursuant to 405 KAR 10:040.

- Phase I Release: If all other requirements applicable to Phase I bond release are met, a permit with an approved postmining land use of industrial/commercial will be eligible for a Phase I release when all final backfilling and grading work has been completed, all final drainage control has been established, and the site has been seeded and mulched, graveled, paved, or otherwise stabilized according to the approved permit. The use of vegetation on the permit for primary site stabilization will result in a five-year liability period prior to a Phase Ill release, unless a business entity occupies the site before the expiration of the five-year liability period. Revegetation for purely aesthetic purposes (landscaping, etc.) will not incur a five-year liability period.

- Phase II release. If all other requirements applicable to Phase II bond release are met, a permit will be eligible for a Phase II release when all utilities and public access have been provided to the site, and two years of the five-year liability period have expired if the permit is stabilized by revegetation.

- Phase Ill bond release. A permit will be eligible for a Phase III release upon occupation of the site by an industrial or commercial business entity of the type approved in the postmining land use plan, or upon expiration of the five-year liability period if the site is unoccupied and the permit is stabilized by revegetation.

Again, maintaining and not decommissioning existing electrical or other utility infrastructure would be necessary for these sites to be cost effective for clean energy projects.

4) What tools and data exist (perhaps at a state, Tribal or local level) that could facilitate development of clean energy projects on mine land?

In Kentucky, there is an AML inventory, the surface mining information system (SMIS); and the Cabinet's current Solar Site Suitability on Mine Lands Geospatial Interactive Tool. There is also the Cabinet for Economic Development's Site Selector Tool.

5) What unique barriers exist for clean energy development on Tribal mine land? N/A

6)

a. What types of technical assistance would be valuable from the DOE, national laboratories, and/or from other federal agencies in proposal development or project execution?

Funding to conduct geotechnical and NEPA environmental assessments of these sites. A spatial GIS evaluation focused on reclaimed mine sites could be a useful tool based on the site characteristics necessary for each of the clean energy technologies listed. It is most likely that nuclear would not screen well on a reclaimed mine site due to geotechnical concerns and land stability. Geothermal applications would present similar concerns with drilling.

b. What kinds of technical assistance do communities need to engage in and benefit from the development of clean energy on mine land?

   Communities would benefit from assistance to understand the technical feasibility of hosting a new energy development and could benefit from direct funding to assess the technical feasibility of these land areas. In addition, communities could benefit from a site bank where the community lists the site on a public site bank where developers and interested parties can connect on site development opportunities. This could be similar to the hydrogen match makers tool currently being deployed.

7) What kinds of coordination between DOE and other federal agencies (e.g. the Department of Interior) would be helpful to facilitate clean energy deployment on abandoned mine lands that are reclaimed using BIL funds?

   DOE, at a minimum, needs to coordinate with the AML and SMCRA programs as well as with EPA on leveraging brownfield opportunities as well as other EPA regulatory programs. Some states have these mine sites as eligible brownfield properties. In addition, if the project is a hydroelectric or pumped storage project, DOE must engage with FERC. For instance, there is a pumped storage project currently proposed on a mine site in Kentucky. Coordination and technical assistance across all of these agencies will be necessary to achieve project success. For mine sites that could be used for biomass based clean energy development, DOE will need to engage USDA as well. It is recommended that DOE have a MOU with these agencies to solidify working across these agencies in a coordinated effort. In addition, FEMA could be a useful agency to partner with on FEMA funding to support projects that increase community resilience.

1B: Potential Environmental Impacts

1) What are the most significant environmental remediation challenges to preparing a mine site for clean energy development? How do these barriers differ based on region, type of mine, and whether the mine is active or not?

   The reclamation or environmental challenges to prepare a site differ vastly based upon the type of mining operation (surface, underground, coal waste disposal, preparation plant) and the region (Western Kentucky vs Eastern Kentucky).

   Most surface operations are “mine to reclaim,” meaning the initial cut material is deposited into an excess soil fill and then the subsequent mining cuts are utilized to reclaim the mining pit behind the advancing cut. The vast majority of surface mining operations are conducted in Eastern Kentucky, whereas Western Kentucky is primarily underground mining, preparation plants, and coal waste

disposal sites. The Eastern Kentucky terrain and topography is steep; whereas, Western Kentucky is flat and mostly agriculture land.

One of the most significant challenges is creating geologic stability of the site to host large industrial operations. The land, after mining, often doesn't have the geotechnical capacity to host heavy industrial applications and is limited to light industrial or commercial applications. In addition, slope of the land is often a limited factor to project development.

Category 2: Mine Land Operations

This category focuses on questions specifically for mine landowners and operators.

1) How do mineral rights, including rights of way, permits, or patents associated with a mine, impact the potential to develop surface-level or subsurface clean energy projects (e.g., subsurface energy storage or geothermal)? How do specific technological characteristics make a difference in that determination?

   Land ownership is the primary factor in regards to surface level energy projects. Again, if the area is still permitted under Title V—there must be a PMLU change, which requires both public advertisement and landowner consent. In Eastern Kentucky there are substantial co-tenant tracts which may present some difficulty for title work after reclamation and release of the SMCRA permit. Keep in mind that, once a Title V permit has obtained a complete release, there is no longer a SMCRA jurisdiction.

2) For active mine sites, what are the tradeoffs between owning and operating power generation facilities or contracting power through independent power providers or electrical utilities?

   In Kentucky, as a regulated state, the only way someone can own and operate a power generation facility is if it serves their own load. Those type of projects are regulated by PURPA and state net-metering laws. Only the regulated utility is able to sell retail power. Municipal utilities are not regulated by the Kentucky Public Service Commission nor are the TVA local power companies or cooperatives; however, they have their own regulations around who can own and operative power production facilities.

   Independent power producers could utilize green tariffs for projects sleeved through the utility for a large customer's load or sell the power directly into the two wholesale electricity markets, PJM or MISO. Independent power producers cannot sell directly to customers in Kentucky.

3) What percentage of total active mine operational energy demands are thermal (autoclaves, leach operations, space heating and cooling) versus electrical (power demand for pump and treat, solvent extraction/electrowinning, milling, or other plant facilities)? How do these percentages vary by type of mine?

   In Kentucky, the primary energy demand is electrical power used by active mines.

4) What kind of information or data is needed to identify development opportunities for the owners and operators of current and former mine sites in clean energy?

- Royalties
- Utility regulatory programs such as green tariffs and net-metering information.
- What are the monetary gains for the surface owners?
- What is the liability in terms of costs, pollution, etc.?
- Are there any regulatory liabilities for the surface owner?
- What are the limitation for which a surface owner can utilize land associated with Clean Energy, for example does they need to fence off areas to keep livestock off of it
- How much acreage and for how long will the acreage be needed for clean energy—is this a lifetime commitment?
- If the property sells or changes ownership, how does the impact the development?
- Is there an opt-out clause for surface owners?

Category 3: Job Creation Potential and Challenges

1) What kind of information or data is needed or already exists to identify and categorize job opportunities for local workers, including displaced energy workers?

- Salary and longevity of these jobs will be the primary question.
- The amount of earth moving necessary; pipe-fitting, and electrical work.

The Kentucky Center for Statistics houses labor market and workforce data for every community in Kentucky as well as conducts future skills assessment data. https://kystats.ky.gov/

2) What are the transferable skills and training gaps for displaced energy and mine workers to successfully contribute to mine land clean energy demonstration projects, and how does this vary between technologies?

- Skills in the fundamental trades through apprenticeship programs is applicable across technologies.
- Earth moving necessary; pipe-fitting, and electrical work; and drilling.
- In regards to training, training on how these various clean energy systems work, maintenance issues, and implementation would be the primary training.

The Kentucky Chamber of Commerce is currently assessing workforce and skills required for careers in sustainability related jobs. This process is referred to as the Talent Pipeline Management process.

a. What training pathways are needed, or already exist, to address these needs?
    i. NABCEP certification programs for solar installers.

ii. International Ground Source Heat Pump Association training for geothermal projects.
iii. The Kentucky Community and Technical College System contains a variety of energy based and trade curriculum.
iv. The Haas eKentucky Advanced Manufacturing Institute (eKAMI) in Paintsville, Ky provides skilled training and retraining opportunities in Appalachia.
v. WindExchange provides a comprehensive list of workforce training and education programs.
vi. Kentucky Education Cabinet coordinates apprenticeship program statewide in skilled trades. https://educationcabinet.ky.gov/Initiatives/apprenticeship/Pages/default.aspx

3) What are the biggest potential risks to workers of mine land demonstration projects and what are the best strategies for mitigating those risks and ensuring long-term worker well-being? How does this vary between technologies?

No comment

4) How can DOE best support the creation of stable, good-paying career-track employment for local workers on mine land demonstrations and beyond DOE-funded projects, particularly for local residents and marginalized groups?

Outreach to the local population to educate them about the types of job available at such projects. Funding for state training programs and community education programs. For electricity projects, long term off take agreements ensure job stability. DOE can actively pursue community engagement by funding on the ground personnel in these communities. It is imperative that the communities have a voice first and are integrated into any project development from the beginning. DOE must work collaboratively with existing state programs and coordinate seamless access to training opportunities. Stipends have been used in the past to help encourage individuals to engage in new training opportunities to ensure they have a stable income while pursuing training. Creating a stipend program by working with the state can help encourage access to training programs.

5) How can the Mine Land program ensure worker representatives and labor unions are engaged and included in the planning, decision-making, and implementation of demonstration projects?

Outreach to unions to enlist their participation.

6) What community benefit, labor, and workforce concerns or priorities are most relevant for the Mine Land program? How have/can these concerns or priorities been/be addressed?

The primary question raised is what will the benefits, salary, and longevity be with the clean energy project. How will the projects support local tax base, support STEM education, and will the project integrate into the community as a partner versus just using the land for energy production.

Category 4: Technology-Specific Concerns

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These questions are focused on identifying opportunities and challenges of developing the eligible clean energy technologies on mine land. Answers may address one or more of these technologies, but please indicate which technology or technologies your response covers.

4A: Siting and Land Considerations

1) What site characteristics are necessary for successful development of the clean energy technologies on mine land? Please indicate which technology or technologies your response is addressing.
    a. Slope
    b. Geologic stability or the geotechnical characteristics
    c. Access to freight highways and robust road infrastructure
    d. Substation and Transmission access
    e. Proximity to endangered or threatened species
    f. Water infrastructure and capacity
    g. Community healthcare services
    h. Proximity to community college or universities

All of this is already address through the Energy Zones Mapping Tool. The EISPC Energy Zones Study, which resulted in developing the Energy Zones Mapping Tool, was led by the Eastern Interconnection States' Planning Council (EISPC). Team members from Argonne National Laboratory, the National Renewable Energy Laboratory, and Oak Ridge National Laboratory provided the analytical and model development support to EISPC.

In addition, EPA provides the RE-Powering American's Land Tool to assess renewable energy potential on brownfields and as mentioned earlies, some states include mine lands in their brownfield inventory.

2) How does the topography and/or subsurface condition of mine land, such as slopes, ground stability, or geologic formations, influence the potential for clean energy technology(ies)? How does this differ for current versus former mine land?

    The conditions in the Eastern coal fields differ vastly from that of the Western Coal fields. As such, the slopes will be steeper in the eastern fields than that of the Western Fields. Ground stability will be less in Eastern vs Western Kentucky and there are more thrust faults running through Eastern vs Western Kentucky. For clean energy projects, gentle slopes, greater ground stability, and fewer fault lines, would seem to be the preference.

    In terms of current vs former mined lands—this largely goes back to Title IV vs Title V of the SMCRA. Under title IV there were no reclamation requirement, as such no stability requirements, neither highwall elimination nor AOC requirements. Under Title V, there are specific ground slopes the Permittee must meet, along with AOC and highwall elimination requirements.

    Title V sites that were released through a Phase III bond release no longer have SMCRA jurisdiction, but are still required to meet the regulatory requirement—provided a variance is not approved.

3) How could the geo-mechanical stability of a mine land change over time? What surface changes would result from injection/withdrawal processes or temperature-related changes (i.e., in carbon dioxide or water injection)?

   Deep mines may have subsidence issues as times goes on. However, once a Permittee receives a complete or Phase III bond release, there is no way to reassert jurisdiction.

   Some permits are approved for slurry injection into deep mine void or underground works. This is highly regulated by both DNR and federally by the Mine Safety and Health Administration (MSHA).

4B: Regulatory and Economic

1) What environmental reviews and permitting regulatory requirements will need to be met for clean energy technologies to be demonstrated on mine land? Are there any ambiguities or challenges in existing regulations? Which agencies are responsible for oversight and compliance in your state? Please indicate which technology or technologies your response is addressing.
   a. Any electricity generating project would have to either go before the Kentucky Public Service Commission through the CPCN process for utility projects or through the Electric Transmission and Generation Siting Board for merchant projects.
   b. For projects funded federally, NEPA would be applicable.
   c. KRS 224.280 requires a cumulative environmental assessment be submitted to the Kentucky Energy and Environment Cabinet for review. NEPA assessment can be submitted in-lieu of the cumulative assessment.
   d. For hydroelectric and pumped storage, that required FERC approval and expediting that process is recommended

2) What public outreach and engagement is effective in communicating the benefits and burdens associated with development of clean energy technologies on mine land?
   a. For many coal communities, coal utilization has been a way of life for over 100 years. Some will be agreeable to new energy developments and some communities will want to see other developments take place and not replace one energy resource with another energy technology. Each technology should have an easily readable guide and community listening sessions are a priority. First and foremost, it should be a community decision. There needs to be significant time spent helping communities understand what is feasible and how that will impact jobs, education, healthcare, and the tax base to the local government. How will the project improve the infrastructure is a key question.

3) What economic benefits do you anticipate from construction and long-term operation of clean energy technologies on mine land, and who would receive these benefits? What resources do you expect to be needed from the community to enable the long-term operation of the demonstration (emergency response, etc.)?

   No response provided.

4) BIL requires a reasonable expectation for the clean energy technology to be commercially viable after construction. To what extent will the Mine Land program be capable of demonstrating a path to economic viability after the BIL funded phases and how could a project be structured to ensure access to private capital after the conclusion of federal funding? What non-federal entities are interested in funding mine land projects?
    a. It is essential to work with the state universities who have energy programs in place. DOE should identify university projects that are ready to go to demonstration and commercialization.
    b. Working with the state or national Green Banks, using revolving load fund programs, and working with the electric cooperatives in the state that access USDA RUS funding for projects.

4C: Hybrid Demonstration Projects

Hybrid projects include any project with a combination of two or more of the clean energy technologies co-deployed on mine land.

1) Are there combinations of clean energy technologies that are enabled by developing on a mine land?

   Solar and storage are technically feasible. Potentially solar with pumped storage or compressed air storage.
   Solar with fossil based natural gas generation with CCUS could be feasible.
   Solar powered direct air capture systems

2) What are the potential challenges of operating a hybrid clean energy technology project on mine land?

   This depends on the when the implementation occurs. If the implementation occurs after mining and reclamation is complete and Phase III release has occurred, there should not be any regulatory challenges from a SMCRA viewpoint. However, there may be some challenges with the landowner and community, such as livestock turned out on lands, accessibility to the site, and general usage of the land by the surface owner.

   If the implementation occurs during mining, i.e. for the mine operator to utilize this clean energy during mining operations, this may present some questions related to reliability. Most surface operations do not utilize a lot of electricity (most with the mine offices and when equipment needs to be repaired). However, deep mine operations and preparation plants, do require substantial amounts of electricity necessary to implement their operations. This would range from operating the preparation plant, mine offices, belt and conveyor lines (deep mine operations) tram cars (deep mine operations, and safety/tracking equipment (deep mines).

Category 5: Mine Land Program Implementation

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This category focuses on questions related to other provisions, requirements, and implementation strategy for the Clean Energy Demonstration Program on Current and Former Mine Land.

1) Which clean energy technologies should DOE focus on or prioritize in implementing the Mine Land program?
   Solar, storage, and direct air capture may be the fastest to deploy with solar and storage being commercially viable. Microgrids require proximity to load and often these sites on not in proximity to critical facilities. Advanced nuclear is highly unlikely given the land characteristics of these sites.

2) Considering the current state-of-the-art in clean energy development on mine land, what does the Mine Land program need to demonstrate with its projects to achieve the goal of enabling follow-on deployment on mine land?

   The program should be able to demonstrate robust and sustained economic benefit to the community and support state economic development and workforce goals.

3) What criteria should DOE, in consultation with the Secretary of the Interior, the Administrator of the Environmental Protection Agency, and the Secretary of Labor, use to evaluate and select mine land projects and project finalists?

   Given Kentucky's history with fossil fuels, and they fact that the land and citizens help power this nation for over 100 year coupled with the effects on our communities with the movement away from coal, DOE should consider any project in Kentucky a priority especially given recent natural disasters that have further compromised and impacted the citizens. Utilize FEMA's Hazard Risk Indexes along with Census Data on under-resourced and under-supported populations.

4) What criteria should DOE use to evaluate progress of ongoing projects (e.g., technical merit, workplan, market transformation plan, team and resources, financial, regional economic benefits, quality jobs, environmental justice, diversity, equity, inclusion, accessibility)?

   Priority metrics should be financial viability and community economic benefits.

5) How can DOE best use community consultation, consent-based siting, and Community Benefits Agreements or good neighbor agreements in the environmental and permitting review process?
   No response provided

6) What potential challenges or opportunities might exist to meet the new Buy American requirements in the BIL?

   Significant nationwide challenges to the clean energy supply chain exist. However, co-locating light clean energy manufacturing operations with clean energy demonstration projects could create added value.

Category 6: Equity, Environmental and Energy Justice (EEEJ) Priorities

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1) What information do communities, Tribal or State governments, or other stakeholders need to effectively engage with DOE on the Mine Land program?
   Communities first need to know if they have technical potential and what that means in plain language. Then communities need very clear instruction on how to engage and a single point on contact plus an on the ground DOE local contact.
2) What organizations, universities, or communities should DOE consider partnering with to develop the Mine Land program?
   - Appalachian Regional Commission
   - University of Kentucky's Center for Applied Energy Research
   - Shaping our Appalachian Region is regional nonpartisan nonprofit that champions local projects, programs, and advocacy for the 54 ARC-mandated counties in Eastern Kentucky.
   - The Appalachian Center at the University of Kentucky
   - Mountain Association
3) How can the Mine Land program ensure community-based stakeholders/organizations are engaged and included in the planning, decision-making, and implementation processes, in both program development and individual demonstrations?
   Frequent and transparent communication with community leaders, state legislators, and decision-makers. Ask first and listen.
4) What equity, energy and environmental justice concerns or priorities are most relevant for the Mine Land program? How have/can these concerns or priorities been/be addressed?

   Economic development and job creation are the primary concerns and improving the land or community as a result of the project.

5) How are adverse impacts currently measured or monitored, and which materials/processes/components result in the largest environmental impact? What opportunities exist to minimize impacts? No response provided.

6) What factors should be considered when identifying and selecting the location of the technology/project/activity (e.g., economic considerations, policy considerations, environmental and energy justice considerations, geology, workforce availability and skills, current industrial and other relevant infrastructure and storage available/repurposed/reused, industry partners, minority-serving institutions (MSIs), minority-owned businesses, regional specific resources, security of supply, climate risk, etc.)?

   The following are most relevant: geology, economic benefit, workforce availability and skills, current industrial and other relevant infrastructure and storage available/repurposed/reused, industry and academic partners

7) How could the Mine Lands provision further energy democracy (ex. community ownership models, community governance models, community benefits agreements etc.)?

   Again, Kentucky is a regulated state from an electric utility perspective so working with the local utilities on any project development is critical since the regulated utility is the only provider of retail electric service to communities unless the project is locally owned to serve the government's native load.