

## Sustainable Transportation Eco-Hub Project (STEP)

### Budget Narrative

#### 7. Total CPRG Project Budget

Table 1: Budget overview

Budget category		Total cost	Cost Percentage	Total EPA funding
i.	Personnel		0.0%	\$ 27,127,666
ii.	Fringe Benefits		0.0%	
iii.	Travel		0.0%	
iv.	Equipment		0.0%	
v.	Supplies		0.0%	
vi.	Contractual	\$ 1,823,835	6.7%	
vii.	Other	\$ 25,303,831	93.3%	
viii.	Indirect Charges		0.0%	

Table 2: Budget by year

BUDGET BY YEAR							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	Personnel						
	TOTAL PERSONNEL	\$0	\$0	\$0	\$0	\$0	\$0
	Fringe Benefits						
	TOTAL FRINGE BENEFITS	\$0	\$0	\$0	\$0	\$0	\$0
	Travel						
	TOTAL TRAVEL	\$0	\$0	\$0	\$0	\$0	\$0
	Equipment						
	TOTAL EQUIPMENT	\$0	\$0	\$0	\$0	\$0	\$0
	Supplies						
	TOTAL SUPPLIES	\$0	\$0	\$0	\$0	\$0	\$0
	Contractual						
	Project Management Contractors 2x	\$390,081	\$337,550	\$362,866	\$314,000	\$419,337	\$1,823,835

## Sustainable Transportation Eco-Hub Project (STEP)

	<b>TOTAL CONTRACTUAL</b>	<b>\$390,081</b>	<b>\$337,550</b>	<b>\$362,866</b>	<b>\$314,000</b>	<b>\$419,337</b>	<b>\$1,823,835</b>
	<b>OTHER</b>						
	School district buses and hardware	\$10,351,567	\$10,351,567			\$2,300,349	\$23,003,483
	School district technical project contractor	\$1,150,174	\$1,150,174				\$2,300,348
	<b>TOTAL OTHER</b>	<b>\$11,501,741</b>	<b>\$11,501,741</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,300,349</b>	<b>\$25,303,831</b>
	<b>TOTAL DIRECT</b>	<b>\$11,891,823</b>	<b>\$11,839,291</b>	<b>\$362,866</b>	<b>\$314,000</b>	<b>\$2,719,686</b>	<b>\$27,127,666</b>

The final budget was scaled as required on page 33 of the NOFO to take into account the availability of federal tax credits for some portions of this project. The total project budget is \$30,826,648, however, the CPRG funding is only used for \$27,127,666. The remaining \$3,362,712 is covered by federal tax credits, which are offered for electric school buses, charging stations, solar, and storage. In total, approximately 88% of total project costs are attributable to CPRG. This percentage is used to scale the emissions benefits of CPRG when determining the project's overall emissions benefits and cost effectiveness.

## 7.1 Budget Details

### Personnel

NJDEP will use existing staff to fulfill the role of project manager, given its extensive in-house expertise and experience with managing federal grants and state funds as discussed in Section 6.3, *Staff Expertise*. Thus, NJDEP is not requesting funding for personnel costs as part of this program.

- **Fringe Benefits**

NJDEP will use existing staff to fulfill the role of project manager, given its extensive in-house expertise and experience with managing federal grants and state funds as discussed in Section 6.3, *Staff Expertise*. Thus, NJDEP is not requesting funding for fringe costs as part of this program.

### Travel

NJDEP does not expect to incur travel costs as part of this project since all participants are within the State.

- **Equipment**

NJDEP does not expect to directly procure equipment as part of this project; equipment will be procured by subgrantees as explained under "other" below.

## Sustainable Transportation Eco-Hub Project (STEP)

- **Supplies**

NJDEP does not expect to directly procure supplies as part of this project; supplies may be procured by subgrantees as explained under “other” below.

- **Contractual**

### NJDEP Project Contractors

Although NJDEP will be the overall project manager and will be accountable to USEPA and overseeing all aspects of the project, day to day oversight and operations will be performed by two contractual staff: an oversight contractor and an operations contractor. The total contractual cost is \$1,823,835 for the five-year duration of the project including a 7.5% inflation index each year. NJDEP will follow federal and state competitive procurement rules for the contracting of these roles.

Oversight contractor - The oversight contractor will coordinate with the operations contractor and will be responsible for creating a workforce development plan and an education/outreach plan. The education/outreach plan will include information and tools for the schools to use for public facing webpages and meetings with parents and the community. The oversight contractor will be responsible for preparing necessary documentation and reports for NJDEP to submit to USEPA and will convene routine meetings with all project partners.

Operations contractor – The operations contractor will be the point of contact for all educational partners to ensure timelines, outputs, and outcomes detailed in Section 3 are met. The operations contractor will promptly elevate all potential hurdles, issues and concerns to NJDEP. They will conduct regularly scheduled meetings and provide utility coordination to ensure equipment deployment remains on schedule and will address any other project needs as they surface. The operations contractor will work with the schools, technical contractors, and equipment vendors to document the necessary infrastructure components and installation procedures which will be included in the workforce development plan. In addition, the operations contractor will work with the original equipment manufacturers to document the training that is provided to the technicians and maintenance employees of the schools. An estimated 25% of this contractor’s time will be devoted to workforce development over the 5 years of the contract, totaling approximately \$227,979, after accounting for the inflation index.

## Other

### Subawards

Table 4 shows the projected funds each school district will receive as sub-awards. The majority of funds will be expended in years one and two so the schools can procure the buses and the necessary hardware. The last 10% of the subawards will be held until the school completes the project in its entirety.

Table 4: Subawards

## Sustainable Transportation Eco-Hub Project (STEP)

	Electric school buses	Charging stations	Microgrid components	Technical assistance contractor	Estimated School Total
<b>French American Academy of Jersey City</b>	\$ 447,403	\$ 105,600	\$ 1,122,879	\$ 167,588	<b>\$ 1,843,471</b>
<b>Summit Board of Education</b>	\$ 1,600,800	\$ 316,800	\$ 3,040,501	\$ 495,810	<b>\$ 5,453,911</b>
<b>Hanover Park Regional HS District</b>	\$ 2,187,338	\$ 316,800	\$ 2,337,550	\$ 484,169	<b>\$ 5,325,856</b>
<b>Hopewell Valley Regional</b>	\$ 4,010,119	\$ 580,800	\$ 1,637,887	\$ 622,881	<b>\$ 6,851,686</b>
<b>Belmar Elementary SD</b>	\$ 711,105	\$ 142,560	\$ 1,692,080	\$ 254,574	<b>\$ 2,800,319</b>
<b>Dumont Board of Education</b>	\$ 1,345,559	\$ 264,000	\$ 1,143,703	\$ 275,326	<b>\$ 3,028,588</b>
<b>Component Total</b>	<b>\$ 10,302,323</b>	<b>\$ 1,726,560</b>	<b>\$ 10,974,600</b>	<b>\$ 2,300,348</b>	<b>\$25,303,831</b>

Subaward categories are detailed below. Additionally, each item in this category will be Build America, Buy America Act compliant, which has been considered while budgeting.

- (1) Electric school buses and Bi-directional charging stations - \$12,028,883 (projected budget)
  - a. Electric school buses were priced by first collecting the most recent year, 2022, of electric school bus grant programs that NJDEP had conducted, which is described in the Past Experiences section. From the approved projects and buses, the vendors' prices were collected. Next a range was put on prices using the cost ranges from the US EPA's

## Sustainable Transportation Eco-Hub Project (STEP)

*Flipping the Switch on Electric School Buses: Cost Factors.*<sup>1</sup> From the final dataset, NJDEP was able to price each type of bus accordingly. Type A buses were priced at \$231,202, Type B buses were priced at \$286,800, while Type C school buses were priced at \$404,556. NJDEP considered the federal tax credits for commercial vehicles, with Type A receiving \$7,500 per bus, and Type B & C receiving the maximum of \$40,000 per bus. These tax credits were subtracted from the subaward amount. Additionally, NJDEP has added the cost of wheelchair add-on components to 8 buses at the request of 2 schools. When a school district is receiving a bus with a wheelchair lift, they will receive \$20,000 in additional funding for that particular bus.

- b. Bi-directional charging stations. In addition to the electric school buses, NJDEP is funding one low powered DC fast charging station per bus due to the bi-directional nature of the project. NJDEP used the latest year of grant programs with electric school buses, 2022, and priced the charging stations based on similar equipment funded under that program. The final pricing for similar products averaged \$52,800, which was used as cost for bi-directional charging stations across all projects. NJDEP also considered the Alternative Fuel Infrastructure Tax Credit, however, there is only one school that is eligible under current guidelines. NJDEP has deducted the maximum amount of funding available via this tax credit from that district's subaward amount.

### (2) Microgrid components - \$10,974,600 (projected budget)

The three components of the microgrid are to be purchased as a package to ensure compatibility across technologies. A cap was estimated using the high-range costs of the microgrid components as a whole (solar, storage and the controller) to ensure alignment with NREL's *Microgrid Cost Study*, which estimates that a microgrid of the size being deployed could cost up to \$4,936,109.

- a. Solar & Storage. Solar was estimated using the NREL ReOpt model<sup>2</sup>. Each school was mapped using satellite imagery and available information from each school. The model then required inputting each school's rooftop size and assumed the highest solar output. Storage was also estimated using the same NREL ReOpt model as solar. The model inputs each school's power needs by estimating the power demand with the buses and the given current utility usage. The output was then used to create a cost estimate that is added to the microgrid total cost. Additional information on modeling can be found in the attachment Techappx\_NewJerseyDEP. For each school, NJDEP also considered the Federal IRA Investment Tax Credit for up to 30% direct pay credit. This credit was subtracted from the total subaward for each school.<sup>3</sup>
- b. Microgrid controller. To estimate each project's microgrid controller cost, NJDEP took the maximum range of prices stated in EPA's *Generate LFG Electricity for*

---

<sup>1</sup> [https://afdc.energy.gov/vehicles/electric\\_school\\_buses\\_p8\\_m1.html](https://afdc.energy.gov/vehicles/electric_school_buses_p8_m1.html)

<sup>2</sup> [Reopt.nrel.gov](https://reopt.nrel.gov)

<sup>3</sup> <https://www.nrel.gov/docs/fy19osti/67821.pdf>

## Sustainable Transportation Eco-Hub Project (STEP)

*Microgrid*<sup>4</sup>, which came to be \$470,400 per project. NJDEP then used that cost, which aligned with NREL's cost estimate of microgrid controllers. NJDEP chose to use the maximum end of the cost range provided by NREL as New Jersey has historically seen higher than average costs for technology deployments in the State.<sup>5</sup>

### (3) School Bus Fleet Contractors - \$2,300,348 (projected budget)

Each subaward will also include funding for the school districts to procure a technical contractor to oversee the design, planning, procurement, and construction phases of the project. The contractor will assist project partners in identifying routes best suited for electrification, identifying appropriate electric buses and charging stations, monitoring equipment performance, sizing solar and storage components of the microgrid, and understanding how project components impact financial and technical operations. Funding for these technical contractors was priced at 10% of the equipment costs (microgrid total plus school bus total). The technical contractor will assist fleets with performing tasks and submitting required documentation within timelines, while also providing technical assistance for deployment of electric school buses, including up-time support, bi-directional charging, solar, microgrid technological assistance, and maintenance troubleshooting.

- **Indirect Charges**

NJDEP will use existing staff to fulfill the role of project manager, given its extensive in-house expertise and experience with managing federal grants and state funds as discussed in Section 6.3 *Staff Expertise*. Thus, NJDEP is not requesting funding for indirect costs as part of this program.

## 7.2 Expenditure of Awarded Funds

NJDEP will expend and account for awarded funds in accordance with state laws and procedures for the state's own funds. The financial management system for NJDEP complies with the requirements of 2 CFR 200.302(b). NJDEP will assign an experienced project manager to ensure the grant funds are expended in a timely and efficient manner within the five-year grant period. All project requirements will be written into the subaward agreements with each educational partner. These agreements will include all applicable pass-through requirements for subrecipients in accordance with 2 CFR 200, [EPA's Subaward Policy](#) and [EPA's General Term and Condition for Subawards](#).

## 7.3 Reasonableness of Costs

To ensure all requested project costs are reasonable, NJDEP used costs from recently funded projects. For electric school buses and charging infrastructure, the costs for competitively bid projects in New Jersey from 2022 were used. These prices were checked against the US EPA's

---

<sup>4</sup> [https://www.epa.gov/lmop/generate-lfg-electricity-microgrid#:~:text=Controller%20costs%20range%20from%20%246%2C200%20to%20%24470%2C000%20per%20megawatt%20\(MW\).&text=Infrastructure%20\(distribution%20system%2C%20information%20technology,percent%20of%20total%20microgrid%20costs.](https://www.epa.gov/lmop/generate-lfg-electricity-microgrid#:~:text=Controller%20costs%20range%20from%20%246%2C200%20to%20%24470%2C000%20per%20megawatt%20(MW).&text=Infrastructure%20(distribution%20system%2C%20information%20technology,percent%20of%20total%20microgrid%20costs.)

<sup>5</sup> <https://www.nrel.gov/docs/fy19osti/67821.pdf>

## *Sustainable Transportation Eco-Hub Project (STEP)*

*Flipping the Switch on Electric School Buses: Cost Factors* report to ensure they were within the EPA's reasonable estimates. The cost of the project's microgrid components (solar panels, battery storage, and microgrid controller) were estimated using the National Renewable Energy Laboratory's REopt tool, which rigorously analyzes all costs associated with solar and storage installation. While the cost assumptions used here are based on the best available data at the time of this analysis, actual expenditures within each category may change as technical details are finalized and quotes are obtained.