

Public Hearing for Colorado's Application for Grid Resilience

Funding under the Infrastructure Investment and Jobs Act (IIJA)



Stakeholder Engagement for Microgrids for Community Resilience

Funding under HB22-1013



Purpose

Describe and discuss new interrelated state and federal funding opportunities to increase the resilience of the electrical grid in Colorado through:

- Developing Microgrids
- Advanced Monitoring of Distribution Systems
- Grid Hardening
- Distribution line updates

Present Draft Guidelines

- [Draft 40101d Narrative](#)
- [Microgrids for Community Resilience](#)

We are collecting comments through December 5.



Agenda

1. **Colorado's Climate & Resilience Strategy**
2. **Background on IIJA Electric Grid Resilience Funding**
3. **Colorado Proposed Use of IIJA Grid Resilience Funding**
4. **Microgrids and HB22-1013**
 - a. **Eligible Projects**
 - b. **[Application and Selection Criteria](#)**
5. **Additional Funding Opportunities**
6. **Comment Submission Instructions**
7. **Discussion & Comments**



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and Jobs Act (IIJA)



Colorado's Climate and Resilience Strategy

Building on the State's [GHG Pollution Reduction Roadmap](#), [Energy Assurance Emergency Plan](#), and [Colorado Resiliency Framework](#), Colorado will:

- Create a Grid Resilience & Reliability Study to guide investments (per HB22-1249)
- Support initial investments in solutions that make energy systems resilient while advancing an equitable transition to a low-carbon economy



IIJA Definition

Infrastructure Investment and Jobs Act

- Bipartisan Infrastructure Law (BIL)
- Became law on Nov. 15, 2021.
- 5 years of funding
- 60 programs



IIJA Funding for Preventing Outages & Enhancing the Resilience of the Electric Grid

- Colorado formula funding: \$17,270,136 (expected total for 2 years)
 - \$8,635,068 (1st of 5 years)
 - \$8,635,068 (*expected* 2nd of 5 years)
- State's application due no later than March 31, 2023
- Additional information on federal application process:
<https://netl.doe.gov/bilhub/grid-resilience/formula-grants>

We are accepting comments to the State's proposed approach by December 5th, 2022 at 5pm.



Eligible Entities per the IIJA

States and Indian Tribes may use grant funding to issue sub-awards to eligible entities, which include:

- An electric grid operator
- An electricity storage operator
- An electric generator
- A transmission owner or operator
- A distribution provider
- A fuel supplier
- Or any other relevant entity as determined by the Secretary of the Department of Energy



Qualified Uses per the IIJA

- a) weatherization technologies and equipment;
- b) fire-resistant technologies and fire prevention systems;
- c) monitoring and control technologies;
- d) the undergrounding of electrical equipment;
- e) utility pole management;
- f) the relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors;
- g) vegetation and fuel-load management;
- h) the use or construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including:
 - a. microgrids; and b. battery-storage subcomponents;
- i) adaptive protection technologies;
- j) advanced modeling technologies;
- k) hardening of power lines, facilities, substations, or other systems from weather events, fire, etc.
- l) the replacement of old overhead conductors and underground cables.



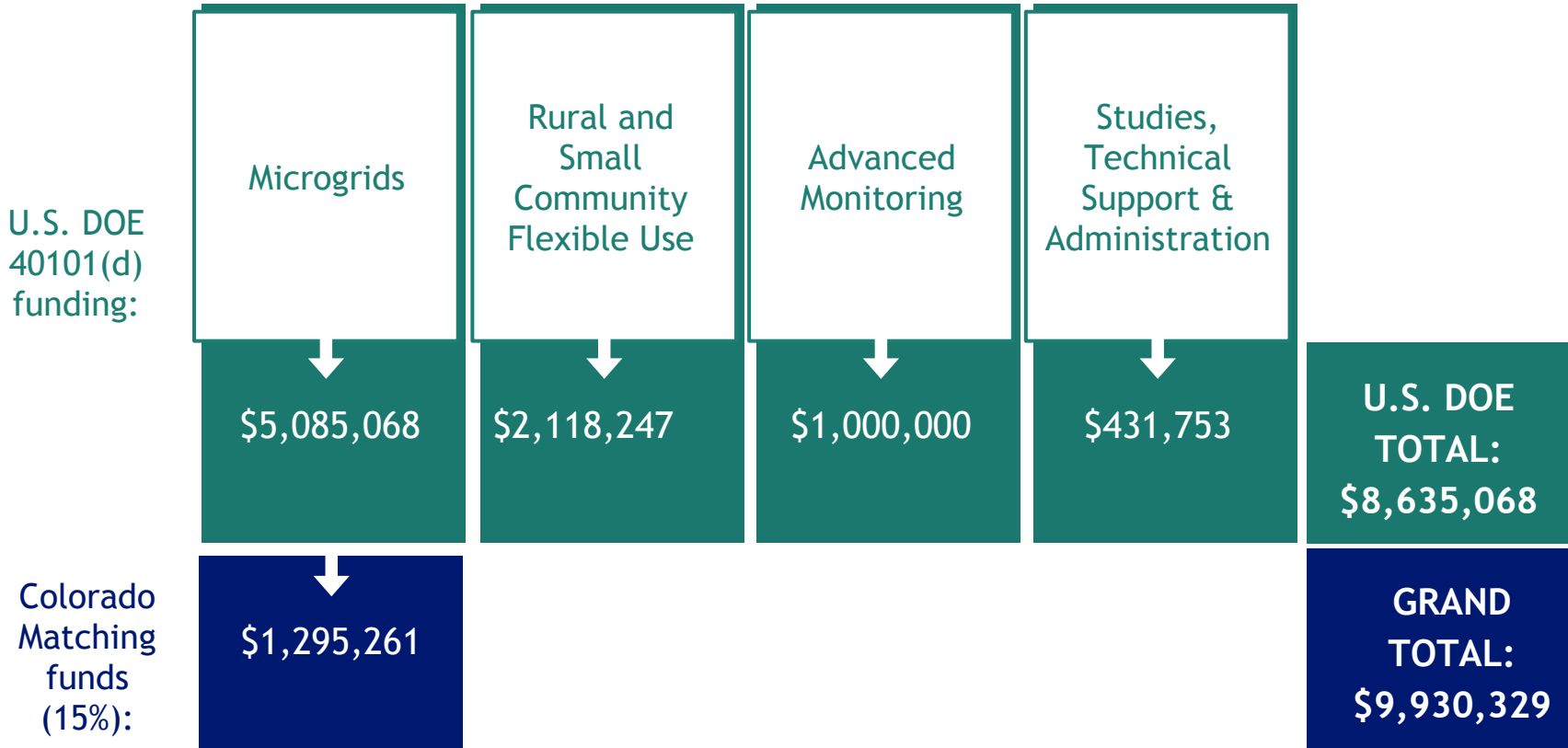
Colorado's Proposed Planned Investments

Initial investments on:

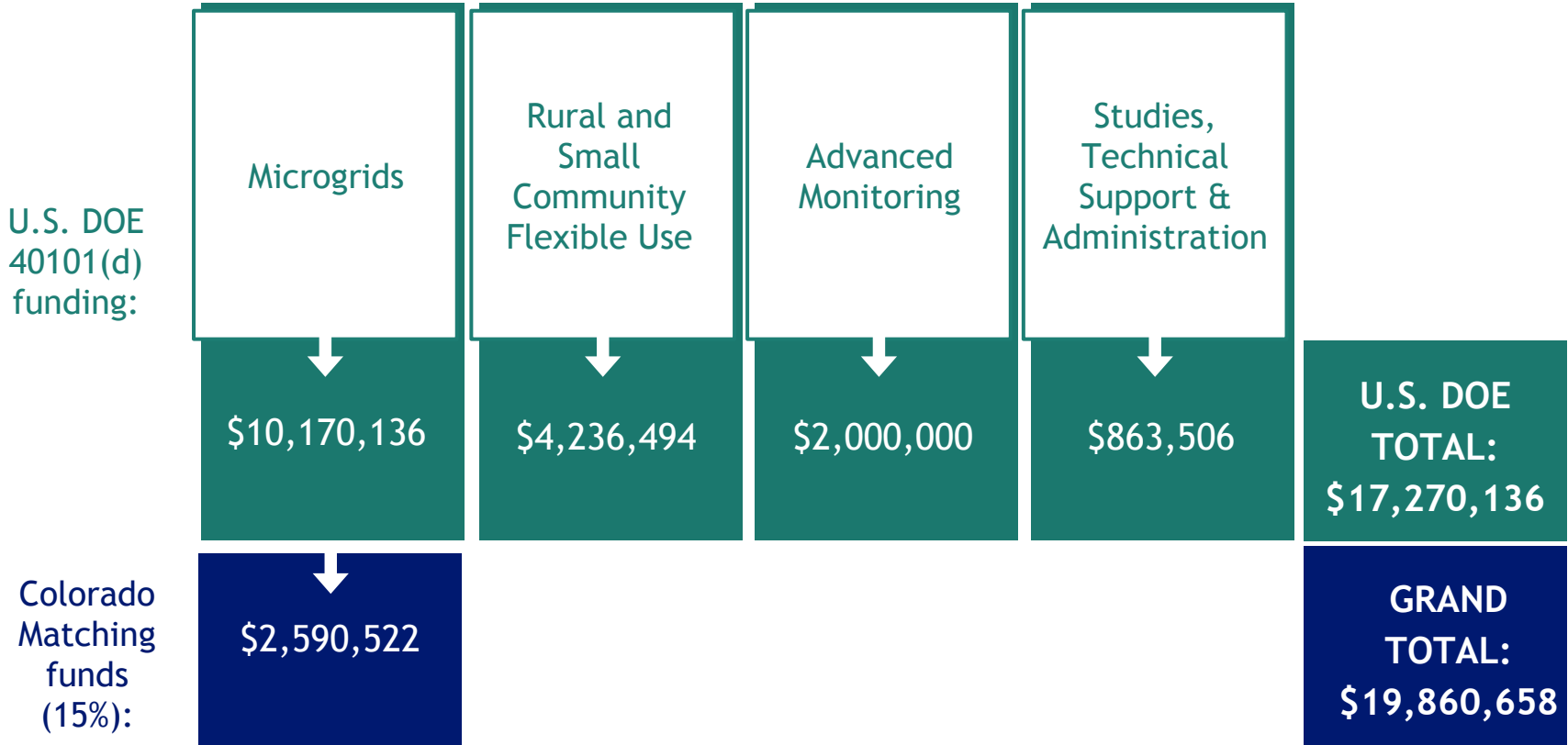
- Construction or use of distributed energy resources for enhancing system adaptive capacity during disruptive events, including microgrids and battery-storage subcomponents
- Flexible funding for rural utilities within any IIJA specified eligible use
- Investment in monitoring and control technologies with a particular focus on the use of drones and other advanced monitoring technologies to secure rural and remote electric delivery systems
- Provision of technical assistance and additional study that will help identify vulnerable areas and populations and help prioritize future investments



Proposed Budget - Fiscal year 2023



Proposed 2-year Budget - Fiscal year 2023 & 2024



Process for Awarding Grants

- The State will use a competitive solicitation process to fund projects.
- Criteria for scoring will be published with the solicitation.
- CEO, DOLA and DORA will collaborate on determining which projects will receive funding.
- Eligible entities can apply for funding for more than one project as long as projects focus on different investment.
- Applicants will need to provide matching funds of either 33% or 100% (for larger entities).



Rural and Small Community Grid Hardening

- In addition to the focus on the microgrids and advanced monitoring, \$2.5M will be available for more flexible uses to small and rural utilities OR for any eligible entity to use in rural areas.
- This will include any of the eligible uses listed for this funding:
 - a) weatherization technologies and equipment;
 - b) fire-resistant technologies and fire prevention systems;
 - c) monitoring and control technologies;
 - d) the undergrounding of electrical equipment;
 - e) utility pole management;
 - f) the relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors;
 - g) vegetation and fuel-load management;
 - h) adaptive protection technologies;
 - i) advanced modeling technologies;
 - j) hardening of power lines, facilities, substations, or other systems from weather events, fire, etc.
 - k) the replacement of old overhead conductors and underground cables.



Advanced Grid Monitoring Technologies

- - Communications systems that identify or allow a utility to respond to disruptions on the transmission or distribution system
- Technologies that allow real-time monitoring of power flow or power quality on the distribution system



Wildfire Risk Monitoring and Control Technologies

- Modeling structural components and wires as interconnected elements.
- Identifying and mitigating pole overload and clearance issues with aerial drones and survey grade LiDAR.
- Detecting and mitigating ground conditions capable of posing ignition threats.



Studies and Technical Support

- Grid Resilience and Reliability Roadmap (Microgrid Roadmap)
 - Joint effort between the Colorado Energy Office and Colorado Resiliency Office
 - Identify communities at highest risk of power outages due to natural disasters or grid interruptions
 - Draft due 7/1/24, Final due 1/1/25
- Dept. of Energy - Upper West Technical Assistance Program



Solicitation Scoring Criteria

The State will use the following rubric for scoring responses to solicitations:

- Demonstrates the greatest community need, benefit, and collaboration
- Reduces vulnerabilities and increases grid reliability and resiliency
- Local commitment and readiness
- Cost effectiveness
- Proportion of historically marginalized community members in communities served, measured by area mean income (AMI), % below AMI, racial, and ethnic composition
- Assisting state-wide emissions reduction and renewable energy targets



Equity Approach

- Colorado will follow Justice40 principles, using its state built [EnviroScreen](#) tool to score proposals on how they serve disproportionately impacted communities
- Scoring criteria for all allowable uses will include a narrative on how applicant entities will prioritize equity in their program use
- Applicants will be asked to also provide proposed allocation of funding by zip code to determine how funding is being spent in DI/Justice40 communities



IIJA Additional Grant Opportunities

Grid Resiliency and Innovation Partnership (GRIP) Competitive Funding

- 3 programs under IIJA
- \$10.5 Billion over 5 years
- Year 1 funding applications will open late fall 2022

Building Energy Codes: Resilient and Efficient Codes Implementation Program

- \$225,000,000 available
- Funding applications will open late 2022

Energy Improvement in Rural or Remote Areas Program

- \$1 billion available over 5 years
- Funding applications will open late 2022



Questions?

IIJA 40101d - Colorado Formula Funding for Grid Infrastructure Resilience and Reliability

Grid Resiliency Programs:

1. Advanced Grid Monitoring Technologies
2. Rural and Small Community Grid Resilience
3. Studies and Technical Support



Stakeholder Engagement for Microgrids for Community Resilience

Funding under HB22-1013

November 17, 2022



COLORADO
Department of Local Affairs
Division of Local Government



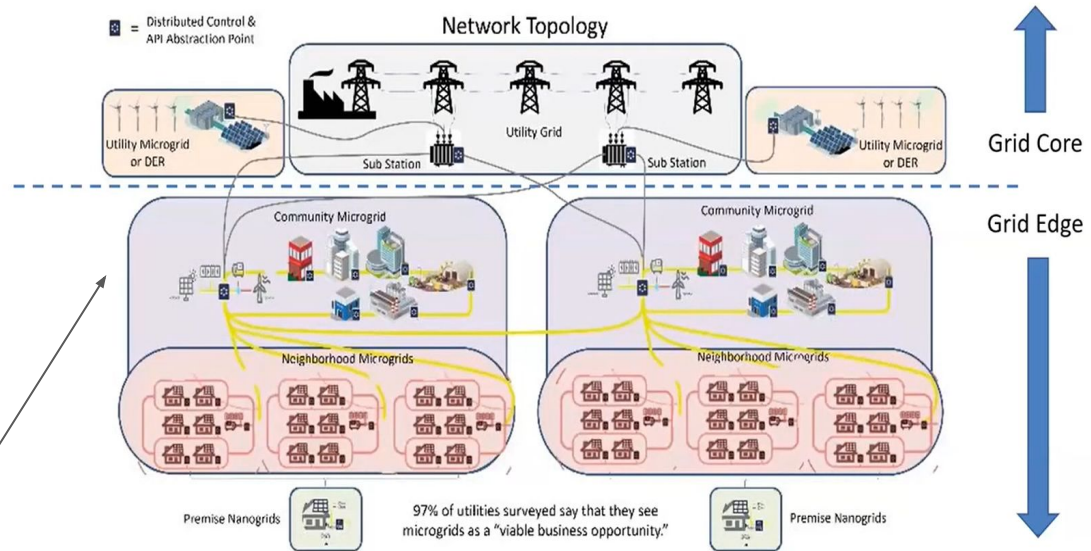
COLORADO
Energy Office



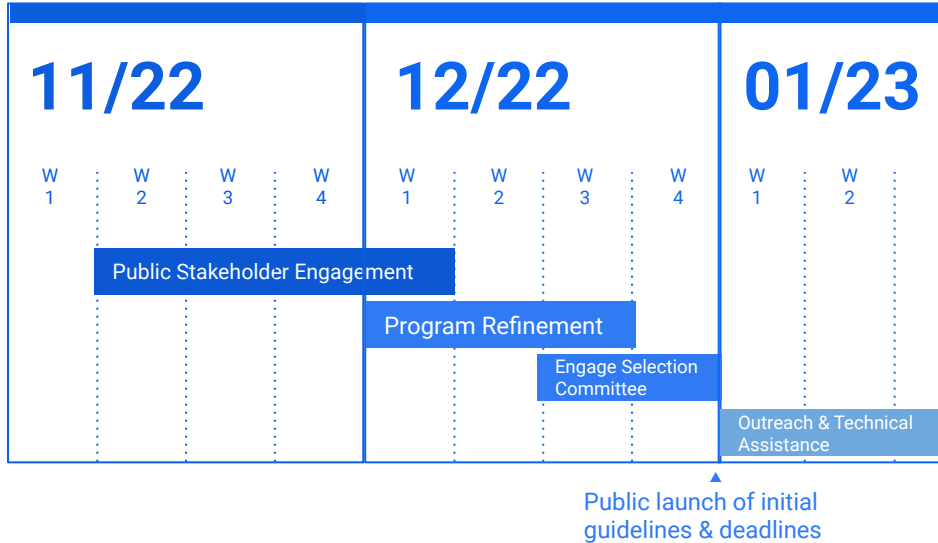
COLORADO
Department of
Regulatory Agencies

HB22-1013 - Microgrids for Community Resilience

- Sets aside \$3.5M for the DOLA Colorado Resiliency Office to set up a Microgrids for Community Resilience (MCR) Grant Program
- Eligible applicants are **electric cooperatives and municipal-owned utilities** serving rural communities.
- Authorizes applying for, receiving, and distributing funding from federal and private sources
- Focus on **community** resilience, as illustrated here



MCR Timeline



IIJA Formula
Grant
Deadline
(3/31/23)

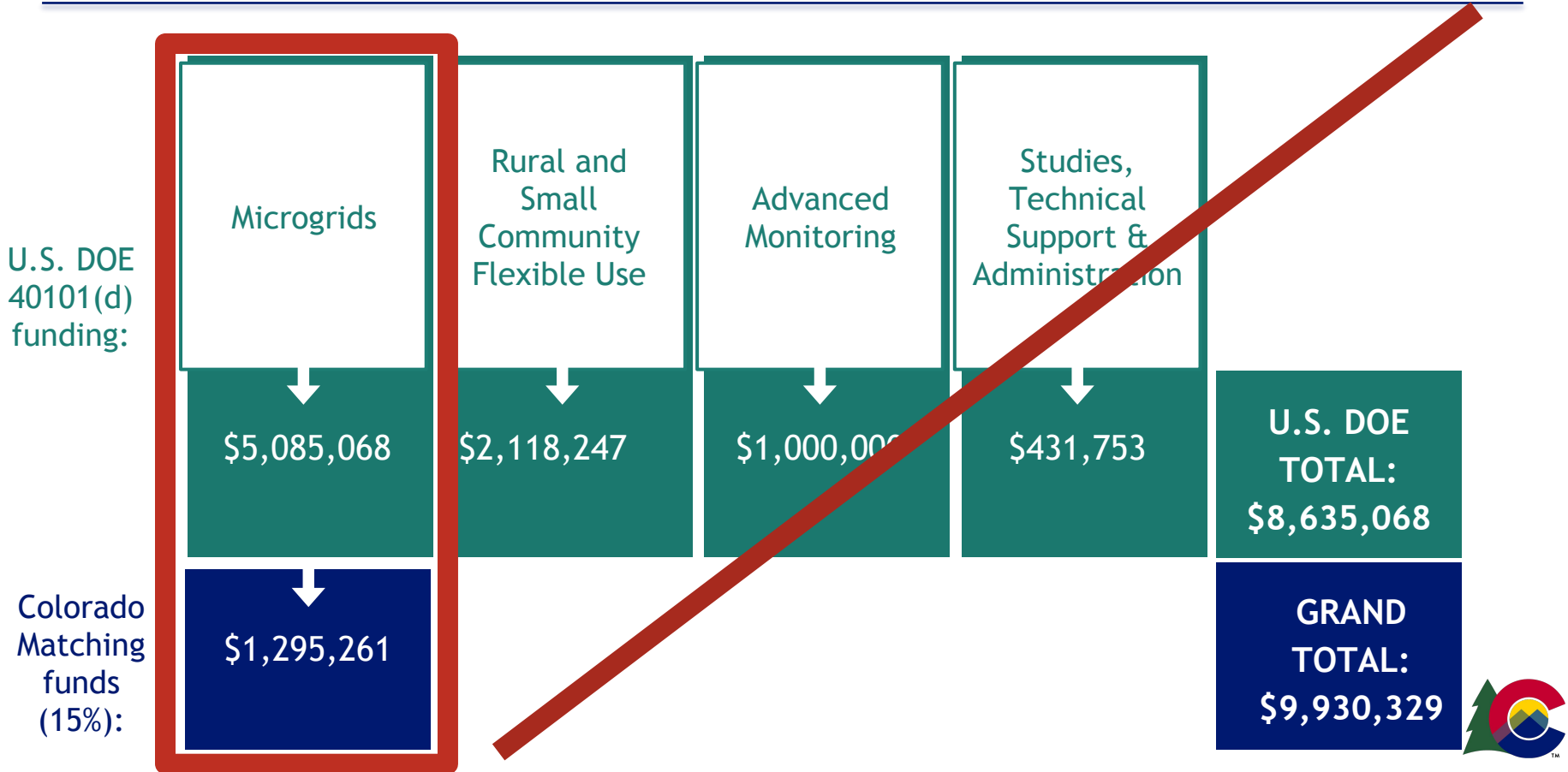
The application and award timeline will be announced pending Formula Funding award from the U.S. DOE, which is expected in Q1 of 2023.

Awards will be made in late 2023.

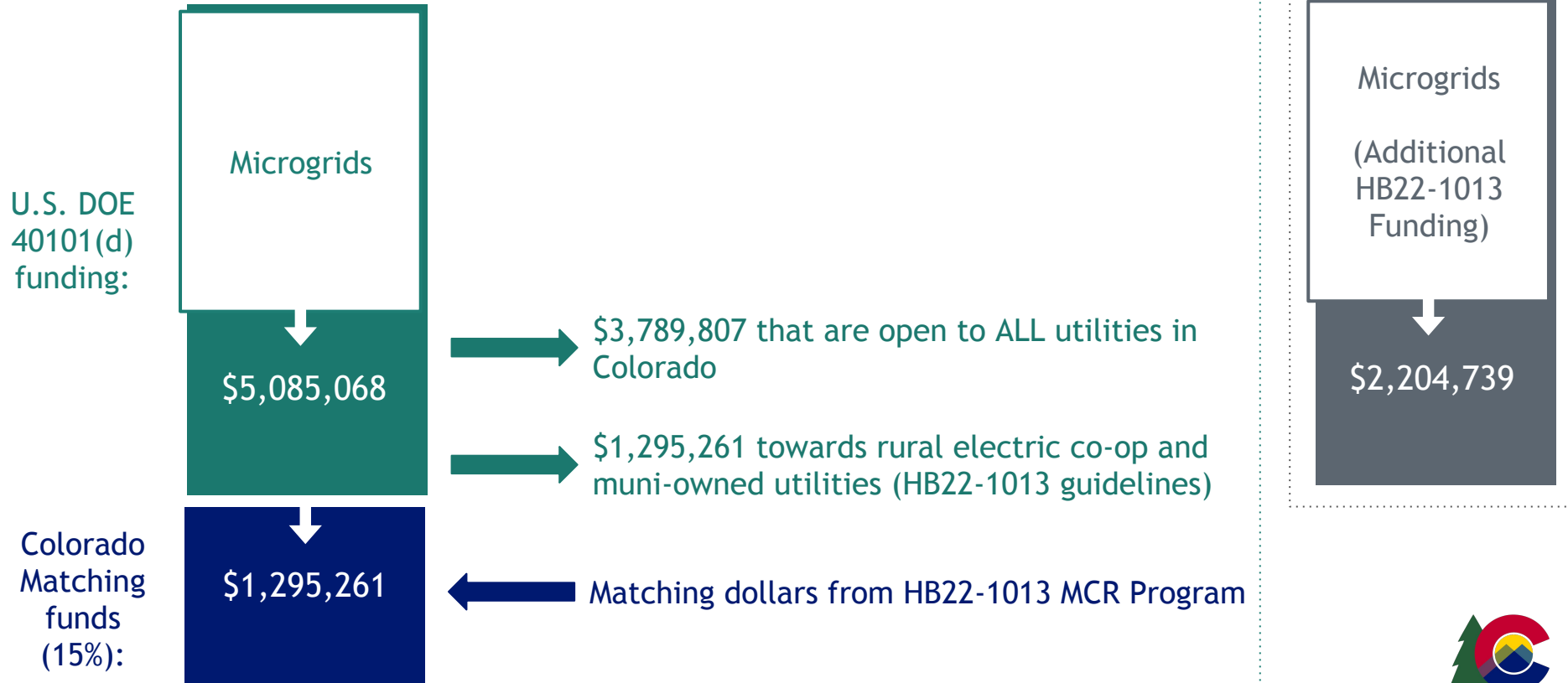
Grantees will have two years to spend funds (expected November 2025).



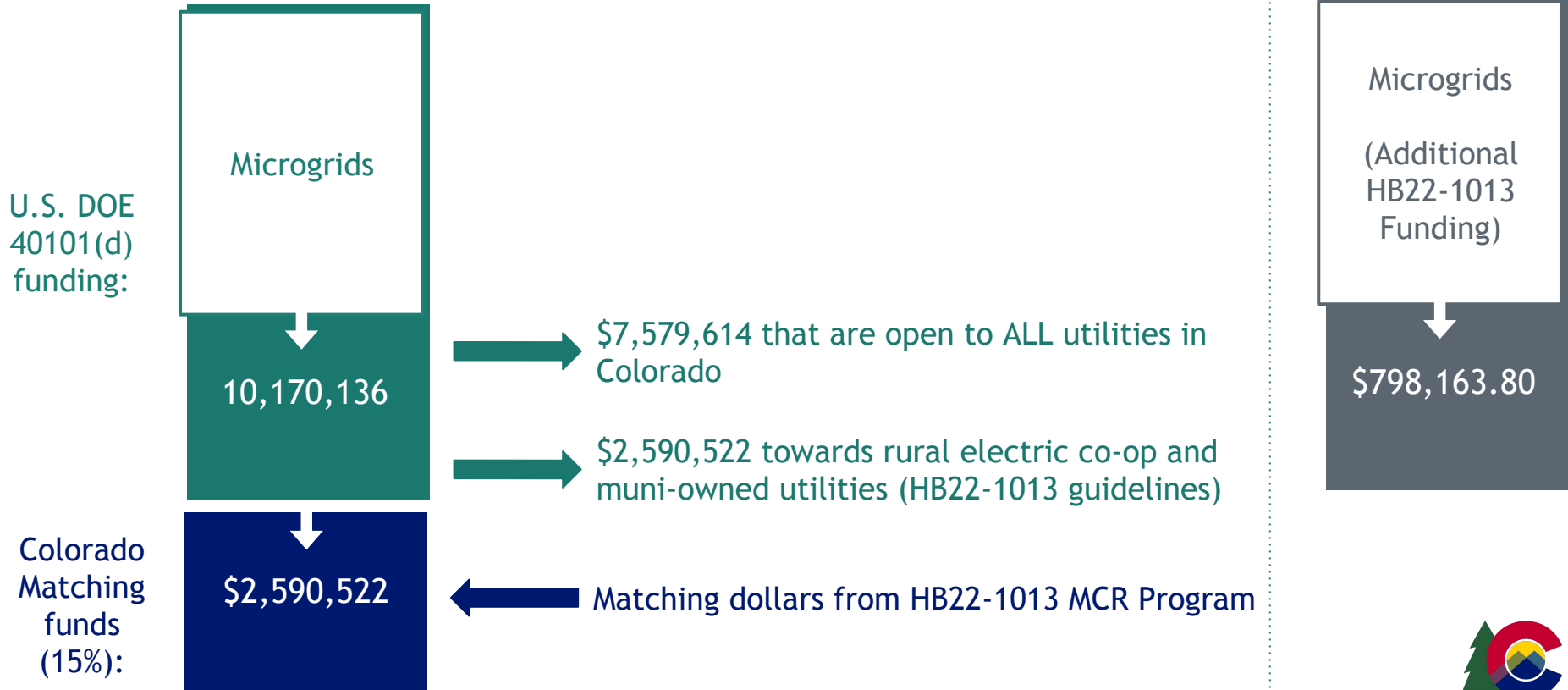
Proposed Budget - Fiscal year 2023



Microgrids for Community Resilience - FY 2023



Microgrids for Community Resilience - FY 23 & 24



Overview of Eligible Projects

Project Type	Planning	Construction/Implementation
Max Award	\$36,000	\$1,005,000
Match Required	25%	33% - can come from other federal, state, or private funding that relates directly to the planning, construction and implementation of the proposed microgrid project
Total Project Budget (Max Award + Match)	\$45,000	\$1,300,000
Examples uses	<p>Establish community's potential for microgrid projects, including scale, size, and cost</p> <p>Evaluate existing infrastructure's vulnerability through resiliency criteria</p> <p>Develop recommendations to integrate resiliency criteria into forthcoming energy projects</p>	<p>New microgrid facilities, including shovel-ready projects. Priority will be given to projects leveraging pre-existing assets. Projects are technology agnostic, and can include funding for:</p> <p>Energy storage (batteries, vehicle to grid battery storage, pumped hydro, geothermal, small wind, solar) microgrid controller, Distributed Energy Resources (DER), if connected to microgrid-tied storage</p>



Application and Selection Criteria

01

Demonstrates the greatest community need, benefit, and collaboration

02

Reduces vulnerabilities and increases grid reliability and resiliency

03

Local commitment and readiness



Application and Selection Criteria

01

**Demonstrates the greatest
community need, benefit,
and collaboration**

- Opportunity and/or challenge are clearly defined
- Proposed project matches desired project outcomes
- Include demonstrations of support from community-based partners, including anchor institutions, local governments, and/or partner organizations
- Root projects in community based institutions with multiple uses (e.g., a center that serves as both a community gathering space, as well as public health or emergency services support)



Application and Selection Criteria

02

**Reduces vulnerabilities
and increases grid
reliability and resiliency**

- Utility has measurable exposure to severe weather or natural disaster events that could disrupt electrical service
- The proposal includes data and narrative demonstrating infrastructure vulnerability and how the proposal will reduce those vulnerabilities
 - (e.g., standard Key Performance Indicators: MTBF (mean time before failure), MTTR (mean time to recovery, repair, respond, or resolve), MTTF (mean time to failure), and MTTA (mean time to acknowledge))
- Serves communities that are socially vulnerable



Application and Selection Criteria

03

Local commitment and readiness

- Proposed microgrid has a higher reliance on non-fossil-fuel-based generation
- Demonstrate readiness through a track record of utility actions and planning efforts which may include, but is not limited to:
 - The utility has (or is proposing to) take the opportunity to promote energy efficiency and demand-side management programs
 - The utility has (or is proposing to develop) an incentive program that saves partners money when they use energy storage to reduce electricity use during peak electricity use periods.
 - Other programs that demonstrate a commitment to local energy resiliency, reliability, and "microgrid readiness"
- Demonstrate readiness through financial resources being committed and aligned with risk mitigation and community goals
- Aligns with regional and/or local plans
- Timeline is feasible
- Demonstrates eligibility through local effort and match



Additional Microgrid-Related Funding

DOLA:

- [Renewable and Clean Energy Initiative](#) (a setaside from Energy/Mineral Impact Assistance Fund Grant - EIAF)

CDPHE:

- [Clean Fleet Enterprise](#)

DHSEM:

- [Building Resilient Infrastructure and Communities \(BRIC\)](#)
- [Hazard Mitigation Grant Program \(HMGP\)](#)
 - [Emergency Back-Up Power Mitigation Projects, including microgrids and generators](#)

CEO:

- [Public Building Electrification Grant](#)



Next Steps

DEADLINE FOR COMMENT: Monday, December 5, 2022

Stakeholders should submit comments through the [feedback form](#).

You may also reach out to the MCR Grant Program Manager, Julia Masters (julia.masters@state.co.us) to schedule a time to discuss comments.



Questions on the MCR Grant Program



Next Steps

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[DRAFT 40101d Narrative](#)

Contact: John.Parks@state.co.us

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[DRAFT MCR Grant Program Guidelines](#)

Contact: Julia.Masters@state.co.us

