

Budget Narrative

a. Budget details

South Coast AQMD estimates the total budget for entire project will be \$499,997,415 over the performance period of five years. The breakdown for the five years is shown in the summary table below (Table 1).

Table 1: Overview of the Project Budget

Cost-Type	Category	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Direct Costs	Total Personnel	\$1,675,578	\$1,675,578	\$1,675,578	\$1,675,578	\$1,675,578	\$8,377,890
	Total Fringe Benefits	\$927,433	\$927,433	\$927,433	\$927,433	\$927,433	\$4,637,165
	Total Travel	\$0	\$0	\$0	\$0	\$0	\$0
	Total Equipment	\$0	\$0	\$0	\$0	\$0	\$0
	Total Supplies	\$0	\$0	\$0	\$0	\$0	\$0
	Total Contractual	\$0	\$0	\$0	\$0	\$0	\$0
	Total Other	\$2,120,000	\$133,160,000	\$179,200,000	\$160,260,000	\$960,000	\$475,700,000
	Total Direct	\$4,723,011	\$135,763,011	\$181,803,011	\$162,863,011	\$3,563,011	\$488,715,055
Total Indirect		\$2,256,472	\$2,256,472	\$2,256,472	\$2,256,472	\$2,256,472	\$11,282,360
Total Funding		\$6,979,483	\$138,019,483	\$184,059,483	\$165,119,483	\$5,819,483	\$499,997,415

South Coast AQMD proposes to implement four measures under this Project as outlined in the previous section. A total of \$467.9m (or 93.6% of the total project cost) is budgeted for the incentive funding, specifically,

- \$178.5m for Measure 1 to fund the construction and installation of heavy-duty charging infrastructure;
- \$78m for Measure 2 to fund the deployment of battery electric heavy-duty trucks and SCAG's Last Mile Freight Program (LMFP);
- \$20.6m for Measure 3 to fund the deployment of battery electric cargo handling equipment; and
- \$190.8m for Measure 4 to fund the pilot program for battery electric locomotives.

To effectively implement the incentive funding and deploy the vehicles, equipment, and charging stations, South Coast AQMD allocates budget for workforce training, community engagement, and data collection for each measure over the project period of five years. The respective activities will start in the first year of the project and will continue for five years. Experienced South Coast AQMD staff will administer the project and implement the incentive programs (4.9% of the total project cost). Budget allocation for these project components is presented in Table 2 below. Budget allocation by measures is shown in Table 3. The cost for each component, including incentive funding, workforce training, community engagement, data collection, and South Coast AQMD project administration for each of the five years is presented in Tables 4 through 7.

Table 2: Budget Allocation by Project Components

	Cost	% of Total Cost
Incentive funding	\$467,900,000	93.6%
Workforce training	\$5,000,000	1.0%
Community engagement and outreach	\$1,000,000	0.2%
Data collection, analysis and future planning	\$1,800,000	0.4%
Project administration	\$24,297,415	4.9%
Total	\$499,997,415	100%

Table 3: Budget Allocation by Measures

Project Name	Cost	% of Total Cost
M1: Charging Infrastructure Deployment	\$189,412,885	38%
M2: BE Freight Vehicle Deployment	\$85,396,000	17%
M3: BE CHE Deployment	\$25,528,435	5%
M4: BE Locomotive Pilot	\$199,660,095	40%

Measure 1 - Charging Infrastructure Deployment Incentive Program

A total of \$189.4m is budgeted to implement Measure 1, charging infrastructure deployment, as shown in Table 4. Main portion of the incentive fund for the infrastructure is expected to be distributed in Years 2 and 3 of the Project period. A small amount of funding is allocated in Year 4 for projects that may take extended time. Workforce training and community engagement will be done during the entire performance period but more focused in Years 1 through 3. The Project will develop the data reporting format and requirements in Year 1. Data collection and analysis activities will occur throughout the entire Project period.

Table 4: Budget for Measure 1 – Charging Infrastructure Deployment Incentive Program

	Year 1	Year 2	Year 3	Year 4	Year 5	Subtotal
Incentive funding	\$0	\$84,000,000	\$84,000,000	\$10,500,000	\$0	\$178,500,000
Workforce training	\$800,000	\$800,000	\$200,000	\$200,000	\$100,000	\$2,100,000
Community engagement/outreach	\$300,000	\$100,000	\$50,000	\$20,000	\$20,000	\$490,000
Data collection, analysis and future planning	\$10,000	\$60,000	\$180,000	\$300,000	\$200,000	\$750,000
Project administration	\$1,514,577	\$1,514,577	\$1,514,577	\$1,514,577	\$1,514,577	\$7,572,885
Total						\$189,412,885

Measure 2 - Battery Electric Freight Vehicle Deployment Incentive Program

A total of \$85.4m is budgeted for Measure 2, battery electric freight truck deployment, as shown in Table 5. This measure includes deployment of Class 8 BETs and Last Mile Freight Program vehicles that are primarily Class 4 and 5. The incentive funding for this deployment is expected to be distributed in Years 2 and 3 of the Project. This will allow South Coast AQMD to utilize Year 1 to focus on developing a program to solicit and select projects. Workforce training and community engagement will be done throughout the performance period but with funding largely allocated in Years 1 through 3. The Project will develop the data reporting format and requirements in Year 1. Data collection and analysis activities will occur throughout the Project period.

Table 5: Budget for Measure 2 – Battery Electric Freight Vehicle Deployment Incentive Program

	Year 1	Year 2	Year 3	Year 4	Year 5	Subtotal
Incentive funding - Class 8 Trucks	\$0	\$12,000,000	\$16,000,000	\$0	\$0	\$28,000,000
Incentive funding - Last Mile Freight Program	\$0	\$24,000,000	\$26,000,000	\$0	\$0	\$50,000,000
Workforce training	\$500,000	\$500,000	\$200,000	\$200,000	\$100,000	\$1,500,000
Community engagement/outreach	\$120,000	\$50,000	\$10,000	\$10,000	\$10,000	\$200,000
Data collection, analysis and future planning	\$10,000	\$40,000	\$100,000	\$200,000	\$100,000	\$450,000
Project administration	\$1,049,200	\$1,049,200	\$1,049,200	\$1,049,200	\$1,049,200	\$5,246,000
Total						\$85,396,000

Measure 3 - Battery Electric Cargo Handling Equipment Deployment Incentive Program

A total of \$25.5m is budgeted for Measure 3, battery electric cargo handling equipment deployment, as shown in Table 6. The incentive fund for the CHE deployment is expected to be distributed in Years 2 and 3 of the Project period. This will allow South Coast AQMD to utilize Year 1 to develop the incentive program to solicit and select projects. Workforce training and community engagement will be for the entire performance period but more focused in Years 1 through 3. The Project will develop the data reporting format and requirements in Year 1. Data collection and analysis activities will occur throughout the Project period.

Table 6: Budget for Measure 3 – Battery Electric CHE Deployment Incentive Program

	Year 1	Year 2	Year 3	Year 4	Year 5	Subtotal
Incentive funding	\$0	\$11,000,000	\$9,600,000	\$0	\$0	\$20,600,000
Workforce training	\$200,000	\$100,000	\$100,000	\$50,000	\$50,000	\$500,000
Community engagement/outreach	\$70,000	\$30,000	\$10,000	\$10,000	\$10,000	\$130,000
Data collection, analysis and future planning	\$10,000	\$20,000	\$40,000	\$40,000	\$40,000	\$150,000
Project administration	\$829,687	\$829,687	\$829,687	\$829,687	\$829,687	\$4,148,435
Total						\$25,528,435

Measure 4 - Battery Electric Locomotive Pilot Program

A total of \$199.7m is budgeted for Measure 4, battery electric locomotive program, as shown in Table 7. The funding for the battery electric locomotive program is expected to be distributed in Year 3 and 4 of the Project period because of long lead times to build battery electric locomotives. South Coast AQMD will focus on soliciting eligible projects in Year 1. Community engagement will be more focused in the first few years of the project but expected to carry on throughout the project period. Workforce training will start in Year 2. The Project will develop the data reporting format and requirements in Year 1. Data collection and analysis activities will primarily take place in Years 3 through 5 of the Project period.

Table 7: Budget for Measure 4 – Battery Electric Locomotive Pilot Program

	Year 1	Year 2	Year 3	Year 4	Year 5	Subtotal
Incentive funding	\$0	\$0	\$42,400,000	\$148,400,000	\$0	\$190,800,000
Workforce training	\$0	\$400,000	\$200,000	\$200,000	\$100,000	\$900,000
Community engagement/outreach	\$100,000	\$50,000	\$10,000	\$10,000	\$10,000	\$180,000
Data collection, analysis and future planning	\$0	\$10,000	\$100,000	\$120,000	\$220,000	\$450,000
Project administration	\$1,466,019	\$1,466,019	\$1,466,019	\$1,466,019	\$1,466,019	\$7,330,095
Total						\$199,660,095

b. Expenditure of Awarded Funds

South Coast AQMD has extensive experience administering EPA and other federal grants and is familiar with the relevant guidelines and procedures. South Coast AQMD also has over 25 years of experience managing emission reduction incentive programs. South Coast AQMD will utilize the existing incentive program management tools and procedures to ensure efficient and timely deployment of the vehicles and equipment and distribution of the funding.

South Coast AQMD has an established procedure for incentive programs, which includes program announcement, project solicitation, project evaluation and selection, contract execution, funding disbursement, and reporting collection. This procedure is supported by:

- groups of dedicated staff who are specialized in community outreach, project evaluation, contract preparation, equipment/vehicle inspection, invoice processing, and others,
- staff's extensive experience with zero-emission technology and working relationship with OEMs, fleets, and technology providers,
- an online grant management platform for easy proposal submission and project management,
- an internal digital contract and invoice processing system, and
- South Coast AQMD Governing board review and approval process.

South Coast AQMD proposes to take a similar approach as for the existing incentive programs to implement the funding of this Project. In such a way, the experiences and lessons learned from the previous practice will greatly minimize redundancy, errors, and difficulties that might occur during the implementation. South Coast AQMD has recently started a truck loaner program for battery electric BETs. The experience from the loaner program can be transferred to this Project when dealing with small fleets lacking familiarity with zero-emission technology.

South Coast AQMD will take the following steps to implement the incentive programs proposed in this application.

- **Program announcement**

The incentive programs will be announced to the public on South Coast AQMD's website, through newsletters and social media, and workshops. A proposal submission time window will be defined to allow enough entities interested in the program(s) to submit the application. Required information and documents for the application will be clearly explained in the announcement. Application related queries will be addressed timely to assist the applicants. The Project will utilize South Coast AQMD's existing online application submission platform.

- **Outreach**

While South Coast AQMD has a good understanding of funding needs by the local entities under the four measures, an extensive outreach will be conducted for a wide reach in the two MSAs to solicit proposals for projects which can be completed in a timely manner.

- **Evaluation and selection**

South Coast AQMD will evaluate the submitted proposals based on the criteria defined for this Project. Guidelines and criteria of other existing programs will be referenced to develop the evaluation criteria. Lists of selected projects will be generated. Additionally, lists of backup projects will be developed as well so that when selected projects are withdrawn, projects can be quickly identified to utilize the returned fund.

- **Contract execution**

South Coast AQMD will reference the existing contract templates when developing the contracts to be funded under this Project. There are existing contract templates for projects to deploy charging infrastructure, battery electric trucks, locomotives, and CHE. South Coast AQMD expects minimum time for contract development. South Coast AQMD will require a contractual implementation schedule to ensure rapid progress and timely outcomes. South Coast AQMD will utilize an existing digital processing system for contract approval and execution. With electronic approvals and signatures, the process approves to be quick and efficient.

- **Payment processing**

Similar to contract execution, South Coast AQMD will utilize an existing digital processing system for invoice and payment for efficiency. At the same time, staff will conduct thorough and detailed review of the invoice documents to ensure proper expenditure evidence is provided. Where needed, South Coast AQMD will conduct site or equipment inspections for the funded projects for verification purposes. The equipment inspection procedures are well-established and a remote inspection protocol has been developed for streamlining purposes.

South Coast AQMD has a rich history and strong leadership in overseeing incentive program implementation. Fund expenditure and incentive project progress will be tracked and compared with the proposed timeline. Project officers will work closely with incentive fund awardees for statuses and updates. When delay or other obstacles are encountered, the project officer will assist the awardees for remedies to ensure timely completion of the awarded incentive project.

Throughout many other grant projects, South Coast AQMD has worked closely with local workforce training institutions, community-based organizations, and data processing companies. The close partnership with these entities is beneficial for efficient communication and collaboration.

c. Reasonableness of Cost

i. Incentive programs

As shown in Table 2, \$467.9m, or 93.6% of the total project budget, is proposed for the deployment of charging infrastructure, battery electric trucks, CHE, and battery electric locomotives. This high percentage of funding allocation on deployment is to maximize the GHG emission reductions with the funding.

Table 8 Proposed Incentives for the Measures

	Incentive per unit	Incentive unit	Count	Unit	Total Incentive Funding
M1: Charging Infrastructure Deployment	700	\$/kW	1020	chargers	\$178,500,000
M2: BE Freight Vehicle Deployment - HD BET	400,000	\$/truck	70	trucks	\$78,000,000
M2: BE Freight Vehicle Deployment - LMFP	67,000	\$/truck*	746	vehicles	
M3: BE CHE Deployment – Yard Tractor	300,000	\$/CHE*	34	CHE	\$20,600,000
M3: BE CHE Deployment – Top Handler	400,000	\$/CHE*	26	CHE	
M4: BE Locomotive Pilot	10,600,000	\$/locomotive*	18	locomotive	\$190,800,000

*: charger is included in the incentive

Measure 1 - Charging Infrastructure Deployment Incentive Program:

\$178.5m is allocated to fund truck charging stations. The scope of actual infrastructure projects is different from one to the other. Due to the high-power demand from the chargers, charging sites will often need utility upgrades or onsite power generation to expand the power capacity. After reviewing the cost information in the infrastructure proposals received, a unit cost of up to \$1500/kw of the charging power is observed. Under the Project, \$700/kw would be provided for the construction and installation of new charging facilities. To close the gap of current charging infrastructure needs and accelerate future deployment of BETs in the region, 1020 chargers over the project period are budgeted. Assuming 250kw charging power for the charger, \$178.5m is needed. Furthermore, \$10million will be provided by Port of Los Angeles and Port of Long Beach to support deployment of additional up to 60 chargers.

Measure 2 - Battery Electric Freight Vehicle Deployment Incentive Program – HD BET:

\$28m is allocated to fund the deployment of Class 8 BET trucks. As shown in Table 9 below, Class 8 battery electric trucks cost in the range of \$500,000 and higher. South Coast AQMD has observed that the incentive fund in the \$200,000-250,000 can't still provide sufficient incentive for the fleets, especially the small fleets, to purchase battery electric trucks. Therefore, an incentive funding amount of \$400,000 per truck is proposed to reduce the upfront cost so the fleets owners, especially for the small owner operators, can be incentivized for the technology selection decision while other obstacles, such as charging challenging, duty cycles, and operation cost for electric trucks are still being addressed. 70 trucks can be funded with the budgeted \$28m for Class 8 BET truck incentive measure. This deployment will add to the deployment of existing incentive programs, such as Carl Moyer and VIP, to turn over high emitting trucks to zero emission technologies.

Table 9: Examples of 2024 Carl Moyer Battery Electric Goods Movement Truck Cost

Vehicle Make	Vehicle Model	Vehicle Cost*
Peterbilt	579EV	\$511,000
VOLVO	VNRE300	\$545,076
Freightliner	PE116DC	\$519,308
Volvo	VNRE62T300	\$541,316
Nikola Motor	TRE BEV	\$548,030
Freightliner	eCascadia	\$615,538
Average		\$546,711

*: vehicle total cost, including FET and sales tax.

Measure 2 - Battery Electric Freight Vehicle Deployment Incentive Program – LMFP:

Approximately \$50m is allocated to augment commercial deployment of zero-emission technologies for the last-mile delivery market, including primarily Class 4 and 5 trucks, equipment, and supporting infrastructure. Approximately \$67k incentive funding will be provided per vehicle and supporting charger to deploy up to 746 battery electric trucks. SCAG will provide additional \$125m to further enhance the deployment and strategy development for last mile freight delivery.

Measure 3 - Battery Electric Cargo Handling Equipment Deployment Incentive Program:

\$20.6m is allocated to fund the deployment of cargo handling equipment, including battery electric yard tractors and top handlers, and supporting chargers. An incentive funding of \$300,000 per yard tractor and charger would cover at least 80% of the upfront purchase cost. An incentive funding of \$400,000 per top handler and charger would cover up at least 80% of the upfront purchase cost. The scale of incentive is intended to accelerate the adoption of battery electric technologies for the cargo handling operation. Up to 60 units of cargo handling equipment can be funded.

Measure 4 - Battery Electric Locomotive Pilot Program:

\$190.8m is allocated to fund the deployment of battery electric locomotives. An average of \$10m will be provided to fund one locomotive. This funding amount is determined based on the quotes that South Coast AQMD received from multiple manufacturers in 2024. Additionally, \$1.2m will be provided for each charging unit, which can be used by at least two locomotives. A total of up to 18 locomotives and 9 chargers are expected to be funded using the allocated budget.

ii. Workforce training

Workforce will be conducted throughout the project period by identified institutions. Specific tasks include:

- development of curriculum for the measures in the proposed Project,
- initial and ongoing training for operators, technicians, and other participating personnels on technologies, operation, safety, and maintenance, and
- tours of facilities.

The training will be primarily conducted in the partner institutions and fleet facilities. The cost will cover the facility usage, lecturers' time, training materials, demonstration units, etc. The budgeted amount for workforce training is expected to yield substantial returns in terms of safety, efficiency, compliance, innovation, and overall project success in the adoption of battery electric technology. The budget for each measure is allocated based on the scale of the respective measures.

iii. Community engagement and outreach

Community engagement and outreach plays an important role for the success of the GHG emission reduction projects, including the deployment of zero emission technologies.

South Coast AQMD will utilize the in-house staff and work with local community-based organizations to conduct the community engagement and outreach. A low budget of \$1m is allocated for this activity. South Coast AQMD expects to seek for additional funding from other sources to enhance the community outreach.

iv. Data collection, analysis and future planning

There will be extensive data collection from the equipment and vehicles deployed by this Project. An identified partner will perform the following tasks:

- Development of data standards for reporting charging infrastructure performance, and operational data analysis;
- Data processing QA/QC;
- Database management and hosting;
- Charger utilization and performance analysis, 3rd party verification, and recommendations.
- Vehicle/equipment charging infrastructure performance, emission reduction monitoring, data collection, operational data analysis, and maintenance activities, etc.
- Preparation of a scaling plan and recommendations for the larger zero-emission equipment deployment and supporting infrastructure installation.
- Data reports - Charge-session data will be evaluated for time-of-day charging profiles. An optimization algorithm will be developed for charge management that factors utility rate structure and demand charges. Impacts of charge management will be evaluated using real-world charging data. Additionally, analyses will be conducted, using tools such as EVI-X, to help inform the optimal deployment of infrastructure based on data from vehicle types, locations, and usage patterns. A reasonable budget of \$1.8 m is allocated for approximately 1020 chargers, 816 vehicles, 60 pieces of CHE, and 18 locomotives.

v. Project administration

South Coast AQMD will have dedicated staff to manage the incentive programs. The personnel projection is illustrated in Table 10 below. The responsibilities of staff, including Air Quality Specialists and Contract Assistants, will include:

- Assisting in incentive programs and program announcements;
- Working with the community-based organization to conduct community outreach and engagement;
- Working with workforce training institutions on curriculum design and training arrangement;
- Evaluating the proposals submitted by entities interesting in the incentive programs;
- Developing the contracts with the awarded entities; and
- Reviewing and processing invoices submitted by the awarded entities, etc.

The program supervisors and managers will be responsible for

- developing the incentive programs and program announcements;
- ensuring the awarded projects are properly selected and implemented;
- reviewing the data reports submitted by the data collection/analysis partner;
- preparing and submitting semi-annual and final reports to EPA; and
- acting as liaisons with EPA, etc.

The budget is based on the South Coast AQMD personnel hours in implementing the existing incentive programs and 2023-2024 South Coast AQMD salary rates. Port of Los Angeles, Port of Long Beach, and CalStart may assist with project implementation under South Coast AQMD guidance, however the administrative budget is not expected to change.

Table 10: South Coast AQMD Project Administration Personnel

	Manager (FTE/yr)	Program Supervisor (FTE/yr)	Air Quality Specialist (FTE/yr)	Contract Assistant (FTE/yr)
M1: Charging Infrastructure Deployment	0.1	0.9	1.9	2.0
M2: BE Freight Vehicle Deployment	0.1	0.2	2.0	1.0
M3: BE CHE Deployment	0.1	0.2	1.6	0.7
M4: BE Locomotive Pilot	0.2	0.8	2.0	1.5
Total	0.5	2.1	7.5	5.2

*: FTE: full time employee