

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
 DF-46 (REV 08/15)

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|--|-----------------------|--|--------------------|
| Fiscal Year 2016-17 | Business Unit 3900 | Department Air Resources Board | Priority No. 12 |
| Budget Request Name 3900-012-BCP-BR-2016-GB | | Program 3510- CLIMATE CHANGE | Subprogram N/A |

Budget Request Description
 Cap and Trade Expenditure Plan – Black Carbon Woodsmoke

Budget Request Summary

The Air Resources Board requests a one-time appropriation of \$40 million from the Greenhouse Gas Reduction Fund. This funding will support 2.0 new full-time permanent positions (1.0 Associate Governmental Program Analyst and 1.0 Air Resources Engineer) and a grant program for a new residential wood burning device replacement incentive program to reduce greenhouse gas emissions from wood smoke, with significant co-benefits in the reduction of black carbon emissions. AB 32 (chapter 488, Statutes of 2006) directs the Air Resources Board to reduce greenhouse gas emissions to 1990 levels by 2020. SB 605 (Chapter 523, Statutes of 2014) directs the Air Resources Board to complete a comprehensive strategy to reduce short-lived climate pollutants, including black carbon, which contributes to substantial near-term climate change. Programs to reduce wood smoke from residential heating through the use of cleaner, more efficient devices can bring reductions of greenhouse gas emissions, black carbon, and criteria and toxic pollutants in rural communities throughout the State. Without additional actions to reduce emissions, residential wood smoke is expected to be the largest contributor to black carbon in the State by 2030. This incentive program is based on past programs that have been successful on the local level.

| | | |
|---|--|------|
| Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Code Section(s) to be Added/Amended/Repealed | |
| Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i> | Department CIO | Date |
| For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance. <input type="checkbox"/> FSR <input type="checkbox"/> SPR Project No. Date: | | |

If proposal affects another department, does other department concur with proposal? Yes No
 Attach comments of affected department, signed and dated by the department director or designee.

| | | | |
|---|------------------|--|----------------|
| Prepared By Karen Magliano <i>Karen Magliano</i> | Date 1/6/16 | Reviewed By Alice Stebbins <i>Alice Stebbins</i> | Date 1-6-16 |
| Department Director Richard W. Corey <i>Richard W. Corey</i> | Date 1/6/2016 | Agency Secretary Matthew Rodriguez <i>Matthew Rodriguez</i> | Date 1/6/16 |

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE CALSTARS Dept. of Technology

BCP Type: Policy Workload Budget per Government Code 13308.05

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|------|--------------------------------------|-----------------------------------|
| PPBA | Original Signed By: Ellen Moratti | Date submitted to the Legislature |
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Analysis of Problem

A. Budget Request Summary

The Air Resources Board (ARB) requests a one-time appropriation of \$40 million from the Greenhouse Gas Reduction Fund (GGRF). This funding will support 2.0 new full-time permanent positions - 1.0 Associate Governmental Program Analyst (AGPA), 1.0 Air Resources Engineer (ARE), and a grant program to manage a new residential wood burning device replacement incentive program to reduce greenhouse gas (GHG) emissions from wood smoke, with significant co-benefits in the reduction of black carbon. AB 32 directs ARB to reduce GHG emissions to 1990 levels by 2020. SB 605 directs ARB to complete a comprehensive strategy to reduce short-lived climate pollutants (SLCP), including black carbon, which contribute to substantial near-term climate change. Programs to reduce wood smoke from residential heating through the use of cleaner, more efficient devices can bring reductions of GHG emissions, black carbon, and criteria and toxic pollutants in rural communities throughout the State. Without additional actions to reduce emissions, residential wood smoke is expected to be the largest contributor to black carbon in the State by 2030. The funding will be focused on replacement of wood stoves; however, ARB would also explore, in conjunction with CAL FIRE and CalRecycle, additional opportunities for alternatives to reducing residential green waste burning and increase beneficial uses of green waste material. The woodstove replacement incentive program is based on past programs that have been successful on the local level.

B. Background/History

Implementation of the California Global Warming Solutions Act of 2006 (AB 32) includes measures that achieve real, quantifiable, cost-effective reductions of GHG emissions and return California to 1990 emission levels by 2020. Since 2006, the State has continued to develop and implement a set of actions that are driving down GHG emissions, cleaning the air, diversifying the energy and fuels that power our society, spurring innovation in a range of advanced technologies and improving natural resource health statewide.

These efforts have put California on course to achieve the 2020 GHG emissions limit, and have created a framework for ongoing climate action that can be built upon to maintain and continue reductions beyond 2020. In addition to the near-term GHG emission reduction goals established in AB 32, mid-term and longer-term GHG emission reduction targets have been established in Executive Orders B-30-15 and S-3-05 to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, respectively.

The Greenhouse Gas Reduction Fund (GGRF -funded by the Cap-and-Trade Program generated Auction Proceeds, authorized by AB 32) has been established for the purpose of funding measures that allow California to achieve its GHG reduction goals, furthering the purposes of AB 32. In addition, SB 535 (Chapter 830, Statutes of 2012) requires that twenty-five percent of GGRF funds are spent to benefit designated disadvantaged communities, and ten percent must be spent within disadvantaged communities.

In addition, while longer-lived climate pollutants, such as carbon dioxide (CO₂), are the primary contributors to climate change in California when considering long time frames (100 years), SLCPs have a disproportionate impact on warming in the near term. Because SLCPs are short-lived, a reduction in emissions will slow the near-term acceleration of climate change more rapidly, allowing more time to mitigate and adapt to climate change impacts. In recognition of this, SB 605 directs the ARB to complete a comprehensive strategy to reduce emissions of SLCPs by 2030. The Draft SLCP Strategy Report released in September 2015 identifies 2030 emission reduction targets for SLCPs, including black carbon. By 2030, residential wood combustion will be the largest source of black carbon in California. The SLCP Strategy Report targets a 50 percent reduction in residential wood combustion emissions by 2030 as a principal mechanism to achieve the 2030 black carbon emission goals.

Residential wood combustion emits GHGs, as well as black carbon, particulate matter, and toxic air pollutants that harm public health and contribute to adverse air quality. Multiple local air districts have targeted residential wood combustion reductions to protect public health and comply with federal air quality standards for particulate matter. Incentive programs to change out old high-emitting wood

burning devices with cleaner and more efficient United States Environmental Protection Agency (US EPA) certified devices, natural gas, or electric heat have been a successful option for reducing residential wood combustion emissions. Such programs have only been implemented in a subset of air districts, which are typically more urban, and have not been broadly implemented across the State. Because of the significant number of fireplaces and wood stoves in California, available local and federal incentive funds are not sufficient to meet the State's climate goals. A significant fraction of California's rural communities relies on wood combustion as a primary or secondary source of heat. These residents will burn larger quantities of wood throughout the year than urban residents, resulting in significant emissions. Many residents who rely on wood combustion are low income, and wood in these regions is often available at no cost from their own properties or at very low cost. Some residents in urban regions, including those living in disadvantaged communities, also rely on wood for heat. US EPA recently announced a new source performance standard for woodstoves sold in the United States by 2020. A handful of states already require woodstoves to meet the standard, and therefore production of the new woodstoves has begun. These new woodstoves are low emitting and more efficient, so that more heat is produced for the same amount of wood burned. These stoves allow low-income rural residents to continue using wood as a source of heat, while reducing emissions by up to seventy percent. However, encouraging the replacement of older devices with new, cleaner burning alternatives required the use of incentive funding to help offset the cost of replacement. In some cases, conversion of older, less efficient wood stoves to cleaner burning natural gas or electric heating units may also be an option. Low-income residents in communities that acquire natural gas or electric devices can access existing home energy assistance programs offered by utilities to help offset the cost of operating the new device and continue to meet their home energy needs.

In addition, residents in many rural regions are required to maintain a defensible space around their home to provide a buffer from wildfire. Residents often burn this green waste, creating significant emissions. In conjunction with CAL FIRE and CalRecycle, ARB also would identify cost and emission-efficient methods to reduce green waste burning and encourage beneficial uses of green waste material. ARB and coordinating agencies may first focus on residents receiving woodstove incentives as pilot families for understanding and implementing green waste removal programs.

C. State Level Considerations

ARB has evaluated this proposal for consistency with the Cap-and-Trade Auction Proceeds Climate Investment Goals, Strategic Plan, impact on other State departments, and potential support or opposition from external stakeholders.

Cap-and-Trade Auction Proceeds Climate Investment Goals: This proposal supports multiple goals in the revised Draft Second Investment Plan: Fiscal Years 2016-17 through 2018-19, including:

- Reducing GHGs
- Benefiting California's most disadvantaged communities
- Increasing rural community participation
- Maximizing co-benefits to public health
- Reducing residential wood smoke

This proposal would reduce emissions of climate pollutants and particulate matter, commit to at least 25 percent of funds spent in disadvantaged communities, and larger incentive coverage for low-income residents who must rely on wood burning for their primary source of heat because of lack of natural gas supply. Because most emissions are in rural communities, this proposal would increase rural community participation. Because residential wood combustion is a significant source of criteria and toxic air pollutants within residential communities, this proposal would have significant public health co-benefits.

ARB will work in coordination with existing and planned CAL FIRE programs for burning to minimize duplicative efforts. This coordination will increase funding efficiency, reduce program overlap, and potentially result in a greater collective benefit of the GGRF. This effort would further support directives contained in the Governor's Emergency Proclamation on Tree Mortality to remove dead or dying trees in high hazard zones to reduce the threat of catastrophic wildfires.

D. Justification

ARB requests 2.0 new full-time permanent positions (1.0 AGPA and 1.0 ARE) to design, administer, oversee, and provide accountability for the program. ARB staff estimates that approximately 500,000 additional wood burning devices must be replaced by 2030 to help meet the State's climate goals, requiring a broad statewide effort. An allocation of \$40 million from the GGRF would provide a substantial investment, with the potential to replace approximately 15,000 to 30,000 devices with a priority on those that maximize emission reductions and benefit rural communities.

In order to maintain this minimal staffing level of 2.0 new positions, ARB plans to contract the program through a third party, such as a large air district, with ARB as the administering agency. By utilizing a third party with a preexisting administrative structure to manage the wood smoke incentive program, ARB reduces new staffing costs and allows more funding to reach recipients and deliver GHG emission reductions. Many of the air districts who would receive funding are very small and not equipped to administer such a program, and represent some of the areas (rural, large numbers of old inefficient wood stoves) that would most benefit from the program. A third party, such as a large air district, with centralized administrative structure would provide a mechanism to assist small, rural air districts who have limited resources and where the need for replacement of older wood stoves is the greatest. ARB would have a strong oversight role both in the design of the program, as well as ongoing monitoring of program effectiveness.

2.0 ARB positions are necessary so that the incentive funds are used most effectively, support the goals of AB 32, and provide technical, contractual and administrative support for the grant program and the local air districts, which will receive the money. The positions would work with the administering entity to develop and oversee the ongoing design and funding distribution for the program, use of appropriate technologies, development of public outreach materials, and provide for the long-term tracking of emission reductions achieved through the use of the funded projects. The ARE position would focus on defining criteria for appropriate allocation of the funding to individual air districts to maximize program benefits based on current wood burning practices and knowledge of emissions. The ARE would also coordinate with local air districts on the technical aspects of program implementation including recommendations on cleaner wood burning devices and developing outreach materials, as well as ongoing tracking of the emission reductions being achieved. The ARE classification is necessary as an understanding of the various technologies and their emission reduction potential requires engineering knowledge of their operational characteristics. The AGPA position would support the contractual and financial aspects of implementing the program. This would include development of contracts, paperwork associated with program accountability, and administrative support for the grant application process.

This program will mitigate emissions of climate, criteria, and toxic air pollutants from residential wood burning. As discussed in the background/history section, mitigation of these pollutants directly supports the emission reduction targets mandated in AB 32, as well as the targets identified in the Draft SLCP Strategy Report produced in response to SB 605. The program will meet many GGRF funding goals as outlined in the State level considerations section. It is important to target this emission source because residential wood combustion constitutes the largest single source of man-made black carbon in California by 2030. This source also emits particulate matter and toxic air contaminants, which negatively impact health in the local communities. As such, this program will have significant health-related co-benefits, especially in rural communities using woodstoves.

Similar residential wood combustion incentive programs to mitigate emissions have been effective in the past. These programs have been administered with a mixture of local and federal funding sources.

While federal funding sources provide an excellent opportunity to reduce emissions, the available funds are limited. For example, the San Joaquin Valley Air Pollution Control District and the Northern Sierra Air Pollution Control District each recently received \$2.5 million in federal funding for a woodstove change out incentive program. However, this accounts for only a small portion of statewide needs. Given the large number of individual residential wood combustion sources, larger funding allocations are necessary to achieve the substantial emission reductions necessary to meet the State's climate goals. Additionally, many programs are focused in air districts that do not meet federal air quality standards, and incentive programs are not as common in rural communities that rely much more heavily on wood combustion for heat. These rural communities are also disproportionately low-income.

E. Outcomes and Accountability

This proposal provides one-time funding and 2.0 permanent fulltime positions for ARB to administer a residential wood burning device replacement incentive program. This program will reduce the emissions of GHGs, as well as black carbon, particulate matter, and air toxics to mitigate climate change and improve public health. ARB staff estimates this program could replace approximately 15,000 to 30,000 wood burning devices, depending on size. This will result in a reduction of approximately 6,000 to 12,000 tons of particulate matter, 750 to 1,500 tons of black carbon, and 400,000 to 800,000 tons of GHGs as CO₂ equivalent over a 20-year lifetime.

The major outcomes will be to 1) replace high polluting wood burning stoves; and 2) track the emission reductions related to the program and their contribution towards meeting California's GHG and SLCP emission reduction goals under AB 32 and SB 605;

The emission reductions depend on the volume of wood burned, the existing equipment type, and the newly installed equipment type. The cost effectiveness depends on the incentives dollars and the emission reductions. Data about the number of projects, type of equipment, and volume of wood burned will be compiled as part of the the incentives application requirement to help ARB accurately account for emissions and costs. Internal progress reports will be compiled quarterly and statistics will be released annually.

Projected Outcomes

| Workload Measure | CY | BY | BY+1 | BY+2 | BY+3 | BY+4 |
|---|-----------|------------|-------------|-------------|-------------|-------------|
| Administrative Duties and Contracts Development | | 1.0 | 1.0 | 1.0 | 1.0 | |
| Program Planning | | 0.8 | 0.0 | 0.0 | 0.0 | |
| Program Implementation | | 0.2 | 0.8 | 0.5 | 0.3 | |
| Analysis of Program Progress | | 0.0 | 0.1 | 0.25 | 0.35 | |
| Reporting of Program Progress | | 0.0 | 0.1 | 0.25 | 0.35 | |
| Total Program Workload | | 2.0 | 2.0 | 2.0 | 2.0 | |

F. Analysis of All Feasible Alternatives

ARB has considered five alternatives:

Alternative 1: Approve Proposal. Approve the request for a one-time appropriation of \$40 million from the GGRF for 2.0 new fulltime permanent positions (1.0 AGPA and 1.0 ARE) to administer a residential wood combustion incentive program to reduce GHG as well as black carbon emissions.

Alternative 2: Approve \$40 million in GGRF funds but do not approve positions. In theory, ARB could divert other staff from existing programs to oversee this program. However, given that existing resources are currently fully engaged, redirection of existing resources would delay or halt ARB action on other ARB and Administration priorities including programs required under State and federal law.

Alternatively, if ARB contracts through a third party, ARB could shift the workload to third party staff. However, key tasks related to incentive program administration and program and fiscal oversight are set in statute as ARB assignments, and could not feasibly or appropriately be accomplished by a third party.

Alternative 3: Approve Proposal with Fewer than the Requested Resources. The proposal could be approved for a lower GGRF amount. This would result in fewer GHG, black carbon, criteria and air toxic emission reductions.

Alternative 4: Do Nothing. Do not approve the proposal. Without the funds residential wood combustion GHG, black carbon, criteria and air toxic emission reductions possible from this proposal would not occur.

G. Implementation Plan

The implementation of the plan will be as follows:

- 2016 – 2017 Fiscal Year
 - Fill the requested 2.0 new positions
 - Develop guidance and criteria for funding distribution of incentives that are consistent with Funding Guidelines for administering agencies. Guidelines and criteria would be developed to meet goals to include disadvantaged and rural communities and maximize emission reductions. Consult local air districts that have successfully implemented similar incentive programs to learn from past experience.
 - Review current technologies and develop criteria for use of the cleanest-burning alternatives in design of the incentive program.
 - Develop public outreach materials to encourage program participation.
 - Develop a quarterly reporting and accountability framework and define criteria with which to measure progress of the program.
 - Develop a contract with a third party air district using the guidance and quarterly reporting and accountability framework.
- Ongoing
 - Review quarterly reporting and accountability reports.
 - Determine ongoing emission reductions of GHGs, black carbon, criteria pollutants and toxic air contaminants. Adjust program requirements as needed based upon emerging technologies, cost-effectiveness, and progress in achieving emission reductions.
 - Compile and report program progress annually.

H. Supplemental Information

N/A

I. Recommendation

ARB recommends approving Alternative 1 requesting a one-time appropriation of \$40 million from the GGRF. This funding will support 2.0 new full-time permanent positions (1.0 AGPA and 1.0 ARE) and a local assistance grant program managed by a third party with a preexisting administrative structure on behalf of local air districts for a new residential wood burning incentive program to reduce climate pollutant emissions, with the co-benefit of reducing toxic air contaminants which harm public health.

J. Addition of Provisions to Item 3900-101-3228 as follows:

- a. Notwithstanding Section 16304.1 of the Government Code, the funds appropriated in this item shall be available for encumbrance until June 30, 2019, and be available for liquidation of encumbrances until June 30, 2022.

| Air Resources Board | | | Attachment A Workload Justification | | | |
|---|--|---|--|--|---|------------------------------|
| Fund: GGRF | | | | | | |
| Position Title: Associate Governmental Program Analyst | | | | | | |
| Workload Measure | FY 2016-17 | | | FY 2017-18 | | |
| Description of task | Number of Times the task was performed | Number of hours needed to complete task | Total number of annual hours | Number of times the task was performed | Number of hours needed to complete task | Total number of annual hours |
| Program Development: define criteria for inclusion, emission reductions, cost, and incentive dollars. | 1 | 360 | 360 | 0 | 0 | 0 |
| Programmatic Administrative Support | 42 | 10 | 420 | 50 | 10 | 500 |
| Coordinate with contracts, regulatory, and incentive staff internally at ARB. | 10 | 4 | 40 | 10 | 6 | 60 |
| Contracts development: Identify third party to administer funds and develop contract. | 1 | 340 | 340 | 0 | 0 | 0 |
| Contracts development: Work with third party to develop an accountability framework | 1 | 300 | 300 | 0 | 0 | 0 |
| Application Review: Support for applicant review process | 4 | 15 | 60 | 4 | 15 | 60 |
| Program Outreach: Work with the third party to develop outreach materials about the program. | 3 | 40 | 120 | 3 | 40 | 120 |
| Prepare and present correspondence | 4 | 15 | 60 | 6 | 20 | 120 |
| Assist with Annual Report preparation to ensure all contractual obligations are met. | 1 | 100 | 100 | 1 | 340 | 340 |
| Closing paperwork and accountability reports | 0 | 0 | 0 | 3 | 200 | 600 |
| Total Hours (1PY) | | | 1800 | | | 1800 |

1.0 Position Equivalent = 1,800 hours

Numbers are based on previous workload experience

| Air Resources Board | | | | Attachment A Workload Justification | | |
|---|---------------------|--|---|--|--|---|
| Fund: GGRF | | | | | | |
| Position Title: Air Resources Engineer | | | | | | |
| Workload Measure | FY 2016-17 | | | FY 2017-18 | | |
| | Description of task | Number of Times the task was performed | Number of hours needed to complete task | Total number of annual hours | Number of times the task was performed | Number of hours needed to complete task |
| Program Development: define criteria for inclusion, emission reductions, cost, and incentive dollars. | 1 | 400 | 400 | 0 | 0 | 0 |
| Emissions and cost data analysis for program development. | 1 | 320 | 320 | 0 | 0 | 0 |
| Coordinate with regulatory, inventory, research, and incentive staff internally at ARB. | 10 | 4 | 40 | 10 | 5 | 50 |
| Contracts development: Identify third party to administer funds and develop contract. | 1 | 320 | 320 | 0 | 0 | 0 |
| Contracts development: Work with third party to develop an accountability framework | 1 | 300 | 300 | 0 | 0 | 0 |
| Program Outreach: Work with the third party to develop outreach materials about the program. | 3 | 40 | 120 | 3 | 40 | 120 |
| Review quarterly reports from third party. | 0 | 0 | 0 | 4 | 40 | 160 |
| Program Accountability: data analysis to ensure accountability. | 0 | 0 | 0 | 1 | 400 | 400 |
| Prepare and present correspondence and technical reports | 4 | 15 | 60 | 4 | 15 | 60 |
| Prepare Annual Report | 1 | 200 | 200 | 1 | 320 | 320 |
| Review and update program requirements as needed to maximize emission reductions and meet all ARB Goals | 1 | 40 | 40 | 1 | 40 | 40 |
| Review and update new data on technologies, emissions, and cost as needed. | 0 | 0 | 0 | 1 | 300 | 300 |
| Begin process for identifying long term plans for additional woodsmoke reductions | 0 | 0 | 0 | 1 | 350 | 350 |
| Total Hours (1PY) | | | 1800 | | | 1800 |

1.0 Position Equivalent = 1,800 hours

Numbers are based on previous workload experience

AIR QUALITY PLANNING AND SCIENCE DIVISION

12/14/15

Division Chief
Karen Magliano

Assistant Division Chief
Jon Taylor

Executive Assistant
Vacancy (Cain)
[Effective 1/5/16]

| | | | | | |
|--|---|--|--|---|--|
| Air Quality Planning Branch 750 AR Sup II Sylvia Vanderspek OT (I) Karen Snyder | Greenhouse Gas Emission Inventory Branch 720 AR Sup II Vacancy (Rude) [Effective 12/31/15] | Consumer Products and Air Quality Assessment Branch 790 AR Sup II Ravi Ramsalingam | Modeling & Meteorology Branch 740 AR Sup II John DeMassa OT (I) Mary Heckman | Mobile Source Analysis Branch 780 AR Sup II Vernon Hughes | Transportation Planning Branch 770 AR Sup II Nicole Dolney OT (I) Jennifer O'Hara |
| Emission Inventory Forecasting and Special Projects Section 753 AR Sup I Gabe Ruiz Staff APS M. Beth Schwehr Martin Johnson APS Kevin Eslinger Janet Spencer Adrian Griffin Jim Dai | Emission Inventory Analysis Section 726 AR Sup I Anny Huang Staff APS Larry Hunsaker Klaus Scott ABE Bela Deshpande Vacant (BCP) APS Jessica Charrier John Dingman | Technical Development Section 791 AR Sup I Jose Gomez ABE Glen Villa APS Narcisco Gonzalez Nancy Adams Minh Pham Irina Malkina Nicholas Berger Daniel Garrett | Regional Air Quality Modeling Section AR Sup I 743 Jeremy Advise Staff APS Bruce Jackson Kemal Gurer Ajith Kaduwela ABE Jim Lu James Chen Sarka Kulkarni Chenxia Cai APS Dazhong Yin Majiong Jiang | On-Road Light Duty Analysis Section 781 AR Sup I Jeff Long APS Lois Erskine Steve Magbuhat Erin Petzle Connie Dang Michael Kamboures | Transportation Systems Planning Section 772 AR Sup I Kathy Jaw ABE Charanya Varadarajan Jeremy Herbert Holger Sdun Cody Howard APS Vacant (Howard)** [Effective 9/14/15] |
| Emission Inventory Development Section 754 AR Sup I Stephanie Detwiler Staff APS Chris Nguyen ABE Anna Komorniczak Jim Cao Alexander Huth Vacant (J. Arca)* [Effective 10/17/15] APS Andrew Delao Liting Li Brandon Tiqui | Administrative Analysis Section 729 SSM I Rachel Kirilis AGPA Marie Bush Vacant (BCP) SSA Melissa Navarro Joseph Chapman | Implementation Section 792 AR Sup I David Edwards ABE Robert Barrera Kyriacos Kyriacou APS Maryana Visina Jasmine Nguyen Teresa Edwards Barbara Zavala Timothy Dunn Student Engineering Gary Bash | Meteorology Section 744 AR Sup I Pingkuan Di ABE Abdullah Mahmud APS Jeffrey Lancaro Dartanion Mims Jason Branz Adam Gerber Elena Hanrahan Zhan Zhao Shuming Du Yi-Chin (Karry) Liu | Gasoline Off-Road Inventory Section 782 AR Sup I David Chou ABE Daisy Wong Walter Wong Debbie Futaba APS Butch Cordero Kaishan Zhang Student Engineering Vacant (Pate)** [Effective 8/14/15] | Sustainable Communities Policy and Planning Section 774 AR Sup I Teresa Roberts APS Jennifer Gray Heather Phillips Sarah Dominguez Amy Volk |
| Central Valley Air Quality Planning Section 755 AR Sup I Webster Tassat Staff APS Patricia Velasco ABE Kasia Turkiewicz Eugene Kim Earl Withycombe APS Theresa Najita Tina Suarez-Murias Elizabeth Melgoza | Air Quality Analysis Section 794 AR Sup I Gayle Sweigert ABE Jenette Kwong Dwight Oda APS Steven Gouze Xijie Zhang Paul Cox Craig Anderson Rebekka Fine | Air Quality and Statistical Studies Section 795 AR Sup I Mena Shah Staff APS Lawrence Larsen Michael Redgrave ABE Robert Weller Xiaomang Pan Art Collins Zuber Farooqui Shengping Qin APS John Hymearson Annemarie Flores Air Resources Tech II William Widger Vacant (Coltrin)* [Effective 10/7/15] | Atmospheric Modeling & Support Section 745 AR Sup I Leonardo Ramirez ABE Cheryl Taylor Wenli Yang Hari Perugu Maybelline Dismarco John Stillely APS Daniel Chau Hui Fung (Roger) Kwok Air Resources Tech II Vacant (Sim)** [Effective 10/1/15] Student Engineering Vacant* | On-Road Model Implementation Section 783 AR Sup I Steve Zelinka ABE Guilua Wang Agnes Dugnon H. Shamasundara APS Andy Alexis Hang Liu | Transportation Analysis Section 775 AR Sup I Nesamani Kalandiyur ABE Tom Schaffelin Ben Hancock Jim Miao APS Dennis Wade Zhuo Yao |
| South Coast Air Quality Planning Section 756 AR Sup I Carol Sutkus APS Scott King Monica Lewis Austin Hicks Ariel Fidely Kirsten Cayabyab | On-Road Model Development Section 785 AR Sup I Vacant (Lowe)* [Effective 10/15/15] Staff APS Lei Zhou Sam Pournazeri ABE Pranay Avlani Zhen Dai Sherrie Sale-Moore Air Resources Tech II Vacant (Cheung)** [10/12/15] | Air Quality and Statistical Studies Section 795 AR Sup I Mena Shah Staff APS Lawrence Larsen Michael Redgrave ABE Robert Weller Xiaomang Pan Art Collins Zuber Farooqui Shengping Qin APS John Hymearson Annemarie Flores Air Resources Tech II William Widger Vacant (Coltrin)* [Effective 10/7/15] | Off-Road Diesel Analysis Section 786 AR Sup I Vacant (Dolney)** [Effective 8/14/15] ABE Andrew Willey Phil (Cory) Farmer Mirhiban (Pam) Sogutoglu Russell Furey APS Cody Livingston Air Resources Tech II Vacant (Purvey)* [Effective 7/1/15] | | |

LT Employees ~ Green Text
 Woodsmoke BCP ~ Orange Text
 El Monte Staff ~
Vacancy Status:
 No Action ~
 Advertising ~ **
 Interviewing ~ ***
 To ASD, not advertised ~ ****

AIR QUALITY PLANNING AND SCIENCE DIVISION

12/14/15

Division Chief
Karen Magliano

Assistant Division Chief
Jon Taylor

Executive Assistant
Vacancy (Cain)
[Effective 1/5/16]

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|---|---|--|--|---|---|
| <p>Air Quality Planning Branch 750</p> <p>AR Sup II Sylvia Vanderspek</p> <p>OT (I) Karen Snyder</p> | <p>Greenhouse Gas Emission Inventory Branch 720</p> <p>AR Sup II Vacancy (Hodge) [Effective 12/31/15]</p> | <p>Consumer Products and Air Quality Assessment Branch 790</p> <p>AR Sup II Ravi Ramalingam</p> | <p>Modeling & Meteorology Branch 740</p> <p>AR Sup II John DaMassa</p> <p>OT (I) Mary Heckman</p> | <p>Mobile Source Analysis Branch 780</p> <p>AR Sup II Vernon Hughes</p> | <p>Transportation Planning Branch 770</p> <p>AR Sup II Nicole Dolney</p> <p>OT (I) Jennifer O'Hara</p> |
| <p>Emission Inventory Forecasting and Special Projects Section 753</p> <p>AR Sup I Gabe Ruiz</p> <p>Staff APS M. Beth Schwehr Martin Johnson</p> <p>APS Kevin Eslinger Janet Spencer Adrian Griffin Jim Dai</p> | <p>Emission Inventory Analysis Section 726</p> <p>AR Sup I Anny Huang</p> <p>Staff APS Larry Hunsaker Klaus Scott</p> <p>ABE Bela Deshpande</p> <p>APS Jessica Charrier John Dingman</p> | <p>Technical Development Section 791</p> <p>AR Sup I Jose Gomez</p> <p>ABE Glen Villa</p> <p>APS Narciso Gonzalez Nancy Adams Minh Pham Irina Malkina Nicholas Berger Daniel Garrett</p> | <p>Regional Air Quality Modeling Section</p> <p>AR Sup I 743 Jeremy Avke</p> <p>Staff APS Bruce Jackson Kemal Gurrer Ajith Kaduwela</p> <p>ABE Jin Lu James Chen Sarika Kulkarni Chenxia Cai</p> <p>APS Dashong Yin Majiong Jiang</p> | <p>On-Road Light Duty Analysis Section 781</p> <p>AR Sup I Jeff Long</p> <p>APS Lois Erskine Steve Magbuhat Erin Petate Connie Dang Michael Kamboores</p> | <p>Transportation Systems Planning Section 772</p> <p>AR Sup I Kathy Jaw</p> <p>ABE Charanya Varadarajan Jeremy Herbert Holger Sduen Cody Howard</p> <p>APS Vacant (Howard)** [Effective 9/14/15]</p> |
| <p>Emission Inventory Development Section 754</p> <p>AR Sup I Stephanie Detwiler</p> <p>Staff APS Chris Nguyen</p> <p>ABE Anna Komorniczak Jim Cao Alexander Huth Vacant (J. Arce)** [Effective 10/31/15]</p> <p>APS Andrew Delao Linying Li Brandon Tiqui</p> | <p>Administrative Analysis Section 729</p> <p>SSMJ Rachel Kirils</p> <p>AGPA Marie Bush</p> <p>SSA Melissa Navarro Joseph Chapman</p> | <p>Implementation Section 792</p> <p>AR Sup I David Edwards</p> <p>ABE Robert Barrera Kyriacos Kyriacou</p> <p>APS Maryana Visina Jasmine Nguyen Teresa Edwards Barbara Zavala Timothy Dunn</p> <p>Student Engineering Gary Besh</p> | <p>Meteorology Section 744</p> <p>AR Sup I Pingkuan Di</p> <p>ABE Abdullah Mahmud</p> <p>APS Jeffrey Lancoro Dartanion Mims Jason Branz Adam Gerber Elena Hanrahan Zhan Zhao Shuming Du Yi-Chin (Karry) Liu</p> | <p>Gasoline Off-Road Inventory Section 782</p> <p>AR Sup I David Chou</p> <p>ABE Daisy Wong Walker Wong Debbie Futaba</p> <p>APS Butch Cordero Kaishan Zhang</p> <p>Student Engineering Vacant (Pate)** [Effective 8/14/15]</p> | <p>Sustainable Communities Policy and Planning Section 774</p> <p>AR Sup I Teresa Roberts</p> <p>APS Jennifer Gray Heather Phillips Sarah Dominguez Amy Volk</p> |
| <p>Central Valley Air Quality Planning Section 755</p> <p>AR Sup I Webster Tsat</p> <p>Staff APS Patricia Velasco</p> <p>ABE Kasia Turkiewicz Eugene Kim Earl Worthycombe</p> <p>APS Theresa Najtas Tina Suarez-Murias Elizabeth Melgoza</p> | <p>Air Quality Analysis Section 794</p> <p>AR Sup I Gayle Sweigert</p> <p>ABE Jenette Kwong Dwight Oda</p> <p>APS Steven Gouze Xijie Zhang Paul Cox Craig Anderson Rebekka Fine</p> | <p>Air Quality and Statistical Studies Section 795</p> <p>AR Sup I Mena Shah</p> <p>Staff APS Lawrence Larsen Michael Redgrave</p> <p>ABE Robert Weller Xiaomang Pan Art Collins Zuber Farooqui Shengping Qin</p> <p>APS John Rymearson Annemarie Flores</p> <p>Air Resources Tech II William Widger Vacant (Collins)* [Effective 10/7/15]</p> | <p>Atmospheric Modeling & Support Section 745</p> <p>AR Sup I Leonardo Ramirez</p> <p>ABE Cheryl Taylor Wenli Yang Hari Perugu Maybelline Divancco John Stille</p> <p>APS Daniel Chau Hu Fung (Roger) Kwok</p> <p>Air Resources Tech II Vacant (Sims)** [Effective 10/1/15]</p> <p>Student Engineering Vacant*</p> | <p>On-Road Model Implementation Section 783</p> <p>AR Sup I Steve Zelinka</p> <p>ABE Guilhua Wang Agnes Dugnon H. Shamasundara</p> <p>APS Andy Alexis Hang Liu</p> | <p>Transportation Analysis Section 775</p> <p>AR Sup I Nesamani Kalandiyur</p> <p>ABE Tom Scheffelin Ben Hancock Jim Miao</p> <p>APS Dennis Wade Zhuo Yao</p> |
| <p>South Coast Air Quality Planning Section 756</p> <p>AR Sup I Carol Suttus</p> <p>APS Scott King Monica Lewis Austin Hicks Ariel Fidely Kirsten Cayabyab</p> | <p>On-Road Model Development Section 785</p> <p>AR Sup I Vacant (Jaw)** [Effective 10/15/15]</p> <p>Staff APS Lei Zhou Sam Pournazeri</p> <p>ABE Pranay Arhani Zhen Dai Sherrie Sala-Moore</p> <p>Air Resources Tech II Vacant (Cheong)** [10/12/15]</p> | <p>Air Quality and Statistical Studies Section 795</p> <p>AR Sup I Mena Shah</p> <p>Staff APS Lawrence Larsen Michael Redgrave</p> <p>ABE Robert Weller Xiaomang Pan Art Collins Zuber Farooqui Shengping Qin</p> <p>APS John Rymearson Annemarie Flores</p> <p>Air Resources Tech II William Widger Vacant (Collins)* [Effective 10/7/15]</p> | <p>Atmospheric Modeling & Support Section 745</p> <p>AR Sup I Leonardo Ramirez</p> <p>ABE Cheryl Taylor Wenli Yang Hari Perugu Maybelline Divancco John Stille</p> <p>APS Daniel Chau Hu Fung (Roger) Kwok</p> <p>Air Resources Tech II Vacant (Sims)** [Effective 10/1/15]</p> <p>Student Engineering Vacant*</p> | <p>On-Road Model Development Section 785</p> <p>AR Sup I Vacant (Jaw)** [Effective 10/15/15]</p> <p>Staff APS Lei Zhou Sam Pournazeri</p> <p>ABE Pranay Arhani Zhen Dai Sherrie Sala-Moore</p> <p>Air Resources Tech II Vacant (Cheong)** [10/12/15]</p> | <p>Transportation Analysis Section 775</p> <p>AR Sup I Nesamani Kalandiyur</p> <p>ABE Tom Scheffelin Ben Hancock Jim Miao</p> <p>APS Dennis Wade Zhuo Yao</p> |
| | | | | <p>On-Road Model Development Section 785</p> <p>AR Sup I Vacant (Jaw)** [Effective 10/15/15]</p> <p>Staff APS Lei Zhou Sam Pournazeri</p> <p>ABE Pranay Arhani Zhen Dai Sherrie Sala-Moore</p> <p>Air Resources Tech II Vacant (Cheong)** [10/12/15]</p> | <p>Off-Road Diesel Analysis Section 786</p> <p>AR Sup I Vacant (Dolney)** [Effective 8/14/15]</p> <p>ABE Andrew Willey Phil (Cory) Farmer Mirhiban Jemj-Sogutkugli Russell Furey</p> <p>APS Cody Livingston</p> <p>Air Resources Tech II Vacant (Purvey)* [Effective 7/1/15]</p> |

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 | Woodsmoke BCP - Orange Text
 | El Monte Staff - -
 | Vacancy Status:
 | No Action - -
 | Advertising - - -
 | Interviewing - - - -
 | To ASD, not advertised - - - -

BCP Fiscal Detail Sheet

BCP Title: Cap and Trade Expenditure Plan – Black Carbon Woodsmoke

DP Name: 3900-014-BCP-DP-2016-GB

Budget Request Summary

| | FY16 | | | | | |
|---|------------|-----------------|--------------|--------------|--------------|--------------|
| | CY | BY | BY+1 | BY+2 | BY+3 | BY+4 |
| Positions - Permanent | 0.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Total Positions | 0.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Salaries and Wages | | | | | | |
| Earnings - Permanent | 0 | 143 | 143 | 143 | 143 | 143 |
| Total Salaries and Wages | \$0 | \$143 | \$143 | \$143 | \$143 | \$143 |
| Total Staff Benefits | 0 | 67 | 67 | 67 | 67 | 67 |
| Total Personal Services | \$0 | \$210 | \$210 | \$210 | \$210 | \$210 |
| Operating Expenses and Equipment | | | | | | |
| 5301 - General Expense | 0 | 4 | 4 | 4 | 4 | 4 |
| 5302 - Printing | 0 | 2 | 2 | 2 | 2 | 2 |
| 5304 - Communications | 0 | 4 | 4 | 4 | 4 | 4 |
| 5320 - Travel: In-State | 0 | 8 | 8 | 8 | 8 | 8 |
| 5322 - Training | 0 | 2 | 2 | 2 | 2 | 2 |
| 5324 - Facilities Operation | 0 | 20 | 20 | 20 | 20 | 20 |
| 5346 - Information Technology | 0 | 8 | 6 | 6 | 6 | 6 |
| 54XX - Special Items of Expense | 0 | 39,742 | 0 | 0 | 0 | 0 |
| Total Operating Expenses and Equipment | \$0 | \$39,790 | \$46 | \$46 | \$46 | \$46 |
| Total Budget Request | \$0 | \$40,000 | \$256 | \$256 | \$256 | \$256 |

Fund Summary

| | | | | | | |
|--|------------|-----------------|--------------|--------------|--------------|--------------|
| Fund Source - State Operations | | | | | | |
| 3228 - Greenhouse Gas Reduction Fund | 0 | 258 | 256 | 256 | 256 | 256 |
| Total State Operations Expenditures | \$0 | \$258 | \$256 | \$256 | \$256 | \$256 |
| Fund Source - Local Assistance | | | | | | |
| 3228 - Greenhouse Gas Reduction Fund | 0 | 39,742 | 0 | 0 | 0 | 0 |
| Total Local Assistance Expenditures | \$0 | \$39,742 | \$0 | \$0 | \$0 | \$0 |
| Total All Funds | \$0 | \$40,000 | \$256 | \$256 | \$256 | \$256 |

Program Summary

| | | | | | | |
|---------------------------|------------|-----------------|--------------|--------------|--------------|--------------|
| Program Funding | | | | | | |
| 3510 - Climate Change | 0 | 40,000 | 256 | 256 | 256 | 256 |
| Total All Programs | \$0 | \$40,000 | \$256 | \$256 | \$256 | \$256 |