



Ohio Environmental Council

Ohio Environmental Council's Comments In the Matter of the Commission's Investigation into the Implementation of the Federal Infrastructure Investment and Jobs Act 22-0755-AU-COI

On behalf of the Ohio Environmental Council ("OEC"), our nearly 100 environmental and conservation group members, and our thousands of individual members throughout the state, we thank the Public Utilities Commission of Ohio (PUCO) for the opportunity to submit comments regarding the historic investments planned to the nation's grid infrastructure through the Infrastructure Jobs and Investment Act (IIJA).

The mission of the OEC is to secure healthy air, land, and water for all who call Ohio home. The OEC advocates for the decarbonization and democratization of Ohio's power system. Market forces are demanding electrification to fight climate change. Ohio's grid must rise to meet this challenge. These necessary grid improvements must be prioritized for those communities that have historically borne "the burden for the rest of us." Commissioner Conway, *In the Matter of the Power: Outages that Occurred June 14-16, 2022, as Explained by AEP Ohio and PJM Interconnection, LLC* (July 13, 2022). We look forward to engaging with this Commission further as this process continues.

Table of Contents

- I. The critical grid resilience formula grants should be guided by transparency and equity. 2
 - a) What should be three to five objectives that should guide project resilience investment decisions? 2
 - b) What should be the metrics that accompany the objectives, to measure project outcomes? 6
 - c) What should be the criteria used for selecting and determining the awards to eligible entities? The criteria should address specific requirements set forth in IIJA Section 40101(d), which involve the greatest community benefit in reducing the likelihood and consequences of disruptive events, the set-aside for eligible entities that sell not more than 4,000,000 megawatt hours (MWh) of electricity per year, and a requirement for awards to go to in-state Projects. 7

- d) What should be the methods used for soliciting, awarding, and distributing funds, which may include the use of competitive solicitations, direct awards, and the use of financial instruments? 8
- e) What should be the proposed funding distributions and categories of recipients of the subgrants? 9
- f) What are the implications of Section 40101(e)(2)(C), which provides that “[a]n eligible entity may not submit an application for a grant provided by the Secretary under subsection (c) [Grid Resilience Competitive Grants] and a grant provided by a State or Indian Tribe pursuant to subsection (d) [Grid Resilience Formula Grants] during the same application cycle”? 11

I. The critical grid resilience formula grants should be guided by transparency and equity.

Our comments below focus on Section 40101(d) formula grants. Overall, we ask that this process continue to be **transparent** and **equitable**. The Department of Energy’s administrative and legal requirements document (hereinafter “DOE guidance”) prioritize energy justice, good jobs, and decarbonization. Our comments below reflect those themes.

a) What should be three to five objectives that should guide project resilience investment decisions?

Grant objectives are expressed as measurable, time bound actions to achieve identified goals.¹ The DOE guidance articulates several goals for these formula grants: target funds towards projects that can provide quantifiable improvements to the grid, give cost savings to customers, reduce historical inequities, increase renewable energy, and create good paying jobs. The DOE emphasizes in multiple areas of the grant description the importance of knitting energy justice principles and strong labor standards throughout each component of project approval and evaluation metrics. The OEC proposes the following objectives:

1. **Proposed Objective on Grid Resilience**: Define the top three climate-related risks in Ohio and improve resilience for each category at least 50% above current baselines.

The Department of Energy asks grantees to “demonstrate measurable improvements in energy resilience to all hazards in the United States and mitigate climate-related risk” to “disruptive events.” DOE Guidance p. 7. A disruptive event is “an event in which operations of the electric grid are disrupted, preventively shut off, or cannot operate safely due to extreme weather, wildfire, or a natural disaster.” IIJA section 40101(a)(1),(14); DOE Guidance p. 9. Thus, the first

¹ Louisiana State University, Eunice, *Proposal Toolkit: Section 6*, <https://www.lsu.edu/grants/tools/gw-9-goals.php> (last visited Aug. 25, 2022).

objective to guide this grant process should be clearly defining climate-related risk for Ohio and current resilience baselines.

A DOE study shows the top reason for outages in Ohio are weather and falling trees. Tornadoes are the highest weather risk, with thunderstorms/lightning, floods, and winter storms/extreme cold rounding out the top weather related risks. Looking to the future, researchers expect Southwest Ohio will see extreme heat affect its electrical grid.²

Case studies from recent disruptive events in Ohio can also show Ohio's climate-related risk and baseline resilience. The June 2022 AEP Ohio outages showed that vegetation management is a major barrier to grid operations. Downed trees can also lead to cascading outages outside the affected area when coupled with other extreme weather events. Regarding resilience, we learned the "GridSmart" software has enabled AEP Ohio to respond to overloaded circuits by automatically shutting down vulnerable parts of the grid, without the need for human intervention. However, the software does not give enough time for the company to warn residents. The outages also showed differences in circuit and grid capacity among different communities, and that the circuits themselves are not able to handle a quick increase in demand.

Thus, the OEC proposes the first objective should encourage programs designed to mitigate the following definition of climate-related risk:

A risk of downed power lines and infrastructure from fallen trees caused by extreme wind, lightning, and rain. **A risk of water damage to electric infrastructure** during floods. And a risk to **grid capacity** when extreme temperatures cause increased demand.

2. **Proposed Objective on Energy Justice:** 75% of equipment, software, and hardware upgrades will be targeted to benefit the Ohio census tracts identified as disadvantaged in at least one category under the Climate and Economic Justice Screening Tool.

Regarding energy justice goals, the DOE Guidance directs applicants to the White House's Justice40³ principles and to select projects with the "greatest community benefit." DOE Guidance p. 18. While not defined in DOE's guidance, the OEC believes the "greatest community benefit" is achieved by increasing grid resilience and capacity to those communities that currently have the lowest resilience. The Justice40 initiative states that at least 40% of agency benefits should go to "disadvantaged" communities. These communities are identified in the Climate and economic Justice screening tool. Council on Environmental Quality, *Climate and Economic Justice Screening Tool*, <https://screeningtool.geoplatform.gov/en/#13.22/40.01828/-82.94592> (last visited August 24,

² First street Foundation, *The 6th National Risk Assessment: Hazardous Heat*, (August 15, 2022) <https://firststreet.org/research-lab/published-research/article-highlights-from-hazardous-heat/>.

³ More information on the Justice40 initiative can be found at: <https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf> (last visited 8/24/2022).

2022). This tool is compatible with Ohio's experience of vulnerable communities because many of the communities hit hardest by the June blackouts are disadvantaged communities under this screening tool.

Grantees and subgrantees must prioritize vulnerable communities because these are the communities currently shut out from many grid modernization efforts. For example, a recent First Energy filing revealed lower income communities in Northeast Ohio have more outdated circuits than suburban communities. *Application of Ohio Edison Company, the Cleveland Electric Illuminating Co., and the Toledo Edison Co. for Approval of Phase Two of Their Distribution Grid Modernization Plan*, p. 10 para 33-35, Docket No. 22-0704-EL-UNC. Rural and urban communities have older "legacy" distribution circuits. *Id.* These "inequities" in infrastructure have kept these communities from implementing grid modernization software updates. *Id.*

The June 2022 AEP Ohio outages also show a potential example of why these subgrants should be targeted to historically underserved communities. During the June 2022 blackouts, AEP Ohio's outage maps suggested low-income communities with Black, Indigenous, and People of Color were more heavily impacted.⁴ AEP Ohio has not sufficiently explained why the circuits and infrastructure in these communities were not able to meet the demand, while circuits in higher income communities were able to meet a presumably similar demand. This again suggests that Ohio's grid needs significant investments in lower income communities just to match the existing resilience in higher income communities.

3. **Proposed Objective on Public Participation:** Each step of the application and implementation process will be published for public review and comment on the DIS docketing system.

The OEC encourages the grantee to support public participation throughout the grant process. In addition to the grant's required public hearing to describe the grant process, the OEC encourages the grantee to host additional opportunities for public participation. We discuss the suggestion for an additional 6-month hearing and public comment period in question (d) below.

In connection with the public hearings, we also recommend targeted outreach to key stakeholders and members of the public. The grantee should extend invitations to the second required public hearing following the grant of funds. This hearing is intended to inform stakeholders of the grant process and categories of projects the grantee will solicit. The grantee should send invitations within 30 days of the scheduled hearing to union leaders, electric distribution utilities (including municipal, county, and co-op utilities), and local elected officials in the grant's targeted communities. To invite the public at large, the grantee should also request all member libraries of the Ohio Library Council⁵ post notices of hearings and comment

⁴ Isabel Nissley, *Data: June AEP outage affected lower-income areas at higher rate*, Matter News (July 12, 2022 4:28 pm) available at: <https://www.matternews.org/developus/data-june-aep-outage-affected-lower-income-areas-at-higher-rate>.

⁵ <https://olc.org/>

windows. The grantee can also ask the OPSB to announce the hearing at all public hearings for power siting between the announcement and the scheduled hearing.

4. **Proposed Objective on Job Creation:** Approved projects will demonstrate a plan to target job creation to include at least 80% going to formerly incarcerated persons, persons living in communities identified as disadvantaged in at least one category under the Climate and Economic Justice Screening Tool, or in “Energy Communities”, as defined in the Inflation Reduction Act section 13101(f)(11)(B).

By focusing workforce opportunities in historically underserved communities and “Energy Communities,”⁶ these grants can target some of the communities most heavily impacted by climate change: those with the most vulnerable infrastructure and those injured by the retiring of legacy fossil fuel plants. This objective also addresses both the DOE’s energy justice and job creation goals. However, keeping the objective at 80% still allows grantees some flexibility in implementing proposed projects and responding to labor market conditions.

Energy Communities are defined to include:

- Brownfield sites;
- Communities that have (or, at any time during the period beginning after December 31, 2009, had) 0.17 percent or greater direct employment or 25 percent or greater local tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas;
- Communities that have an unemployment rate at or above the national average unemployment rate for the previous year;
- Census tract in which after December 31, 1999, a coal mine has closed, or after December 31, 2009, a coal-fired electric generating unit has been retired; and
- Communities with retired coal-fired plants.

5. **Proposed Objective on Renewable Energy:** Projects will invest exclusively in renewable energy sources and maximize the use of carbon free equipment.

A successful grid resilience formula grant should include an objective aimed at integrating renewable energy sources into Ohio’s grid. The DOE Guidance identifies a goal to invest in clean energy and decarbonization solutions to achieve a carbon-free power sector by 2035 and net-zero greenhouse gas emissions economy-wide by 2050. This objective is an important aspect of grid resilience because renewable energy can help stabilize the grid. For example, during extreme heat, solar energy can provide a reliable generation source while other energy sources struggle.⁷ Renewable energy also helps lower costs for consumers.⁸ Given the benefits

⁶ Defined in the Inflation Reduction Act section 13101(f)(11)(B)

⁷ Dan Solomon, *Solar Power is Bailing Texas Out this Summer*, Texas Monthly (July 12, 2022) <https://www.texasmonthly.com/news-politics/renewable-energy-texas-grid-heat-wave/>.

⁸ Ethan Howland, *PJM Capacity Prices Fall 32% with more nuclear, solar capacity Clearing in the Last Auction*, Utility Dive (June 22, 2022) available at: <https://www.utilitydive.com/news/pjm-capacity-auction-nuclear-solar-coal->

of renewable energy to grid resilience and the DOE guidance's emphasis on renewable energy sources, the grant's objectives should include a goal on sourcing renewable energy and carbon free equipment.

b) What should be the metrics that accompany the objectives, to measure project outcomes?

The OEC would like to encourage a balance between transparency from subgrantees without requiring onerous reporting requirements. Thus, OEC proposes minimal reporting from subgrantees in this first year of these grants. To complement setting a low burden for subgrantees, we discuss in section (e) the overall tracking metrics for grid resilience the grantee can develop and use to understand the greater grid resilience impacts of the grants.

Here are some examples of straightforward metrics the grantee can require of subgrantees to understand progress on objectives while minimizing administrative burden:

Energy Justice metrics

- Percentage of geographical tracts benefitted that are communities identified as disadvantaged in at least one category under the Climate and Economic Justice Screening Tool.

Job Creation metrics

- Total number of jobs
- Total number and percentage of jobs to people in "Energy Communities", as defined in the Inflation Reduction Act section 13101(f)(11)(B).
- Total number and percentage of jobs to people in Ohio census tracts identified as disadvantaged in at least one category under the Climate and Economic Justice Screening Tool.
- Total number and percentage to incarcerated or formerly incarcerated people
- Average length of job contracts
 - Number of contracts less than 12 months
 - Number of contracts totaling 12 months to less than 3 years
 - Number of contracts totaling 3 years+

Development metrics (where applicable)

- For the purposes of this section a unit is a specific technology. It can be a piece of hardware or software. For example, the number of solar panels installed in a microgrid project or the number of circuits receiving a software upgrade.
- Total number of new units built
- Total number of new units purchased
- Total number of new technology units installed
- Total number of units replaced

prices/625861/#:~:text=Capacity%20prices%20across%20most%20of,the%20grid%20operator%20said%20Tuesday.

c) What should be the criteria used for selecting and determining the awards to eligible entities? The criteria should address specific requirements set forth in IIJA Section 40101(d), which involve the greatest community benefit in reducing the likelihood and consequences of disruptive events, the set-aside for eligible entities that sell not more than 4,000,000 megawatt hours (MWh) of electricity per year, and a requirement for awards to go to in-state Projects.

The greatest community benefit requires a wide impact. The DOE guidance also emphasizes the need for a successful application to “implement a wide range of resilience measures intended to mitigate the impact of disruptive events.” DOE Guidance p. 7. Diversifying the entities selected, areas covered, and objectives covered into the selection criteria can help ensure the subgrantees meet these broad goals. Thus, the grantee should institute the following selection criteria.

- Diversity of subgrantees: Subgrantees will span at least 3 of the eligible entities in 42 USC 18711(a)(2).
- Diversity of reach throughout the state: The total projects approved must cover areas in all five quadrants of the state: central, northeast, northwest, southeast, southwest.
- Diversity of objectives targeted: Each subgrantee’s proposed project must meet at least two of the objectives proposed by the OEC in section (a) of these comments.

The greatest community benefit also requires assurances that the proposed project will be effective. Thus, each proposal should be backed by evidence. The grantee should require each subgrantee to identify reliable evidence showing their proposed project will have the greatest impact. The OEC believes that an easy metric for reliable evidence is any peer-reviewed research or research published by a government agency. The grantee should include selection criteria regarding:

- Peer-reviewed or government generated evidence that the proposed practice is a best practice or effective solution.

To assist the grantee in meeting these proposed selection criteria, the OEC suggests requiring the following Information in subgrantee applications:

- evidence from peer-reviewed research or a governmental report that the chosen strategy is an evidence-based best practice.
- safety measures, any potential injuries that could occur on a project site, and appropriate liability insurance/bonding to cover those potential injuries.
- how the project will assist with decarbonization
- project materials needed and the proposed manufacturing source of these materials.
- whether the project will expand access to energy efficiency and/or clean energy for families, communities, and businesses.
- the communities that will benefit from the project
- any demand response capabilities that the project will enable
- hardware improvements the project will implement
- Software improvements the project will implement

d) What should be the methods used for soliciting, awarding, and distributing funds, which may include the use of competitive solicitations, direct awards, and the use of financial instruments?

The OEC appreciates the PUCO's use of its resources to support bringing this critical grant to Ohio. Based on precedent from other states and past grant programs, we understand that the Ohio Department of Development or Ohio Air Quality Development Authority is likely to administer the grant.⁹ However, the OEC encourages the PUCO to continue to provide its DIS docketing system and facility resources for grant administration. For example, section 40101(d)(2)(B)(ii) requires that eligible applicants hold an annual hearing to describe to the public how it will craft its objectives and approach fund administration.

The OEC encourages the PUCO to hold open this docket and host those required public hearings going forward. The OEC envisions the administrator agency using the DIS platform to host the public submission of applications, with an opportunity for applicants to file sensitive information under seal. Use of the DIS platform will also allow the public to file public comments.

In addition to the required hearing to explain the application process, the OEC suggests supporting a hearing at the grant period midway point (6 months) to allow grantees to report on progress. We also encourage the PUCO to host the required annual hearing and allow public comment at each. The OEC believes the PUCO's resources can assist the administrative agency with implementing the transparency required by the DOE guidance.

e) What should be the methods used to track and make public the metrics achieved by awardee uses of program funds?

The OEC supports MEEA's suggestion for the grantee to develop metrics based on the National Energy Screening Project (NESP) framework. NESP. 2022. p. 178-179. As described in their August 24, 2022 comments, the NESP framework includes:

1. Characterize the threats
2. Define resilience metrics
3. Define and quantify baseline resilience
4. Characterize potential resilience impacts of DERs
5. Quantify resilience impacts from proposed DERs
6. Calculate net resilience impacts of proposed DERs (e.g., total megawatt, amp, and voltage capacity of circuits in a particular area).
7. Calculate dollar values of resilience impacts

⁹ The OEC notes that an Ohio Office of Energy Justice would be more appropriate to administer grants such as the grid resilience formula grant. HB 492, a piece of legislation currently proposed in the Ohio legislature, would create this agency and better facilitate administering such grants.

f) What should be the proposed funding distributions and categories of recipients of the subgrants?

As discussed below, the funding distributions in these formula grants should be focused on new, innovative projects. OEC suggests funding distributions should focus on hardening against floods, vegetation management, demand response measures, demand reduction measures, and job training. The OEC developed these categories based on our definition of climate-related risk in Proposed Objective (1) above. We also developed these categories based on the DOE guidance's emphasis on equity and job creation.

Prevention of flood disruptions

1. Hardening substations vulnerable to floods

The OEC understands that the greatest threat to electrical grids during a flood are damage to substations and flood waters reaching grid equipment before it can be preemptively shut off.¹⁰ Identifying the most vulnerable substations to flood damage and installing appropriate preventative measures around these stations, such as levees and tiger dams, are potential projects to address this climate risk.¹¹

Prevention for vegetation related outages

2. Upgrades to analytic software and implementing infrastructure hardening.

There are several software platforms available to provide advanced weather planning and monitoring of existing vegetation. These modeling software can help utilities predict which areas of infrastructure need additional hardening, like pole hardening. It is the OEC's understanding that using meddling software to identify the areas most in need of infrastructure hardening is a best practice in vegetation management.¹²

Prevention for extreme temperatures and increased demand

3. Hardware replacements that allow circuits to handle more voltage

The recent June 2022 AEP outages and First Energy's grid modernization application suggest that certain communities have older hardware, like circuits. The AEP outages suggest these upgrades are needed so these communities can keep up with demand during extreme temperatures. The First Energy grid modernization application also shows these upgrades are

¹⁰ J.M. Boggess et al., *Storm and Flood Hardening of Electrical Substations*, IEEE PES T&D Conference and Exposition (2014).

¹¹ M. Movahedniabet al., *Power Grid Resilience Enhancement via Protecting Electrical Substations Against Flood Hazards: A Stochastic Framework*, 18 IEEE Transactions on Industrial Informatics 2132 (2022) doi: 10.1109/TII.2021.3100079.

¹² <https://www.sciencedirect.com/science/article/abs/pii/S0142061520312229>

needed to take advantage of software updates. Thus, the OEC suggests opening a grant category for eligible entities to improve hardware, such as circuits, in Ohio census tracts identified as disadvantaged in at least one category under the Climate and Economic Justice Screening Tool.

4. Distributed Energy Resources

Distributed energy resources can reduce the impact of outages by allowing communities to operate independently and maintain electric service to residents when the greater grid is compromised.

5. Energy efficiency

Energy efficiency offers many resiliency benefits. Energy efficiency can reduce demand to avoid overloading the electrical grid at all or reduce the need for backup power sources.¹³ Energy efficiency can also enhance the resilience impacts from other distributed energy resources by allowing storage to meet demand for a longer period or lowering the generation needed to support an islanded microgrid.

To incorporate equity into any energy efficiency programs, the OEC proposes a graduated benefit to consumers based on income. The highest rebates, rate incentives, etc. should go to the lowest income customers. For example, a rebate program on electric water heaters would cover 70% of the cost for those households living at or below 250% of the poverty line and 30% of the cost for those households above 250%.

6. Job training program

Create a job training program that prioritizes persons living in an area covered by Inflation Reduction Act section 13101(f)(11)(B) and persons living in a disadvantaged community under the Justice40 screening tool. Any job training program should compensate trainees at the industry's prevailing wage, provide transportation or travel reimbursement, provide childcare support, and provide career counseling. Job training curriculum subjects could include:

- Grid engineering for accelerated renewable energy deployment
- Solar panel installation
- Home Weatherization

¹³ Relf, G and Jarrah, A, *Measuring Three Rs of Electric Energy Efficiency: Risk, Reliability, and Resilience*, American Council for an Energy-Efficient Economy (2020) available at: <https://www.aceee.org/topic-brief/measuring-three-rs>.

g) What are the implications of Section 40101(e)(2)(C), which provides that “[a]n eligible entity may not submit an application for a grant provided by the Secretary under subsection (c) [Grid Resilience Competitive Grants] and a grant provided by a State or Indian Tribe pursuant to subsection (d) [Grid Resilience Formula Grants] during the same application cycle”?

This limitation underscores the purpose of formula grants to spur new and innovative projects, while competitive grants are intended to support existing projects already underway in states. It also underscores Congress’s desire for increased public transparency in formula grants by routing these new projects through state grantees. The OEC agrees with this commission that the limitation in section (e) calls attention to the divergent purposes of each grant. Formula grant grantees should take this limitation into account when selecting subgrantees. To fully consider the implications of this section, it may make sense for the grantee to include a question in its subgrantee applications:

“If you are not awarded a grid resilience formula grant under section 40101(d), do you plan to submit an application for a grid resilience competitive grant under 40101(c)?”

The statutory language in section (c) compared to section (d) clearly outlines the purpose for formula grants to go to new projects and competitive grants to go to entities with well-established, existing resilience projects. Section (c)(1)(A) only makes competitive grants available for activities that “are supplemental to existing hardening efforts of the eligible entity planned for any given year.” Competitive grants also limit the amount to no more than “the total amount that the eligible entity has spent in the previous 3 years.” *Id.* at (c)(3). Thus, the OEC thinks that competitive grants may be a better fit for the large, far-reaching investor-owned utilities in Ohio.

Formula grants may be better suited for municipalities, newer county distribution entities, and other less developed eligible entities. Large-scale investor-owned utilities have the resources to engage with the federal grantmaking process and have existing projects underway that could easily plug in federal dollars. Municipalities and other eligible entities are better suited for the formula grants which build in additional technical support and oversight from the state grantees.

The limitation in section (e) simply reinforces the diverging purposes of these two grants already articulated throughout the statute and DOE Guidance. Given this limitation, formula grantees should prioritize subgrantees who are less likely to get grants through section (c). The DOE Guidance for these formula grants emphasizes that funds should be used for new projects, rather than building on existing resilience projects in the state. Thus, this Commission should only award grants to proposed projects that do not overlap or build on existing resilience projects within the state.

Thank you for your careful attention to this important matter. The OEC looks forward to additional comment opportunities in the future.

Respectfully Submitted,

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I hereby certify that a true copy of the foregoing correspondence was filed electronically through the Docketing Information System of the Public Utilities Commission of Ohio on August 26, 2022. The PUCO's e-filing system will electronically serve notice of the filing of this document on counsel for all parties.

/s/Karin Nordstrom

Karin Nordstrom

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

8/26/2022 5:35:56 PM

in

Case No(s). 22-0755-AU-COI

Summary: Comments Comments filed by Karin Nordstrom on behalf of the Ohio
Environmental Council electronically filed by Ms. Karin Nordstrom on behalf of Ohio
Environmental Council