Climate Action Plan Implementation Cost Report

A Preliminary Estimate of County of San Diego Costs
for the Five-Year Forecast

(FY 2017-18 to FY 2022-23)

December 2017

Prepared for the County of San Diego

Prepared by the Energy Policy Initiatives Center

EPIC
ENERGY POLICY INITIATIVES CENTER
UNIVERSITY OF SAN DIEGO SCHOOL OF LAW

About EPIC

The Energy Policy Initiatives Center (EPIC) is a non-profit research center of the USD School of Law that studies energy policy issues affecting California and the San Diego region. EPIC's mission is to increase awareness and understanding of energy- and climate-related policy issues by conducting research and analysis to inform decision makers and educating law students.

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Table of Contents

1 Introduction and Key Findings 1
1.1 Timeframe of Analysis 2
1.2 CAP Implementation Cost Analysis Overview 2
1.2.1 Costs Evaluated 3
1.3 Summary of Key Findings 4
1.4 Organization of Report 7
2 About the Draft Climate Action Plan 8
2.1 Climate Action Planning Process 8
2.2 Climate Action Plan Measures 8
3 CAP Implementation Cost Analysis Overview 10
3.1 Process to Estimate CAP Implementation Costs 10
3.1.1 Identify Climate Action Plan Tasks 11
3.1.2 Establish Preliminary Cost Estimates 12
3.1.3 Quality Control and Update to Departments 12
3.2 Framework for Evaluating CAP Implementation Costs 13
4 Results – CAP Implementation Cost Estimates 14
4.1 Total CAP Implementation Costs 15
4.1.1 Funding Sources for Unfunded New and Expanded Programs 17
4.2 Costs by CAP Measure 18
4.2.1 Total Cost by CAP Measure 19
4.2.2 Incremental Costs by CAP Measure 20
4.3 Costs by Department 22
4.3.1 Total Costs by Department 22
4.3.2 Incremental Costs by Department 24
4.4 Costs by Expenditure Category 26
4.4.1 Total Costs by Expenditure Category 27
4.4.2 Incremental Costs by Expenditure Category 28
4.5 Costs by GHG Emissions Category 30
4.5.1 Total Cost by GHG Emissions Category 31
4.5.2 Incremental Cost by Emissions Category 32
5 Results – CAP Implementation Staffing Impacts 34
5.1 Annual Staffing Impacts 34
6 Limitations 36
6.1 Draft Final CAP 36
6.2 Preliminary Estimate 36
6.3 CAP Time Horizon 36
6.4 Constant Salary and Benefits Levels 36

6.5 GHG Emissions 37
7 Conclusion 38

Glossary of Terms[1]

APCD - County of San Diego's Air Pollution Control District

AWM - County of San Diego's Agriculture, Weights and Measures

CAP Coordination and Reporting - Activities required to regularly update the County's GHG emissions inventory, conduct sustainability task force meetings, and monitor and report on CAP progress.

Capital - An expenditure category that includes capital expenditures such as infrastructure projects and improvements to County facilities.

Carl Moyer Program - The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) provides grant funding for cleaner-than-required engines and equipment.

CIP - Capital Improvement Projects

DEH - County of San Diego's Department of Environmental Health

Department Funded - Actions or programs funded by Fees and Deposits and all grant programs like DMV, Carl Moyer Program, and any department-related funding source.

DGS - County of San Diego's Department of General Services

DHR - County of San Diego's Department of Human Resources

DMV - California Department of Motor Vehicles

DPR - County of San Diego's Department of Parks and Recreation

DPW - County of San Diego's Department of Public Works

Existing Program - Any existing action as a part of regular department operations or created through prior board action.

Existing Staffing - Existing staff positions associated with Existing Programs.

Expanded Program - Any expansion of an Existing Program as a result of CAP.

Fees & Deposits - Revenues received as a result of fees charged for certain services provided by County departments to residents and other public agencies.

[1] All terms that appear in the glossary are capitalized in the report.

Fund Balance - Use of Fund Balance as a funding source for one-time projects or services.

Funded - A funding source has been identified. Existing Programs funded with One-Time Only or General-Purpose Revenue funding sources (such as MSCP & Photovoltaic Fee Waiver Programs) are considered "Funded", recognizing that funding in the future years is subject to Board of Supervisors' approval.

Funding Status - Whether a program is Funded or Unfunded.

General Purpose Revenue - Revenue derived from sources not specific to any program or service delivery that may be used for any purpose that is a legal expenditure of County funds.

HCDS - County of San Diego's Housing and Community Development Services

Incremental Cost - Any cost associated with New or Expanded Programs as a result of CAP. Incremental Costs can be either Funded or Unfunded.

Incremental Staff Position - Any staff position associated with New or Expanded Programs as a result of CAP. Incremental staff positions can be either Funded or Unfunded.

Implementation Costs - Total Funded and Unfunded costs associated with Existing, New, or Expanded Programs.

MSCP - Multiple Species Conservation Program

New Program - Any new actions or programs as a result of CAP.

New Staffing - New staff positions associated with New or Expanded Programs.

One-Time Activity - Any discrete activity that occurs only once over the CAP implementation timeline such as program development or ordinance adoption.

One-Time Only (OTO) Funding - A County budgeting term to denote funding allocations that are considered and approved each year generally for short term uses.

Ongoing Activity - An activity that occurs over an extended time period such as planting trees annually or monitoring and reporting CAP progress.

PDS - County of San Diego's Planning & Development Services

Photovoltaics (PV) Fee Waiver - A program at the County that waives permitting fees for solar photovoltaic projects.

PHS - County of San Diego's Public Health Services

Program Status - Whether a program is Existing, New, or Expanded.

Salary and Benefits - An expenditure category that includes expenses related to the compensation of County employees such as salaries, wages, health, and retirement benefits.

Services and Supplies - An expenditure category that includes materials, supplies, and consultant costs.

Unfunded - Any New or Expanded activities or programs as a result of CAP where funding sources have not yet been secured.

1 INTRODUCTION AND KEY FINDINGS

The County of San Diego (County) released a draft Climate Action Plan (draft Final CAP). It describes how greenhouse gas (GHG) emissions within the unincorporated county can be reduced consistent with State of California emission reductions targets.[2] The CAP contains measures or activities that can be implemented to reduce GHG emissions. Understanding the estimated costs associated with implementing these measures and the potential impact to residents and businesses within the unincorporated county can be helpful for decision makers.

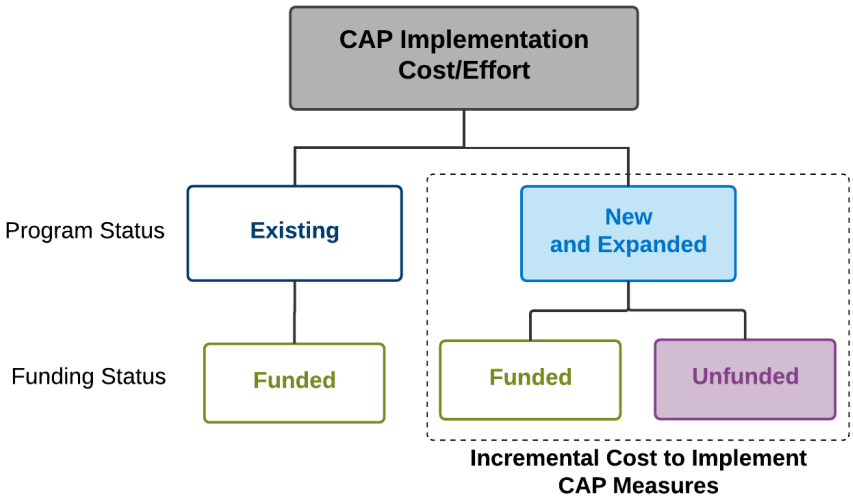
This report summarizes the findings of the County of San Diego CAP Implementation Cost Analysis conducted by the Energy Policy Initiatives Center (EPIC) at the University of San Diego. The analysis consists of classifying and estimating costs for the activities that would need to be conducted to achieve the GHG emission reduction targets included in the draft Final CAP. The goals of this analysis are to:

- develop a preliminary estimate of the total cost to the County of San Diego to implement GHG reduction measures included in the draft Final CAP over the first six fiscal years (FY 2017-18 – FY 2022-23) within the CAP time horizon;
- determine the estimated Incremental Costs associated with New and Expanded Programs that would not have occurred without the CAP; and
- determine which activities require additional financial resources to implement and potential funding sources for those activities.

These goals also form the analytical framework to identify and evaluate CAP Implementation Costs in this report. Figure 1 illustrates this framework and the potential relationships between Program and Funding Status. Total Implementation Costs can be divided into (1) Existing and (2) New and Expanded Programs. Based on the analysis conducted for this report, all Existing Programs have identified funding sources (Funded) but New and Expanded Programs can have Funded or Unfunded activities. Costs associated with New and Expanded activities represent the Incremental Costs to implement CAP measures. These are additional costs to the County as a direct result of the draft Final CAP. This report summarizes total costs (gray box), Incremental Costs associated with New and Expanded activities – both Funded and Unfunded Programs (blue box), and the Unfunded activities associated with Incremental Costs (purple box). In this way, the report focuses mainly on the Incremental Costs to implement CAP measures.

[2] AB 32 set a target of achieving 1990 levels of emissions by 2020, Executive Order S-3-05 sets a long-term goal of 80% below 1990 levels by 2050, and Executive Order B-30-15 sets a target of 40% below 1990 levels by 2030.

Figure 1 Framework to Identify and Evaluate Incremental Costs



1.1 Timeframe of Analysis

The County draft Final CAP is a programmatic plan composed of programs, actions, and projects that would start after the Board of Supervisors adopts the CAP and be implemented over different timeframes to achieve the County's 2030 targets. To achieve the draft Final CAP 2030 GHG reduction targets, a number of programs will be starting at different points in time; however, all programs will work collectively towards achieving the targets. This analysis estimates the Implementation Costs during the first six fiscal years of the CAP implementation horizon (FY 2017-18 – FY 2022-23). This timeframe represents the "start-up" phase of the plan and aligns with the County's budgetary annual five-year forecasts. Some CAP measures will be implemented after FY 2022-23 are beyond the scope of this initial cost analysis. FY 2017-18 is included in this analysis because Existing Programs will contribute to the GHG reductions targets outlined in the draft Final CAP.

Estimating Implementation Costs beyond this timeframe can be speculative; however, the CAP is designed to be flexible so that as the County monitors progress, regulations change, and technology advances, adjustments can be made to measures and implementation mechanisms. The County will prepare an annual monitoring report to assess the progress toward achieving the stated targets and update the GHG emissions baseline inventory every two years. Based on findings from annual monitoring reports and inventory updates, the County will prepare an update to the CAP for the Board of Supervisors' approval every five years to adjust measures as needed to achieve the targets. Through this adaptive process, Implementation Costs will be re-evaluated and adjusted as needed to reflect the implementation mechanisms required to achieve the stated targets.

1.2 CAP Implementation Cost Analysis Overview

The County of San Diego chose to conduct a detailed cost analysis as a part of developing its CAP. Data collected allows for a granular analysis of costs. The costs in this report are based on expenditures for Capital, Salaries and Benefits, and Services and Supplies (including consultants). These costs can be categorized by Program Status (Existing or New and Expanded), Funding Status (Funded or Unfunded), and when the costs occur during the first six fiscal years of CAP

implementation. These variables can be combined to provide a variety of perspectives on the CAP implementation cost data. This allows for detailed analysis of costs, including determining the Unfunded Incremental Costs.

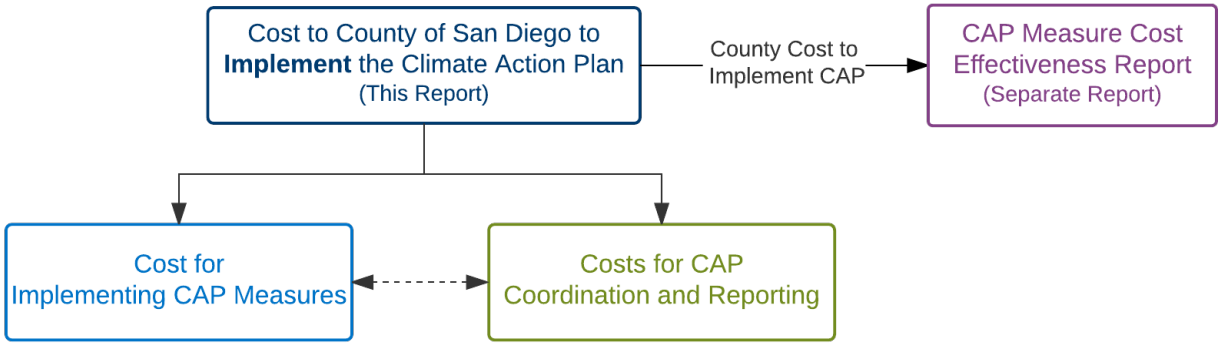
1.2.1 Costs Evaluated

Cost estimates in this report represent those expected to be incurred by the County to implement CAP measures. The 30 measures set forth in the CAP can be broken into two broad cost categories. The first category includes the cost of actions to implement measures, including costs to implement ordinances, acquire assets, and build capital improvements. The second category includes costs associate with CAP Coordination and Reporting, including costs to assess the performance of CAP measures annually, complete GHG inventory updates every two years, coordinate implementation and performance tracking activities among departments through the Sustainability Task Force,[3] and prepare a CAP update every five years.

Costs borne by unincorporated county residents and businesses are not considered in this report, but will be addressed in a companion CAP Cost Effectiveness Report.[4] The companion analysis will evaluate each CAP measure to determine the associated cost of reducing GHG emissions and to determine whether it is cost effective for residents and businesses participating in or affected by CAP measures. This analysis considers the costs (e.g., upfront costs and operations and maintenance) and benefits (e.g., utility cost savings) over the life of the project as well as the total GHG reduction over this same period. The results of this analysis will provide a range of metrics to compare across measures, including the net cost of reducing a metric ton of GHG emissions, net present value, return on investment, internal rate of return, payback period, and benefit-cost ratio. This analysis also will take into account the costs incurred by the County of San Diego to implement and coordinate CAP measures.

The two categories of CAP Implementation Costs described above and the relationship to the CAP Cost Effectiveness Report are shown in Figure 2.

Figure 2 County of San Diego Climate Action Plan (CAP) Implementation Costs



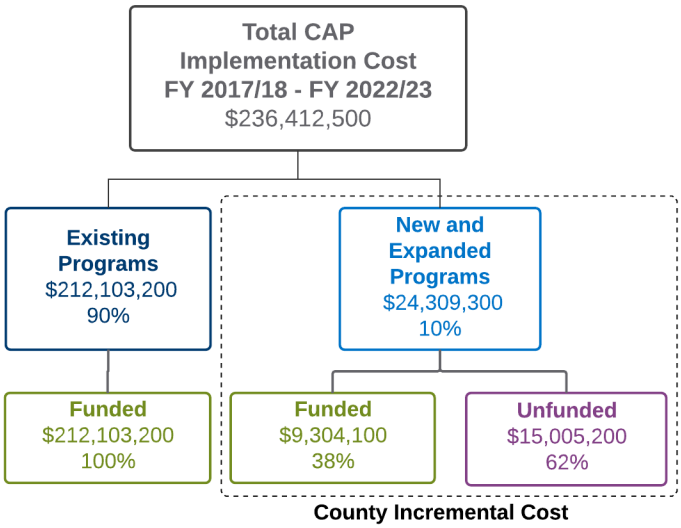
[3] The Sustainability Task Force comprises representatives from the departments responsible for implementation of the Climate Action Plan and serves as a mechanism to coordinate related activities.

[4] See "CAP Cost Effectiveness Report: Assessing the Cost Effectiveness of CAP Measures" by the Energy Policy Initiatives Center.

1.3 Summary of Key Findings

This section presents key findings of the analysis of CAP Implementation Costs over the first six-year period (FY 2017-18 – FY 2022-23). Key findings include results for Implementation Costs and the staffing impact, and emphasize Incremental Costs associated with New and Expanded Programs and the Unfunded portion of these programs. Figure 3 summarizes total CAP Implementation Costs during the first six-year period using the framework described above. It provides a high-level overview of the results of the CAP Implementation Cost Analysis. The key findings below provide more details and context.

Figure 3 Total CAP Implementation Costs FY 2017-18 – FY 2022-23 Summary Diagram[5]



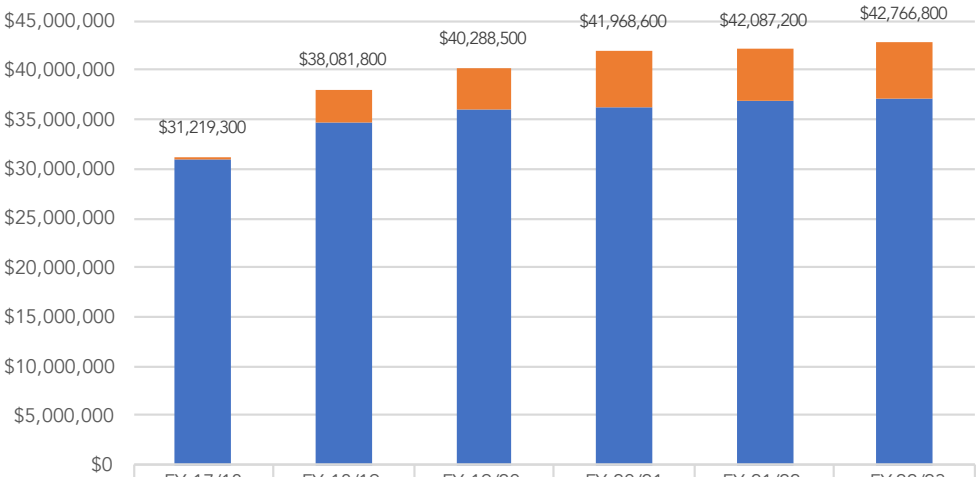
Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding source (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

- **Total CAP Implementation Costs are Steady Over the Six-Year Period** - The total estimated cost to implement CAP Measures over the first six years is $236 million. Annual Implementation Costs for both Existing and New and Expanded Programs are relatively steady at about $40 million annually (Figure 4).

- **Existing Programs Account for a Significant Portion of CAP Implementation Costs** - The total estimated costs for Existing Funded Programs (e.g., MSCP, CIP, street improvements, and PV Fee Waiver) over the first six years is $212 million, which accounts for 90% of total Implementation Costs. Annual Implementation Costs for Existing Programs are about $35 million if continued over the first six-year CAP implementation period (Figure 4). These Existing Programs are Funded, currently operational, and contribute towards CAP goals.

[5] Certain implementation cost estimates associated T-4.1 Establish a Local Direct Investment Program are included in the estimated totals in this analysis. A more detailed estimate of these costs will be included in a separate report titled "Preliminary Assessment of The County of San Diego Local Direct Investment Program" prepared by Ramboll Environ.

Figure 4 CAP Implementation Costs by Program Status



	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23
New and Expanded	$199,400	$3,400,900	$4,343,300	$5,700,600	$5,122,400	$5,542,300
Existing	$31,019,900	$34,680,900	$35,945,100	$36,267,900	$36,964,800	$37,224,400
Total	$31,219,300	$38,081,800	$40,288,500	$41,968,600	$42,087,200	$42,766,800

Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors' approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

- **Incremental CAP Implementation Costs are Comparatively Low -** The Incremental Cost of CAP implementation – those costs that would not have occurred without CAP adoption – comprise all costs associated with New and Expanded Programs, including Funded and Unfunded portions. The total estimated Incremental Cost for New and Expanded Programs is $24 million (10% of total costs – Figure 4). Annual Incremental Costs for New and Expanded Programs range from nearly $3 million in FY 2018-19 to $5.5 million in FY 2022-23 (Table 1 below).

    - Of the total Incremental Costs for both Funded and Unfunded Programs, Measure T-3.3 Develop a Local Vehicle Retirement Program would have a total cost of about $4 million over the six-year period, the highest implementation cost of any New and Expanded Program, and would represent about 15% of the total for this subset of costs.
    - Of the total Incremental Costs for both Funded and Unfunded Programs, PDS accounts for the largest portion of New and Expanded Program costs with about $17 million (70% of total Incremental Costs), followed by APCD with $6 million (25%). PDS annual Incremental Costs range from about $3 million annually in FY 2018-19 to $4 million annually across the last four years of the analysis period.
    - Of the total Incremental Costs for both Funded and Unfunded Programs, Salary and Benefits is the largest expenditure category associated with New and Expanded Programs, and represents $200,000 in the first fiscal year and then increases from about $2 million annually to $3.5 million annually over the remaining five years.

- **A Limited Number of Incremental Programs are Unfunded** – Total Unfunded Programs represent a total of about $15 million over the six-year period. Unfunded costs range between $2 million annually in FY 2018-19 and $3.5 million annually in FY 2022-23 (Table 1 below). Measure T-1.3 Update Community Plans accounts for 19% of total Unfunded costs, followed by T-1.2 Acquire Agricultural Easements (16%) and CAP Coordination and Reporting (14%). By contrast, the six measures with the highest overall cost (T-2.1, T-1.1, E-1.4, SW-1.1, E-2.3, and W-1.1) account for about 85% of total CAP Implementation Costs and are all currently Funded activities.

    - Of the total Incremental Costs for Unfunded Programs, Fund Balance represents the largest funding source at $9 million or 62% of total Unfunded costs over the six-year period, followed by Department Funds at $3 million (21%), and General Purpose Revenue at $2.5 million (18%).
    - Of the total Incremental Costs for Unfunded Programs, PDS has the highest proportion of Unfunded Costs at $13 million, 87% of total Unfunded Costs, ranging from $2 million annually in 2018-19 to $3 million in 2022-23.
    - Of the total Incremental Costs for Unfunded Programs, Salary and Benefits represents the largest expenditure category of Unfunded activities at just under $8 million or 53% of total Unfunded activity costs. Salary and Benefits costs increase through FY 2020-21 and then level off at around $2 million per year through FY 2022-23.

Table 1 provides a high-level summary of the annual costs by Program and Funding Status.

Table 1 CAP Implementation Costs by Program and Funding Status

	Existing Programs	New and Expanded Programs			
Fiscal Year	Funded	Funded	Unfunded	New and Expanded Total	CAP Total
FY 2017/18	$31,019,900	$199,400	$0	$199,400	$31,219,300
FY 2018/19	$34,680,900	$1,050,600	$2,350,300	$3,400,900	$38,081,800
FY 2019/20	$35,945,100	$1,838,000	$2,505,300	$4,343,300	$40,288,400
FY 2020/21	$36,267,900	$2,147,700	$3,552,900	$5,700,600	$41,968,500
FY 2021/22	$36,964,800	$2,051,300	$3,071,000	$5,122,300	$42,087,100
FY 2022/23	$37,224,400	$2,016,800	$3,525,400	$5,542,200	$42,766,600
Total	**$212,103,200**	**$9,304,100**	**$15,005,200**	**$24,309,300**	**$236,412,500**
% CAP Total	*90%*	*4%*	*6%*	*10%*	*100%*

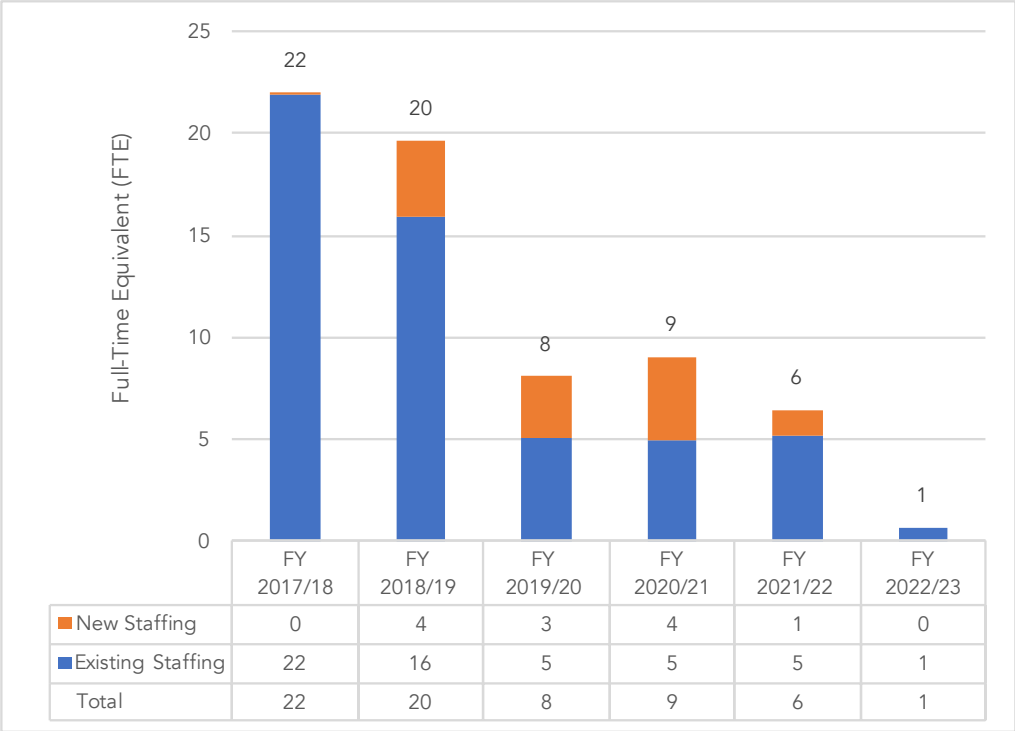
Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors' approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

- **Current Staffing Levels Are Sufficient to Cover Most of the CAP Implementation Activities** –The total staffing needed to implement the CAP over the first six-year period (FY 2017-2018 through FY 2022-23) is estimated at 66 FTE, which consists of 54 Existing

Staffing FTE and 12 New Staffing FTE. Annual New Staffing FTE required would be four New FTE in FY 2018-19, three New FTE in FY 2019-20, four New FTE in FY 2020-21, and one New FTE in FY 2021-22 – a total of 12 New Staffing FTE (Figure 5).

- PDS would require the highest number of new staff due in part to the number of measures the department supports and the coordination function they are anticipated to play.

Figure 5 Annual Incremental Staffing Impact to Implement CAP Measures



	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
New Staffing	0	4	3	4	1	0
Existing Staffing	22	16	5	5	5	1
Total	22	20	8	9	6	1

1.4 Organization of Report

Section 2 of this report summarizes the climate action planning process and the draft Final CAP. The overall process used to estimate Implementation Costs is presented in Section 3. Section 4 summarizes the results of the CAP Implementation Cost Analysis. Section 5 summarizes the staffing impacts from implementing CAP measures. Section 6 briefly discusses the limitations of the analysis and Section 7 provides a brief conclusion.

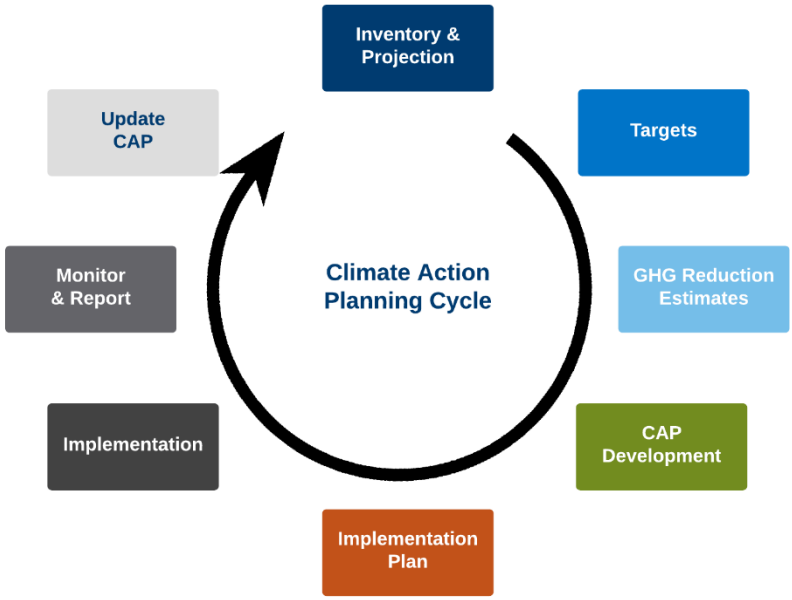
2 ABOUT THE DRAFT CLIMATE ACTION PLAN

As described in the County's draft Final CAP, the CAP sets forth strategies and measures to reduce GHG emissions in the county's unincorporated areas and from County operations. The CAP builds upon the General Plan and other efforts to reduce GHGs; promote health, sustainability, and environmental stewardship; and reinforce the vitality, local economy, and individual character of existing communities. The CAP is a detailed plan for the County to achieve its long-term goals for reducing GHG emissions. It includes strategies, measures, and supporting that demonstrate how the County will achieve GHG emissions targets for 2020 and 2030, and demonstrate progress to 2050.

2.1 Climate Action Planning Process

Figure 6 summarizes the climate action planning process. The County has completed a GHG emissions inventory and projection, established targets, identified preliminary GHG reduction strategies, and developed a draft Final CAP. This implementation cost analysis is intended to inform stakeholders and decision makers about the estimated costs during the draft Final CAP review process and identify funding gaps that need to be filled.

Figure 6 Conceptual Diagram of the Climate Action Planning Process



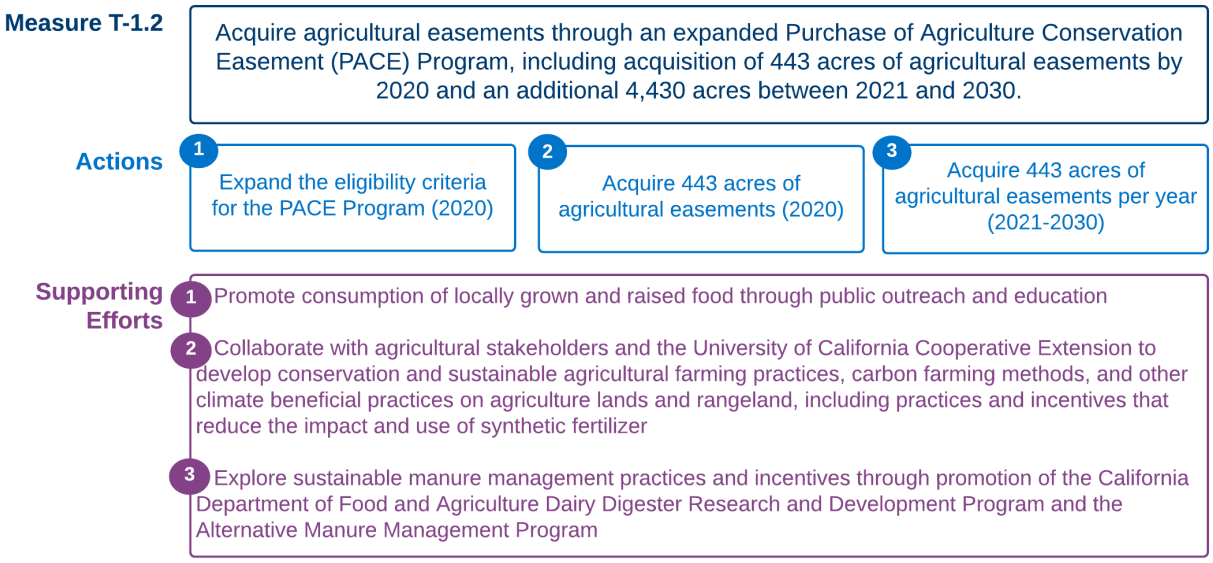
2.2 Climate Action Plan Measures

The County draft Final CAP measures are organized into five consolidated GHG emissions categories that represent the emissions from the emissions sectors covered by the CAP: Built Environment and Transportation, Energy, Solid Waste, Water and Wastewater, and Agriculture and Conservation. Each category includes GHG reduction strategies and measures that contribute towards reducing emissions from each category and meeting the overall CAP targets and goals.

The strategies are the methods to reduce emissions and the measures identify the specific programs and policy actions that the County will implement for each strategy. Measures are further reinforced by supporting efforts, which facilitate the implementation of the GHG reduction measures. Cost estimates provided here include those associated with CAP measures, actions, and supporting measures. Costs associated with CAP Coordination and Reporting are also included.

For example, Measure T-1.2 Acquire Agricultural Easements includes three actions and three supporting efforts (Figure 7).

Figure 7 Example of CAP Measure-Action-Supporting Effort Hierarchy



The County's draft Final CAP has 11 main strategies, which comprise 30 measures. These measures have a total of 47 Actions and 47 Supporting Efforts. Some of the actions involve One-Time Activities, such as developing a program or plan or adoption of an ordinance, and some are Ongoing, Activities such as educating the public about incentive and rebate programs. Each action and supporting effort has an implementation timeframe. County Implementation Costs are estimated over a six-year period from FY 2017-18 through FY 2022-23. This allows for a projection of costs over the next five-year budget cycle and to identify any potential budget impacts that would have to be considered in the first years of CAP implementation.

3 CAP IMPLEMENTATION COST ANALYSIS OVERVIEW

This report estimates CAP Implementation Costs during the first six years (FY 2017-2018 through FY 2022-2023). This includes an estimate of costs that will occur in the current fiscal year FY 2017-18, which is included in part to serve as a baseline of costs and staffing impacts for Existing Programs. Because all Existing Programs are covered by the current budget, there are no Unfunded Programs in FY 2017-18. The additional five fiscal years covered here – FY 2018-19 through FY 2022-23 – also align with the County's budgetary annual five-year forecast.

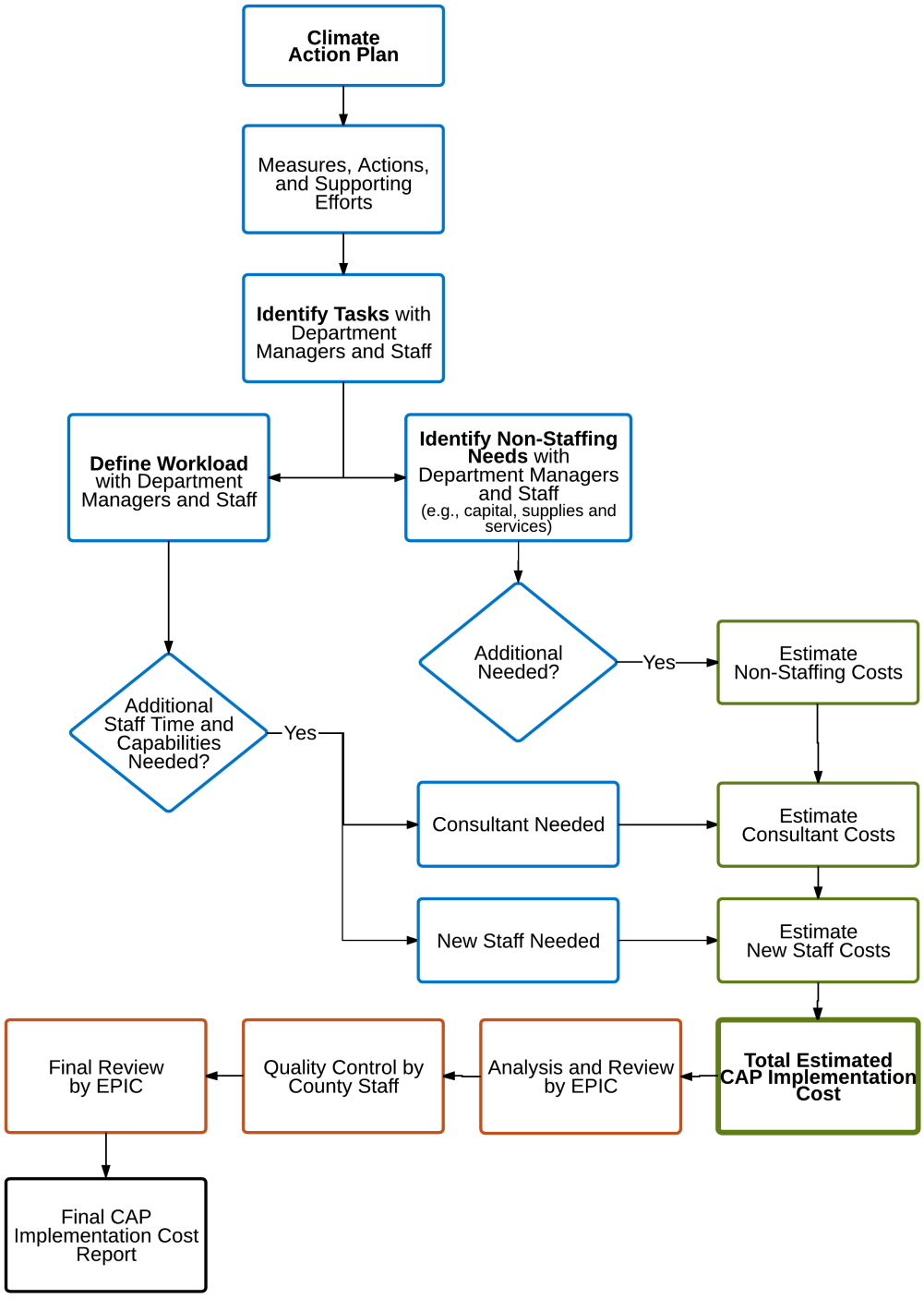
The CAP Implementation Costs presented are estimates based on input and discussions with the County departments that would be involved in its implementation. The costs are based on the best available information and will help each of these departments develop budgets moving forward. To account for changes in CAP implementation activities, cost, and staffing impacts, the estimates included can be updated in the future in concert with regular CAP monitoring and updating efforts. The five-year CAP update, the CAP monitoring process every two years, or the County's Annual Operational Plan could serve as opportunities to reassess costs. This would provide sufficient time to better understand how implementation activities may actually occur and it would allow for synchronization with the County's budget process.

The following sections summarize the process used to estimate CAP Implementation Costs and the overall framework used to identify and evaluate costs.

3.1 Process to Estimate CAP Implementation Costs

The general steps in the process to estimate CAP implementations costs were to; (1) determine the tasks required to implement CAP actions; (2) define workload associated with these tasks; (3) determine whether Existing Staffing and other resources are sufficient; and (4) determine the level of additional staffing and other resources that might be required above and beyond existing resources. Figure 8 illustrates the general process used to identify resource gaps (blue boxes), estimate the cost of those resources (green boxes), compile results, conduct a review, and update appropriate County staff (orange boxes).

Figure 8 Process to Develop CAP Administration and Implementation Costs

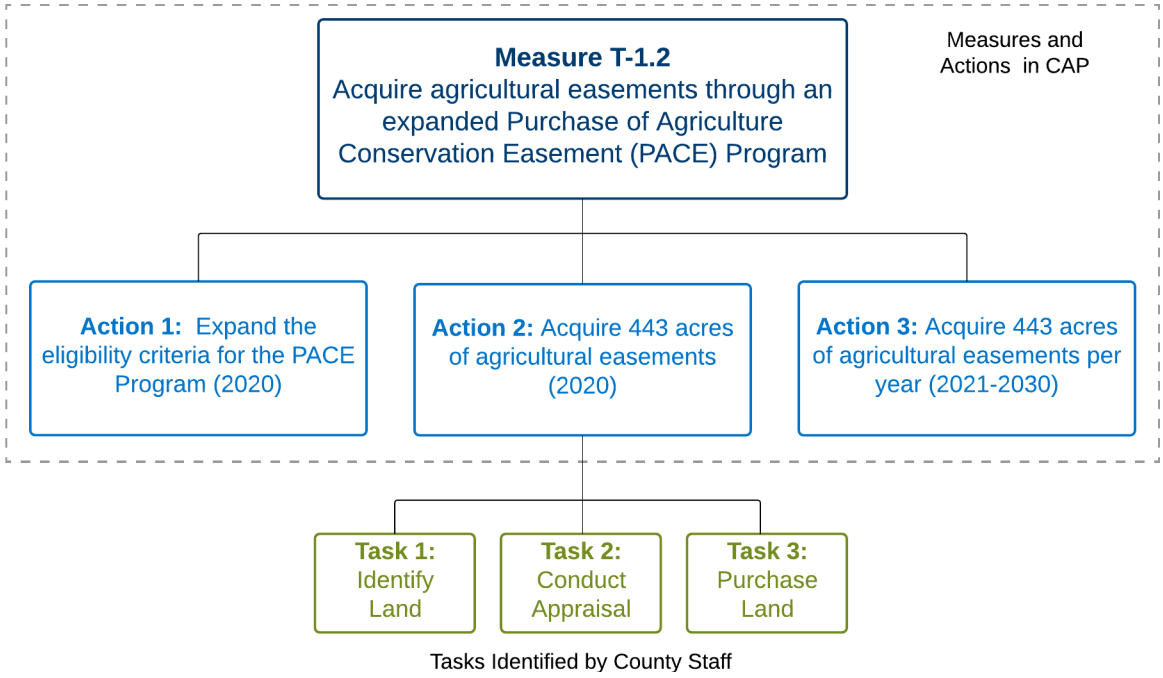


3.1.1 Identify Climate Action Plan Tasks

The first step was for County staff to identify tasks to adequately represent the expected workload. As noted above, the CAP comprises measures that include specific programs, policy actions, and associated tasks that will be implemented to reduce GHG emissions. Some measures also have supporting efforts, which indirectly help the County achieve the GHG reduction targets associated

with each measure. To better understand the potential workload and more accurately estimate associated costs, County staff identified preliminary tasks for each action and supporting effort. Figure 9 illustrates the relationship between the CAP measures, actions, and examples of implementation tasks. County staff also identified preliminary tasks for the supporting efforts.

Figure 9 Hierarchy of Measures, Actions, and Example Tasks



3.1.2 Establish Preliminary Cost Estimates

Once the tasks were identified, County staff developed CAP implementation cost estimates. To facilitate and standardize the collection of implementation cost data generated by County staff and EPIC created a data collection template. County staff and EPIC conducted a series of meetings with department managers and staff representatives to further discuss cost estimates and cost data collection.

The cost estimates presented in this study reflect the costs of implementing the draft Final CAP. The cost estimates are based on reasonable assumptions of the work effort needed to implement the draft Final CAP actions. If the final CAP includes new or altered measures, Implementation Costs would be different from those reported here and would need to be adjusted.

3.1.3 Quality Control and Update to Departments

Quality control and data validation occurred at several stages. Primary validation occurred after total estimated costs were collected. EPIC and County staff then performed an internal quality control check, updated key managers, and reviewed costs with department managers and staff. Based on this initial review, some costs components were updated to create consistency across all departments and to create a complete data set. County staff also conducted a detailed consistency

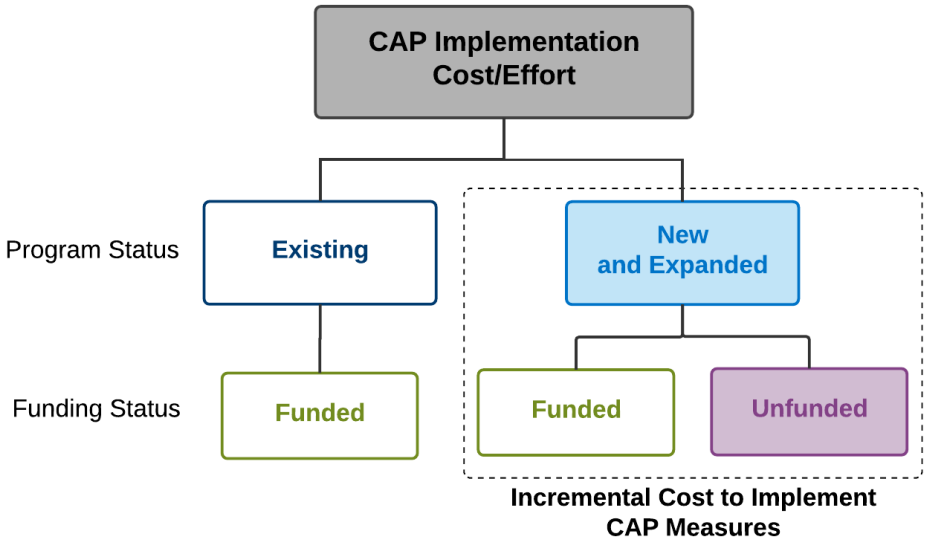
check to ensure internal cost reporting consistency. EPIC conducted a final review of all costs prior to inclusion in this report.

3.2 Framework for Evaluating CAP Implementation Costs

As described earlier, the goals of the CAP Implementation Cost analysis are to develop a preliminary estimate of the total cost to implement GHG reductions measures over the first six fiscal years, evaluate costs based on Program Status (e.g., Existing versus New and Expanded Programs) to determine the estimated Incremental Costs associated with New and Expanded Programs that would not have occurred without the CAP, and evaluate costs based on Funding Status (e.g., Funded versus Unfunded) to determine which activities require additional financial resources to implement and potential funding sources for those activities.

Figure 10 illustrates this cost analysis framework and the relationships between Program and Funding Status. Total Implementation Costs can be divided into Existing and New and Expanded Programs. Based on the analysis conducted for this report, all Existing Programs have identified funding sources (i.e., Funded) but New and Expanded Programs can have Funded or Unfunded activities. All references to Unfunded Programs in this report refer to New and Expanded Programs. Costs associated with New and Expanded activities represent the Incremental Costs to implement CAP measures. These are additional costs to the County as a direct result of the CAP. This report will summarize total costs (gray box), Incremental Costs associated with New and Expanded activities (blue box), and the Unfunded activities associated with Incremental Costs (purple box). In this way, the report focuses mainly on the Incremental Costs to implement CAP measures.

Figure 10 Framework to Identify Incremental Costs



4 RESULTS – CAP IMPLEMENTATION COST ESTIMATES

This section summarizes the CAP Implementation Cost Analysis results. Costs are evaluated by CAP measures, by department, by expenditure category, and GHG emissions category. Each subsection will use the overall evaluation framework described in Section 3.2 and present total CAP costs, New and Expanded costs, and then Unfunded costs. All costs results presented in this report are in 2017 dollars.

Key Findings from this Section

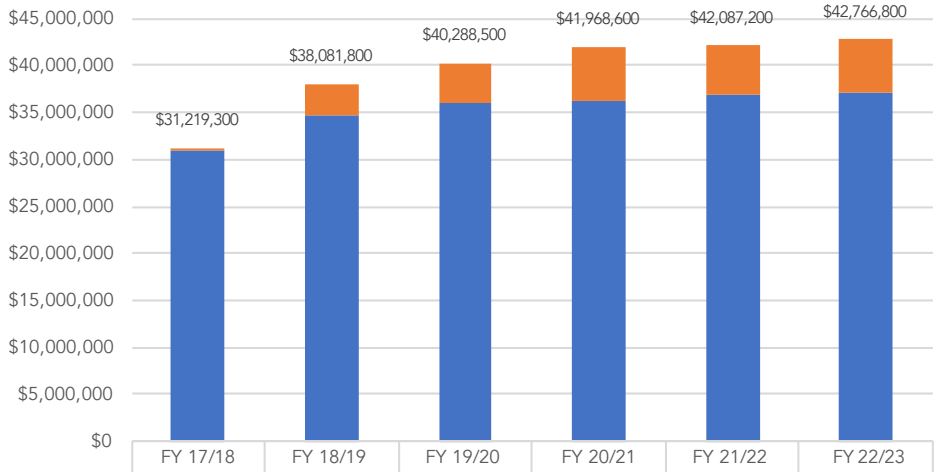
- The total estimated cost to implement CAP measures over the first six years is $236 million.
- Existing Programs (e.g., MSCP and Photovoltaics Fee Waiver) account for 90% of total costs.
- The total estimated Incremental Cost for New and Expanded Programs is $24 million (10% of total cost).
- The top six highest cost measures, which account for about 85% of total CAP Implementation Costs, are all currently Funded activities.
- Of the total Incremental Cost, about $15 million is currently Unfunded.
- Annual Incremental Costs for Funded and Unfunded Programs range from $3 million in FY 2018-19 to $5.5 million in FY 2022-23.
- Fund Balance represents the largest funding source for Unfunded Programs at $9 million, about 62% of total Unfunded costs, followed by Department Funded at $3 million (21%) and General Purpose Revenue at $2.5 million (18%).
- Of the total Incremental Costs for both Funded and Unfunded Programs, measure T-3.3 Develop a Local Vehicle Retirement Program would cost a total of about $4 million over the six-year period, the highest implementation cost of any New and Expanded Program, and would represent about 15% of the total for this subset of costs. CAP Coordination and Reporting accounts for $3.5, about 14% of total Incremental Costs for both Funded and Unfunded Programs.
- Of the total Incremental Costs for both Funded and Unfunded Programs, PDS accounts for the largest portion of New and Expanded Program total costs with about $17 million (70% of total Incremental Costs), followed by APCD with $6 million (25%), and DPR with $4 million (25%). These top three departments represent about 98% of all Incremental Costs. PDS annual Incremental Costs range from about $3 million annually to $4 million annually from FY 2018-19 to FY2022-23.
- Of the total Incremental Costs for Unfunded Programs, PDS has the highest proportion of Unfunded Incremental Costs at $13 million over the six-year period of this analysis, 87% of total Unfunded costs, about $2 million annually in FY 2018-19 to $3 million annually in FY 2022-23.
- Of the total Incremental Costs for both Funded and Unfunded Programs, Salary and Benefits is the largest expenditure category associated with New and Expanded Programs, and represents $200,000 in the first fiscal year and then increases from about $2 million annually to $3.5 million annually over the remaining five years.
- Of the total Incremental Costs for Unfunded Programs, Salary and Benefits represents the largest expenditure category of Unfunded Program activities at just over $8 million or 53% of total Unfunded activity costs. Salary and Benefits costs increase through FY 2020-21 and then level off around $2 million per year through FY 2022-23.

4.1 Total CAP Implementation Costs

The total estimated cost over the first six fiscal years (FY 2017-18 – FY 2022-23) is $236 million. Existing Programs account for the vast majority of the total cost – about $212 million (90% of total costs). New and Expanded Programs account for the remaining 10%. This represents the Incremental Cost to the County for implementing CAP measures. All of the Existing Programs are currently Funded and 38% of New and Expanded Programs are Funded. The estimated amount of additional funding needed by the County of San Diego to implement CAP measures over the first six fiscal years is approximately $15 million, about six percent of the total estimated costs during this period.

Estimated annual CAP Implementation Costs increase from about $31 million in FY 2017-18 to an average of around $41 million between FY 2018-19 and FY 2022-23, about a 37% increase over that period (Figure 11). Annual costs of Existing Programs initially increase from FY 2017-18 to FY 2018-19, but remain stable from FY 2018-19 through FY 2022-23 with annual costs of about $36 million to $37 million (Figure 11). These programs already exist, are fully Funded, and contribute towards CAP goals.

Figure 11 CAP Implementation Cost by Program Status



	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23
New and Expanded	$199,400	$3,400,900	$4,343,300	$5,700,600	$5,122,400	$5,542,300
Existing	$31,019,900	$34,680,900	$35,945,100	$36,267,900	$36,964,800	$37,224,400
Total	$31,219,300	$38,081,800	$40,288,500	$41,968,600	$42,087,200	$42,766,800

Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors' approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

The total Incremental Cost to the County for New and Expanded Programs required to implement the CAP is about $24 million. Of this total cost, about $9 million (38% of total Incremental Costs) is Funded and $15 million (62%) is Unfunded (Table 2 and Figure 12). Funded program costs range from $1 million in FY 2017-18 to just over $2 million in FY 2022-23. Unfunded program costs are $2 million in FY 2018-19 and increase to about $3.5 million in the final year of the analysis, about a 50% increase in annual cost.

Table 2 Total CAP Implementation Cost by Program and Funding Status

	Existing Programs	New and Expanded Programs			
Fiscal Year	Funded	Funded	Unfunded	New and Expanded Total	CAP Total
FY 2017/18	$31,019,900	$199,400	$0	$199,400	$31,219,300
FY 2018/19	$34,680,900	$1,050,600	$2,350,300	$3,400,900	$38,081,800
FY 2019/20	$35,945,100	$1,838,000	$2,505,300	$4,343,300	$40,288,400
FY 2020/21	$36,267,900	$2,147,700	$3,552,900	$5,700,600	$41,968,500
FY 2021/22	$36,964,800	$2,051,300	$3,071,000	$5,122,300	$42,087,100
FY 2022/23	$37,224,400	$2,016,800	$3,525,400	$5,542,200	$42,766,600
Total	**$212,103,200**	**$9,304,100**	**$15,005,200**	**$24,309,300**	**$236,412,500**
% CAP Total	*90%*	*4%*	*6%*	*10%*	*100%*

Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors' approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

Figure 12 Total CAP Implementation Costs by Program and Funding Status

	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
New and Expanded - Funded	$199,400	$1,050,600	$1,838,000	$2,147,700	$2,051,300	$2,016,800
New and Expanded - Unfunded	$0	$2,350,300	$2,505,300	$3,552,900	$3,071,000	$3,525,400
Existing - Funded	$31,019,900	$34,680,900	$35,945,100	$36,267,900	$36,964,800	$37,224,400
Total Funded & Unfunded	$31,219,300	$38,081,800	$40,288,400	$41,968,500	$42,087,100	$42,766,600

Existing programs funded with One-Time-Only (OTO) and General Purpose Revenue (GPR) funding (such as MSCP and PV fee waiver programs) are considered "funded"; however, funding for these programs is subject to Board of Supervisors' approval. "Unfunded" means unfunded additional activity as a direct result of the CAP. Values are rounded and may not sum to totals.

4.1.1 Funding Sources for Unfunded New and Expanded Programs

As part of the implementation cost analysis, County staff identified likely funding sources for the Unfunded portion of New and Expanded Programs, understanding that all final funding allocations require Board of Supervisors' approval. Figure 13 summarizes potential funding sources for Unfunded activities for the six fiscal years of CAP implementation starting in FY 2017-18. Fund Balance represents the largest source at $9 million or 62% of the total Unfunded program costs, followed by Department Funds at $3 million (21%) and General Purpose Revenue at $2.6 million (18%).

Figure 13 Identified Funding Sources for Total Unfunded Program Costs

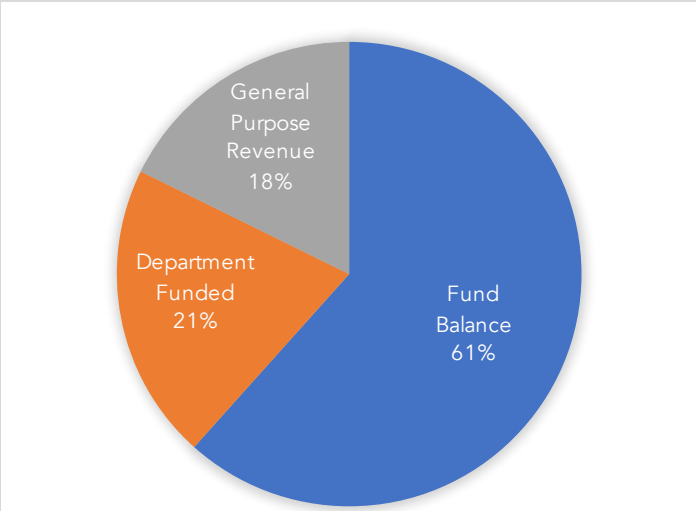


Table 3 presents the annual identified funding sources over the six-year period. All CAP activity associated with Existing Programs is Funded. Costs for Fund Balance programs, defined as the use of Fund Balance as a funding source for one-time programs, range between about $2 million and $2.5 million annually from FY 2018-19 to FY 2022-23. Costs for Department Funded programs, defined as programs funded by Fees and Deposits or grant programs, will increase from $400,000 in FY 2020-21 to just over $1 million in FY 2022-23 as New and Expanded CAP measures are implemented. Costs for General Purpose Revenue, defined as revenue derived from sources not specific to any program used for any purpose that is a legal expenditure of County funds, varies between $370,000 in FY 2018-19 and $690,000 in FY 2022-23.

Table 3 Identified Funding Sources for Unfunded CAP Implementation Activities

Fiscal Year	Fund Balance	Department Funded	General Purpose Revenue	Total
FY 2017/18	$0	$0	$0	$0
FY 2018/19	$1,972,440	$11,036	$366,887	$2,350,362
FY 2019/20	$2,125,007	$11,036	$369,325	$2,505,368
FY 2020/21	$2,607,129	$398,468	$547,329	$3,552,926
FY 2021/22	$1,043,669	$1,339,100	$688,292	$3,071,061
FY 2022/23	$1,506,976	$1,330,200	$688,323	$3,525,499
Total	**$9,255,221**	**$3,089,839**	**$2,660,156**	**$15,005,217**
% of Total	62%	21%	18%	100%

4.2 Costs by CAP Measure

This section summarizes the total estimated costs to implement draft Final CAP actions and supporting efforts associated with each GHG reduction measures included in the draft Final CAP. Although activities related to CAP Coordination and Reporting were not included in the draft Final CAP as part of a measure, they are included in this analysis. These costs represent activities to regularly update the GHG emissions inventory, conduct and attend sustainability task force meetings, and monitor and report on progress.

As noted in Section 2.2, the draft Final CAP has 11 main strategies, which comprise 30 measures. These measures have a total of 47 Actions and 47 Supporting Efforts. Table 4 provides a list of CAP measures for which costs are provided in this Section.

Table 4 County of San Diego Draft Final CAP Measures

A-1.1	Convert Farm Equipment to Electric	T-3.5	Install Electric Vehicle Charging Stations
A-1.2	Convert Stationary Irrigation Pumps to Electric	T-4.1	Establish a Local Direct Investment Program
A-2.1	Increase Residential Tree Planting	E-1.1	Improve Building Energy Efficiency in New Development
A-2.2	Increase County Tree Planting	E-1.2	Use Alternatively-Powered Water Heaters in Residential Development
T-1.1	Acquire Open Space Conservation Land	E-1.3	Improve Building Energy Efficiency in Existing Development
T-1.2	Acquire Agricultural Easements	E-1.4	Reduce Energy Use Intensity at County Facilities
T-1.3	Update Community Plans	E-2.1	Increase Renewable Electricity
T-2.1	Improve Roadway Segments as Multi-Modal	E-2.2	Increase Renewable Energy in Non-Residential Development
T-2.2	Reduce New Non- Residential Development Vehicle Miles Traveled	E-2.3	Install Solar Photovoltaics in Existing Homes
T-2.3	Reduce County Employee Vehicle Miles Traveled	E-2.4	Increase Onsite Renewable Electricity Generation for County Operations
T-2.4	Shared and Reduced Parking in New Non-Residential Development	SW-1.1	Increase Solid Waste Diversion
T-3.1	Use Alternative Fuels in New Residential and Non-Residential Construction Projects	W-1.1	Increase Water Efficiency in New Residential Development
T-3.2	Use Alternative Fuels in County Projects	W-1.2	Reduce Outdoor Water Use
T-3.3	Develop a Local Vehicle Retirement Program	W-1.3	Reduce Potable Water Consumption at County Facilities
T-3.4	Reduce the County's Fleet Emissions	W-2.1	Increase Rain Barrel Installations

4.2.1 Total Cost by CAP Measure

Table 5 shows total annual implementation cost by CAP measure displayed in order from highest to lowest total cost. Two measures in the Built Environment and Transportation category of the CAP, T-2.1 Improve Roadway Segments as Multi-Modal and T-1.1 Acquire Open Space Conservation Land, account for a total of $155 million, about 65% of total costs. T-2.1 Improve Roadway Segments as Multi-Modal has an estimated implementation cost of $102 million (43% of total cost) and T-1.1 Acquire Open Space Conservation Land has a cost of $52 million (22%). Capital expenditures account for about 78% of the total costs for these two measures, including road improvement projects to increase multi-modal opportunities for T-2.1 and land purchases for T-1.1. All of the costs associated with these two measures are Funded and part of the County's Existing Capital Improvement Program (CIP).

Table 5 Total CAP Implementation Costs by Measure

CAP Measure	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% of Total
T-2.1	$17,000,000	$17,010,800	$17,010,800	$17,010,800	$17,010,800	$17,010,800	$102,054,400	43%
T-1.1	$8,221,600	$8,498,900	$8,807,900	$8,882,900	$9,249,100	$9,333,200	$52,993,800	22%
E-1.4	$250,000	$2,535,300	$2,741,200	$2,915,300	$2,915,300	$2,915,300	$14,272,800	6%
SW-1.1	$248,800	$1,564,600	$2,570,700	$2,805,200	$2,845,800	$2,845,800	$12,881,200	5%
E-2.3	$0	$1,499,300	$1,659,600	$1,826,400	$1,974,700	$2,135,200	$9,095,500	4%
W-1.1	$985,400	$1,049,600	$1,153,000	$1,285,500	$1,421,500	$1,421,500	$7,316,600	3%
T-3.1	$481,400	$620,000	$694,700	$683,400	$694,100	$687,200	$3,861,000	2%
CAP Coordination and Reporting	$70,700	$866,200	$568,100	$1,015,700	$631,400	$596,500	$3,748,900	2%
T-3.3	$41,600	$223,900	$748,900	$892,300	$902,200	$909,700	$3,718,800	2%
A-2.2	$550,000	$691,000	$671,000	$598,000	$598,000	$598,000	$3,706,100	2%
T-1.3	$17,100	$960,600	$463,600	$901,700	$437,100	$908,800	$3,689,200	2%
T-1.2	$143,000	$251,500	$640,100	$640,100	$640,100	$640,100	$2,955,300	1%
W-1.3	$1,577,600	$577,600	$77,600	$77,600	$77,600	$77,600	$2,466,000	1%
T-4.1*	$23,100	$321,100	$240,100	$541,200	$657,100	$656,800	$2,439,700	1%
E-2.1	$28,500	$362,200	$679,100	$385,800	$373,900	$381,900	$2,211,700	1%
T-3.4	$1,196,200	$263,200	$295,600	$87,200	$99,200	$111,200	$2,053,000	1%
E-2.2	$0	$28,900	$112,100	$224,200	$368,600	$368,600	$1,102,400	0%
E-1.3	$20,100	$124,900	$240,600	$191,200	$185,100	$187,100	$949,300	0%
T-3.5	$0	$0	$0	$300,500	$299,500	$267,500	$867,700	0%
T-2.2	$0	$91,300	$221,300	$196,300	$86,400	$86,400	$681,800	0%
T-2.4	$0	$32,900	$108,100	$115,300	$144,900	$144,900	$546,200	0%
E-2.4	$193,000	$193,000	$157,200	$0	$0	$0	$543,300	0%
W-1.2	$39,300	$48,100	$93,500	$96,900	$118,500	$118,500	$515,100	0%
E-1.1	$1,400	$72,500	$48,400	$56,600	$78,600	$87,600	$345,400	0%
A-1.1	$62,100	$27,700	$79,300	$48,300	$48,300	$48,300	$314,200	0%
A-1.2	$17,300	$48,700	$79,300	$48,300	$48,300	$48,300	$290,400	0%
E-1.2	$0	$28,900	$25,300	$50,700	$83,400	$83,400	$271,900	0%
A-2.1	$0	$9,700	$44,200	$36,700	$44,400	$44,400	$179,500	0%
W-2.1	$26,000	$26,000	$26,000	$26,000	$26,000	$26,000	$156,000	0%
T-2.3	$12,100	$23,300	$17,700	$15,000	$13,900	$12,900	$95,200	0%
T-3.2	$11,900	$28,600	$11,900	$11,900	$11,900	$11,900	$88,600	0%
Total	**$31,219,300**	**$38,081,800**	**$40,288,500**	**$41,968,600**	**$42,087,200**	**$42,766,800**	**$236,412,500**	**100%**

*Cost values for T-4.1 represent only a portion of total implementation costs. For additional implementation costs related to this measure, see the separate local carbon offset program report.
Values are rounded and may not sum to totals.

4.2.2 Incremental Costs by CAP Measure

Measure T-3.3 Develop a Local Vehicle Retirement Program would cost a total of about $4 million over the six-year period, the highest implementation cost of any New and Expanded Program, representing about 15% of the total for this subset of costs (Table 6). CAP Coordination and Reporting has the second highest Incremental Cost totaling nearly $4 million (14% of total) over the six years, with an increase in FY 2020-21 due to planned CAP monitoring and reporting activities.

Table 6 New and Expanded CAP Implementation Costs by CAP Measure

CAP Measures	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% of Total
T-3.3	$41,600	$201,200	$726,200	$875,300	$890,900	$898,300	$3,633,700	15%
CAP Coordination and Reporting	$31,000	$825,500	$527,400	$975,000	$590,700	$555,800	$3,505,700	14%
T-1.3	$0	$924,200	$427,200	$865,300	$400,800	$872,400	$3,490,100	14%
T-1.2	$0	$168,500	$577,100	$577,100	$577,100	$577,100	$2,477,000	10%
T-4.1*	$23,100	$321,100	$240,100	$541,200	$657,100	$656,800	$2,439,700	10%
E-2.1	$0	$233,900	$547,900	$251,800	$237,000	$241,900	$1,512,700	6%
E-2.2	$0	$28,900	$112,100	$224,200	$368,600	$368,600	$1,102,400	5%
T-3.1	$20,800	$149,700	$224,500	$213,100	$223,900	$217,000	$1,049,400	4%
T-3.5	$0	$0	$0	$300,500	$299,500	$267,500	$867,700	4%
E-1.3	$800	$105,600	$221,400	$171,900	$165,800	$167,800	$833,600	3%
T-2.2	$0	$91,300	$221,300	$196,300	$86,400	$86,400	$681,800	3%
T-2.4	$0	$32,900	$108,100	$115,300	$144,900	$144,900	$546,200	2%
E-1.1	$800	$71,900	$47,800	$56,000	$78,000	$87,000	$341,800	1%
A-1.2	$17,300	$48,700	$79,300	$48,300	$48,300	$48,300	$290,400	1%
W-1.2	$0	$9,700	$55,100	$58,500	$80,100	$80,100	$283,700	1%
A-2.2	$42,600	$62,600	$42,600	$42,600	$42,600	$42,600	$275,800	1%
E-1.2	$0	$28,900	$25,300	$50,700	$83,400	$83,400	$271,900	1%
A-1.1	$17,200	$27,700	$79,300	$48,300	$48,300	$48,300	$269,400	1%
A-2.1	$0	$9,700	$44,200	$36,700	$44,400	$44,400	$179,500	1%
W-1.1	$0	$28,900	$12,200	$24,400	$40,200	$40,200	$146,000	1%
E-2.3	$0	$14,200	$14,200	$20,500	$8,200	$8,200	$65,500	0%
T-2.3	$3,700	$14,800	$9,200	$6,500	$5,400	$4,400	$44,200	0%
Total	**$199,400**	**$3,400,900**	**$4,343,300**	**$5,700,600**	**$5,122,400**	**$5,542,300**	**$24,309,300**	**100%**

*Cost values for T-4.1 represent only a portion of total implementation costs. For additional implementation costs related to this measure, see the separate local carbon offset program report.
Values are rounded and may not sum to totals.

4.2.2.1 Unfunded Costs by CAP Measure

Table 7 below includes Unfunded annual costs by CAP measure displayed in order of highest to lowest total Unfunded cost. Six CAP measures account for nearly 65% of Unfunded cost, including:

- T-1.3 Update Community Plans (19% of total Unfunded costs – Expanded Program)
- T-1.2 Acquire Agricultural Easements (16% - Expanded Program)
- CAP Coordination and Reporting (14% - New Program)
- T-4.1 Establish a Local Direct Investment Program (12% - New Program)
- E-2.1 Increase Renewable Electricity (10 percent - New Program)
- E-2.2 Increase Renewable Energy in Non-Residential Development (seven percent - New Program)

Salary and Benefits represents the largest portion (48%) of Unfunded Program costs from these six measures. Services and Supplies, which includes consultants, accounts for 40% and Capital for 12%.

Table 7 Unfunded CAP Implementation Costs by Measure

CAP Measure	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% of Total
T-1.3	$0	$786,900	$282,900	$728,100	$256,500	$728,100	$2,782,900	19%
T-1.2	$0	$160,000	$568,600	$568,600	$568,600	$568,600	$2,434,400	16%
CAP Coordination and Reporting	$0	$567,600	$268,800	$709,900	$301,500	$279,400	$2,127,300	14%
T-4.1*	$0	$201,100	$119,200	$432,500	$543,600	$532,000	$1,828,600	12%
E-2.1	$0	$233,900	$547,900	$251,800	$237,000	$241,900	$1,512,700	10%
E-2.2	$0	$28,900	$112,100	$224,200	$368,600	$368,600	$1,102,400	7%
E-1.3	$0	$93,400	$209,100	$159,700	$147,900	$144,200	$754,600	5%
T-2.4	$0	$15,000	$81,100	$97,400	$135,200	$135,200	$464,200	3%
E-1.1	$0	$71,000	$46,900	$55,200	$77,100	$86,200	$336,600	2%
E-1.2	$0	$28,900	$25,300	$50,700	$83,400	$83,400	$271,900	2%
W-1.2	$0	$0	$45,300	$48,700	$80,100	$80,100	$254,300	2%
T-2.2	$0	$15,000	$50,000	$72,500	$57,500	$57,500	$252,700	2%
T-3.3	$0	$41,700	$45,000	$54,400	$49,100	$56,500	$246,900	2%
T-3.1	$0	$29,300	$27,700	$12,700	$57,600	$56,300	$183,800	1%
A-2.1	$0	$0	$34,400	$27,000	$44,400	$44,400	$150,200	1%
W-1.1	$0	$28,900	$12,200	$24,400	$40,200	$40,200	$146,000	1%
E-2.3	$0	$14,200	$14,200	$20,500	$8,200	$8,200	$65,500	0%
A-1.1	$0	$6,900	$6,900	$6,900	$6,900	$6,900	$34,600	0%
A-1.2	$0	$6,900	$6,900	$6,900	$6,900	$6,900	$34,600	0%
A-2.2	$0	$20,000	$0	$0	$0	$0	$20,000	0%
Total	**$0**	**$2,350,300**	**$2,505,300**	**$3,552,900**	**$3,071,000**	**$3,525,400**	**$15,005,200**	**$0**

*Cost values for T-4.1 represent only a portion of total implementation costs. For additional implementation costs related to this measure, see the separate local carbon offset program report.
Values are rounded and may not sum to totals.

4.3 Costs by Department

This section summarizes CAP Implementation Costs by County Department. Table 9 lists the departments that would participate in CAP implementation activities.

Table 8 County Departments Implementing CAP Measures

AWM	Agriculture, Weights and Measures
APCD	Air Pollution Control District
DEH	Department of Environmental Health
DGS	Department of General Services
DHR	Department of Human Resources
DPR	Department of Parks and Recreation
DPW	Department of Public Works
HCDS	Housing and Community Development Services
PDS	Planning & Development Services
PHS	Public Health Services

4.3.1 Total Costs by Department

The Department of Public Works (DPW) has the highest CAP Implementation Costs at $123 million (52% of total costs). These costs, the vast majority of which are associated with road resurfacing projects related to CAP measure T-2.1, are fully Funded. The Department of Parks and Recreation (DPR) represents about $55 million (23%) of total CAP Implementation Costs, followed by Planning & Development Services (PDS) with $27 million (12%) of total costs. These three departments

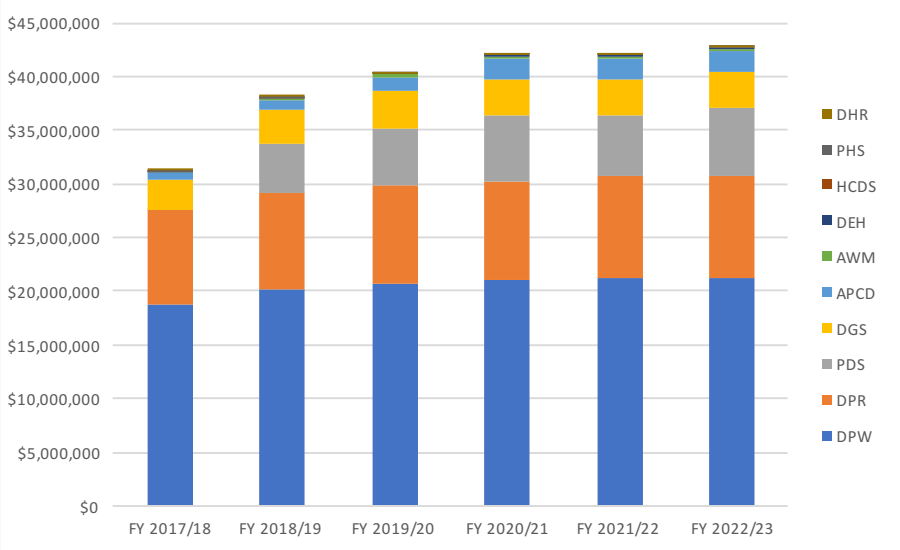
represent nearly 90% of total CAP Implementation Costs. DPW and DPR costs are due in part to the cost-intensive activities relating to land acquisition and road improvements. PDS costs are due to staff involvement in a wide range of CAP measures and the leading role of PDS staff in CAP Coordination and Reporting. Table 9 and Figure 14 summarize these costs.

Table 9 Total CAP Implementation Costs by County Department

Department	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% Total
DPW	$18,819,500	$20,169,600	$20,706,800	$21,021,000	$21,141,200	$21,141,200	$122,999,600	52%
DPR	$8,774,900	$8,910,900	$9,219,900	$9,270,400	$9,601,600	$9,644,600	$55,422,800	23%
PDS	$11,600	$4,611,500	$5,157,900	$6,014,800	$5,606,600	$6,229,200	$27,631,800	12%
DGS	$2,814,800	$3,283,700	$3,520,800	$3,332,100	$3,347,100	$3,362,100	$19,660,900	8%
APCD	$619,100	$814,600	$1,376,400	$1,985,900	$2,006,800	$2,006,800	$8,809,700	4%
AWM	$61,300	$221,300	$221,300	$221,300	$221,300	$221,300	$1,168,100	0%
DEH	$6,300	$6,300	$46,900	$87,400	$128,000	$128,000	$403,200	0%
HCDS	$24,300	$24,300	$24,300	$24,300	$24,300	$24,300	$146,100	0%
PHS	$82,400	$22,400	$2,400	$2,400	$2,400	$2,400	$114,500	0%
DHR	$4,700	$16,800	$11,200	$8,500	$7,500	$6,400	$55,400	0%
Total	**31,219,300**	**38,081,800**	**40,288,500**	**41,968,600**	**42,087,200**	**42,766,800**	**236,412,500**	**100%**

Values are rounded and may not sum to totals.

Figure 14 Total CAP Implementation Costs by County Department



Understanding how department costs are allocated across expenditure types can support the budget planning process. Table 10 shows the breakdown of total CAP Implementation Costs for each department by expenditure category. DPW and DPR costs are mostly Capital expenditures as mentioned above, while PDS costs are mostly Salary and Benefits.

Table 10 Total CAP Implementation Costs for Departments by Expenditure Type FY 2017-18-FY 2022-23

Department	Capital	Salary & Benefits	Services & Supplies	Total	% of Total
APCD	$756,000	$5,543,300	$2,510,400	$8,809,700	4%
AWM	$0	$368,100	$800,000	$1,168,100	0%
DEH	$0	$403,200	$0	$403,200	0%
DGS	$16,458,100	$3,202,700	$0	$19,660,900	8%
DPR	$37,860,000	$9,665,400	$7,897,300	$55,422,800	23%
DPW	$84,000,000	$12,793,500	$26,206,100	$122,999,600	52%
HCDS	$0	$146,100	$0	$146,100	0%
PDS	$1,473,900	$21,442,700	$4,715,100	$27,631,800	12%
DHR	$4,000	$51,400	$0	$55,400	0%
PHS	$0	$114,500	$0	$114,500	0%
Total	**$140,552,000**	**$53,730,900**	**$42,128,900**	**$236,412,100**	100%
% of Total	*59%*	*23%*	*18%*	*100%*	

4.3.2 Incremental Costs by Department

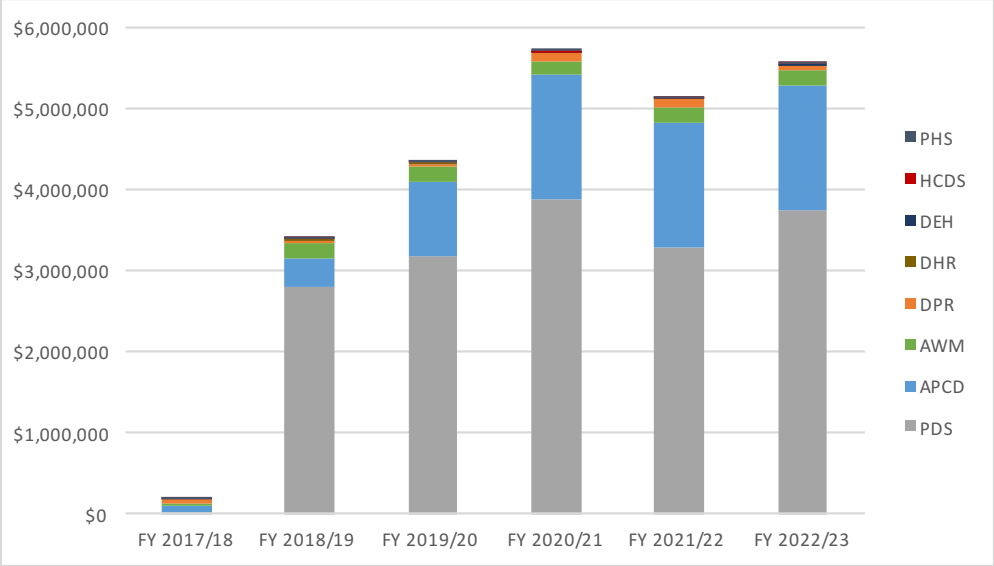
PDS has the highest costs associated with New and Expanded Programs with about $17 million (70% of total) followed by APCD with $6 million (25%). These two departments represent 95% of all Incremental Costs. PDS costs range from about $3 million and $4 million annually from FY 2018-19 to FY 2022-23 (Table 11 and Figure 15). The Incremental Costs for PDS are due in part to its role in a high number of CAP measures and the leading role PDS would play in CAP Coordination and Reporting activities, which are new work areas for the County.

Table 11 New and Expanded CAP Implementation Costs by Department

Department	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% Total
PDS	$11,000	$2,801,000	$3,187,100	$3,889,100	$3,292,000	$3,745,000	$16,925,500	70%
APCD	$106,400	$346,800	$908,700	$1,518,100	$1,539,000	$1,539,000	$5,958,400	25%
AWM	$18,300	$178,300	$178,300	$178,300	$178,300	$178,300	$910,100	4%
DPR	$46,000	$46,000	$46,000	$94,500	$93,500	$61,600	$387,700	2%
DHR	$3,700	$14,800	$9,200	$6,500	$5,400	$4,400	$44,200	0%
DEH	$6,300	$6,300	$6,300	$6,300	$6,300	$6,300	$38,200	0%
HCDS	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,300	0%
PHS	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$14,600	0%
Total	**$199,400**	**$3,400,900**	**$4,343,300**	**$5,700,600**	**$5,122,400**	**$5,542,300**	**$24,309,300**	**100%**

Values are rounded and may not sum to totals.

Figure 15 New and Expanded CAP Implementation Costs by Department



4.3.2.1 Unfunded Cost by Department

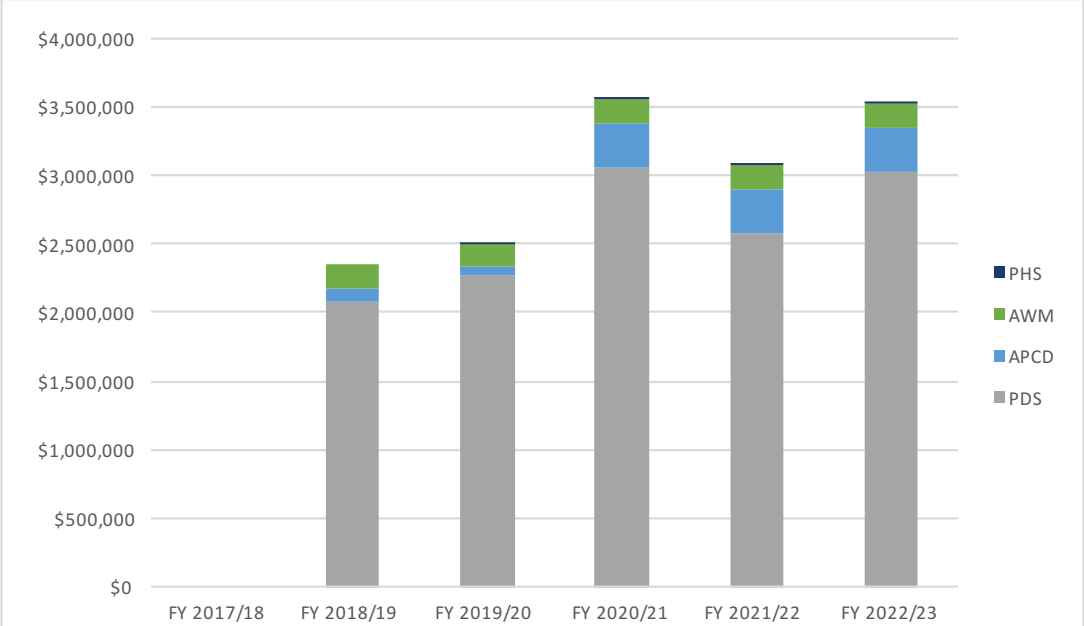
PDS has the highest proportion of New and Expanded Unfunded Costs at $13 million, 87% of total Unfunded Program Costs (Table 12 and Figure 16). About $3 million of these Unfunded Costs are associated with CAP measure T-1.3 Update Community Plans, about $2 million are for CAP Coordination and Reporting, and just under $2 million are related to T-1.2 Acquire Agricultural Easements. Among the highest cost activities related to these three measures are the costs to acquire easements, conduct the Sustainability Task Force and coordinate CAP implementation, prepare CEQA documents, and conduct public outreach activities.

Table 12 Unfunded CAP Implementation Costs by Department

Department	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total	% Total
PDS	$0	$2,072,600	$2,267,300	$3,055,600	$2,573,800	$3,028,200	$12,997,700	87%
APCD	$0	$103,800	$61,700	$320,900	$320,900	$320,900	$1,128,400	8%
AWM	$0	$173,800	$173,800	$173,800	$173,800	$173,800	$869,200	6%
PHS	$0	$0	$2,400	$2,400	$2,400	$2,400	$9,700	0%
Total	$0	2,350,300	$2,505,300	$3,552,900	$3,071,000	$3,525,400	$15,005,200	100%

DEH, DGS, DHR, DPW, and HCDS have no Unfunded costs. Values are rounded and may not sum to totals.

Figure 16 Unfunded CAP Implementation Costs by Department



DEH, DGS, DHR, DPW, and HCDS have no Unfunded costs.

Table 13 presents the annual Unfunded Program Costs by department for each expenditure category. These costs are relatively stable across the FY 2018-19 – FY 2022-23 period.

Table 13 Unfunded CAP Implementation Costs by Department and Expenditure Type

Department/ Expenditure Category	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total
APCD	$0	$103,800	$61,700	$320,900	$320,900	$320,900	$1,128,400
Salary & Benefits	$0	$103,800	$51,700	$310,900	$310,900	$310,900	$1,088,400
Services and Supplies	$0	$0	$10,000	$10,000	$10,000	$10,000	$40,000
AWM	$0	$173,800	$173,800	$173,800	$173,800	$173,700	$869,200
Salary & Benefits	$0	$13,800	$13,800	$13,800	$13,800	$13,800	$69,200
Services and Supplies	$0	$160,000	$160,000	$160,000	$160,000	$159,900	$800,000
PDS	$0	$2,072,400	$2,267,100	$3,055,500	$2,573,700	$3,028,200	$12,997,600
Capital	$0	$14,800	$364,800	$365,400	$364,300	$364,300	$1,473,900
Salary & Benefits	$0	$694,700	$870,500	$1,406,100	$1,925,200	$1,911,900	$6,808,600
Services and Supplies	$0	$1,362,900	$1,031,800	$1,284,000	$284,200	$752,000	$4,715,100
PHS	$0	$0	$2,400	$2,400	$2,400	$2,400	$9,700
Salary & Benefits	$0	$0	$2,400	$2,400	$2,400	$2,400	$9,700
Total	**$0**	**$2,350,300**	**$2,505,300**	**$3,552,900**	**$3,071,000**	**$3,525,400**	**$15,005,200**

4.4 Costs by Expenditure Category

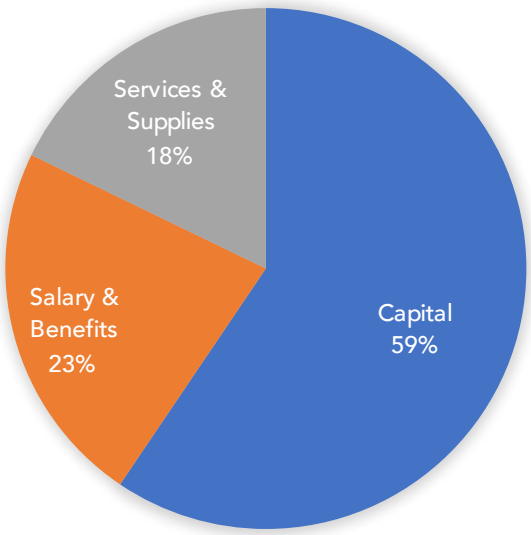
County expenditure categories include Capital, Salary and Benefits, and Services and Supplies, which includes consultant costs.

- **Capital** - Capital expenditures is the largest category of CAP Implementation Costs representing about 59% of total costs over the analysis period (Figure 17). Examples of

capital expenditures associated with CAP implementation could include purchase of trees, irrigation equipment, and land or easements.

- **Salary and Benefits** - The Salary and Benefits category represents the personnel costs associated with CAP implementation. This category represents about 23% of total costs over the six years covered by this report. Salary and Benefit costs include current base salary, benefits like health insurance and retirement, and a per employee overhead cost associated with fixed costs such as equipment and supplies. Hourly rates are specific to each department but do not include an annual increase over the last five years of the analysis, which introduces some uncertainty into the estimates. This level of uncertainty is relatively small since this expenditure category represents only about one-fifth of total costs. For example, a two percent annual increase over the five-year report horizon would result in an average cost increase to the overall implementation cost estimate of about one percent.
- **Services & Supplies** - The Services and Supplies category, which accounts for 18% of costs, comprises consultants, other services, materials, and supplies (e.g., education and outreach materials) needed to implement CAP measures. Most of the costs in this category represent consultant support services. Examples of Implementation Costs in this category include support to develop CAP-related ordinances, CEQA-related activities, stewardship of purchased land, and a tree canopy assessment.

Figure 17 Distribution of Expenditure Types



4.4.1 Total Costs by Expenditure Category

A majority of CAP Implementation Costs are associated with Capital expenditures, including to purchase land for conservation, implement roadway improvements to encourage alternative modes of transportation, and implement energy-related projects on County facilities. These costs total about $140 million over six years and represent 59% of total estimated CAP Implementation Costs. Capital expenditures are relatively steady over the six-years and total between $22 million and $23 million annually. Remaining costs are divided between Salary and Benefits and Services and

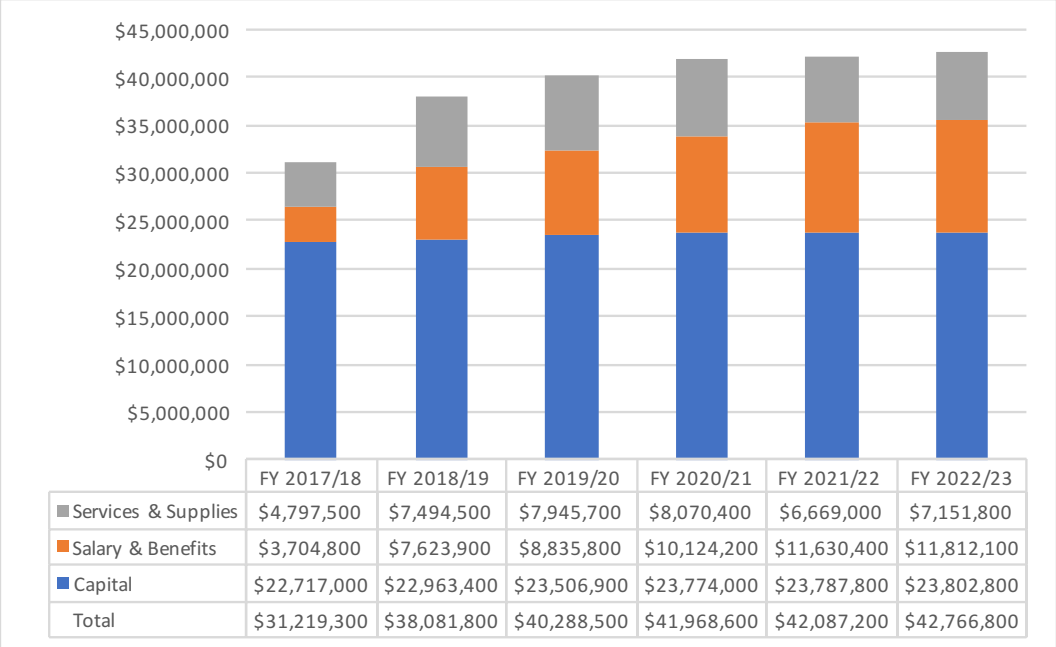
Supplies. Salary and Benefit costs represent about $54 million or 23% of total CAP Implementation Costs over the first six years. Annual Salary and Benefit costs rise from nearly $4 million in FY 2017-18 to $12 million in FY 2021-22, indicative of an increase in activity to support CAP implementation activities. Services and Supplies total about $42 million, 18% of total six-year costs and range from $5 million to $8 million over the six-year period. Table 14 and Figure 18 summarize these costs.

Table 14 Total CAP Implementation Costs by Expenditure Category

Fiscal Year	Capital	Salary & Benefits	Services & Supplies	Total
FY 2017/18	$22,717,000	$3,704,800	$4,797,500	$31,219,300
FY 2018/19	$22,963,400	$7,623,900	$7,494,500	$38,081,800
FY 2019/20	$23,506,900	$8,835,800	$7,945,700	$40,288,500
FY 2020/21	$23,774,000	$10,124,200	$8,070,400	$41,968,600
FY 2021/22	$23,787,800	$11,630,400	$6,669,000	$42,087,200
FY 2022/23	$23,802,800	$11,812,100	$7,151,800	$42,766,800
Total	**$140,552,100**	**$53,731,400**	**$42,129,000**	**$236,412,500**
% of Total	*59%*	*23%*	*18%*	*100%*

Values are rounded and may not sum to totals.

Figure 18 Total CAP Implementation Costs by Expenditure Category

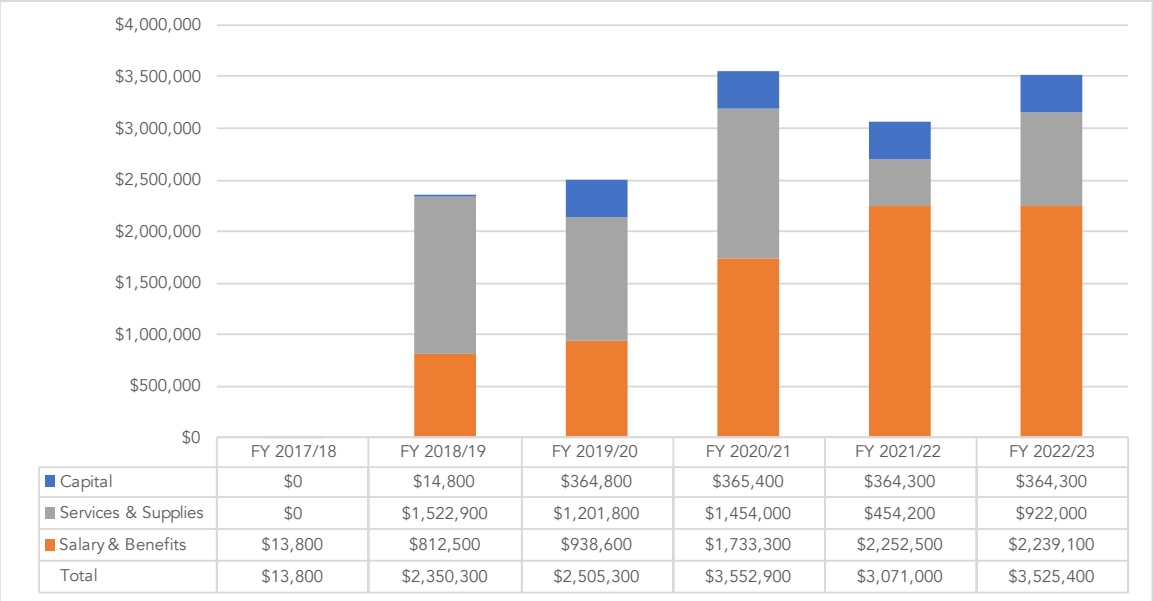


4.4.2 Incremental Costs by Expenditure Category

Annual Incremental Costs for CAP implementation are displayed in Figure 19. Salary and Benefits is the largest cost category associated with New and Expanded Programs (both Funded and

Unfunded) and represents $200,000 in the first fiscal year and then increases from about $2 million to about $3.5 million annually over the remaining five years. Supplies and Services, which includes consultant costs, is the second highest expenditure category and varies between about $1.5 million in FY 2018-19 and $2 annually over the remaining four years.

Figure 19 New and Expanded CAP Implementation Costs by Expenditure Type



	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Capital	$0	$14,800	$364,800	$365,400	$364,300	$364,300
Services & Supplies	$0	$1,522,900	$1,201,800	$1,454,000	$454,200	$922,000
Salary & Benefits	$13,800	$812,500	$938,600	$1,733,300	$2,252,500	$2,239,100
Total	$13,800	$2,350,300	$2,505,300	$3,552,900	$3,071,000	$3,525,400

Capital expenditures, which are mostly related to Funded Existing Programs, represent only a small portion of the Incremental Costs. These costs include easement costs and purchase of trees.

4.4.2.1 Unfunded Costs by Expenditure Type

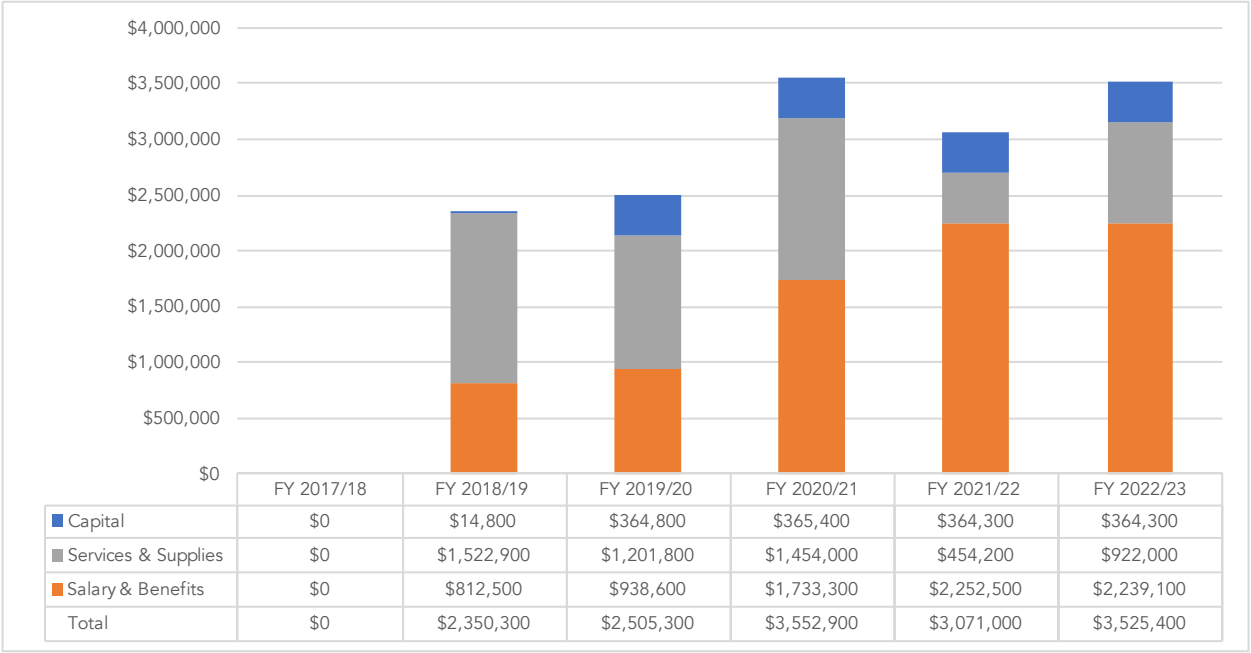
Salary and Benefits represent the largest proportion of Unfunded activities at about $8 million or 53% of total Unfunded activity costs. Annual Unfunded costs for Salary and Benefits increase from FY 2018-19 to FY 2022-23 and total about $2 million in FY 2022-23. Services and Supplies, which includes consultants, accounts for an estimated $5.5 million or 37% of these costs. This trend is due in part to the use of consultants in the early years of CAP implementation to support start up activities. These costs are roughly level at just around $1.5 million from FY 2018-19 to FY 2020-21 and then vary through FY 2022-23. Table 15 and Figure 20 summarize these findings.

Table 15 Unfunded CAP Implementation Costs by Expenditure Category

Fiscal Year	Salary & Benefits	Services & Supplies	Capital	Total
FY 2017/18	$0	$0	$0	$0
FY 2018/19	$812,500	$1,522,900	$14,800	$2,350,300
FY 2019/20	$938,600	$1,201,800	$364,800	$2,505,300
FY 2020/21	$1,733,300	$1,454,000	$365,400	$3,552,900
FY 2021/22	$2,252,500	$454,200	$364,300	$3,071,000
FY 2022/23	$2,239,100	$922,000	$364,300	$3,525,400
Total	**$7,976,100**	**$5,555,100**	**$1,473,900**	**$15,005,200**
% Total	*53%*	*37%*	*10%*	*100%*

Values are rounded and may not sum to totals.

Figure 20 Unfunded CAP Implementation Costs by Expenditure Category



	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Capital	$0	$14,800	$364,800	$365,400	$364,300	$364,300
Services & Supplies	$0	$1,522,900	$1,201,800	$1,454,000	$454,200	$922,000
Salary & Benefits	$0	$812,500	$938,600	$1,733,300	$2,252,500	$2,239,100
Total	$0	$2,350,300	$2,505,300	$3,552,900	$3,071,000	$3,525,400

4.5 Costs by GHG Emissions Category

The County's draft Final CAP identifies GHG emissions for the following five categories: Built Environment and Transportation, Energy, Solid Waste, Agriculture and Conservation, and Water and Wastewater. This section of the report evaluates CAP Implementation Costs by these five GHG emissions categories. Costs associated with CAP Coordination and Reporting, which are included in totals in other sections of the report, are not included here.

4.5.1 Total Cost by GHG Emissions Category

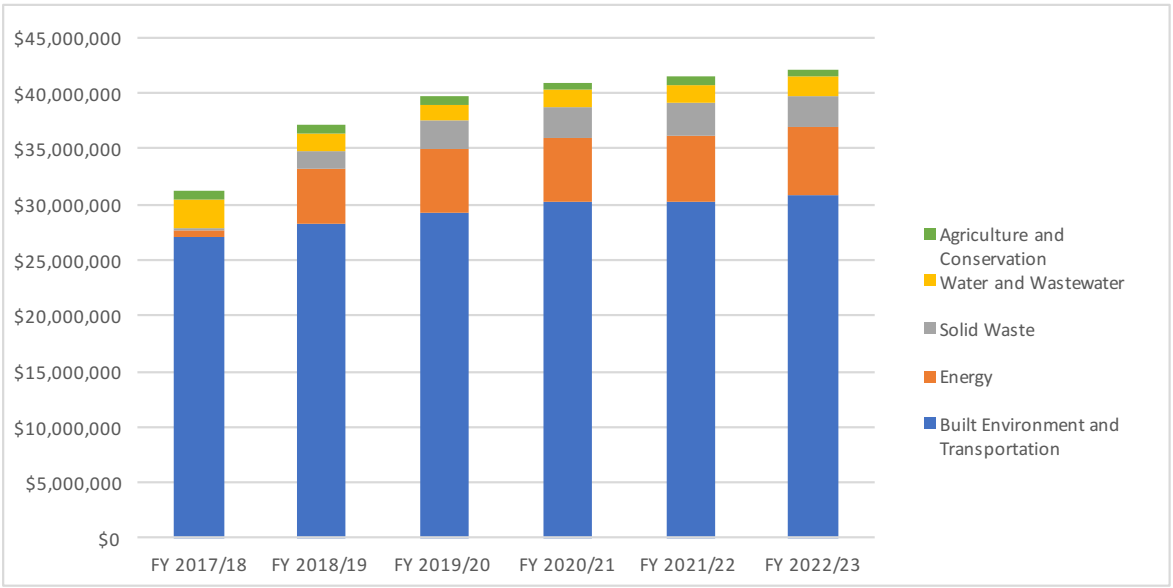
CAP Implementation Costs associated with the Built Environment and Transportation category are estimated to be about $176 million over the first six years, or 75% of the total cost. Estimated annual costs for this category range from around $27 million to $31 million. These costs are relatively steady over the six-year period due mostly to the Capital-intensive measures in this category, including infrastructure construction to increase opportunities for multi-modal transportation, land acquisition, and easements. Nearly all of these costs are currently Funded. The Energy category has the second highest cost with $29 million (12% of total), significantly lower than the Built Environment and Transportation category. Annual costs are $500,000 in the current fiscal year and then range from about $5 million to $6 million over the final five years. Table 16 and Figure 21 summarize annual costs by emissions category.

Table 16 Total CAP Implementation Costs by GHG Emissions Category

Fiscal Year	Built Environment and Transportation	Energy	Solid Waste	Water and Wastewater	Agriculture and Conservation	Total
FY 2017/18	$27,148,544	$493,250	$248,849	$2,628,459	$629,543	$31,148,644
FY 2018/19	$28,326,644	$4,845,495	$1,564,675	$1,701,481	$777,297	$37,215,592
FY 2019/20	$29,261,364	$5,663,911	$2,570,746	$1,350,314	$874,044	$39,720,380
FY 2020/21	$30,279,420	$5,650,595	$2,805,287	$1,486,120	$731,471	$40,952,893
FY 2021/22	$30,247,192	$5,979,981	$2,845,843	$1,643,739	$739,094	$41,455,849
FY 2022/23	$30,782,099	$6,159,498	$2,845,843	$1,643,739	$739,094	$42,170,272
Total	**$176,045,261**	**$28,792,729**	**$12,881,243**	**$10,453,852**	**$4,490,544**	**$232,663,629**
% Total	*75%*	*12%*	*5%*	*4%*	*2%*	*100%*

CAP Coordination and Reporting costs, which represent 2% of total costs, are omitted from this table. Values are rounded and may not sum to totals.

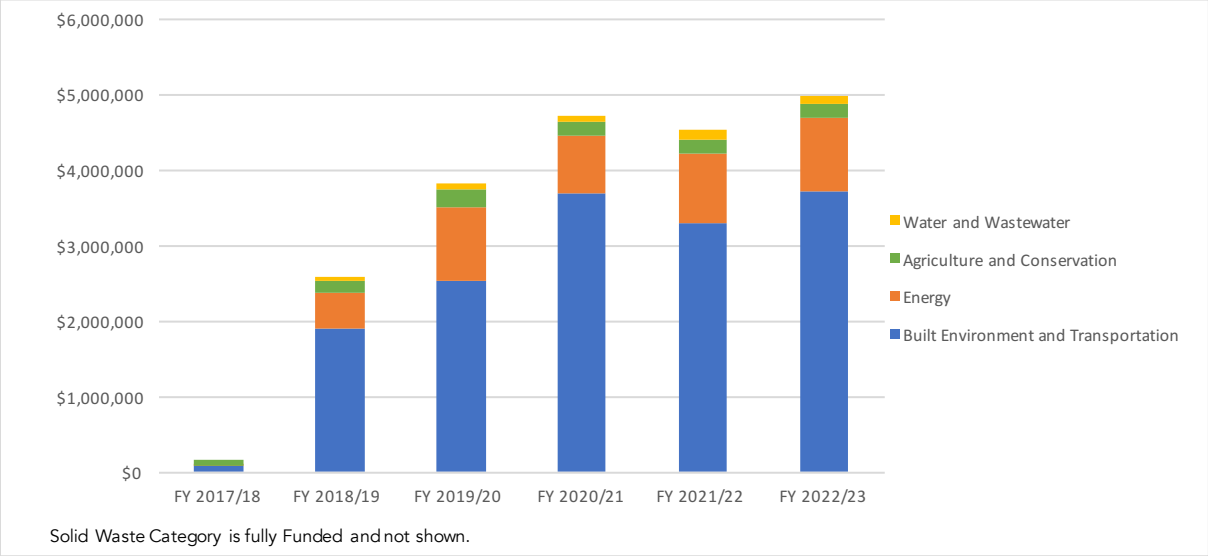
Figure 21 Total CAP Implementation Costs by GHG Emissions Category



4.5.2 Incremental Cost by Emissions Category

The Built Environment and Transportation category has the highest level of Incremental Costs associated with New and Expanded Programs, including activities to acquire easements, prepare CEQA documents, develop Community Plans, and amend Title 8 of the San Diego County Code of Regulatory Ordinances to promote alternative fuels use in new construction projects (Figure 22).

Figure 22 New and Expanded CAP Implementation Costs by GHG Emissions Category



Solid Waste Category is fully Funded and not shown.

4.5.2.1 Unfunded Costs by GHG Emissions Category

The Built Environment and Transportation category, which is mostly Funded as a percentage of total CAP Implementation Costs, also accounts for the highest proportion of Unfunded Program Costs at $8 million or about 64% of the total Unfunded portion of this subset of costs. This is followed by Energy (31%), and Agriculture and Conservation (3%) (Table 17).

Table 17 Unfunded CAP Implementation Costs by GHG Emissions Category

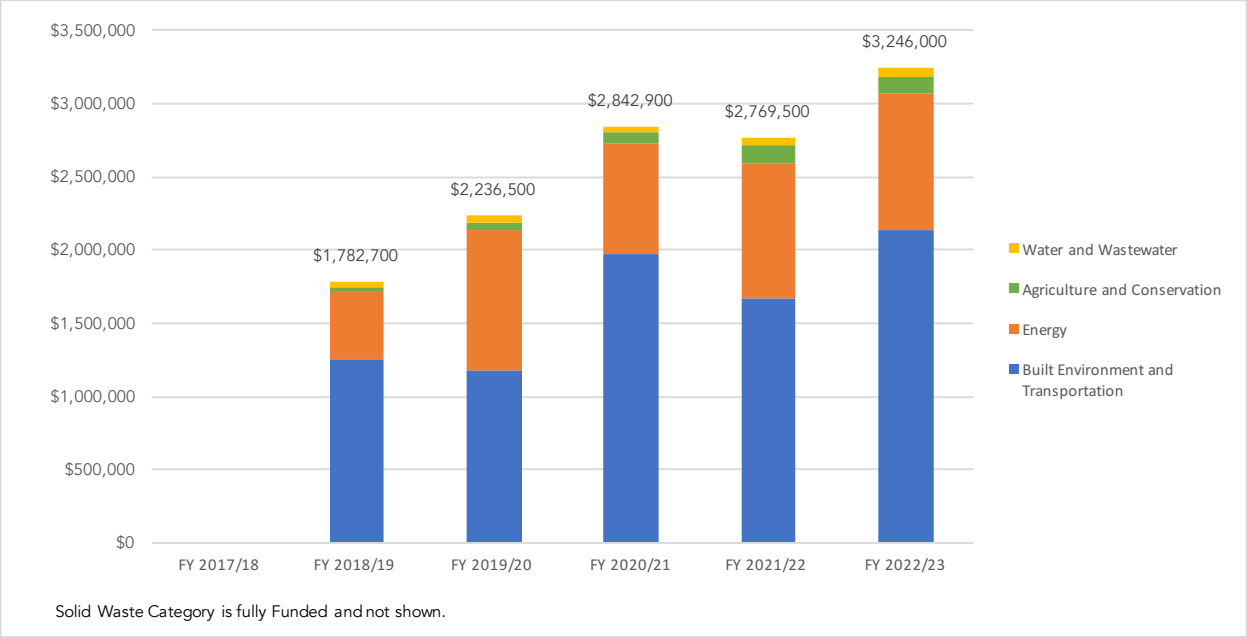
Fiscal Year	Built Environment and Transportation	Energy	Agriculture and Conservation	Water and Wastewater	Total	% of Total
FY 2017/18	$0	$0	$0	$0	$0	0%
FY 2018/19	$1,249,200	$470,600	$28,900	$33,800	$1,782,700	14%
FY 2019/20	$1,174,800	$955,800	$57,500	$48,200	$2,236,500	17%
FY 2020/21	$1,966,500	$762,300	$73,100	$40,800	$2,842,900	22%
FY 2021/22	$1,668,400	$922,400	$120,300	$58,200	$2,769,500	22%
FY 2022/23	$2,134,600	$932,700	$120,300	$58,200	$3,246,000	25%
Total	**$8,193,800**	**$4,044,100**	**$400,400**	**$239,400**	**$12,877,800**	**100%**
% Total	*64%*	*31%*	*3%*	*2%*	*100%*	

CAP Coordination and Reporting costs, which represent 14% of Unfunded New and Expanded Program costs, are omitted from this table.

Figure 23 shows the annual Unfunded CAP Implementation Costs by GHG emissions category. Most Unfunded Program costs are associated with the top two emitting categories – Built

Environment and Transportation and Energy. Also, annual costs increase steadily over the FY 2018-19 through FY 2022-23 period with the exception of an increase in FY 2020-21. This increase is due in part to the phasing and increase in activity of a handful of measures, including A-2.2 Increase County Tree Planting, for which implementation begins in FY 2022-21, T-4.1 Establish a Local Direct Investment Program, which has an increase in activity and costs starting in FY 2020-21 and continuing through FY 2022-23, T-1.3 Update Community Plans, which has an increase in activity in FY 2020-21, CAP Coordination and Reporting, which includes preliminary activities related to updating the CAP, and E-2.2 Increase Renewable Energy in Non-Residential Development, which has an increase in activity and costs starting in FY 2020-21 and continuing through FY 2022-23.

Figure 23 Unfunded CAP Implementation Costs by Emissions Category



5 RESULTS – CAP IMPLEMENTATION STAFFING IMPACTS

As part of the implementation cost of CAP measures, this project also evaluated the staffing impacts – both in hours and full-time equivalent (FTE)[6] – that would be required to implement the actions included in the draft Final CAP. For purposes of understanding the staffing impacts of CAP implementation, this section presents results in terms of FTE. Because some results include fractional FTE, all values are rounded. As a result, the sum of values may not equal totals. Like the rest of the report, the staffing impacts were only evaluated for the first 6-years of CAP implementation, which aligns with the County's 5-year budget forecasts for FY 2017-18 through FY 2022-23.

Key Findings from this Section

- Current staffing levels are sufficient to cover most of the work required in the CAP.
- Total New Staffing needed to implement the CAP is estimated at 12 New Staffing FTE over the six-year period of this analysis: four New Staffing FTE in FY 2018-19, three New Staffing FTE in FY 2019-20, four New Staffing FTE in 2020-21, and one New Staffing FY in 2021-22.
- PDS would require the highest number of New Staffing, due in part to the number of measures the department supports and the coordination function they are anticipated to play.
- Total staffing needed to implement the CAP over the first six-year period of this analysis is estimated at a total of 66 FTE, of which 54 are Existing FTE and 12 are New Staffing FTE.

5.1 Annual Staffing Impacts

Total staffing needed to implement the CAP over the first six-year period is estimated at a total of 66 FTE, which consists of 54 Existing Staffing FTE and 12 New Staffing FTE. The number of total FTE needed each year to implement CAP Measures is highest in the first two years with 22 FTE needed in FY 2017-18 and 19 FTE needed in FY 2018-19. The amount of additional FTE drops to nine FTE in the third year and then further decrease to less than one FTE in the final year of the analysis period (Table 18 and Figure 24).

Of the 54 Existing Staffing FTE needed over the six-year period, 22 Existing Staffing FTE are needed in FY 2017-18 and 16 Existing Staffing FTE are needed in FY 2018-19. These two years account for over half of all staffing impacts during the first six-year period. In FY 2019-20 the use of Existing Positions drops to five FTE through FY 2021-22 and down to less than one FTE in the final year. This staffing pattern reflects the startup nature of CAP implementation, with additional staffing needs highest in the early years and then leveling off as implementation efforts are well underway.

[6] The County average of 1,746 productive hours is considered full-time equivalent for this analysis.

Table 18 Annual Staffing Impacts to Implement CAP Measures

	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	Total
Existing Staffing	22	16	5	5	5	1	54
New Staffing	0	4	3	4	1	0	12
Total	22	20	8	9	6	1	66

Figure 24 Annual New and Existing FTE Needed for CAP Implementation

The total amount of New Staffing required to implement the CAP is estimated at 12 New Staffing FTE over the six-year period of this analysis: four New Staffing FTE in FY 2018-19, three New Staffing FTE in FY 2019-20, four New Staffing FTE in FY 2020-21, and one new FY in 2021-22 (Table 18 and Figure 24). Of the 12 New FTE required to implement CAP during this period, 11 New FTE positions are currently Unfunded.

PDS accounts for the vast majority of this New Staffing impact, with a total of nine New FTE required over the six-year period of this analysis. About half of this New Staffing need is associated with three measures: E-2.1 Increase Renewable Electricity (20% of total New Staffing need through FY 2022-23), E-2.2 Increase Renewable Energy in Non-Residential Development (18%), and T-4.1 Establish a Local Direct Investment Program (13%). These three measures have the highest New Staffing requirements to implement CAP activities.

6 LIMITATIONS

There are inherent limitations with any cost analysis that result in a degree of uncertainty that should be taken into account. This cost analysis uses the best information, data, and methods available at the time. Nonetheless the following limitations should be considered.

6.1 Draft Final CAP

The results are a preliminary estimate of costs based on the measures, actions, and supporting efforts contained in the draft Final CAP. Because this version is still subject to change, the final suite of measures and actions approved by the Board of Supervisors could have a different cost and staffing impact than what is included here.

6.2 Preliminary Estimate

The cost and staffing impact results presented should be considered preliminary estimates. Because there is limited information about the specific tasks that would be required to implement the CAP measures, the estimates included are based on reasonable assumptions about the work to be performed. Over time, the specific tasks required to implement final CAP measures will become clearer and considerations for how to coordinate and sequence activities can be made, which may also affect the ultimate cost and staffing required to implement the final CAP.

Further, the specific tasks and full cost to implement certain measures are not included in this preliminary estimate. For example, certain implementation cost estimates associated with Measure T-4.1 Establish a Local Direct Investment Program are included in the estimated totals in this analysis. A more detailed estimate of these costs, including the specific types of projects the County may invest in to achieve CAP goals and additional costs associated with these identified projects, will be included in a separate report.[7]

6.3 CAP Time Horizon

This analysis evaluated the County's implementation cost and staffing impact for the first six years of CAP through FY 2022-23 to match with the County's five-year budget forecast. While the CAP has an implementation horizon of 2030, this report does not estimate costs between FY 2022-23 and 2030. This could cause misinterpretation of some of the findings. For example, certain CAP measures will be implemented and have costs beyond the scope of this initial cost analysis, but only the cost during the first six years of CAP implementation are captured here. To account for future costs, cost estimates could be updated through the CAP monitoring process every two years and the CAP update process every five years or through the County's Annual Operational Plan.

6.4 Constant Salary and Benefits Levels

Salary and Benefits costs in the analysis are assumed to be steady over the six-year period of the analysis. The level of uncertainty associated with this assumption is relatively small since this expenditure category represents only about one-fifth of total costs. A two percent annual increase

[7] See separate report titled "Preliminary Assessment of The County of San Diego Local Direct Investment Program" prepared by Ramboll Environ.

over the five-year report horizon would result in an estimated average cost increase to the overall implementation cost estimate of about one percent.

6.5 GHG Emissions

This report does not consider the GHG emissions associated with CAP measures. It is common for cost analyses to normalize cost across GHG emission reductions in a CAP; that is, to divide costs by GHG emissions to derive a cost per ton of carbon-dioxide equivalent (CO2e). It is not possible to derive such values from the cost information included in this report because there is no way to correlate the amount of GHG reductions that would occur due to the specific expenditures estimated for this effort. For example, it would not be accurate to divide costs for the first six years by the total GHG reduction for 2030, because there could be additional County of San Diego costs associated with achieving those reductions. While GHG emissions are not considered in this report, the companion CAP Cost Effectiveness Report does estimate the cost per metric ton of GHG reductions for most CAP measures, including certain measures that affect County of San Diego costs, such as energy efficiency improvements in County facilities.

7 CONCLUSION

This report summarizes the findings for the County of San Diego CAP implementation analysis conducted by the Energy Policy Initiatives Center (EPIC) at the University of San Diego. The overall goal of the report is to identify the Incremental Costs – both Funded and Unfunded – to implement CAP Measures.

While total costs associated with implementing CAP measures totals $236 million over the first six years, about $40 million annually, Existing Programs account for about 90% of total costs over six years – including Carl Moyer, MSCP, and the PV Fee Waiver. New and Expanded Programs required to implement CAP measures would cost a total of $24 million over six years, including Funded and Unfunded activities. This value represents the total Incremental Cost to the County of San Diego. The Unfunded portion of these Incremental activities represent a total of $15 million between FY 2017-18 and FY 2022-23, about $2 million to $3.5 million annually.

Current County of San Diego staffing levels are sufficient to cover most of the CAP implementation activities. Total staffing needed to implement the CAP over the first six-year period of this analysis is estimated at a total of 66 FTE, which consists of 54 Existing Staffing FTE and 12 New Staffing FTE. Total New Staffing needed to implement the CAP is estimated at 12 new FTE over the 6-year period of this analysis: four New FTE in FY 2018-19, three New FTE in FY 2019-20, four New FTE in 2020-21, and one New FTE in FY 2021-22. Of the total 12 New Staffing FTE required to implement CAP, eleven New Staffing FTE are Unfunded.

Given the preliminary nature of this estimate, which is based on the draft Final CAP, regular updates may be necessary to monitor costs and to integrate any changes to measures and actions over time.