

Budget Narrative: Municipal Empowerment for Clean Energy and Conservation

Total Budget Request: \$129,396,997

Cuyahoga County is requesting a total of **\$129,296,997** in CPRG Implementation Grant funding for the Municipal Empowerment for Clean Energy and Conservation (MECEC) project. Cuyahoga County is the Lead Applicant in coalition with the City of Cleveland and the City of Painesville who will be receiving subawards from Cuyahoga County to implement GHG reduction measures in line with the PCAP submitted by the Northeast Ohio Areawide Coordinating Agency (NOACA). Both the City of Cleveland and the City of Painesville have provided signed Letters of Intent to sign an official MOA due July 1, 2024 to EPA. The breakdown of the budget costs and explanations are below.

Budget Detail:

GHG Measure 1: Clean Electricity

Personnel:

- ***Narrative note 1:***

- Cuyahoga County staff member Mike Foley will devote 35% of his time to this project.
- Cuyahoga County staff member Valerie Katz will devote 35% of her time to this project.
- Cuyahoga County (new) staff will devote 100% of their time to this project; this position will assist with managing the coalition partners as well as assist with reporting requirements and other necessary documentation for this grant.
- Cuyahoga County will have a number of contractual relationships it will have to develop for the successful implementation of the project. \$75,000 a year for five years will be allocated to our Cuyahoga County Law Department to assist with staff expenses for this work.
- Cuyahoga County will have a number of procurement events it will have to develop for the successful implementation of the project. \$25,000 a year for five years will be allocated to Cuyahoga County Office of Procurement to assist with staff expenses for this work.
- Cuyahoga County will require the services of a half time, in-house electrical engineer to assist with overall engineering and design work for all six projects. The Office of Public Works will hire a full time Electrical Engineer with half of that person's time being allocated to this project.

Personnel	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Cuyahoga County Staff position 1, FTE, 35% of time	\$39,838	\$ 40,635	\$ 41,448	\$ 42,277	\$ 43,123	\$207,321
Cuyahoga County Staff position 2, FTE, 35% of time	\$31,632	\$ 32,265	\$ 32,910	\$ 33,568	\$ 34,239	\$164,614
Cuyahoga County Staff position 3 (new), FTE, 100% of time	\$90,000	\$ 91,800	\$ 93,636	\$ 95,509	\$ 97,419	\$468,364
Cuyahoga County internal law department staff support	\$75,000	\$76,500	\$78,030	\$79,590	\$81,182	\$390,302

Cuyahoga County procurement staff assistance	\$25,000	\$25,500	\$26,010	\$26,530	\$27,060	\$130,100
Cuyahoga County Electrical Engineer staff position (new), FTE, 50% of time	\$60,000	\$ 61,200	\$ 62,424	\$ 63,672	\$ 64,945	\$312,241
TOTAL PERSONNEL	\$321,470	\$327,900	\$334,458	\$341,146	\$347,968	\$1,672,942

Fringe:

- **Narrative note 1A:** Cuyahoga County provides a benefits package for each employee that is equal to 22.5% of the employee's annual salary and includes a 2% annual salary increase for each county employee.

Fringe Benefits (narrative note 1A)	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Flat fringe rate equal to 22.5% of the employee's annual salary	\$72,331	\$73,778	\$75,253	\$76,758	\$78,293	\$376,412

Contractual:

- **Narrative note 2:** 13MW solar installation for the construction of 3 distinct solar projects occurring in Cuyahoga County. These sites include Construction costs are anticipated to begin in Year 1 with projects coming online in Year 3. Project costs are higher in years 1-3 to account for construction. Project sites include: Harvard Rd. South Section , Garfield Heights, and Brooklyn.

CUYAHOGA COUNTY	Cost	MW
Brooklyn Landfill	6,300,000	5.3
Harvard Rd (South Section)	5,530,000	4.9
Garfield Heights	2,800,000	2.8
<i>interconnection</i>	450,000	
<i>contingency</i>	2,645,250	
Solar Total	17,725,250	
MW total		13

- **Narrative note 3:** Engineering consultant costs for the 5 year project timeline, anticipated higher cost in the first 3 years of construction due to the need for engineering study and analysis.
- **Narrative note 4:** Legal consultant will be used for assistance surrounding interconnection policy with PJM, and other grid related questions. This line item is based on past experience from the Lead Applicant on a previous landfill solar development project that came online in 2015 and through current microgrid development work CGE is engaged in.
- **Narrative note 5:** Community Engagement Consultant for coordination and management of the Community Advisory Board meetings, (4x per year over the course of the 5 years project period), outreach engagement for all project sites, and overall ongoing community engagement needs for the course of the project period. A contracted consultant for community engagement is needed to help coordinate the individual needs across all project components, as well as to interface with the lead applicant for any community engagement deliverables needed for grant reporting purposes. Sites are located across a two-county region; a consultant would enable more

accountability between the community and the project as this consultant will interface regularly with county staff to ensure program milestones are being met and comply with community engagement reporting requirements.

Contractual	Year 1	Year 2	Year 3	Year 4	Year 5	
<i>13MW solar installation for 3 sites within Cuyahoga County (Narrative note 2)</i>	\$5,465,285	\$4,135,892	\$4,135,891	\$2,658,788	\$1,329,394	\$17,725,250
<i>Engineering Consultant Costs (Narrative note 3)</i>	\$300,000	\$200,000	\$200,000	\$200,000	\$100,000	\$1,000,000
<i>Outside legal consultant (Narrative note 4)</i>	\$300,000	\$200,000	\$200,000	\$200,000	\$100,000	\$1,000,000
<i>Community Engagement Consultant (Narrative note 5)</i>	\$90,000	\$90,000	\$70,000	\$50,000	\$50,000	\$350,000
TOTAL CONTRACTUAL	\$6,155,285	\$4,625,892	\$4,605,891	\$3,108,788	\$1,579,394	\$20,075,250

Other:

- **Narrative note 6:** Subaward to the City of Painesville, funds will be used for the following: A 35MW solar system with a 10MW battery, inclusive of distribution line costs and site control needs, personnel costs for program administration and implementation within the city of Painesville, inclusive of retraining of Painesville Municipal Electric Division staff. Inclusive of the subaward to the City of Painesville is \$16.5 million for site control needs for the 35MW solar installation, Figure 1 on page 8 of this document has a detailed breakout for the solar needs. Anticipated needs for site control, engineering analysis, and legal support yield a higher budget for years 1-3.

OTHER	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<i>Subaward to the City of Painesville for a 35MW solar system with a 10MW battery</i>	\$24,871,862	\$18,821,950	\$18,821,950	\$12,099,825	\$6,049,913	\$80,665,500

- As mentioned above, Painesville intends to increase staff capacity within Painesville Municipal Electric to help administer this project, as well as retrain the current coal plant staff within Painesville Municipal Electric. A further break down of capacity costs that are included in the total subaward amount are below:

Legal costs (external)	\$750,000.00
Staff training & retraining:	\$250,000.00
Project Manager (1 FTE, 100%):	\$375,000.00
Additional Plant Staff (1 FTE, 100%):	\$300,000.00
Engineering Consultant	\$500,000.00
	TOTAL \$2,175,000

- The Painesville solar and storage project will be run as its own project and will be managed by Painesville Municipal Electric. Given the similar nature of the projects, they will each follow a similar timeline with similar milestones. These milestones are shown below and are reflected in higher costs for Project years 1-3 of their subaward.

Milestone	Completion Period
Preliminary engineering and site plan development	Q1 2025
Interconnection study	Q3 2025
Permitting and environmental studies	Q3 2025
Procure and contract EPC	Q1 2026
Procure long lead time materials	Q2 2026
Construction	Q4 2026
Utility Connection	Q1 2027
Energize System and Commissioning	Q1 2027

- **Narrative note 7: Subaward to the City of Cleveland**, funds will be used for the following: The City of Cleveland will be developing 15.1MW of solar across three locations (Kolthoff Rd., W11th, Harvard Rd. North), over the phase of the project period, with higher project costs in the first 3 years of the project period. Total breakdown of cost per site is below:

Cleveland: Clean Electricity	Cost	MW
Kolthoff	8,400,000	7
W.11	3,197,250	3.2
Harvard rd north	5,530,000	4.9
interconnection	450,000	
contingency	2,645,250	
Total for CLE Solar	20,222,500	
MW Total		15.1

- Included in the line item cost for the W.11 solar system installation is funding for a public art installation totaling \$47,250 (1.5% of the cost of the solar system). The W.11th site is located in the middle of a residential area on brownfield land; the community development corporation in this neighborhood (Old Brooklyn) wishes to activate the space surrounding the solar arrays for community benefit.

OTHER	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<i>Subaward to the City of Cleveland inclusive of City of Cleveland personnel costs, including fringe, for program administration and implementation</i>	\$6,569,317	\$4,971,375	\$4,971,375	\$3,195,884	\$1,597,942	\$21,305,893

- Staff time: One new full-time staff position will be created and two new part-time positions to help implement and administer the grant deliverables. The full-time position will be housed within Cleveland Public Power; the two part-time positions will be divided between the Cleveland Hopkins Airport and The Mayor's Office of Sustainability. All three positions will support on-going project coordination and implementation including project build outs, grid interconnections, airport power integration, organizing the pollinator landscaping, pocket park work at W.11th and community engagement assistance with the three projects.

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Total</u>
Staff FTE, 50%	37,500	38,640	39,799	40,993	42,222	199,154
Staff FTE, 50%	37,500	38,640	39,799	40,993	42,222	199,154
Staff FTE, 100%	75,000	77,280	79,598	81,985	84,444	398,307
Fringe 36%, 3% escalator	54,000	55,641	57,310	59,029	60,799	286,779
			total personnel costs			1,083,393

- **Narrative note 8:** Manufacturing Works (MW) will be a subrecipient of funds to carry out workforce ecosystem capacity building and coordination (e.g., apprenticeship programs, renewable energy training, partnerships, employer engagement, student recruitment, marketing). MW will work with coalition members to develop renewable energy related pre-apprenticeship programs and will conduct grassroots outreach to increase awareness about available job and pre-apprenticeship positions. In anticipation of the installation schedule funds for MW are higher in the first year of the project in anticipation for increased staff time.

<i>Subaward for workforce ecosystem capacity building and coordination</i>	\$500,000	\$400,000	\$400,000	\$400,000	\$300,000	\$2,000,000
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Indirect Costs:

- There was a 10% contingency cost factored into the overall cost of the solar installation price for Cuyahoga County, the City of Cleveland, and the City of Painesville; therefore an additional 10% indirect cost is not needed.

GHG Measure 2: Nature-Based Solutions

Personnel, Fringe Benefits, Travel, Equipment, Supplies

- **Narrative Note 9:** There are no funds required that fall under these categories due to this PCAP measure being implemented via subaward or contract agreements for all sites.

Contractual:

- **Narrative Note 10:** Cuyahoga County will contract the implementation of nature based solutions surrounding the solar array and adjacent property at each location (Brooklyn Landfill, Harvard Rd. South, Garfield Heights). A seed mix including native pollinator species and meadow species

that are suitable for planting on capped landfills and near solar panels planting will be planted @ \$2,000/acre (\$500 for seed, \$1500 for install including site preparation and invasive species management); 19 acres in total will be planted.

Contractual (Narrative Note 10)	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<i>Conservation measures for implementation of nature based solutions ; to be contracted</i>			\$19,000	\$19,000		\$38,000
TOTAL CONTRACTUAL	\$0	\$0	\$19,000	\$19,000	\$0	\$38,000

Other:

- **Narrative Note 11:** Subaward to coalition member, the City of Painesville, for conservation measures and implementation of nature based solutions surrounding the Painesville Municipal Electric solar array and adjacent property that consists of:
 - Subaward to local conservation nonprofit, **West Creek Conservancy to carry out the following nature-based solutions, totaling \$3,025,000**
 - Native pollinator habitat: An initial planting of 140 acres will occur in 2025; a secondary planting of 100 acres will occur in 2026, and the final 160 acres will be planted by 2028. Native pollinator planting @ \$2,000/acre (\$500 for seed, \$1500 for install including site preparation and invasive species management); 400 acres total. **\$800,000 total cost**
 - Reforestation: Approximately 4,000 1” caliper trees will be planted, with species including sycamore, cottonwood, red maple, silver maple, sugar maple, northern red oak, white oak, American basswood, black willow, sandbar willow, and dogwood. Trees @ \$400/tree (including the tree itself, supplies and installation, and maintenance during the establishment period). Trees are scheduled to be planted years 2-4. **\$1,600,000 total cost**
 - Increased staff capacity: 1 FTE, 100% of time over the duration of the project period. This staff person will be incorporated into West Creek’s operating budget beyond the 5 year grant period. As a conservation nonprofit, working at the intersection of renewable energy and conservation is a new endeavor for this organization; the organization requires a specific staff position to provide increased capacity related to perpetual management of the land assets (including maintenance and monitoring of a significant brownfield) associated with this project. This staff person will support the City of Painesville in development of the solar infrastructure, and will interface with the Lead Applicant to ensure timeline and milestones are being met and to support any reporting requirements for nature based solutions implemented by West Creek Conservancy. **\$625,000 total cost**

OTHER	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<i>Subaward to coalition member, the City of Painesville, for conservation measures for implementation of nature based solutions</i>	\$725,000	\$645,000	\$445,000	\$765,000	\$445,000	\$3,025,000

- Narrative Note 12:** Subaward coalition member, the City of Cleveland, for native pollinator planting surrounding the solar arrays at W.11th, Kolthoff Rd, and Harvard Road (North), as well as the development of a small 1.5 acre park on location at W.11th - **totaling \$238,000**
 - Native pollinator planting for 19 acres across the solar sites that the City of Cleveland will be leading. The native pollinator planting will occur after construction of the solar arrays have been completed at each site location. Native pollinator planting @ \$2,000/acre (\$500 for seed, \$1500 for install including site preparation and invasive species management); 19 acres total.
 - In collaboration with the Old Brooklyn Community Development Corporation, the City of Cleveland will assist in the development of a 1.5 acre “parklet” to utilize the space surrounding the solar array located at W. 11th. This parklet will be accessible to the community, and include lights, clover cover, benches, a kiosk for educational purposes (non-digital), and a wood chip path. Trees already exist on this site and will be preserved to the extent possible; the City of Cleveland will use the Tree Preservation Ordinance to replace any trees lost with 2" caliper trees. Cost is inclusive of a 5 year project timeline for this parklet creation (planning & design, construction, landscaping, and maintenance and operation):

OTHER	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<i>Subaward to coalition member, the City of Cleveland for implementation of nature based solutions</i>	\$50,000	\$50,000	\$40,000	\$49,000	\$49,000	\$238,000

Indirect Costs:

- There are no indirect costs budgeted into this line item.

Expenditure of Awarded Funds

Cuyahoga County has a strong track record for grant management and will convene both coalition members in the weeks following April 1, 2024 grant submission to continue discussions around the specifics of the MOA that will be signed by all coalition members and submitted to the EPA by July 1, 2024.

Anticipated increased staff capacity across the three coalition members will also enable collaborative processes that ensure there is coordination amongst the entities to expend funds in a timely manner through quarterly check-ins with one another. Regular check-ins will include discussion of mandated progress reports and will include discussions around summarizing technical progress, accomplishments, and milestones achieved including a description of outputs and outcomes, planned activities for the next six months, a summary of expenditures to date, and any anticipated challenges. The Community

Engagement Consultant will help this coalition meet all requirements regarding the community engagement plan. This coalition has a vested interest to continue working together beyond the grant period as it relates to municipal energy deployment and innovative approaches to addressing energy burden and energy diversification.

Cuyahoga County as the lead applicant of this coalition will subaward to two entities; The City of Cleveland and The City of Painesville. The explanation above separates out the costs per GHG measure, Clean Electricity and Nature Based Solutions. The City of Painesville and the City of Cleveland are represented within both GHG measure sections but will each be receiving one subaward from Cuyahoga County that will be inclusive of both PCAP measures. The City of Painesville will be working with a local nonprofit, West Creek Conservancy, to carry out PCAP measures associated with nature based solutions.

Reasonableness of Costs:

a. Clean Electricity

Assumptions for solar and storage costs are below:

- \$2/watt solar costs
- \$350/kWh battery costs for a 35 MWh system (10 MW, 3 hour duration)

The Coalition plans to apply for the 10% low income tax credit adder for each eligible project. Additionally, the Coalition plans on meeting domestic content requirements to make each project eligible for that 10% tax credit adder. Every project in our application will take full advantage of the Section 48 Investment Tax Credit (ITC). At minimum, each project will receive the 30% base ITC as well as the 10% qualified energy community adder, as each project will be placed on a brownfield site or on a census tract bordering a coal plant closure. Further, several of the proposed projects in Cuyahoga County are in low income census tracts, and those projects under 5 MW will request the 10% low-income tax credit adder from the IRS. This means that these projects will at minimum leverage a 40% ITC towards project costs, but a possible 50% or 60%, extending CPRG dollars as far as possible. Utilizing ITC makes this project much more financially viable than without, the table below showcases the cost savings and viability of this project since the Coalition intends to leverage the ITC:

Landfill solar	Capital Costs	ITC Level	Total Cost	System Size (MW)
Kolthoff Landfill	\$14,000,000	40%	\$8,400,000	7
Brooklyn Landfill	\$10,500,000	40%	\$6,300,000	5.3
Harvard Rd (North Section)	\$12,600,000	40%	\$7,560,000	6.3
Harvard Rd (South Section)	\$7,000,000	50%	\$3,500,000	3.5
Garfield Heights	\$5,600,000	50%	\$2,800,000	2.8
West 11th	\$6,300,000	50%	\$3,150,000	3.2
Interconnection	\$1,500,000	40%	\$900,000	
Total Landfill	\$57,500,000		\$32,610,000	

Painesville	Capital Costs	ITC Level	Total Cost
Solar Cost	\$70,000,000	40%	\$42,000,000
Battery Cost	\$10,500,000	40%	\$6,300,000
Distribution Line	\$14,000,000	40%	\$8,400,000
Site Control	\$16,500,000		\$16,500,000
Total Painesville	\$111,000,000		\$73,200,000

	Without ITC	With ITC
Combined Total	\$168,500,000	\$105,810,000

Contingency	Contingency
10%	10%

	Without ITC	With ITC
Grand Total	\$185,350,000	\$116,391,000

Figure 1:

Interconnection costs were calculated utilizing past experiences with Cleveland Public Power and historical information for the Brooklyn Phase I landfill that was previously completed.

The project budget is structured so that 70% of funds are dispersed within the first three years of the project, with the anticipated goal of solar going online in 2027. Personnel costs and associated project implementation costs occur throughout all five years of the project period.

b. Nature Based Solutions

Assumptions for nature based solutions include:

- \$500/acre native pollinator seed mix. While this is higher than the average meadow seed mix one may find on the market, the coalition will be partnering with West Creek Conservancy to develop a unique new pollinator seed mix that is suitable for the specific site characteristics of the proposed brownfield/landfill solar sites. Species will need to be selected that are relatively shade tolerant, won't grow high enough to interfere with the solar panels, and won't root deep enough to interfere with brownfield/landfill cap systems.
- \$1,500/acre of installation of pollinator seed. This includes pre-treating the landscape and prepping the soil for seeding, as well as ongoing invasive species treatment throughout the establishment period of the native pollinator habitat. This cost is based on an average from past ecological restoration projects completed by West Creek Conservancy.

- \$400/tree for reforestation. This includes an estimated \$125 for the tree itself, \$175/tree for planting supplies and installation by a contractor, and \$100/tree for contracted maintenance including watering, deer protection, and invasive species removal throughout the three-year establishment period. These cost estimates are based on past reforestation projects completed by West Creek Conservancy.
- \$125k/year for 1 FTE West Creek Conservancy staff person for oversight of the 1,100 acre Painesville brownfield property and all nature based solutions deliverables associated with the Painesville project. \$125k/year is an average over 5 years including fringe.